

PCDR \ PCDR3 \ FORT STEWART
 \ 011309 \ FST090022

PHASE I RCRA FACILITY INVESTIGATION
FORT STEWART, GEORGIA

QUALITY CONTROL SUMMARY REPORT
&
ANALYTICAL PACKAGE

January 1994

Prepared by

GERAGHTY & MILLER, INC.
Environmental Services
14497 North Dale Mabry Hwy, Suite 115
Tampa, Florida 33618

**QUALITY CONTROL SUMMARY REPORT
RCRA FACILITY INVESTIGATION
FORT STEWART, GEORGIA**

January 1994

Prepared for

**Department of Army
Savannah District Corps of Engineers
Savannah, Georgia**

Prepared by

**GERAGHTY & MILLER, INC.
Environmental Services
14497 North Dale Mabry Hwy, Suite 115
Tampa, Florida 33618**

CONTENTS

1.0 PROJECT DESCRIPTION 1-1

 1.1 SCOPE OF WORK 1-1

 1.2 BACKGROUND 1-3

 1.2.1 Camp Oliver Landfill (FST-002) 1-3

 1.2.2 The Burn Pits (FST-004A through FST-004F) 1-4

 1.2.3 Old Fire Training Pit (FST-014) 1-6

 1.3 PROJECT ORGANIZATION AND RESPONSIBILITY 1-7

 1.4 QUALITY MANAGEMENT OBJECTIVES 1-8

2.0 FIELD OPERATIONS PROCEDURES 2-1

 2.1 SOIL SAMPLING 2-1

 2.1.1 Equipment Calibration and Maintenance 2-1

 2.1.2 Sample Handling and Custody 2-2

 2.2 CHANGES TO THE SAMPLING PROGRAM 2-2

3.0 RESULTS OF LABORATORY AND FIELD ANALYSES 3-1

 3.1 LABORATORY ANALYTICAL RESULTS 3-1

 3.1.1 Laboratory Methods 3-1

 3.1.2 Summary of Laboratory Results 3-1

 3.2 FIELD ANALYTICAL RESULTS 3-2

4.0 DATA VALIDATION AND USABILITY DETERMINATION 4-1

 4.1 VALIDATION OF FIELD PROCEDURES 4-2

 4.1.1 Field Sample Preservation/Handling Procedures 4-2

 4.1.2 Field Records Review 4-2

 4.1.3 Results of Field Blanks 4-3

 4.1.4 Field Replicate Samples 4-3

 4.2 VALIDATION OF LABORATORY PROCEDURES 4-5

 4.2.1 Camp Oliver Landfill FST-002 4-6

 4.2.1.1 Volatile Organic Compounds 4-6

 4.2.1.2 Metals 4-6

 4.2.1.3 General Soil Quality Parameters 4-8

 4.2.2 Burn Pit A (FST-004A) 4-8

 4.2.2.1 Volatile Organic Compounds 4-8

 4.2.2.2 Metals 4-9

 4.2.2.3 General Soil Quality Parameters 4-10

 4.2.3 Burn Pit B (FST-004B) 4-11

 4.2.3.1 Volatile Organic Compounds 4-11

 4.2.3.2 Metals 4-12

 4.2.3.3 General Soil Quality Parameters 4-13

4.2.4 Burn Pit C (FST-004C) 4-14

 4.2.4.1 Volatile Organic Compounds 4-14

 4.2.4.2 Metals 4-14

 4.2.4.3 General Soil Quality Parameters 4-15

4.2.5 Burn Pit D (FST-004D) 4-15

 4.2.5.1 Volatile Organic Compounds 4-15

 4.2.5.2 Metals 4-16

 4.2.5.3 General Soil Quality Parameters 4-17

4.2.6 Burn Pit E (FST-004E) 4-18

 4.2.6.1 Volatile Organic Compounds 4-18

 4.2.6.2 Metals 4-18

 4.2.6.3 General Soil Quality Parameters 4-19

4.2.7 Burn Pit F (FST-004F) 4-20

 4.2.7.1 Volatile Organic Compounds 4-20

 4.2.7.2 Metals 4-20

 4.2.7.3 General Soil Quality Parameters 4-21

4.2.8 Old Fire Training Area (FST-014) 4-22

 4.2.8.1 Volatile Organic Compounds 4-22

 4.2.8.2 Metals 4-23

 4.2.8.3 General Soil Quality Parameters 4-23

 4.2.8.4 Total Petroleum Hydrocarbons 4-24

5.0 CONCLUSIONS AND RECOMMENDATIONS 5-1

 5.1 RECORD KEEPING 5-1

 5.2 SAMPLING PROGRAM 5-1

 5.3 LABORATORY PROGRAM 5-2

FIGURES

- 1 RCRA Facility Investigation Location Map of Fort Stewart, Georgia.
- 2 RCRA Facility Investigation, Camp Oliver Monitor Well Location Map FST-002, Fort Stewart, Georgia.
- 3 RCRA Facility Investigation, Burn Pit A (FST-004A) Topographic and Monitor Well Map, Fort Stewart, Georgia.
- 4 RCRA Facility Investigation, Burn Pit B (FST-004B) Topographic and Monitor Well Location Map, Fort Stewart, Georgia.
- 5 RCRA Facility Investigation, Burn Pit C (FST-004C) Topographic and Monitor Well Location Map, Fort Stewart, Georgia.
- 6 RCRA Facility Investigation, Burn Pit D (FST-004D) Topographic and Monitor Well Location Map, Fort Stewart, Georgia.
- 7 RCRA Facility Investigation, Burn Pit E (FST-004E) Topographic and Monitor Well Location Map, Fort Stewart, Georgia.
- 8 RCRA Facility Investigation, Burn Pit F (FST-004F) Topographic and Monitor Well Location Map, Fort Stewart, Georgia.
- 9 RCRA Facility Investigation, Old Fire Training Area (FST-014) Topographic and Monitor Well Location Map, Fort Stewart, Georgia.

TABLES

- 1 RCRA Facility Investigation, Soil Sample Collection and Analysis Method Summary, Fort Stewart, Georgia.
- 2 RCRA Facility Investigation, Analytical Results for Soil Samples Collected in 1993 at Camp Oliver Landfill, FST- 002, Fort Stewart, Georgia.
- 3 RCRA Facility Investigation, Analytical Results of Soil Samples Collected in 1993 at Burn Pit A, FST-004A, Fort Stewart, Georgia.
- 4 RCRA Facility Investigation, Analytical Results of Soil Samples Collected in 1993 at Burn Pit B, FST-004B, Fort Stewart, Georgia.

- 5 RCRA Facility Investigation, Analytical Results of Soil Samples Collected in 1993 at Burn Pit C (FST-004C), Fort Stewart, Georgia.
- 6 RCRA Facility Investigation, Analytical Results of Soil Samples Collected in 1993 at Burn Pit D, FST-004D, Fort Stewart, Georgia.
- 7 RCRA Facility Investigation, Analytical Results of Soil Samples Collected in 1993 at Burn Pit E, FST-004E, Fort Stewart, Georgia.
- 8 RCRA Facility Investigation, Analytical Results of Soil Samples Collected in 1993 at Burn Pit F, FST-004F, Fort Stewart, Georgia.
- 9 RCRA Facility Investigation, Analytical Results of Soil Samples Collected in 1993 at Old Fire Training Area, FST- 014, Fort Stewart, Georgia.
- 10 Summary of Qualified Soil Sample Results, Fort Stewart, Georgia.

APPENDICES

- A Data Validation Checklist
- B Data Qualifier Codes

1.0 PROJECT DESCRIPTION

1.1 SCOPE OF WORK

Geraghty & Miller, Inc., (Geraghty & Miller) was contracted in September 1990 by the United States Army Corps of Engineers (USACE) to conduct a RCRA Facility Investigation (RFI) of selected solid waste management units (SWMUs) at Fort Stewart. The work conducted by Geraghty & Miller at the selected SWMUs is part of an Installation Wide RFI. The USACE is responsible for completing the sampling activities at the remainder of the SWMUs. The Installation Wide RFI is being conducted by Geraghty & Miller and the USACE as outline in the corrected Final RFI Work Plan (Geraghty & Miller, April 1993).

The Fort Stewart Military Installation Facility in Fort Stewart, Georgia, located near Hinesville, Georgia, has been classified under the Resource Conservation and Recovery Act (RCRA) as containing several SWMUs (Figure 1). In June and July of 1993, Geraghty & Miller conducted field investigations at three (3) SWMUs: Camp Oliver Landfill (FST-002), the Burn Pit Areas (FST-004A through FST-004F), and the Old Fire Training Area (FST-014) at Fort Stewart. The purpose of these investigations was to gather data to permit a determination of whether a release to the environment had occurred from any of the above referenced three SWMUs. The field program was conducted under contract to the USACE for the purpose of preparing an RFI report for these three SWMUs.

There are six principal objectives of an RFI: (1) to confirm the presence or absence of contamination at the designated site; (2) to determine the extent and degree of contamination at the designated site; (3) to identify and characterize the sources of contamination, (4) to assess the potential for contaminant migration to surrounding environments; (5) to identify public health and environmental risks of

any identified contaminants; and (6) to define the scope of future investigations and/or required remedial actions, if warranted, at the designated site.

The tasks performed by Geraghty & Miller to gather the data necessary to meet the objectives of the RFI included the collection of soil samples from each of the three SWMU areas. Soil samples were collected during the installation of the monitor wells. SWMU FST-004 consists of six (6) Burn Pits designated FST-004A through FST-004. The soil sampling, analytical results, and data validation activities summarized in this report address each of the eight Fort Stewart (FST) SWMU sites individually, including the six (6) Burn Pits areas, Camp Oliver Landfill and the Old Fire Training Area. All soil samples were analyzed for volatile organic compounds (VOCs) (EPA 8240), RCRA total metals (EPA 6010, 7470/7471, 7060, 7421, and 7740), pH (EPA 9040/9045), and specific conductivity (EPA 9050). Additionally, soil samples collected at the Old Fire Training Area (FST-014) were analyzed for purgeable and extractable total petroleum hydrocarbons (TPH) (EPA 8015). Four of the thirty samples were collected for Quality Control (QC) and Quality Assurance (QA) purposes. These four soil samples (FST002-SL4-8, FST004A-SL4-8, FST004D-SL2-6 and FST014-SL3-2) were submitted as blind duplicates to Savannah Laboratories for purposes of quality control. These same four samples were submitted as split samples to the COE laboratory in Marietta, Georgia for purposes of quality assurance. The work performed by Geraghty & Miller was in accordance with policies and procedures documented in the approved RCRA Facility Investigation Work Plan for Fort Stewart, Georgia, April 1993 (RFI Work Plan) as part of the requirements of the hazardous waste permit (HW-045 [S&T]) issued to Fort Stewart on August 14, 1987 and amended on September 27, 1989.

This Quality Control Summary Report (QCSR) contains the findings of a comprehensive review of field records and laboratory data resulting from the field activities conducted at each of the SWMUs in 1993. The QCSR findings address current quality control practices, quality control problems encountered in the field

and laboratory, required corrective actions, and changes in the scope of work, as well as conclusions and recommendations concerning future quality control practices to be used during similar field programs conducted at Fort Stewart, Georgia.

1.2 BACKGROUND

Fort Stewart is located in Georgia, approximately 34 miles southwest of Savannah Laboratories in Liberty County. Approximately 8 square miles of the 436.815 square miles at Fort Stewart comprise the Cantonment area. The remainder is used for range and training areas (approximately 11 percent) or held as non-use areas.

1.2.1 Camp Oliver Landfill (FST-002)

The Camp Oliver Landfill (FST-002) is located about 16 miles northwest of the Cantonment area on State Highway 129, north of the Bivouac area (Figure 2). The landfill is located in an area of approximately 2 acres and is situated on the side of a small hill which slopes downward from south to north. No surface evidence exists of a landfill or open dumping area except for some small dirt piles. Grass, small trees, and bushes now cover the area.

From the 1960s to 1979, the area was used for disposal of refuse from troop training activities and nearby residents by open pit burning. Although this landfill was officially closed in 1979, the trench method of solid waste disposal was still used, according to the Environmental Program Review (U.S. Army Environmental Hygiene Agency, USAEH, 1988). General refuse from ground maintenance activities and construction debris was dumped in the landfill from 1979 to 1984, during the annual 3 to 4-month training activities.

Two previous reports were published on this site: (1) 1982 RCRA Final Engineering Report by Environmental Science and Engineering; (ESE), and (2) 1983 Installation Assessment of Headquarters by ESE. The investigations are referenced in the 1988 Environmental Program Review No. 32-24-7038-89 by the USAEH, the 1987 Hazardous Waste Consultation No. 37-26-1382-88 Evaluation of Solid Waste Management Units by the USAEH and the 1989 RCRA Facility Assessment Report by Georgia Environmental Protection Division (GEPD).

Four groundwater monitoring wells were installed in June 1980 by the USACE. Groundwater and surface-water samples were taken in 1980 by the USACE and in 1981 by ESE. During the 1982 ESE investigation, five soil borings were completed to gather geotechnical data. Subsequently, ESE prepared the Installation Assessment Report in 1983. The ESE report indicated that the sources for the high iron concentrations are the natural soils and the iron waste products in the landfill. The ESE report indicated that leachate could possibly be contained and/or attenuated on the site. Chemical data from the site indicated that the surface water in the area was not being significantly degraded by the previous operation of the Camp Oliver Landfill.

The material characterization of the Camp Oliver Landfill included garbage and refuse, grass clippings, tree branches, root stumps, and chunks of asphalt and concrete. No evidence of disposal of toxic or hazardous wastes was noted in the records searched by ESE (1982).

1.2.2 The Burn Pits (FST-004A through FST-004F)

Seven separate burn pits are located around the Cantonment area (Burn Pits A, B, C, D, E, F, and G) as depicted in Figure 1 and Figures 2 through 8. Six were used (Burn Pits FST-004A, FST-004B, FST-004C, FST-004D, FST-004E, and FST-004F) and are subject to the RFI. Burn Pit G was cleared but was never used. The

six burn pits were constructed and used in the mid/late 1970's to burn combustible solid waste (i.e. construction debris, tree limbs, etc.). The sites differ in location and size. A topographic map is provided for each of the six sites (Figures 3 through 8).

Burn Pit A ($10 \pm$ acres) is located approximately 1200 feet southwest of the junction of Fort Stewart Route 38 and Fort Stewart 40 on the northside of Fort Stewart 38. Burn Pit B ($3 \pm$ acres) is located approximately 200 feet northeast on Fort Stewart 90 from the junction of Fort Stewart 90 and the cutoff to State Route 196. Burn Pit C ($7 \pm$ acres) is located approximately 300 feet west on Fort Stewart 90 from the junction of 15th Street and Fort Stewart 90. Burn Pit D ($10 \pm$ acres) is located approximately 500 feet west on Fort Stewart 90 from the junction of Fort Stewart 90 and 6th Street. Burn Pit E ($1 \pm$ acre) is located approximately 800 feet east of Fort Stewart 144 from the junction of Fort Stewart 144 and Fort Stewart 50. Burn Pit F ($3 \pm$ acres) is located approximately 3400 feet south on Fort Stewart 51 from the junction of Fort Stewart 51 and State Route 144. Burn Pit G (never utilized) is located near the junction of Fort Stewart 51 and US 82.

Currently, four of the burn pits are inactive and have not been used for some time (Burn Pits B, C, D, and E). The actual time of operation is undetermined, however, Burn Pit A was observed to consist of mounds of pine straw during the November 1, 1990 initial site visit. USACE representatives have indicated that evidence of the usage at Burn Pit F was observed during the sampling activities in August 1993.

No previous investigations have been conducted at Fort Stewart that characterize the nature of the burn pits or any releases to the environment that may have occurred. However, two previous reports describing the SWMUs at Fort Stewart (USAEH 1988 and USAEH 1987) did mention the burn pits. No detailed investigations were conducted or mentioned in those reports.

The material characterization of Burn Pits FST-004A through FST-004F include scrap lumber, timber cuttings, construction and demolition waste, ashes, concrete trunks, and dirt from excavations. Fort Stewart personnel indicated that no fuels or solvents were used as ignition sources at these burn pits. The RFI report indicated that no evidence of a release to the environment was apparent. However, it was also mentioned that if contaminants were present, the likely migration pathway would be to groundwater. No groundwater monitoring wells have been installed at these sites and no previous sampling has been conducted to characterize and verify releases to the environment.

1.2.3 Old Fire Training Pit (FST-014)

The old fire training pit (FST-014) is located on the southwest boundary of the Cantonment area between Fort Stewart 90 and Zouck's Cemetery, and immediately southwest of the current facility engineering storage yard (Figure 9). During the 1940s to the 1950s, crash response crews used this area for fire fighting training exercises that included the burning of solvents, waste oil, and petroleum contaminated with water (USAEH, 1987). The site has been recently used for storage of leaves and pine needles collected from the Cantonment area. According to facility personnel during March 24 to 31, 1987, the northwest portion of the old fire training pit was actively burning or smoldering due to either spontaneous combustion or being set on fire. Currently, the site is an open grass field.

A previous investigation was completed in March 1987, Hazardous Waste Study No. 37-26-0127-88 Investigation of Soil Contamination by the USAEH. The work was referenced in two subsequent reports: 1) 1988 Environmental Program Review No. 32-24-7038-89 by the USAEH, and 2) 1987 Evaluation of Solid Waste Management Units No. 37-26-1382-88 by the USAEH. During the 1987 USAEH survey, soil samples were collected from four boreholes and from the burn residue in the pit. The soil samples were submitted for analyses of metals using the total

digestion procedures (total metals) and Extraction Procedure Characteristics. Additional samples were submitted for analyses of volatile organics (EPA Method 8240) and base-neutral extractable organics (EPA Method 8270). The results of sample analyses indicated no significant contamination. The results as determined by the Extraction Procedure Toxicity Characteristics test, indicated that none of the metals were above detection limits (Letter, USAEH, November 18, 1987). The results of the organic analysis indicated that no volatile organics or base-neutral/acid extractable organics were detected from the soil samples collected in this area.

Groundwater flow and hence migration pathways are inferred to follow the topography of the area, from south to north. The potential for migration of the fuels or waste oil to the shallow aquifer is high. The past investigations have not characterized the impact to the groundwater.

1.3 PROJECT ORGANIZATION AND RESPONSIBILITY

The client Project Manager for this investigation was Ms. Toni Nicholson of the United States Army Corps of Engineers (USACE) located in Savannah, Georgia. Ms. Nicholson functioned as coordinator, reviewer, and liaison between the USACE and Geraghty & Miller.

The project was managed from Geraghty & Miller's office in Tampa, Florida. The Geraghty & Miller Project Manager was Mr. Jeffrey Petersohn, P.E. Mr. Petersohn was responsible for the site investigation, quality-assurance (QA) program, data analysis, and report preparation.

The on-site Geraghty & Miller Field Coordinator, Mr. Garrett Weiss, a licensed registered Georgia professional geologist was responsible for directing the drilling and sampling program and coordinating Geraghty & Miller field personnel and subcontractors.

The Geraghty & Miller Project Officer was Mr. Pedro Fierro, a Principal Scientist with the firm. Mr. Fierro was responsible for the overall implementation of the project.

Geraghty & Miller's project Quality Assurance (QA) Officer was Mr. Mike Price, who acted as liaison between Geraghty & Miller, the USACE, and the contracted laboratory regarding QA issues. Mr. Price was responsible for QA review of the project.

Analyses of all soil samples were performed by Savannah Laboratories and Environmental Services, Inc. (Savannah Laboratories) of Savannah, Georgia. Ms. Janette Long of Savannah Laboratories was Geraghty & Miller's primary contact for information related to these analyses.

1.4 QUALITY MANAGEMENT OBJECTIVES

The quality assurance policies and procedures that were followed during the field investigation are documented in the approved RFI Work Plan for Fort Stewart, Georgia, April 1993. These procedures are based on information contained in the documents entitled "Sample Handling Protocol for Low, Medium, and High Concentration Samples of Hazardous Waste"; "Chemical Data Quality Management for Hazardous Waste Remedial Activities, ACOE, ER1110-1-263, dated October 1990; "Engineering Support Branch, Standard Operating Procedures, and Quality Assurance Manual, U.S. Environmental Protection Agency, Environmental Services Division, Athens, Georgia, April, 1986; Geraghty & Miller Comprehensive Quality Assurance Plan; and the Generic Quality Assurance Plan and Quality Objectives Tables submitted by Savannah Laboratories.

The first above-referenced document was developed by the USACE according to the quality management objectives contained in Engineering Regulation (ER) 1110-1-263 entitled "Engineering and Design, Chemical Quality Management-Toxic and Hazardous Waste." The second above-referenced document was developed by USEPA as a guidance for quality management objectives. The last two above-referenced documents are generic quality assurance management and objective documents generated by Geraghty & Miller and Savannah Laboratories, respectively.

2.0 FIELD OPERATIONS PROCEDURES

The procedures followed by Geraghty & Miller personnel during field activities were based on the approved RFI Work Plan for Fort Stewart, Georgia, April 1993. This document is on file with the USACE. Table 1 consists of the types and numbers of proposed and completed samples during investigation of the SWMUs as documented in the approved RFI Work Plan for Fort Stewart, Georgia, April, 1993.

The sampling locations are indicated in Figures 2 through 9 of this document. Copies of the field logs, soil/sediment sampling logs, and fully-executed chain-of-custody (COC) forms, prepared by Geraghty & Miller's on-site representatives are provided in Exhibits A, B, and C, respectively, of the RCRA Facility Investigation Analytical Package Fort Stewart, Georgia, October 1993.

2.1 SOIL SAMPLING

The procedures specified in Sections 4.2, 4.4, 4.9, 6.0, and Attachment A of the approved RFI Work Plan for Fort Stewart, Georgia, April, 1993 were followed during this investigation. Changes in the proposed sampling investigation are discussed in Section 2.2 of this document.

2.1.1 Equipment Calibration and Maintenance

The sample collection and field analysis equipment used during the investigation were calibrated and maintained according to the procedures specified in Section 4.0, 6.0, 11.0, and Exhibits B, C, D, and E of Attachment A of the approved RFI Work Plan, Fort Stewart, Georgia, April 1993. Calibration procedures are documented in the field log book and daily quality control reports (DQCRs). Problems with an OVA meter were recorded during installation of monitoring well

FST004B-MW4. Soil samples at this location were not selected using headspace results but were collected immediately above the water table for laboratory analysis submittal.

2.1.2 Sample Handling and Custody

The sample collection, preservation, shipping, and COC procedures used during this investigation are described in Sections 4.0 and 5.0 of Attachment A of the approved RFI Work Plan, Fort Stewart, Georgia, April 1993. With the exception of the change to the sampling plan discussed in Section 2.2, field sampling documentation indicated that no problems were encountered that affected the collection, shipping, and COC procedures for samples collected from this site.

Copies of the field logs, soil/sediment sampling logs, and a copy of each fully-executed COC form are presented in Exhibits A, B, and C, respectively, of the RCRA Facility Investigation Analytical Package Fort Stewart, Georgia, October 1993.

2.2 CHANGES TO THE SAMPLING PROGRAM

Thirty soil samples that included four field duplicates and four field splits were collected and analyzed from the three selected SWMUs during this field investigation. The samples included in this field investigation were consistent to those specified in the approved RFI Work Plan, Fort Stewart, Georgia, April 1993 (Table 1). With the exception that soil samples were not collected below six feet below land surface or to the water table in soil boring FST-004B-MW4 because sustained OVA readings above the health & safety action levels were recorded. This soil boring was abandoned and the monitoring well was not installed as required by Modification P00003 for Contract DACA21-90-C-0079.

2-3

Furthermore, field duplicated soil samples were mistakenly collected and submitted for laboratory analysis by pH and specific conductance at each of the three SWMUs. All changes to the sampling program were approved by the USACE prior to sampling.

3.0 RESULTS OF LABORATORY AND FIELD ANALYSES

3.1 LABORATORY ANALYTICAL RESULTS

A summary of the analytical results of the soil samples collected from each of the three SWMUs included in this investigation are provided in Tables 2 through 9. The results of the field duplicate samples also are included. The methods of analysis are provided in Table 1. The laboratory reports, quality control data, and other support documentation provided by Savannah Laboratories are presented in Appendix D of the RCRA Facility Investigation Analytical Package Fort. Stewart, Georgia, October, 1993.

3.1.1 Laboratory Methods

The target compounds for each analytical method required by the USACE are listed in Table 1. These methods are documented in the U.S. Environmental Protection Agency manual "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," U.S. EPA, SW-846, 3rd Edition, November 1986. The methods are consistent with those specified in the approved RFI Work Plan, Fort Stewart, Georgia, April 1993.

3.1.2 Summary of Laboratory Results

The principal constituents of concern detected during this investigation consisted of organic compounds and metals at all eight of the three SWMU sites. These constituents of concern are listed in Tables 2 through 9. In general, the analytes detected at the SWMUs FST-014 and FST-002 during this round of the investigation were anticipated to be present, based on the previous investigations and site history. Although the RFI Work Plan reported that "no fuels or solvents were

used as ignition sources at the Burn Pits A through F", compounds detected at these sites suggest solvent usage.

3.2 FIELD ANALYTICAL RESULTS

The results of the OVA field soil measurements are provided on the Geraghty & Miller soil sampling logs (Appendix B of the RCRA Facility Investigation Analytical Package Fort Stewart, Georgia, October, 1993).

4.0 DATA VALIDATION AND USABILITY DETERMINATION

The laboratory results received from Savannah Laboratories were reviewed according to the procedures specified in Section 9.0 of Attachment A of the approved RFI Work Plan, Fort Stewart, Georgia, April, 1993 and are provided in Tables 2 through 9. The data review included validation of field and laboratory data packages according to the guidelines set forth in "Laboratory Data Validation Functional Guidelines for Evaluating Organics Analyses," USEPA, June, 1991, and in "Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses," USEPA, July, 1988. The level of reporting by Savannah Laboratories was Geraghty & Miller Level II. Data have been classified as quantitative, qualitative, or unusable on the basis of this review. Copies of the Data Validation Checklist are included as Appendix A.

Data are classified as quantitative only when all field and laboratory data indicate that there were no QA problems during sampling or analysis and all required records are accurate and complete.

Data may be classified as qualitative when field procedures and record keeping are adequate but the results of some quality control measures do not meet established criteria or sample handling procedures are not satisfactory. These data have limited usefulness; they may be adequate for qualitatively establishing the presence or absence of compounds of interest in the samples. Analytical results included in Tables 2 through 9 which have been classified as qualitative are listed in Table 10 with the reason(s) for the qualification.

Unusable data results when sampling and analysis procedures and/or the results of quality control analyses are sufficiently poor such that the data have no useful value for either scientific or legal purposes. Analytical results included in

Tables 2 through 9 which have been classified as unusable are listed in Table 10 with the reason(s) for the qualification.

4.1 VALIDATION OF FIELD PROCEDURES

The process of validating field procedures included a review of all field records to determine if the procedures specified in the approved RFI Work Plan, Fort Stewart, Georgia, April, 1993 were followed and to assure that field records are accurate and complete. If these criteria are met, the data may be considered legally and scientifically valid.

4.1.1 Field Sample Preservation/Handling Procedures

The sample preservation, shipping, and COC procedures used during this investigation are described in Section 4.0 and 5.0 of Attachment A of the approved RFI Work Plan (Geraghty & Miller, 1993). No changes in standard procedures for sampling and field analysis were made. As discussed in Section 2.1.2, no collection, shipping, and COC problems were encountered that impacted the quality of the data. Copies of the field logs, soil/sediment sampling logs, and fully-executed COC forms, are presented in Exhibits A, B, and C, respectively, of the RFI Analytical Package Fort Stewart, Georgia, October, 1993).

4.1.2 Field Records Review

No errors were detected on any of the field records completed during the investigation.

4.1.3 Results of Field Blanks

Trip blanks were not required to be shipped with each cooler containing soil samples for VOC analysis. In addition, the sampling team was not required to collect equipment/rinsate blanks during sampling of the soils. These types of quality assurance samples may be analyzed to determine whether field decontamination, sample collection, or sample shipping activities may have potentially affected any of the associated field samples. The lack of such data is not considered to have affected the interpretation of sample results.

4.1.4 Field Replicate Samples

The collection and analysis of field replicate/duplicate samples allows an assessment of the quality of the field and laboratory data programs through the determination of cumulative precision. During the course of this investigation, field samples were collected in duplicate at a frequency of one per 20 samples per matrix. One soil sample was collected in duplicate from the Camp Oliver Landfill (FST-002), Burn Pit A (FST-004A), Burn Pit D (FST-004D), and Old Fire Training Area (FST-014) sites. Each of the four duplicate samples collected are identified by a "9" preceding the sample location number.

One Camp Oliver Landfill soil sample FST002-SL4-8 was duplicated in the field as sample FST002-SL94-8. No volatile organic target analytes were detected in either of these samples. Four of the eight RCRA metals were detected in the sample and its duplicate collected at this SWMU. The RPDs of arsenic, barium, lead, and chromium were calculated to be 20%, 32%, 18%, and 56%, respectively. The lack of agreement (greater than $\pm 35\%$ limit) between the concentrations of chromium detected in these samples may be partly attributable to a lack of sample homogeneity. The precision of the metals data are considered acceptable.

Sample FST004A-SL4-8 was duplicated in the field as sample FST004A-SL94-8 during investigation of Burn Pit A (FST-004A). Concentrations of benzene, toluene, and xylene were detected in both of these samples, with RPDs of 80%, 67%, and 36%, respectively, reported. Although the RPD of toluene and xylene were calculated to exceed $\pm 35\%$, the absolute difference between the sample and duplicate results was less than twice the value of the detection limit and are considered acceptable. The elevated RPD for benzene may be partly attributable to a lack of sample homogeneity.

Barium, chromium, lead, and mercury were detected at concentrations ranging from 0.016 mg/L for mercury to 12 mg/L for lead. With the exception of lead, sufficient agreement between the results of the sample and those of the duplicate was demonstrated. The RPD of 47% reported for lead was greater than that specified for soils by the guidelines and may be attributed to a lack of sample homogeneity. The precision of the metals data are considered acceptable. The RPD of 84% calculated from the results reported for specific conductance indicates reduced analytical precision by the laboratory or lack of sample homogeneity.

Sample FST004D-SL2-6 from Burn Pit D (FST-004D) was duplicated in the field as sample FST004D-SL92-6. Acetone, toluene, xylene, barium, chromium, lead and mercury were detected in the soil sample and its field duplicate. Acceptable precision was demonstrated for all detected constituents. All volatile organic constituents detected were within five times the practical quantitation limit (PQL) and thus, in accordance with the data validation functional guidelines, the acceptable limit is two times the PQL for soil samples. The RPDs for the four detected metals analytes ranged from 0% for mercury to 17% for lead. Acceptable agreement was also reported for the pH and specific conductivity measurements.

The Old Fire Training Area (FST-014) soil sample FST014-SL3-2 was duplicated in the field as sample FST014-SL93-2. No volatile organic target analytes were detected in either of these samples. Acceptable precision was reported for the three RCRA metals detected and pH for the samples collected at this SWMU. However, the RPD of 101% resulting from the variance of the specific conductance of these samples indicated a potential lack of sample homogeneity or a lack of analytical precision by the laboratory.

4.2 VALIDATION OF LABORATORY PROCEDURES

The laboratory procedures used by Savannah Laboratories were evaluated by reviewing the records and the quality control data presented in Appendix D of the RCRA Facility Investigation Analytical Package Fort Stewart, Georgia, October 1993 and are discussed in the following sections. The records include copies of COC forms, dates of sample preparation and analysis, results of matrix spikes and matrix spike duplicates (MS/MSDs), laboratory control samples (LCSs), sample surrogate spikes, laboratory blanks, and calibration data. The records review identified several instances where the laboratory failed to meet the established control criteria for QA parameters. Data associated with these QA failures were flagged with data qualifier codes. A more detailed explanation of the instances where data was qualified can be found in the following text and in Table 10. For a more detailed explanation of the data qualifier codes, please refer to Appendix B.

The COC forms included with these sample results had been properly signed by the laboratory sample custodian indicating acceptable sample condition upon receipt. With the exception of the samples received on June 24, 1993 and reported in laboratory package S3-43631, all cooler custody seals were documented to be intact upon receipt of samples by the laboratory. Although the laboratory failed to document the status of the custody seal for the June 24, 1993 sample shipment, the integrity of the samples contained in the cooler had not been impacted. The samples

were analyzed for the parameters requested on the COC forms using the methods and detection limits requested in the approved RFI Work Plan, Fort Stewart, Georgia, April, 1993.

4.2.1 Camp Oliver Landfill FST-002

Two soil samples and one field duplicate were collected from the Camp Oliver Landfill FST-002 SWMU during July of 1993 and analyzed for VOCs, RCRA metals, specific conductance, and pH. The analytical results were included in data package S3-43808 and are summarized in Table 2 of this document.

4.2.1.1 Volatile Organic Compounds

Each of the three samples was analyzed for VOCs by EPA 8240 within seven days of collection. The laboratory reported acceptable quality control results for the method blanks, laboratory control sample (LCS), surrogate spikes, and matrix spike/matrix spike duplicates (MS/MSD) analyzed in association with these sample analyses. Minor variations in the reported detection limits are the result of differences in water content of the samples and did not affect the laboratories ability to meet the requested detection limits.

4.2.1.2 Metals

The soil samples collected from the FST-002 SWMU were also analyzed for the eight RCRA metals within the acceptable holding time. The recoveries of metals in each of the initial and continuing calibration verification samples (ICVS and CCVS), and LCS were within the acceptable recovery ranges specified by the validation guidelines. No target metals were detected in the method blanks.

The results of the batch specific sample selected for the MS/MSD analyses included in this data package, are considered to be representative of the Camp Oliver soil samples. With the exception of significantly low recoveries of arsenic, lead, and selenium in the MS/MSD analyses, the recoveries of all other metals were within the acceptable recovery ranges. Additionally, the RPDs for each of the metals with the exception of arsenic, lead, and selenium demonstrated acceptable analytical precision. Because the MS/MSD recovery data 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 have been classified as estimated (Table 10). A summary of data that has been classified is provided as Table 10.

Poor recoveries (44% and 60%) and RPD (31%) results were reported for the arsenic MS/MSD analyses. This indicated the presence of interferences which have suppressed the instrument signal and have negatively biased the arsenic concentrations detected. Because each of the soil samples from this site were sufficiently similar in matrix to have been similarly affected, all sample results for arsenic have been classified as estimated values (Table 10). Selenium was not detected in any of the soil samples collected from this SWMU. The selenium MS/MSD recovery data (24% and 33%) indicated a significant negative analytical bias. Therefore, sample data for this analyte have been classified as unusable, as the absence of trace concentrations of selenium cannot be firmly established.

Although, minor variations were reported for the detection limits for these samples, the result of these differences were the effect of water content for the samples and not due to additional dilution of the sample. The laboratory adequately reported detection limits within the requested range for these analyses.

4.2.1.3 General Soil Quality Parameters

Each of the soil samples collected during this investigation were analyzed for pH and specific conductance. The pH analyses of these samples were performed five days after collection. Specific conductance analyses were performed eight days after collection. No holding time is specified by either the validation guidelines or analytical method for these soil parameters. Because the buffering capacity and ionic potential of dry soils (greater than 80% solids) was not considered to have been biased, the time lapse from collection to analysis for these parameters was considered acceptable. Additionally, acceptable results were reported for the specific conductance method blank as the results were less than the detectable limit. Method blanks are not applicable for the pH method of analysis and were not performed. The laboratory control sample (LCS) recoveries of both the pH and specific conductance parameters were also acceptable.

4.2.2 Burn Pit A (FST-004A)

Four soil samples and one field duplicate sample were collected from the Burn Pit A (FST-004A) site during June of 1993 and analyzed for VOCs, RCRA metals, specific conductance, and pH. The analytical results for each sample and the duplicate FST004A-SL94-8 were included in data package S3-43675 and are summarized in Table 3 of this document.

4.2.2.1 Volatile Organic Compounds

Each of the soil samples collected at FST-004A was analyzed for VOCs by EPA 8240 within eight days of collection. The laboratory reported acceptable quality control results for the method blanks, LCS, and surrogate spikes analyzed in association with these sample analyses.

One matrix spike/matrix spike duplicate (MS/MSD) analysis was performed in association with the VOC analyses. With the exception of the elevated recoveries of 144% and 142% reported for toluene, acceptable recoveries for all spiked analytes were reported. Because MS/MSD data are advisory and are used to determine long-term accuracy and precision associated with a particular matrix, rather than individual sample performance no sample data have been qualified on this basis. The successful recoveries of spiked analytes in the analysis of the LCS provides evidence of acceptable analytical performance.

All requested detection limits were met in the analysis of these samples. Minor variations in the reported detection limits are the result of differences in water content of the samples.

The concentration of acetone detected in sample FST004A-SL2-4 (63 ug/L), may have been due to low levels of laboratory contamination magnified by the sample preparation or dilution factor. Acetone is classified as common laboratory contaminants and are often detected in environmental samples. Additionally, it is possible that low concentrations of acetone may have been caused by sampling and/or shipping and handling. Therefore, without additional data for comparison, neither a laboratory, sampling, or shipping bias of the samples can be substantiated. However, the lack of equipment/rinsate blanks or trip blanks is not considered to have affected usefulness of the VOC data.

4.2.2.2 Metals

Each of the soil samples collected during the field investigation at Burn Pit A was analyzed for the eight RCRA metals within acceptable holding times. The recoveries of metals in each of the initial and continuing calibrations and LCS were within the ranges specified by the validation guidelines. No target analytes were detected in any of the laboratory method blanks.

Four of the metals MS/MSD analyses results were in sufficient agreement with the validation guideline control limits. Conflicting results were reported for chromium, with the MS (92%) meeting the 75% to 125% control limits and the MSD (176%) exceeding the upper control limit. The discrepancy in the results for chromium resulted in an RPD of 63% that is above the 30% limit. Relatively low MS/MSD recoveries of 64% and 38% were reported for the lead analysis. The discrepancy in the lead results resulted in an RPD of 51%. In accordance with the validation guidelines, the chromium and lead analyte results in each of the samples collected from Burn Pit A (FST-004A) have been classified in Table 3 as qualitative. A data qualification summary is provided in Table 10.

Significantly low recoveries (17% and 21%) were reported for the arsenic MS/MSD analyses. The presence of either matrix and/or analytical interferences during the analysis of the associated samples indicated a negative bias of the reported analyte concentration. Results for the selenium MS/MSD were not reported due to the laboratories inability to recover the analyte because of a matrix interference. The negative findings for both arsenic and selenium in the MS/MSD analyses dictated that the sample data be classified as unusable. The absence of trace concentrations of arsenic or selenium cannot be firmly established.

4.2.2.3 General Soil Quality Parameters

Each of the samples collected during the FST-004A field investigation were additionally analyzed for the general soil quality parameters of pH and specific conductance. The pH analyses were performed within four days of collection. The specific conductance analyses were performed within six days of sample collection.

A laboratory control sample was analyzed for each of the general soil quality parameters, with the recovery of each meeting laboratory acceptance criteria. No contaminants were detected in the specific conductance blank. As previously

discussed a method blank was not analyzed for the pH parameter. Based on the results of these quality control analyses, no qualification of the sample data was necessary.

4.2.3 Burn Pit B (FST-004B)

Four soil samples were collected during the monitor well installation at the Burn Pit B (FST-004B) location during June of 1993 and analyzed for VOCs, RCRA metals, specific conductance, and pH. The analytical results were included in data packages S3-43675 and S3-43711 and are summarized in Table 4 of this document.

4.2.3.1 Volatile Organic Compounds

Each of the soil samples collected from Burn Pit B and included in data package S3-43711 were analyzed for VOCs by EPA 8240 within nine days of collection. Sample FST004B-SL1-8 was analyzed for VOCs within ten days of collection and included in data package S3-43675. The analysis of each of the samples was performed within the methods holding time guidelines of fourteen days.

The laboratory reported acceptable quality control results for the method blanks, LCS, surrogate spikes, and matrix spike/matrix spike duplicates (MS/MSD) analyzed in association with the samples included in data package, S3-43711 and S3-4375. With the exception of the recoveries of 144% and 142% reported for toluene, acceptable recoveries for all spiked analytes were reported for the analyses associated with sample FST004B-SL1-8. Because MS/MSD data are advisory, no sample data were qualified on this basis. Additionally, the successful recoveries reported for the LCS analysis provided evidence of acceptable analytical performance.

Minor variations in the reported detection limits are the result of differences in water content of the samples and did not affect the laboratories ability to meet the requested detection limits.

The concentration of acetone detected in sample FST004B-SL4-4 (110 ug/L), may have been due to low levels of laboratory contamination magnified by the sample preparation or dilution factor. Acetone is classified as common laboratory contaminants and are often detected in environmental samples. Additionally, it is possible that low concentrations of acetone may have been caused by sampling and/or shipping and handling. Therefore, without additional data for comparison, neither a laboratory, sampling, or shipping bias of the samples can be substantiated. However, the lack of equipment/rinsate blanks or trip blanks is not considered to have affected usefulness of the VOC data.

4.2.3.2 Metals

The samples collected at FST-004B were analyzed for total metals within acceptable holding times. The recoveries of metals in each of the initial and continuing calibrations and LCS were within the ranges specified by the validation guidelines. Additionally, target analytes were not detected in any of the method blanks analyzed in association with the samples.

Of the metals MS/MSD analyses results included in data package S3-43675, four of the target analytes were in agreement with the validation guideline control limits. However, results were reported for the chromium MS (92%) and the MSD (176%) that evidenced poor analytical precision (RPD 63%). Similarly, poor accuracy (64%, 38%) and precision (RPD 51%) for the lead MS/MSD were reported. Therefore, the chromium and lead analyte results for soil sample FST004B-SL1-8 have been classified in Table 4 as estimated values. A data qualification summary is provided in Table 10.

Significantly low recoveries (17% and 21%) were reported for the arsenic MS/MSD for samples analyzed as part of data package S3-43675. These MS/MSD results indicate a negative analytical bias of the reported arsenic concentrations for these samples. As a result, the arsenic result for sample FST004B-SL1-8 was qualified as estimated (Table 4).

In addition to the significantly low recoveries for selenium (42% and 36%) reported for the S3-43711 batch MS/MSD analyses, the laboratory reported an inability to recover selenium for the MS/MSD analyses included in data package S3-43675. These results are considered to be representative of the samples collected and indicated that trace concentrations of selenium may have been present and were not detected. Therefore, the undetected values of selenium for samples FST004B-SL2-8, FST004B-SL3-8, and FST004B-SL4-4 included in data package S3-43711 have been classified as estimated, while the selenium results for sample FST004B-SL1-8 were classified as unusable in accordance with the validation guidelines.

4.2.3.3 General Soil Quality Parameters

Each of the soil samples collected during the Burn Pit B (FST-004B) field investigation were additionally analyzed for pH and specific conductance. The pH analyses of sample FST004B-SL1-8 was performed within four days of collection and the specific conductance analyzed within six days of sample collection. The pH analyses for the three samples included in data package S3-43711 were performed within twenty-four hours of collection. However, the specific conductance analyses for these samples were performed fourteen days after collection. Because the water content of the soil samples was less than 15 %, the ionic capacities of the samples should not have been affected between the time of collection and analysis. Therefore, the holding times associated with these analyses are considered to be acceptable.

Acceptable results were reported for each of the quality control analyses performed in association with the general soil quality parameters. Based on the results of these quality control analyses, no qualification of the sample data was necessary.

4.2.4 Burn Pit C (FST-004C)

A total of four soil samples were collected and analyzed for VOCs, RCRA metals, specific conductance, and pH during the monitor well installation at the Burn Pit C (FST-004C) location during June of 1993. The analytical results for each FST-004C soil sample was included in data package S3-43631. A summary of the analytical results for these samples are provided in Table 5.

4.2.4.1 Volatile Organic Compounds

Each of the samples from the FST-004C site was analyzed for VOCs by EPA 8240 within the fourteen day holding time requirement. All quality control data reported for the method blanks, surrogates, LCS, and MS/MSD performed in association with the VOC analyses were acceptable. Although slight variations in the detection limits were reported due to differences in the water content of the samples, the requested project quantitation limits were met. Therefore, no sample data qualifications were warranted.

4.2.4.2 Metals

Holding times for the total metals analyses of the samples collected at FST-004C were not exceeded. The recoveries of metals in each of the initial and continuing calibrations and LCS were within the ranges specified by the validation guidelines. Additionally, target analytes were not detected in any of the method blanks analyzed in association with the samples.

The majority of the spiked analytes of the MS/MSD analysis included in data package S3-43631 resulted in acceptable recoveries. However, low recoveries were obtained from the cadmium (69% and 70%) and selenium (61% and 60%) MS/MSD analyses. As a result, the results for each sample included in this data package were qualified as estimated (Table 5). A data qualification summary is provided in Table 10.

4.2.4.3 General Soil Quality Parameters

Each soil sample collected during this investigation was analyzed for pH and specific conductance within eight days of collection. The time lapse between collection and analysis is considered to be an acceptable holding time for soils with low moisture content. Additionally, acceptable results were reported for the specific conductance method blank as the results were less than the detectable limit. The LCS recoveries for both parameters were acceptable.

4.2.5 Burn Pit D (FST-004D)

Four soil samples and one field duplicate (FST004D-SL92-6) were collected during the investigation at the Burn Pit D (FST-004D) location during June of 1993 and analyzed for VOCs, RCRA metals, specific conductance, and pH. The analytical results were included in data package S3-43675 and are summarized in Table 6 of this document.

4.2.5.1 Volatile Organic Compounds

The soil samples collected at FST-004D were analyzed for VOCs by EPA 8240 within fourteen days of collection, which met holding time requirements. All method blanks, laboratory control sample (LCS), and surrogate spikes analyzed in

association with these sample analyses were acceptable. Therefore, no data was qualified on these basis.

Acceptable precision and accuracy were reported for four of the five analytes spiked in the batch matrix spike/matrix spike duplicate (MS/MSD) analysis performed in association with the VOC analyses. As previously discussed the toluene spike resulted in an elevated recovery of both the MS and MSD. However, the recovery of the LCS provided evidence of acceptable analytical performance, therefore, no qualification of the sample data was not warranted.

All requested detection limits were met in the analysis of these samples. Minor variations in the reported detection limits are the result of differences in water content of the samples.

The concentration of acetone detected in sample FST004D-SL2-6 (110 ug/L), may have been due to low levels of laboratory contamination magnified by the sample preparation or dilution factor. Acetone is classified as common laboratory contaminants and are often detected in environmental samples. Additionally, it is possible that low concentrations of acetone may have been caused by sampling and/or shipping and handling. Therefore, without additional data for comparison, neither a laboratory, sampling, or shipping bias of the samples can be substantiated. However, the lack of equipment/rinsate blanks or trip blanks is not considered to have affected usefulness of the VOC data.

4.2.5.2 Metals

Each of the soil samples collected during the field investigation at Burn Pit D was analyzed for the eight RCRA metals within acceptable holding times. The recoveries of metals in each of the initial and continuing calibrations and LCS were

within the ranges specified by the validation guidelines. No target analytes were detected in any of the laboratory method blanks.

Four of the metals MS/MSD analyses results were in sufficient agreement with the validation guideline control limits. Conflicting results were reported for the chromium MS (92%) and the MSD (176%) that depicted poor analytical precision (RPD 63%). Similarly, the poor accuracy (64%, 38%) and precision (RPD 51%) data reported for the lead MS/MSD indicated a negative bias of the associated sample concentrations. Therefore, the chromium and lead analyte results for each of the soil samples collected from Burn Pit D (FST-004D) have been classified in Table 6 as estimated values. A data qualification summary is provided in Table 10.

Significantly low recoveries (17% and 21%) reported for the arsenic MS/MSD and the laboratories inability to recover selenium indicated a significant negative analytical bias of these reported analyte concentrations. Because trace concentrations of these compounds may have been present and were not detected by the laboratory, the undetected values for both arsenic and selenium in the associated soil samples have been classified as unusable.

4.2.5.3 General Soil Quality Parameters

Each of the soil samples collected during the Burn Pit D (FST-004D) field investigation were additionally analyzed for pH and specific conductance. The pH analyses were performed within four days of collection and the specific conductance analyses within six days of sample collection. Because these soil parameters were not considered to have been affected between the time of collection and analysis, these holding times are considered to be acceptable.

Acceptable results were reported for each of the quality control analyses performed in association the general soil quality parameters. Based on the results of these quality control analyses, no qualification of the sample data was necessary.

4.2.6 Burn Pit E (FST-004E)

Four soil samples were collected and analyzed for VOCs, RCRA metals, specific conductance, and pH during the monitor well installation at the Burn Pit E (FST-004E) location during June of 1993. The analytical results for samples FST004E-SL1-6 and FST004E-SL3-8 were included in data package S3-43711, with the results of samples FST004E-SL2-8 and FST004E-SL4-6 included in data package S3-43768. The analytical results for these samples are summarized in Table 7.

4.2.6.1 Volatile Organic Compounds

Each of the samples from the FST-004E site was analyzed for VOCs by EPA 8240 within the eight days which met the holding time requirement. All quality control data reported for the method blanks, surrogates, LCS, and MS/MSD performed in association with the VOC analyses were acceptable. Although slight variations in the detection limits were reported due to differences in the water content of the samples, the requested project quantitation limits were met. No sample data qualifications were warranted for any of the VOC analysis results.

4.2.6.2 Metals

Acceptable holding times were performed for the total metals analyses of the samples collected at FST-004E. The recoveries of metals in each of the initial and continuing calibrations and LCS were within the acceptable recovery ranges specified

by the validation guidelines. Additionally, no target analytes were detected in any of the method blanks analyzed in association with the samples.

Each of the MS/MSD recoveries were acceptable with the exception of selenium in data package S3-43711 and arsenic, selenium, and silver in data package S3-43768. The S3-43711 batch MS/MSD recoveries for selenium were low (42% and 36%). Therefore, the sample results of FST004E-SL1-6 and FST004E-SL3-8 were qualified as estimated in accordance with the validation guidelines (Table 7).

Low MS/MSD recoveries were also reported for arsenic (20% and 29%), selenium (10% and 5.9%), and silver (74% and 74%) for the analyses included in data package S3-43768. The reported recoveries for arsenic and selenium indicated that trace quantities of arsenic and selenium may have been present but not detected in the associated sample analyses. Therefore, the arsenic and selenium results of samples FST004E-SL2-8 and FST004E-SL4-6 included in data package S3-43768 were qualified as unusable according to the data validation functional guidelines. Additionally, the values reported for silver for these two samples were qualified as estimated. A data qualification summary is provided in Table 10.

4.2.6.3 General Soil Quality Parameters

Each of the soil samples included in data packages S3-43711 and S3-43768 were analyzed for pH and specific conductance within eight days of collection. As previously discussed, this time period between collection and analysis is considered acceptable. Additionally, acceptable results were reported for the specific conductance method blank as the results were less than the detectable limit. Method blanks are not applicable for the pH method of analysis and were not performed. The LCS recoveries of both the pH and specific conductance parameters were also acceptable. Classification of the general soil quality data reported for the samples collected from the Burn Pit E (FST-004E) site was not warranted.

4.2.7 Burn Pit F (FST-004F)

The analytical results of the four soil samples collected from Burn Pit F (FST-004F) were reported in data package S3-43768 and were summarized in Table 8. Each of the soil samples collected during the monitor well installation at the Burn Pit F location during June of 1993 was analyzed for VOCs, RCRA metals, specific conductance, and pH. A summary of the data obtained from these samples are provided in Table 8.

4.2.7.1 Volatile Organic Compounds

The samples from the FST-004F site were analyzed for VOCs by EPA 8240 within eight days of collection; therefore, the samples met holding time requirements. All quality control analyses associated with these samples reported acceptable results. No target analytes were detected for the method blanks. Recoveries of the laboratory control sample (LCS), surrogate spikes, and MS/MSD analyzed in association with the samples and included in data package S3-43768 were acceptable.

Minor variations in the reported detection limits are the result of differences in water content of the samples and did not affect the laboratories ability to meet the requested detection limits.

The concentrations of methylene chloride detected in samples FST004F-SL1-8 (6.0 ug/L) and FST004F-SL3-8 (7.4 ug/L) may indicate a potential laboratory contamination magnified by the sample preparation or dilution factor. Methylene chloride is classified as a common laboratory contaminant and is often detected in environmental samples. Additionally, it is possible that low concentrations of methylene chloride may have been caused by sampling and/or shipping and handling. Therefore, without additional data for comparison, neither a laboratory, sampling, or shipping bias of the samples can be substantiated. However, the lack of

equipment/rinsate blanks or trip blanks is not considered to have affected usefulness of the VOC data.

4.2.7.2 Metals

The samples collected from the FST-004F site were submitted for analysis of the eight RCRA metals. No holding times were exceeded in the analyses of these samples. The recoveries of metals in each of the initial and continuing calibrations and LCS were within the acceptable range. No target metals were detected in any of the method blanks.

The results of the batch specific sample selected for the MS/MSD analyses included in this data package, are considered to be representative of the soil samples collected at Burn Pit F.

Low MS/MSD recoveries were reported for arsenic (20% and 29%), selenium (10% and 5.9%), and silver (74% and 74%). The reported recoveries for arsenic and selenium indicated that trace quantities of arsenic and selenium may have been present but not detected in the associated sample analyses. Therefore, the results of each of the samples from this site were qualified as unusable according to the data validation functional guidelines. Additionally, the values reported for silver for the samples collected at the FST-004F site were qualified as estimated. A data qualification summary is provided in Table 10.

Although, minor variations were reported for the detection limits for these samples, the result of these differences were the effect of water content for the samples and not due to additional dilution of the sample. The laboratory adequately reported detection limits within the requested range for these analyses.

4.2.7.3 General Soil Quality Parameters

Each of the soil samples collected during this investigation were analyzed for pH and specific conductance. The pH analyses of these samples were performed seven days after collection. Specific conductance analyses were performed ten days after collection. No holding time is specified by either the validation guidelines or analytical method for these soil parameters. Because the buffering capacity and ionic potential of dry soils (greater than 80% solids) was not considered to have been biased, the time lapse between collection and analysis for these parameters was considered to be acceptable.

4.2.8 Old Fire Training Area (FST-014)

One field duplicate soil sample (FST014-SL93-2) in addition to four soil samples were collected and analyzed for VOCs, RCRA metals, pH, specific conductance, and TPH during the monitor well installation at the Old Fire Training Area (FST-014) location during June of 1993. The analytical results for each FST-014 soil sample was included in data package S3-43631. A summary of the analytical results for these samples are provided in Table 9.

4.2.8.1 Volatile Organic Compounds

Each of the samples from the Old Fire Training Area (FST-014) site was analyzed for VOCs by EPA 8240 within the fourteen day holding time requirement. All quality control data reported for the method blanks, surrogates, LCS, and MS/MSD performed in association with the VOC analyses were acceptable. Although slight variations in the detection limits were reported due to differences in the water content of the samples, the requested project quantitation limits were met. Therefore, no sample data qualifications were warranted.

Requested quantitation limits were met in all instances. Slight variations in the detection limits reported on a dry-weight basis, are due to differences in water content.

4.2.8.2 Metals

Holding times for the total metals analyses of the samples collected at FST-014 were not exceeded. The recoveries of metals in each of the initial and continuing calibrations and LCS were within the ranges specified by the validation guidelines. Additionally, target analytes were not detected in any of the method blanks analyzed in association with the samples.

The majority of the spiked analytes of the MS/MSD analysis included in data package S3-43631 resulted in acceptable recoveries. However, low recoveries were obtained from the cadmium (69% and 70%) and selenium (61% and 60%) MS/MSD analyses. As a result, the data for each sample included in this data package were classified as estimated in accordance with the validation guidelines (Table 9).

4.2.8.3 General Soil Quality Parameters

Each soil sample collected during this investigation was analyzed for pH and specific conductance within eight days of collection. The time lapse between collection and analysis is considered to be an acceptable holding time, due to the low moisture content of these soils. Additionally, acceptable results were reported for the specific conductance method blank as the results were less than the detectable limit. The laboratory control sample (LCS) recoveries for both parameters were acceptable.

4.2.8.4 Total Petroleum Hydrocarbons

Each of the soil samples collected from the Old Fire Training Area (FST-014) site was analyzed for TPH. Elevated concentrations of a hydrocarbon identified as heavy oil was detected in samples FST014-SL-1-2 (15 mg/Kg) and FST014-SL-2-6 (200 mg/Kg). Hydrocarbons identified as; gasoline, kerosene, diesel, mineral spirits, varsol, and fuel oil were not detected in any of the samples (Table 9).

Although an RPD of 60% that is greater than the control limit of 40% was reported in the MS/MSD analysis for diesel, acceptable precision and accuracy was reported for all other MS/MSD analyses. No contaminants were detected in the laboratory blank. The quality control analyses performed in association with these samples were acceptable. Therefore, none of the data associated with the hydrocarbon analyses required qualification.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Geraghty & Miller and Savannah Laboratories effectively resolved any minor problems encountered during implementation of the RFI. Changes in the protocols specified in the approved RCRA Facility Investigation Work Plan for Fort Stewart, Georgia, April 1993 enhanced both the quality and effectiveness of the investigation. With the exception of several arsenic and selenium results, the data generated by the field investigation and the laboratory analyses are of sufficient quality to satisfy the project objectives specified in the scope of work submitted to the USACE.

5.1 RECORD KEEPING

No errors were detected in any of the records generated during this investigation, which indicated that the continued attention to detail by project staff precluded errors in record keeping.

5.2 SAMPLING PROGRAM

With the exception of the following changes, the sampling program adhered to the approved corrected final RCRA Facility Investigation Work Plan, as part of the requirements of the hazardous waste permit (HW-045 [S&T]) issued to Fort Stewart on August 14, 1987 and amended on September 27, 1989.

- 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 FST-004B-MW4 because of sustained OVA readings above the health & safety action levels. This soil boring was abandoned and the monitoring well was not installed. Monitor well FTS-004B-MW4(b) was installed by

the USACE during the sampling activities conducted for the remainder of the Installation Wide RFI.

- Field duplicated soil samples were mistakenly collected and submitted for laboratory analysis by pH and specific conductance at each of the three SWMUs.
- The addition of equipment/rinsate blanks and/or trip blanks as part of the sampling and analysis program could have assisted in determining the affect of potential laboratory contaminants such as acetone and methylene chloride on samples analyzed for the volatile organic compounds.

5.3 LABORATORY PROGRAM

The laboratory procedures used throughout the project met the minimum requirements of the methods presented in the approved RFI Work Plan for Fort Stewart, Georgia and were consistent with EPA Contract Laboratory Program (CLP) criteria. The volatile organic compound, pH, specific conductance, barium, mercury, and hydrocarbon (TPH) data were generally of high quality. Slight analytical deficiencies did not affect the usefulness of the cadmium, chromium, lead, and silver data in determining the extent or relative severity of contamination at the three SWMUs included in this investigation.

Because of the significantly low recoveries reported for arsenic and selenium coupled with the laboratories inability to recover selenium during the matrix spike and matrix spike duplicate analyses of soil samples, the negative findings of these analytes were classified as unusable. Although it is possible that trace concentrations of arsenic and selenium are present in these samples, it is unlikely that the laboratory would have been unable to detect elevated concentrations of these analytes.

Therefore, the inability to firmly establish the absence of low concentrations of arsenic and selenium may not have a significant impact on the interpretation of the data or on the conclusions reached as part of the investigative assessment. However, the usefulness of the arsenic and selenium data for defining the absence or presence of these target analytes at the majority of the SWMUs cannot be determined from the data obtained during this investigation.

TABLES

TABLE 1.
RCRA FACILITY INVESTIGATION SOIL SAMPLE COLLECTION AND ANALYSIS METHOD SUMMARY,
Fort Stewart, Georgia.

Sample Location	EPA Method	Container/ Preservative	Proposed Field Samples			Completed Analytical Samples			Total Soil Samples Analyzed
			Samples	QC	QA	Samples	QC	QA	
CAMP OLIVER LANDFILL (FST 002)									
<u>Volatile Organic Compounds:</u>									
Chloromethane	8240	125ml amb. G/4 ° C	2	1	1	2	1	1	4
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride									
Acetone									
Carbon Disulfide									
1,1-Dichloroethene									
1,1-Dichloroethane									
trans-1,2-Dichloroethylene									
cis-1,2-Dichloroethene									
Chloroform									
1,2-Dichloroethane									
2-Butanone (MEK)									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
1,1,2,2-Tetrachloroethane									
1,2-Dichloropropane									
trans-1,3-Dichloropropene									
Trichloroethene									
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene									
cis-1,3-Dichloropropene									
2-Chloroethylvinyl ether									
Bromoform									
2-Hexanone									
4-Methyl-2-pentanone (MIBK)									
Tetrachloroethene									
Toluene									
Chlorobenzene									
Ethylbenzene									
Styrene									
Xylenes									

95

TABLE 1.
RCRA FACILITY INVESTIGATION SOIL SAMPLE COLLECTION AND ANALYSIS METHOD SUMMARY,
Fort Stewart, Georgia.

Sample Location	EPA Method	Container/ Preservative	Proposed Field Samples			Completed Analytical Samples			Total Soil Samples Analyzed
			Samples	Dup	QA	Samples	Dup	QA	
Metals:									
Arsenic	6010	250 ml P / 4 ° C	2	1	1	2	1	1	4
Barium	6010								
Cadmium	6010								
Chromium	6010								
Lead	7421								
Mercury	7471								
Selenium	7740								
Silver	6010								
Specific Conductance:									
	9050	250 ml P / 4 ° C	2	--	--	2	1	1	4
pH									
	9045	250 ml P / 4 ° C	2	--	--	2	1	1	4

97

TABLE 1.
RCRA FACILITY INVESTIGATION SOIL SAMPLE COLLECTION AND ANALYSIS METHOD SUMMARY,
Fort Stewart, Georgia.

Sample Location	EPA Method	Container/Preservative	Proposed Field Samples			Completed Analytical Samples			Total Soil Samples Analyzed
			Samples	Dup	QA Split	Samples	Dup	QA Split	
BURN PITS (FST 004 A-F)	8240	125ml amb. G/4 ° C	24	2	2	24	2	2	28
Volatle Organic Compounds:									
Chloromethane									
Bromomethane									
Vinyl Chloride									
Chloroethane									
Methylene Chloride									
Acetone									
Carbon Disulfide									
1,1-Dichloroethene									
1,1-Dichloroethane									
trans-1,2-Dichloroethylene									
cis-1,2-Dichloroethene									
Chloroform									
1,2-Dichloroethane									
2-Butanone (MEK)									
1,1,1-Trichloroethane									
Carbon Tetrachloride									
Vinyl Acetate									
Bromodichloromethane									
1,1,2,2-Tetrachloroethane									
1,2-Dichloropropane									
trans-1,3-Dichloropropene									
Trichloroethene									
Dibromochloromethane									
1,1,2-Trichloroethane									
Benzene									
cis-1,3-Dichloropropene									
2-Chloroethylvinyl ether									
Bromoform									
2-Hexanone									
4-Methyl-2-pentanone (MIBK)									
Tetrachloroethene									
Toluene									
Chlorobenzene									
Ethylbenzene									
Styrene									
Xylenes									

99

TABLE 1.
RCRA FACILITY INVESTIGATION SOIL SAMPLE COLLECTION AND ANALYSIS METHOD SUMMARY,
Fort Stewart, Georgia.

Sample Location	EPA Method	Container/Preservative	Proposed Field Samples			Completed Analytical Samples			Total Soil Samples Analyzed
			Samples	QC Dup	QA Split	Samples	QC Dup	QA Split	
Metals:									
Arsenic	6010	250 ml P / 4 ° C	24	2	2	24	2	2	28
Barium	6010								
Cadmium	6010								
Chromium	6010								
Lead	7421								
Mercury	7471								
Selenium	7740								
Silver	6010								
Specific Conductance:									
	9050	250 ml P / 4 ° C	24	--	--	24	2	2	28
pH									
	9045	250 ml P / 4 ° C	24	--	--	24	2	2	28

101

TABLE 1.
RCRA FACILITY INVESTIGATION SOIL SAMPLE COLLECTION AND ANALYSIS METHOD SUMMARY,
Fort Stewart, Georgia.

Sample Location	EPA Method	Container/Preservative	Proposed Field Samples			Completed Analytical Samples			Total	
			Samples	Dup	QA Split	Samples	Dup	QA Split	Soil Samples Analyzed	
OLD FIRE TRAINING AREA (FST 014)										
Volatile Organic Compounds:										
Chloromethane	8240	125ml amb. G/40 C	4	1	1	4	1	1	6	
Bromomethane										
Vinyl Chloride										
Chloroethane										
Methylene Chloride										
Acetone										
Carbon Disulfide										
1,1-Dichloroethane										
1,1-Dichloroethane										
trans-1,2-Dichloroethylene										
cis-1,2-Dichloroethene										
Chloroform										
1,2-Dichloroethane										
2-Butanone (MEK)										
1,1,1-Trichloroethane										
Carbon Tetrachloride										
Vinyl Acetate										
Bromodichloromethane										
1,1,2,2-Tetrachloroethane										
1,2-Dichloropropane										
trans-1,3-Dichloropropene										
Trichloroethene										
Dibromochloromethane										
1,1,2-Trichloroethane										
Benzene										
cis-1,3-Dichloropropene										
2-Chloroethylvinyl ether										
Bromoform										
2-Hexanone										
4-Methyl-2-pentanone (MIBK)										
Tetrachloroethene										
Toluene										
Chlorobenzene										
Ethylbenzene										
Styrene										
Xylenes										

103

TABLE 1.
RCRA FACILITY INVESTIGATION SOIL SAMPLE COLLECTION AND ANALYSIS METHOD SUMMARY,
Fort Stewart, Georgia.

Sample Location	EPA Method	Container/Preservative	Proposed Field Samples			Completed Analytical Samples			Total	
			Samples	QC Dup	QA Split	Samples	QC Dup	QA Split	Soil Samples Analyzed	
Metals:			4	1	1	4	1	1		6
Arsenic	6010	250 ml P / 4 ° C								
Barium	6010									
Cadmium	6010									
Chromium	6010									
Lead	7421									
Mercury	7471									
Selenium	7740									
Silver	6010									
Specific Conductance:			4	--	--	4	1	1		6
	9050	250 ml P / 4 ° C								
pH			4	--	--	4	1	1		6
	9045	250 ml P / 4 ° C								
Total Purgeable Hydrocarbons			4	1	1	4	1	1		6
	8015	125ml amb. G/4 ° C								
Total Extractable Hydrocarbons			4	1	1	4	1	1		6
	8015	250 ml P / 4 ° C								

105

107

TABLE 2
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT CAMP OLIVER LANDFILL, FST-002
Ft. Stewart, Georgia

<u>PARAMETER</u>	G&M I.D. Savannah I.D. Date Sampled % Solids	FST002-SL1-12 43808-1 7/1/93 88	FST002-SL4-8 43808-2 7/1/93 77	FST002-SL94-8 43808-3 7/1/93 78
<u>VOLATILE ORGANIC COMPOUNDS (ug/Kg dw):</u>				
Chloromethane		< 11	< 13	< 13
Bromomethane		< 11	< 13	< 13
Vinyl Chloride		< 11	< 13	< 13
Chloroethane		< 11	< 13	< 13
Methylene Chloride		< 5.7	< 6.5	< 6.4
Acetone		< 57	< 65	< 64
Carbon Disulfide		< 5.7	< 6.5	< 6.4
1,1-Dichloroethene		< 5.7	< 6.5	< 6.4
1,1-Dichloroethane		< 5.7	< 6.5	< 6.4
trans-1,2-Dichloroethylene		< 5.7	< 6.5	< 6.4
cis-1,2-Dichloroethene		< 5.7	< 6.5	< 6.4
Chloroform		< 5.7	< 6.5	< 6.4
1,2-Dichloroethane		< 5.7	< 6.5	< 6.4
2-Butanone (MEK)		< 57	< 65	< 64
1,1,1-Trichloroethane		< 5.7	< 6.5	< 6.4
Carbon Tetrachloride		< 5.7	< 6.5	< 6.4
Vinyl Acetate		< 11	< 13	< 64
Bromodichloromethane		< 5.7	< 6.5	< 6.4
1,1,1,2-Tetrachloroethane		< 5.7	< 6.5	< 6.4
1,2-Dichloropropane		< 5.7	< 6.5	< 6.4
trans-1,3-Dichloropropene		< 5.7	< 6.5	< 6.4
Trichloroethene		< 5.7	< 6.5	< 6.4
Dibromochloromethane		< 5.7	< 6.5	< 6.4
1,1,2-Trichloroethane		< 5.7	< 6.5	< 6.4
Benzene		< 5.7	< 6.5	< 6.4
cis-1,3-Dichloropropene		< 5.7	< 6.5	< 6.4
2-Chloroethylvinyl Ether		< 57	< 65	< 64
Bromoform		< 5.7	< 6.5	< 6.4
2-Hexanone		< 57	< 65	< 64
4-Methyl-2-pentanone (MIBK)		< 57	< 65	< 64
Tetrachloroethene		< 5.7	< 6.5	< 6.4
Toluene		< 5.7	< 6.5	< 6.4
Chlorobenzene		< 5.7	< 6.5	< 6.4
Ethylbenzene		< 5.7	< 6.5	< 6.4
Styrene		< 5.7	< 6.5	< 6.4
Xylenes		< 5.7	< 6.5	< 6.4

109

TABLE 2
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT CAMP OLIVER LANDFILL, FST-002
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST002-SL1-12	FST002-SL4-8	FST002-SL94-8
	Savannah I.D.	43808-1	43808-2	43808-3
	Date Sampled	7/1/93	7/1/93	7/1/93
	% Solids	88	77	78
METALS (mg/Kg dw):				
Arsenic		2.0 J	1.8 J	2.2 J
Barium		1.2	4.2	5.8
Cadmium		< 0.57	< 0.65	< 0.64
Chromium		9.5	7.9	14
Lead		1.4 J	3.1 J	2.6 J
Mercury		< 0.011	< 0.013	< 0.013
Selenium		< 1.1 R	< 1.3 R	< 1.3 R
Silver		< 1.1	< 1.3	< 1.3
SPECIFIC CONDUCTANCE (umhos/cm)				
		5.7	4.2	3.6
pH				
		4.3	4.2	4.2

Footnotes

ug/Kg dw micrograms per kilogram dry weight.
mg/Kg dw milligrams per kilogram dry weight.
< Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed and dilution factors.
R Result has been classified as unusable due to QA deficiencies.
J Positive result has been classified as qualitative.

TABLE 3
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT A, FST-004A
Fl. Stewart, Georgia

PARAMETER	G&M I.D.	FST004A-SL1-6	FST004A-SL2-4	FST004A-SL3-4	FST004A-SL4-8	FST004A-SL94-8
	Savannah I.D.	43675-4	43675-7	43675-8	43675-2	43675-3
	Date Sampled	6/25/93	6/25/93	6/25/93	6/25/93	6/25/93
	% Solids	87	94	89	86	85
VOLATILE ORGANIC COMPOUNDS (ug/Kg dw):						
Chloromethane	<	12	<	11	<	12
Bromomethane	<	12	<	11	<	12
Vinyl Chloride	<	12	<	11	<	12
Chloroethane	<	12	<	11	<	12
Methylene Chloride	<	5.7	<	5.3	<	5.8
Acetone	<	57	63	<	56	<
Carbon Disulfide	<	5.7	<	5.3	<	5.8
1,1-Dichloroethene	<	5.7	<	5.3	<	5.8
1,1-Dichloroethane	<	5.7	<	5.3	<	5.8
trans-1,2-Dichloroethylene	<	5.7	<	5.3	<	5.8
cis-1,2-Dichloroethane	<	5.7	<	5.3	<	5.8
Chloroform	<	5.7	<	5.3	<	5.8
1,2-Dichloroethane	<	5.7	<	5.3	<	5.8
2-Butanone (MEK)	<	57	<	53	<	58
1,1,1-Trichloroethane	<	5.7	<	5.3	<	5.8
Carbon Tetrachloride	<	5.7	<	5.3	<	5.8
Vinyl Acetate	<	12	<	11	<	12
Bromodichloromethane	<	5.7	<	5.3	<	5.8
1,1,2,2-Tetrachloroethane	<	5.7	<	5.3	<	5.8
1,2-Dichloropropane	<	5.7	<	5.3	<	5.8
trans-1,3-Dichloropropene	<	5.7	<	5.3	<	5.8
Trichloroethene	<	5.7	<	5.3	<	5.8
Dibromochloromethane	<	5.7	<	5.3	<	5.8
1,1,2-Trichloroethane	<	5.7	<	5.3	<	5.8
Benzene	<	5.7	<	5.3	<	5.8
cis-1,3-Dichloropropene	<	5.7	<	5.3	<	5.8
2-Chloroethylvinyl ether	<	57	<	53	<	58
Bromoform	<	5.7	<	5.3	<	5.8
2-Hexanone	<	57	<	53	<	58
4-Methyl-2-pentanone (MIBK)	<	57	<	53	<	58
Tetrachloroethene	6.1	<	8.8	<	5.6	<
Toluene	8.1	<	5.3	<	5.6	12
Chlorobenzene	<	5.7	<	5.3	<	5.8
Ethylbenzene	<	5.7	<	5.3	<	5.8
Styrene	<	5.7	<	5.3	<	5.8
Xylenes	6.1	<	8.2	<	5.6	8.5

TABLE 3
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT A, FST-004A
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST004A-SL1-6	FST004A-SL2-4	FST004A-SL3-4	FST004A-SL4-8	FST004A-SL94-8
Savannah I.D.	43675-4	43675-7	43675-8	43675-2	43675-3	43675-3
Date Sampled	6/25/93	6/25/93	6/25/93	6/25/93	6/25/93	6/25/93
% Solids	87	94	89	86	85	85
METALS (mg/Kg dw):						
Arsenic	<	1.1	R	<	1.1	R
Barium	5.7	6.5	R	<	6.4	R
Cadmium	<	0.57	<	0.56	<	0.58
Chromium	9.0	J	<	1.1	6.4	J
Lead	9.4	J	4.0	J	1.5	J
Mercury	0.059	0.018	0.017	0.016	0.017	0.017
Selenium	<	5.7	R	<	1.1	R
Silver	<	1.1	<	1.1	<	1.2
SPECIFIC CONDUCTANCE (umhos/cm)						
	8.0	8.4	5.9	11	4.6	4.6
pH						
	4.8	5.1	5.3	4.7	4.8	4.8

Footnotes
 ug/Kg dw micrograms per kilogram dry weight.
 mg/Kg dw milligrams per kilogram dry weight.
 < Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed, and dilution factors.
 J Positive result has been classified as qualitative.
 R Result has been classified as unusable due to QA deficiencies.

113

TABLE 4
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT B, FST-004B
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST004B-SL1-8	FST004B-SL2-8	FST004B-SL3-8	FST004B-SL4-4
	Savannah I.D.	43711-1	43711-2	43711-3	43711-3
	Date Sampled	6/28/93	6/28/93	6/28/93	6/28/93
	% Solids	86	88	88	93
<u>VOLATILE ORGANIC COMPOUNDS (ug/Kg_dwt):</u>					
Chloromethane	<	13	<	<	<
Bromomethane	<	13	<	<	<
Vinyl Chloride	<	13	<	<	<
Chloroethane	<	13	<	<	<
Methylene Chloride	<	6.6	<	<	<
Acetone	<	66	<	<	<
Carbon Disulfide	<	6.6	<	<	<
1,1-Dichloroethene	<	6.6	<	<	<
1,1-Dichloroethane	<	6.6	<	<	<
trans-1,2-Dichloroethylene	<	6.6	<	<	<
cis-1,2-Dichloroethene	<	6.6	<	<	<
Chloroform	<	6.6	<	<	<
1,2-Dichloroethane	<	6.6	<	<	<
2-Butanone (MEK)	<	66	<	<	<
1,1,1-Trichloroethane	<	6.6	<	<	<
Carbon Tetrachloride	<	6.6	<	<	<
Vinyl Acetate	<	12	<	<	<
Bromodichloromethane	<	6.6	<	<	<
1,1,2,2-Tetrachloroethane	<	6.6	<	<	<
1,2-Dichloropropane	<	6.6	<	<	<
trans-1,3-Dichloropropene	<	6.6	<	<	<
Trichloroethene	<	6.6	<	<	<
Dibromochloromethane	<	6.6	<	<	<
1,1,2-Trichloroethane	<	6.6	<	<	<
Benzene	<	6.6	<	<	<
cis-1,3-Dichloropropene	<	6.6	<	<	<
2-Chloroethylvinyl ether	<	66	<	<	<
Bromoform	<	6.6	<	<	<
2-Hexanone	<	66	<	<	<
4-Methyl-2-pentanone (MIBK)	<	66	<	<	<
Tetrachloroethene	<	8.9	<	<	<
Toluene	<	8.3	<	<	<
Chlorobenzene	<	6.6	<	<	<
Ethylbenzene	<	6.6	<	<	<
Styrene	<	6.6	<	<	<
Xylenes	<	6.6	<	<	<

115

TABLE 4
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT B, FST-004B
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST004B-SL1-8	FST004B-SL2-8	FST004B-SL3-8	FST004B-SL4-4
Savannah I.D.	43675-9	43711-1	43711-2	43711-3	43711-3
Date Sampled	6/25/93	6/28/93	6/28/93	6/28/93	6/26/93
% Solids	76	86	88	88	93

METALS (mg/Kg,dw):

Arsenic	1.4	J	<	1.2	<	1.1	<	1.1	<	1.1	
Barium	9.0		<	8.0	<	3.7	<	3.7	<	9.8	
Cadmium	<	0.66		<	0.58	<	0.57	<	0.54		
Chromium	13	J		2.7		4.5		4.5		7.1	
Lead	7.3	J		2.2		2.7		2.7		4.2	
Mercury	0.013		<	0.012	<	0.011	<	0.011	<	0.021	
Selenium	<	6.5	R	<	1.2	UU	<	1.1	UU	<	1.1
Silver	<	1.3		<	1.2	<	<	1.1	<	<	1.1

SPECIFIC CONDUCTANCE (umhos/cm)

	2.6		2.7	2.6	7.0
pH	5.1		4.0	3.9	3.7

Footnotes

- ug/Kg dw micrograms per kilogram dry weight.
- mg/Kg dw milligrams per kilogram dry weight.
- < Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed and dilution factors.
- J Positive result has been classified as qualitative.
- UU Analyte was not detected or has been classified as undetected, with further classification as qualitative.
- R Result has been classified as unusable due to QA deficiencies

117

TABLE 5
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT C, FST-004C
Ft. Stewart, Georgia

PARAMETER	G&M I.D. Savannah I.D. Date Sampled % Solids	FST004C-SL1-4 43631-6 6/23/93 91	FST004C-SL-2-4 43631-7 6/23/93 90	FST004C-SL3-4 43631-8 6/23/93 84	FST004C-SL4-4 43631-9 6/23/93 93
VOLATILE ORGANIC COMPOUNDS (ug/Kg.dwl):					
Chloromethane	<	11	<	11	<
Bromomethane	<	11	<	11	<
Vinyl Chloride	<	11	<	11	<
Chloroethane	<	11	<	11	<
Methylene Chloride	<	5.5	<	5.5	<
Acetone	<	55	<	56	<
Carbon Disulfide	<	5.5	<	5.6	<
1,1-Dichloroethene	<	5.5	<	5.6	<
1,1-Dichloroethane	<	5.5	<	5.6	<
trans-1,2-Dichloroethylene	<	5.5	<	5.6	<
cis-1,2-Dichloroethene	<	5.5	<	5.6	<
Chloroform	<	5.5	<	5.6	<
1,2-Dichloroethane	<	5.5	<	5.6	<
2-Butanone (MEK)	<	55	<	56	<
1,1,1-Trichloroethane	<	5.5	<	5.6	<
Carbon Tetrachloride	<	5.5	<	5.6	<
Vinyl Acetate	<	11	<	11	<
Bromodichloromethane	<	5.5	<	5.6	<
1,1,2,2-Tetrachloroethane	<	5.5	<	5.6	<
1,2-Dichloropropane	<	5.5	<	5.6	<
trans-1,3-Dichloropropene	<	5.5	<	5.6	<
Trichloroethene	<	5.5	<	5.6	<
Dibromochloromethane	<	5.5	<	5.6	<
1,1,2-Trichloroethane	<	5.5	<	5.6	<
Benzene	<	5.5	<	5.6	<
cis-1,3-Dichloropropene	<	5.5	<	5.6	<
2-Chloroethylvinyl ether	<	55	<	56	<
Bromoform	<	5.5	<	5.6	<
2-Hexanone	<	55	<	56	<
4-Methyl-2-pentanone (MIBK)	<	55	<	56	<
Tetrachloroethene	<	5.5	<	5.6	<
Toluene	<	5.5	<	5.6	<
Chlorobenzene	<	5.5	<	5.6	<
Ethylbenzene	<	5.5	<	5.6	<
Styrene	<	5.5	<	5.6	<
Xylenes	<	5.5	<	5.6	<

119

TABLE 5
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT C, FST-004C
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST004C-SL1-4	FST004C-SL-2-4	FST004C-SL3-4	FST004C-SL4-4
	Savannah I.D.	43631-6	43631-7	43631-8	43631-9
	Date Sampled	6/23/93	6/23/93	6/23/93	6/23/93
	% Solids	91	90	84	93
METALS (mg/Kg.dwt):					
Arsenic	<	1.1	<	1.2	<
Barium	<	1.3	1.5	2.5	3.2
Cadmium	<	0.55	0.56	0.60	0.54
Chromium		1.5	1.5	4.0	4.8
Lead		0.67	0.73	2.0	2.7
Mercury	<	0.011	<	0.012	<
Selenium	<	1.1	1.1	1.2	1.1
Silver	<	1.1	1.1	1.2	1.1
SPECIFIC CONDUCTANCE (umhos/cm)					
		3.6	65	6.6	17
pH					
		6.2	5.0	5.6	6.2

ug/Kg dw micrograms per kilogram dry weight.
 mg/Kg dw milligrams per kilogram dry weight.
 < Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed, and dilution factors.
 UJ Analyte was not detected or has been classified as undetected, with further classification as qualitative.

121

123

TABLE 6
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT D, FST-004D
Ft. Stewart, Georgia

PARAMETER	G&M I.D. Savannah I.D. Date Sampled % Solids	FST004D-SL1-4 43675-10 6/24/93 92	FST004D-SL2-6 43675-1 6/24/93 89	FST004D-SL92-6 43675-6 6/24/93 89	FST004D-SL3-6 43675-5 6/24/93 88	FST004D-SL4-4 43675-11 6/24/93 88
VOLATILE ORGANIC COMPOUNDS (ug/Kg dw):						
Chloromethane	<	11	<	11	<	11
Bromomethane	<	11	<	11	<	11
Vinyl Chloride	<	11	<	11	<	11
Chloroethane	<	11	<	11	<	11
Methylene Chloride	<	5.3	<	5.6	<	5.6
Acetone	63	110	<	58	<	56
Carbon Disulfide	<	5.6	<	5.6	<	5.6
1,1-Dichloroethene	<	5.3	<	5.6	<	5.6
1,1-Dichloroethane	<	5.3	<	5.6	<	5.6
trans-1,2-Dichloroethylene	<	5.3	<	5.6	<	5.7
cis-1,2-Dichloroethene	<	5.3	<	5.6	<	5.7
Chloroform	<	5.3	<	5.6	<	5.6
1,2-Dichloroethane	<	5.3	<	5.6	<	5.6
2-Butanone (MEK)	<	53	<	56	<	56
1,1,1-Trichloroethane	<	5.3	<	5.6	<	5.6
Carbon Tetrachloride	<	5.3	<	5.6	<	5.6
Vinyl Acetate	<	11	<	11	<	11
Bromodichloromethane	<	5.3	<	5.6	<	5.6
1,1,2,2-Tetrachloroethane	<	5.3	<	5.6	<	5.6
1,2-Dichloropropane	<	5.3	<	5.6	<	5.6
trans-1,3-Dichloropropene	<	5.3	<	5.6	<	5.6
Trichloroethene	<	5.3	<	5.6	<	5.6
Dibromochloromethane	<	5.3	<	5.6	<	5.6
1,1,1,2-Trichloroethane	<	5.3	<	5.6	<	5.6
Benzene	<	5.3	<	5.6	<	5.6
cis-1,3-Dichloropropene	<	5.3	<	5.6	<	5.6
2-Chloroethylvinyl ether	<	53	<	56	<	57
Bromoform	<	5.3	<	5.6	<	5.6
2-Hexanone	<	53	<	56	<	56
4-Methyl-2-pentanone (MIBK)	<	53	<	56	<	56
Tetrachloroethene	8.8	<	<	5.6	<	5.6
Toluene	<	5.3	21	18	<	5.6
Chlorobenzene	<	5.3	<	5.6	<	5.6
Ethylbenzene	<	5.3	<	5.6	<	5.6
Styrene	<	5.3	<	5.6	<	5.6
Xylenes	8.2	<	22	25	<	5.6

TABLE 6
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT D, FST-004D
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST004D-SL1-4	FST004D-SL2-6	FST004D-SL92-6	FST004D-SL3-6	FST004D-SL4-4
Savannah I.D.	43675-10	43675-1	43675-6	43675-5	43675-11	43675-11
Date Sampled	6/24/93	6/24/93	6/24/93	6/24/93	6/24/93	6/24/93
% Solids	92	89	89	88	88	88
METALS (mg/Kg dw):						
Arsenic	<	1.1	<	1.1	1.2	<
Barium	6.5	5.9	6.7	4.8	4.8	1.4
Cadmium	<	0.53	<	0.56	<	<
Chromium	2.5	3.3	J	3.0	6.4	<
Lead	4.0	3.7	J	4.4	1.1	1.5
Mercury	0.018	0.016	0.016	0.063	0.017	0.017
Selenium	<	1.1	<	1.1	1.1	<
Silver	<	1.1	<	1.1	1.1	<
SPECIFIC CONDUCTANCE (umhos/cm)						
	8.4	4.4	4.0	6.2	5.9	5.9
pH	5.1	4.6	5.2	4.7	5.3	5.3

Footnotes

ug/Kg dw micrograms per kilogram dry weight.

mg/Kg dw milligrams per kilogram dry weight.

< Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed, and dilution factors.

J Positive result has been classified as qualitative.

R Result has been classified as unusable due to QA deficiencies.

125

TABLE 7
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT E, FST-004E
Ft. Stewart, Georgia

PARAMETER	G&M I.D. Savannah I.D. Date Sampled % Solids	FST004E-SL1-6 43711-4 6/26/93 85	FST004E-SL2-8 43768-1 6/29/93 76	FST004E-SL3-8 43711-5 6/28/93 86	FST004E-SL4-6 43768-2 6/29/93 90
VOLATILE ORGANIC COMPOUNDS (ug/Kg dw):					
Chloromethane	<	12	<	13	<
Bromomethane	<	12	<	13	<
Vinyl Chloride	<	12	<	13	<
Chloroethane	<	12	<	13	<
Methylene Chloride	<	5.9	<	6.6	<
Acetone	<	59	<	66	<
Carbon Disulfide	<	5.9	<	14	<
1,1-Dichloroethene	<	5.9	<	6.6	<
1,1-Dichloroethane	<	5.9	<	6.6	<
trans-1,2-Dichloroethylene	<	5.9	<	6.6	<
cis-1,2-Dichloroethene	<	5.9	<	6.6	<
Chloroform	<	5.9	<	6.6	<
1,2-Dichloroethane	<	5.9	<	6.6	<
2-Butanone (MEK)	<	59	<	66	<
1,1,1-Trichloroethane	<	5.9	<	6.6	<
Carbon Tetrachloride	<	5.9	<	6.6	<
Vinyl Acetate	<	12	<	13	<
Bromodichloromethane	<	5.9	<	6.6	<
1,1,2,2-Tetrachloroethane	<	5.9	<	6.6	<
1,2-Dichloropropane	<	5.9	<	6.6	<
trans-1,3-Dichloropropene	<	5.9	<	6.6	<
Trichloroethene	<	5.9	<	6.6	<
Dibromochloromethane	<	5.9	<	6.6	<
1,1,2-Trichloroethane	<	5.9	<	6.6	<
Benzene	<	5.9	<	6.6	<
cis-1,3-Dichloropropene	<	5.9	<	6.6	<
2-Chloroethyl Vinyl Ether	<	59	<	66	<
Bromoform	<	5.9	<	6.6	<
2-Hexanone	<	59	<	66	<
4-Methyl-2-pentanone (MIBK)	<	59	<	66	<
Tetrachloroethene	<	5.9	<	6.6	<
Toluene	<	5.9	<	6.6	<
Chlorobenzene	<	5.9	<	6.6	<
Ethylbenzene	<	5.9	<	6.6	<
Styrene	<	5.9	<	6.6	<
Xylenes	<	5.9	<	6.6	<

METALS (mg/Kg dw):

TABLE 7
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT E, FST-004E
Ft. Stewart, Georgia

PARAMETER	G&M I.D. Savannah I.D. Date Sampled % Solids	FST004E-SL1-6 43711-4 6/26/93 85	FST004E-SL2-8 43768-1 6/29/93 76	FST004E-SL3-8 43711-5 6/28/93 86	FST004E-SL4-6 43768-2 6/29/93 90	
Arsenic	<	1.2	<	1.3	R	<
Barium		27	14	8.5	11	1.1
Cadmium	<	0.59	<	0.66	<	0.55
Chromium		12	6.5	9.5	6.9	6.9
Lead		5.9	2.6	5.2	4.8	4.8
Mercury		0.026	0.039	0.062	0.043	0.043
Selenium	<	2.4	6.6	R	<	1.1
Silver	<	1.2	1.3	UU	<	1.1
SPECIFIC CONDUCTANCE (umhos/cm)						
		5.5	3.1	2.1	2.3	
pH						
		4.1	4.6	3.9	5.2	

Footnotes

ug/Kg dw micrograms per kilogram dry weight.

mg/Kg dw milligrams per kilogram dry weight.

< Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed and dilution factors.

R Result has been classified as unusable due to QA deficiencies.

UU Analyte was not detected or has been classified as undetected, with further classification as qualitative.

129

TABLE 8
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT F, FST-004F
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST004F-SL1-8	FST004F-SL2-8	FST004F-SL3-8	FST004F-SL4-4
	Savannah I.D.	43768-3	43768-5	43768-4	43768-6
	Date Sampled	6/29/93	6/29/93	6/30/93	6/30/93
	% Solids	87	87	82	91
VOLATILE ORGANIC COMPOUNDS (ug/Kg dw):					
Chloromethane	<	11	<	12	<
Bromomethane	<	11	<	12	<
Vinyl Chloride	<	11	<	12	<
Chloroethane	<	11	<	12	<
Methylene Chloride	6.0	5.7	<	7.4	<
Acetone	<	57	<	61	<
Carbon Disulfide	<	5.7	<	6.1	<
1,1-Dichloroethene	<	5.7	<	6.1	<
1,1-Dichloroethane	<	5.7	<	6.1	<
trans-1,2-Dichloroethylene	<	5.7	<	6.1	<
cis-1,2-Dichloroethene	<	5.7	<	6.1	<
Chloroform	<	5.7	<	6.1	<
1,2-Dichloroethane	<	5.7	<	6.1	<
2-Butanone (MEK)	<	57	<	61	<
1,1,1-Trichloroethane	<	5.7	<	6.1	<
Carbon Tetrachloride	<	5.7	<	6.1	<
Vinyl Acetate	<	11	<	12	<
Bromodichloromethane	<	5.7	<	6.1	<
1,1,2,2-Tetrachloroethane	<	5.7	<	6.1	<
1,2-Dichloropropane	<	5.7	<	6.1	<
trans-1,3-Dichloropropene	<	5.7	<	6.1	<
Trichloroethene	<	5.7	<	6.1	<
Dibromochloromethane	<	5.7	<	6.1	<
1,1,2-Trichloroethane	<	5.7	<	6.1	<
Benzene	<	5.7	<	6.1	<
cis-1,3-Dichloropropene	<	5.7	<	6.1	<
2-Chloroethyvinyl Ether	<	57	<	61	<
Bromoform	<	5.7	<	6.1	<
2-Hexanone	<	57	<	61	<
4-Methyl-2-pentanone (MIBK)	<	57	<	61	<

131

TABLE 8
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT BURN PIT F, FST-004F
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST004F-SL1-8	FST004F-SL2-8	FST004F-SL3-8	FST004F-SL4-4
	Savannah I.D.	43768-3	43768-5	43768-4	43768-6
	Date Sampled	6/29/93	6/29/93	6/30/93	6/30/93
	% Solids	87	87	82	91
Tetrachloroethene	<	5.7	<	6.1	<
Toluene	<	5.7	<	6.1	<
Chlorobenzene	<	5.7	<	6.1	<
Ethylbenzene	<	5.7	<	6.1	<
Styrene	<	5.7	<	6.1	<
Xylenes	<	5.7	<	6.1	<
METALS (mg/Kg dw):					
Arsenic	<	1.1	R	1.2	<
Barium	6.2	17	17	17	18
Cadmium	<	0.57	<	0.61	<
Chromium	5.1	4.6	15	15	8.8
Lead	16	8.3	7.7	7.7	4.8
Mercury	<	0.011	0.023	0.012	0.051
Selenium	<	1.1	R	6.1	<
Silver	<	1.1	UJ	1.2	UJ

SPECIFIC CONDUCTANCE (umhos/cm)

2.9	4.2	6.8	4.2
4.0	4.6	3.8	6.5

pH

Footnotes
 ug/Kg dw micrograms per kilogram dry weight.
 mg/Kg dw milligrams per kilogram dry weight.
 < Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed and dilution factors.
 R Result has been classified as unusable due to QA deficiencies.
 UJ Analyte was not detected or has been classified as undetected, with further classification as qualitative.

133

135

TABLE 9
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT OLD FIRE TRAINING AREA, FST-014
Ft. Stewart, Georgia

PARAMETER	G&M I.D. Savannah I.D. Date Sampled % Solids	FST014-SL-1-2 43631-1 6/22/93 100	FST014-SL-4-4 43631-2 6/22/93 97	FST014-SL2-6 43631-3 6/22/93 83	FST014-SL3-2 43631-4 6/22/93 99	FST014-SL93-2 43631-5 6/22/93 98
VOLATILE ORGANIC COMPOUNDS (ug/Kg.dwt):						
Chloromethane		< 10	< 10	< 12	< 10	< 10
Bromomethane		< 10	< 10	< 12	< 10	< 10
Vinyl Chloride		< 10	< 10	< 12	< 10	< 10
Chloroethane		< 10	< 10	< 12	< 10	< 10
Methylene Chloride		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Acetone		< 50	< 52	< 60	< 51	< 51
Carbon Disulfide		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
1,1-Dichloroethene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
1,1-Dichloroethane		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
trans-1,2-Dichloroethylene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
cis-1,2-Dichloroethene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Chloroform		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
1,2-Dichloroethane		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
2-Butanone (MEK)		< 50	< 52	< 60	< 51	< 51
1,1,1-Trichloroethane		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Carbon Tetrachloride		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Vinyl Acetate		< 10	< 10	< 12	< 10	< 10
Bromodichloromethane		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
1,1,2,2-Tetrachloroethane		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
1,2-Dichloropropane		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
trans-1,3-Dichloropropene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Trichloroethene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Dibromochloromethane		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
1,1,2-Trichloroethane		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Benzene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
cis-1,3-Dichloropropene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
2-Chloroethylvinyl ether		< 50	< 52	< 60	< 50	< 50
Bromoform		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
2-Hexanone		< 50	< 52	< 60	< 51	< 51
4-Methyl-2-pentanone (MIBK)		< 50	< 52	< 60	< 51	< 51
Tetrachloroethene		9.0	< 5.2	< 6.7	< 5.1	< 5.1
Toluene		5.8	< 5.2	6.1	< 5.1	< 5.1
Chlorobenzene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Ethylbenzene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Styrene		< 5.0	< 5.2	< 6.0	< 5.1	< 5.1
Xylenes		< 5.0	< 5.2	6.2	< 5.1	< 5.1
HYDROCARBONS (mg/Kg.dwt):						
Hydrocarbons as Gasoline		< 0.25	< 0.26	< 0.30	< 0.25	< 0.26

137

TABLE 9
ANALYTICAL RESULTS FOR SOIL SAMPLES COLLECTED IN 1993
AT OLD FIRE TRAINING AREA, FST-014
Ft. Stewart, Georgia

PARAMETER	G&M I.D.	FST014-SL-1-2	FST014-SL-4-4	FST014-SL2-6	FST014-SL3-2	FST014-SL93-2
	Savannah I.D.	43631-1	43631-2	43631-3	43631-4	43631-5
	Date Sampled	6/22/93	6/22/93	6/22/93	6/22/93	6/22/93
	% Solids	100	97	83	99	98
Hydrocarbons as Kerosene	<	10	<	<	<	<
Hydrocarbons as Diesel	<	10	<	<	<	<
Hydrocarbons as Heavy Oil	15	<	200	<	<	<
Hydrocarbons as Mineral Spirits	<	10	<	<	<	<
Hydrocarbons as Varsol	<	10	<	<	<	<
Hydrocarbons as Fuel Oil	<	10	<	<	<	<
METALS (mg/Kg dw):						
Arsenic	<	1.0	<	<	<	<
Barium	7.9	1.7	<	1.2	6.4	6.2
Cadmium	<	0.50	UJ	<	0.50	0.51
Chromium	2.2	1.6	<	2.7	2.2	2.1
Lead	4.7	0.52	<	0.88	1.2	1.5
Mercury	<	0.010	<	0.019	0.010	<
Selenium	<	1.0	UJ	<	1.0	<
Silver	<	1.0	<	<	1.0	<
SPECIFIC CONDUCTANCE (umhos/cm)		5.5	2.1	12	10	3.3
pH		7.0	5.9	5.3	7.3	7.1

ug/Kg dw micrograms per kilogram dry weight.
 mg/Kg dw milligrams per kilogram dry weight.
 < Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed and dilution factors.
 UJ Analyte was not detected or has been classified as undetected, with further classification as qualitative.

TABLE 10.
SUMMARY OF QUALIFIED SOIL SAMPLE RESULTS,
Fort Stewart, Georgia.

Sample Location	G & M Sample I.D.	Analyte	Concentration	Units	Qualifier	Reasons for Qualification
Camp Olliver Landfill	FST002-SL1-12	Arsenic	2.0	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 44 and 60% less than lower control limit (75%)
		Lead	1.4	mg/Kg	J	Matrix Spike Duplicate recovery of 34% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 24 and 33% less than lower control limit (75%)
	FST002-SL4-4-8	Arsenic	1.8	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 44 and 60% less than lower control limit (75%)
		Lead	3.1	mg/Kg	J	Matrix Spike Duplicate recovery of 34% less than lower control limit (75%)
		Selenium	< 1.3	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 24 and 33% less than lower control limit (75%)
	FST002-SL94-8 Duplicate (FST002-SL4-8)	Arsenic	2.2	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 44 and 60% less than lower control limit (75%)
		Lead	2.6	mg/Kg	J	Matrix Spike Duplicate recovery of 34% less than lower control limit (75%)
		Selenium	< 1.3	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 24 and 33% less than lower control limit (75%)
Burn Pit A (FST 004)	FST004A-SL1-6	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Chromium	9.0	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)
		Lead	9.4	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent
	FST004A-SL2-4	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Chromium	2.5	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)
		Lead	4.0	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent
	FST004A-SL3-4	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Lead	1.5	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent
	FST004A-SL4-8	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
Chromium		6.4	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)	
Lead		12.0	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)	
Selenium		< 1.2	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent	
FST004A-SL94-8 Duplicate (FST004A-SL4-8)	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)	
	Chromium	6.4	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)	
	Lead	12.0	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)	
	Selenium	< 1.2	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent	

139

TABLE 10.
SUMMARY OF QUALIFIED SOIL SAMPLE RESULTS,
Fort Stewart, Georgia.

Sample Location	G & M Sample I.D.	Analyte	Concentration	Units	Qualifier	Reasons for Qualification
Burn Pit B (FST004)	FST004B-SL1-8	Arsenic	1.4	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Chromium	13.0	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)
		Lead	7.3	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 6.5	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent
Burn Pit C (FST004)	FST004B-SL2-8	Selenium	< 1.2	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 42 and 36% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 42 and 36% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 42 and 36% less than lower control limit (75%)
Burn Pit C (FST004)	FST004C-SL1-4	Cadmium	< 0.55	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)
		Cadmium	< 0.56	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)
Burn Pit D (FST004)	FST004C-SL3-4	Cadmium	< 0.60	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%)
		Selenium	< 1.2	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)
		Cadmium	< 0.54	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)
Burn Pit D (FST004)	FST004D-SL1-4	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Chromium	2.5	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)
		Lead	4.0	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent
Burn Pit D (FST004)	FST004D-SL2-6	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Chromium	3.3	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)
		Lead	3.7	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent
Burn Pit D (FST004)	FST004D-SL2-6 Duplicate (FST004D-SL2-6)	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Chromium	3.0	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)
		Lead	4.4	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent

141

TABLE 10.
SUMMARY OF QUALIFIED SOIL SAMPLE RESULTS,
Fort Stewart, Georgia.

Sample Location	G & M Sample I.D.	Analyte	Concentration	Units	Qualifier	Reasons for Qualification
	FST004D-SL3-6	Arsenic	1.2	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Chromium	6.4	mg/Kg	J	Matrix Spike Duplicate recovery of 176% greater than upper control limit (125%)
		Lead	11.0	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent
	FST004D-SL4-4	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 17 and 21% less than lower control limit (75%)
		Lead	1.5	mg/Kg	J	Matrix Spike/Matrix Spike Duplicate recovery of 64 and 38% less than lower control limit (75%)
		Selenium	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate not recovered and considered to be zero percent
Burn Pit E (FST004)						
	FST004E-SL1-6	Selenium	< 2.4	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 42 and 36% less than lower control limit (75%)
	FST004E-SL2-8	Arsenic	< 1.3	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 20 and 29% less than lower control limit (75%)
Selenium		< 6.6	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 10 and 5.9% less than lower control limit (75%)	
Silver		< 1.3	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 74 and 74% less than lower control limit (75%)	
	FST004E-SL3-8	Selenium	< 2.3	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 42 and 36% less than lower control limit (75%)
	FST004E-SL4-6	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 20 and 29% less than lower control limit (75%)
Selenium		< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 10 and 5.9% less than lower control limit (75%)	
Silver		< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 74 and 74% less than lower control limit (75%)	
Burn Pit F (FST004)						
	FST004F-SL1-8	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 20 and 29% less than lower control limit (75%)
Selenium		< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 10 and 5.9% less than lower control limit (75%)	
Silver		< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 74 and 74% less than lower control limit (75%)	
	FST004F-SL2-8	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 20 and 29% less than lower control limit (75%)
Selenium		< 5.7	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 10 and 5.9% less than lower control limit (75%)	
Silver		< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 74 and 74% less than lower control limit (75%)	
	FST004F-SL3-8	Arsenic	< 1.2	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 20 and 29% less than lower control limit (75%)
Selenium		< 6.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 10 and 5.9% less than lower control limit (75%)	
Silver		< 1.2	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 74 and 74% less than lower control limit (75%)	
	FST004F-SL4-4	Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 20 and 29% less than lower control limit (75%)
Selenium		< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 10 and 5.9% less than lower control limit (75%)	
Silver		< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 74 and 74% less than lower control limit (75%)	

143

TABLE 10.
SUMMARY OF QUALIFIED SOIL SAMPLE RESULTS,
Fort Stewart, Georgia.

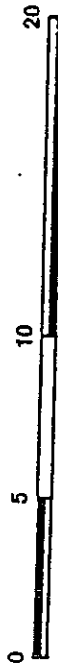
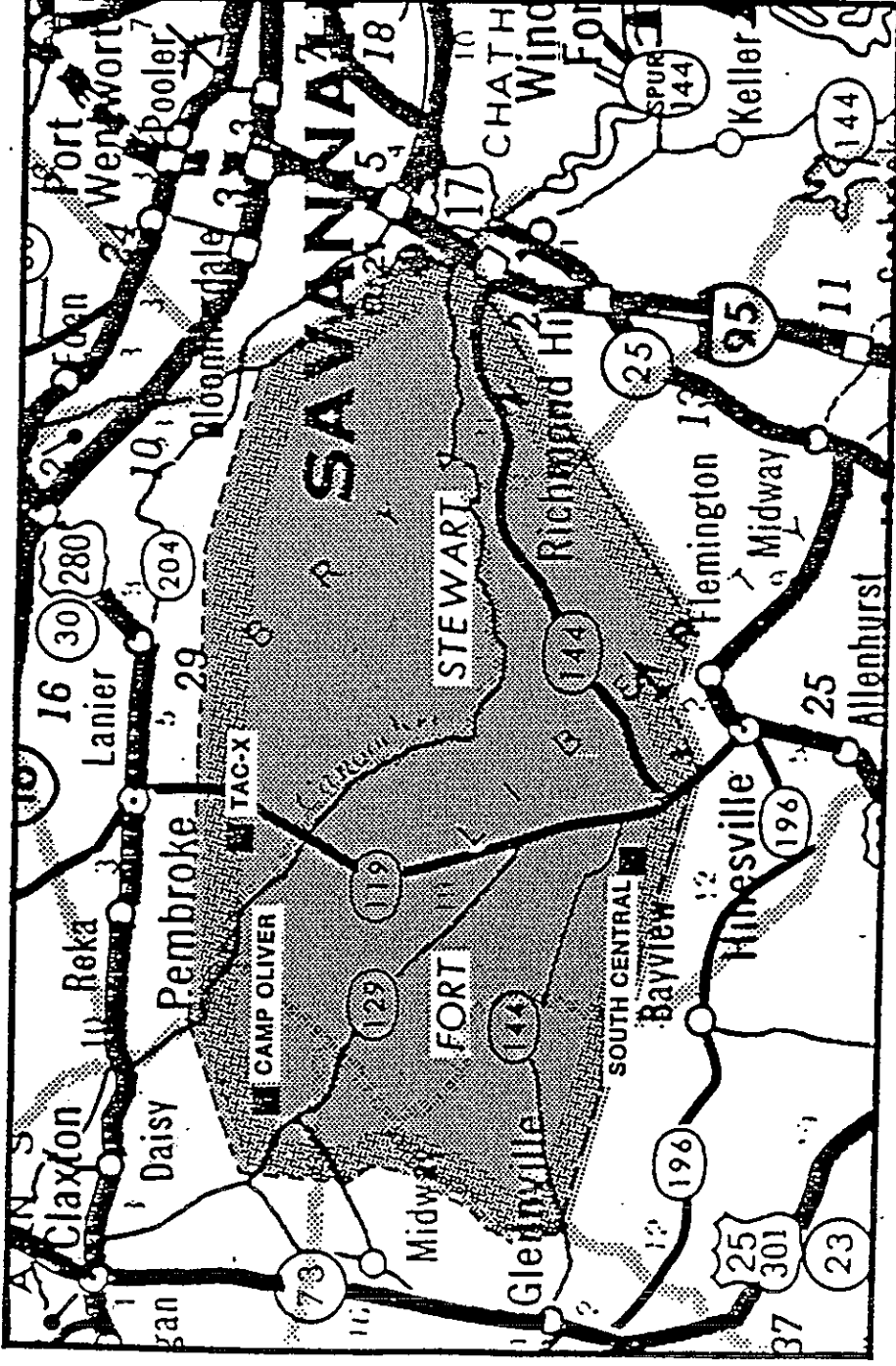
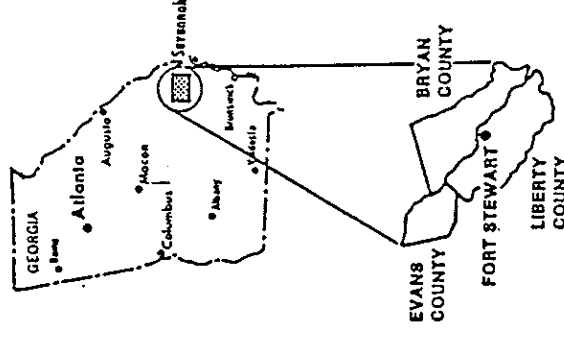
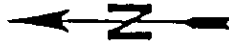
Sample Location	G & M Sample I.D.	Analyte	Concentration	Units	Qualifier	Reasons for Qualification
Old Fire Training Area (FST014)						
	FST014-SL-1-2	Cadmium Selenium	< 0.50 < 1.0	mg/Kg mg/Kg	UJ UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%) Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)
	FST014-SL-4-4	Cadmium Selenium	< 0.52 < 1.0	mg/Kg mg/Kg	UJ UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%) Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)
	FST014-SL-2-6	Cadmium Selenium	< 0.60 < 1.2	mg/Kg mg/Kg	UJ UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%) Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)
	FST014-SL-3-2	Cadmium Selenium	< 0.50 < 1.0	mg/Kg mg/Kg	UJ UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%) Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)
	FST014-SL-93-2 Duplicate (FST014-SL-3-2)	Cadmium Selenium	< 0.51 < 1.0	mg/Kg mg/Kg	UJ UJ	Matrix Spike/Matrix Spike Duplicate recovery of 69 and 70% less than lower control limit (75%) Matrix Spike/Matrix Spike Duplicate recovery of 61 and 60% less than lower control limit (75%)

mg/Kg
<
J
UJ
R

milligrams per Kilogram dry weight
Analyte was not detected at or above the indicated concentration. Values may vary among samples due to differences in water content, mass analyzed and dilution factors.
Positive result has been classified as qualitative.
Analyte was not detected or has been classified as undetected, with further classification as qualitative.
Result has been classified as unusable due to QA deficiencies.

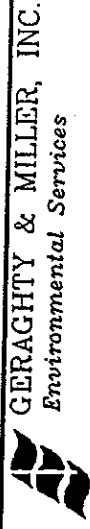
145

FIGURES



SCALE IN MILES

SOURCE: E.S.E., 1982



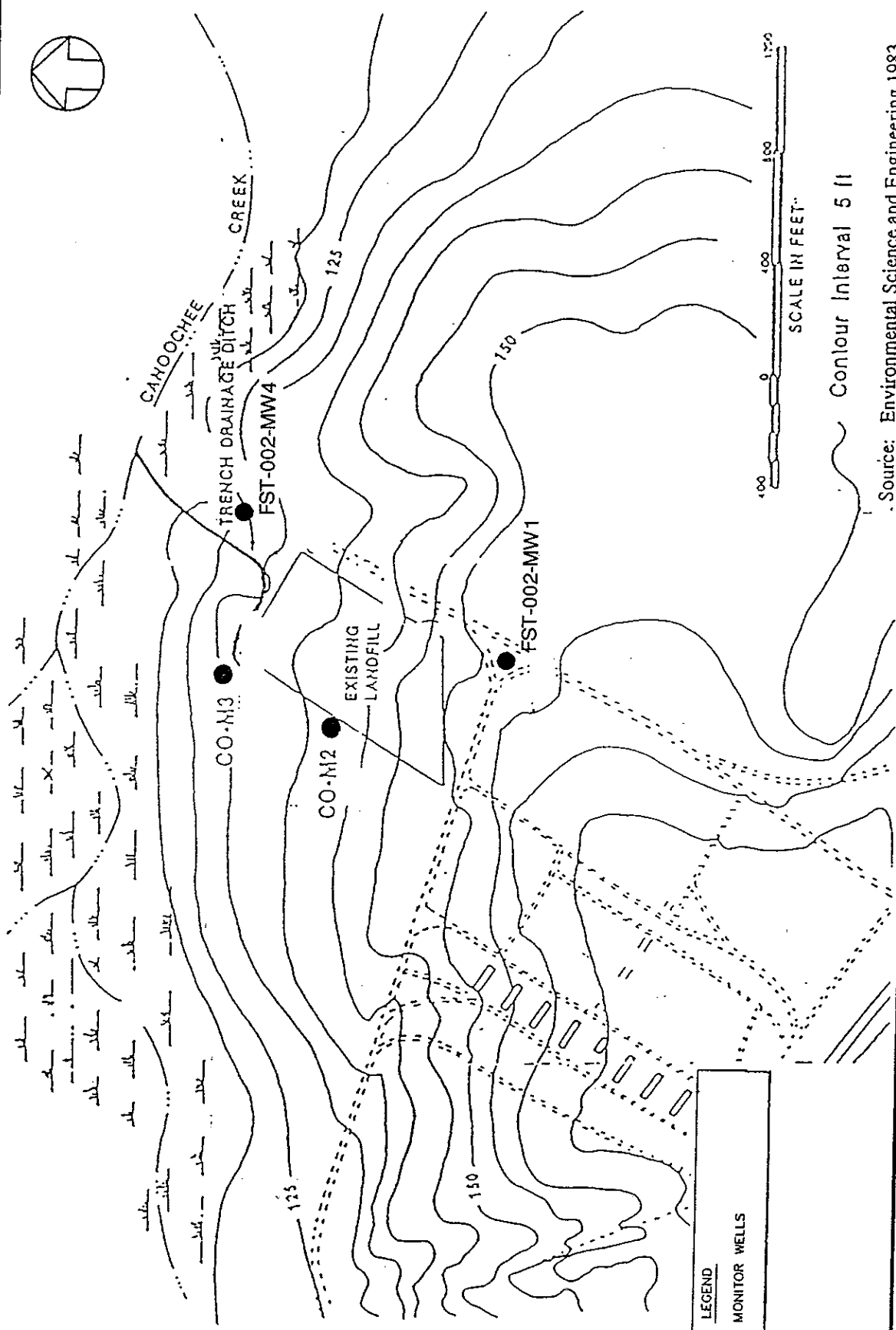
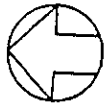
GERAGHTY & MILLER, INC.
Environmental Services

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

RCRA FACILITY INVESTIGATION
LOCATION MAP
FORT STEWART, GEORGIA

FIGURE

1



LEGEND
 ● MONITOR WELLS

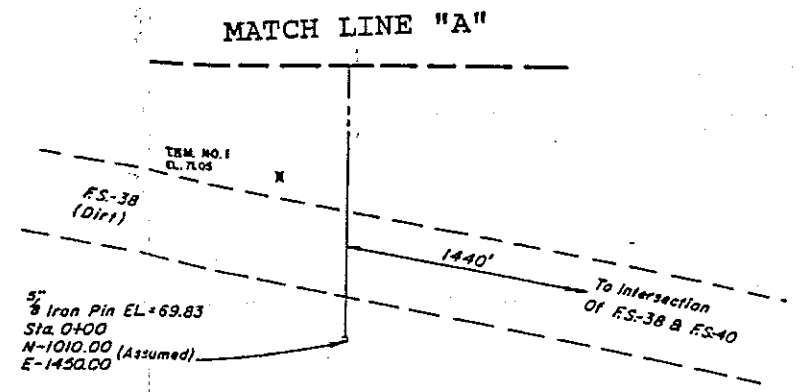
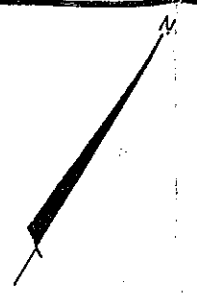
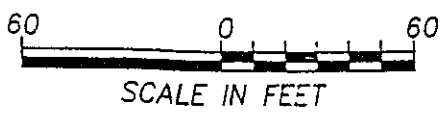
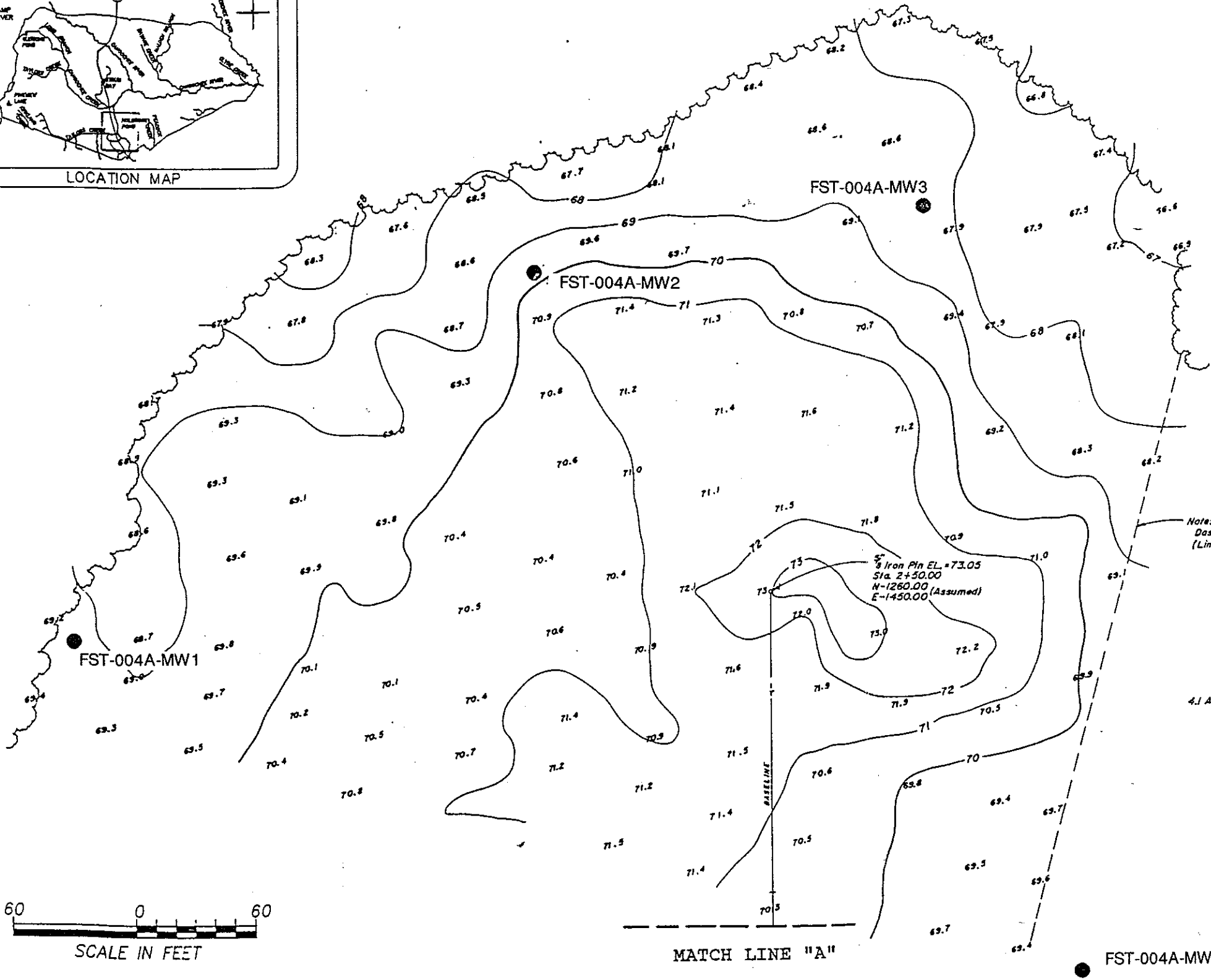
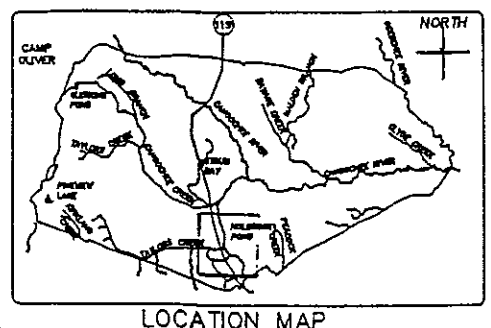
Source: Environmental Science and Engineering 1983

GERAGHTY & MILLER, INC.
 Environmental Services

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



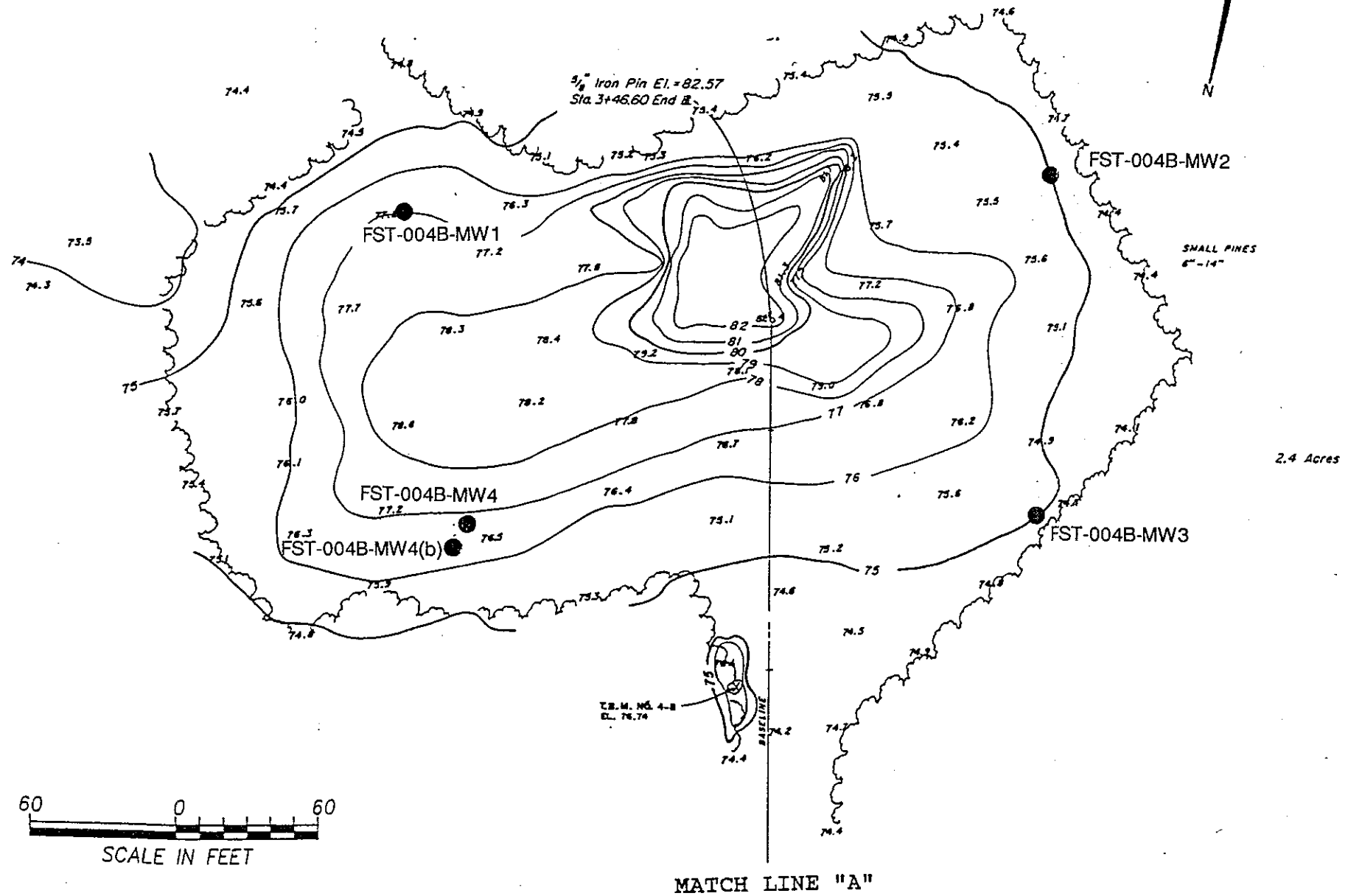
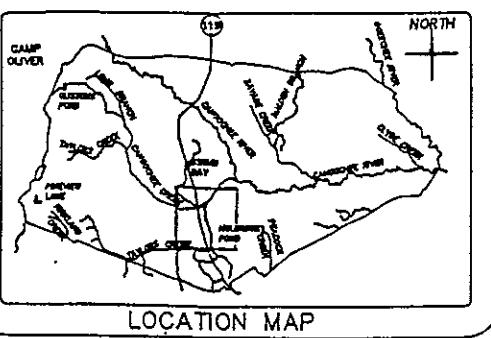
LEGEND	
	CONTOUR LINE
	TREE BOUNDARY
	ROAD
	EDGE OF BURN AREA
	MONITOR WELL LOCATION

SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

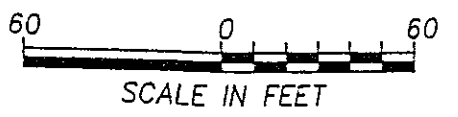
GERAGHTY & MILLER, INC.
Environmental Services

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

RCRA FACILITY INVESTIGATION
BURN PIT A (FST-004A) TOPOGRAPHIC AND MONITOR WELL LOCATION MAP
FORT STEWART, GEORGIA



MATCH LINE "A"



LEGEND	
	CONTOUR LINE
	TREE BOUNDARY
	MONITOR WELL LOCATION

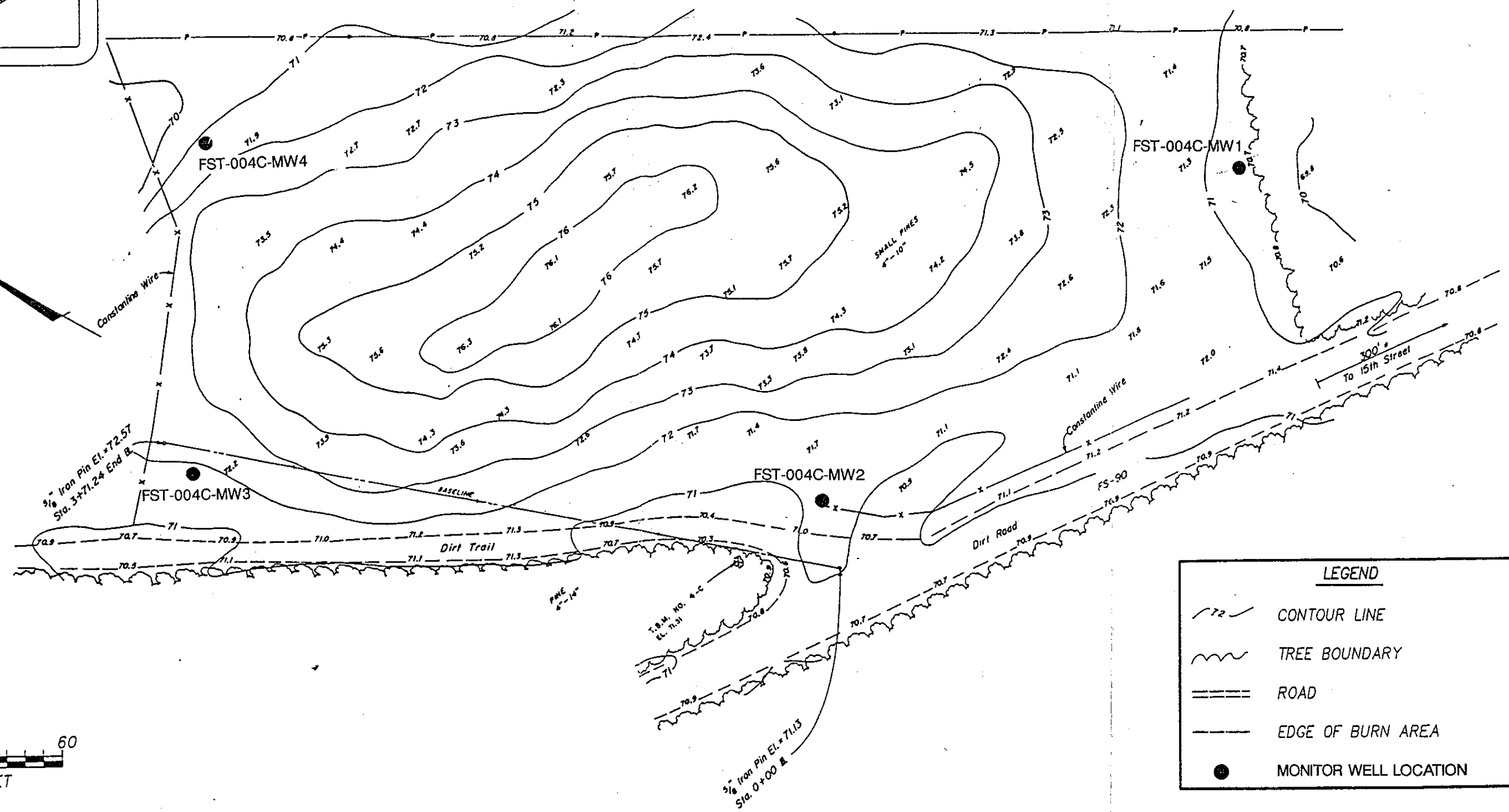
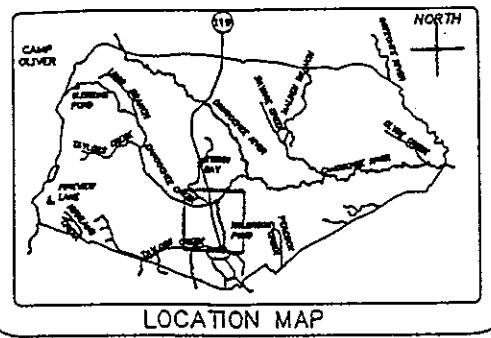
SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

GERAGHTY & MILLER, INC.
Environmental Services
Jacksonville, Florida

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

RCRA FACILITY INVESTIGATION
BURN PIT B (FST-004B) TOPOGRAPHIC AND MONITOR WELL LOCATION MAP
FORT STEWART, GEORGIA

FIGURE
4



LEGEND

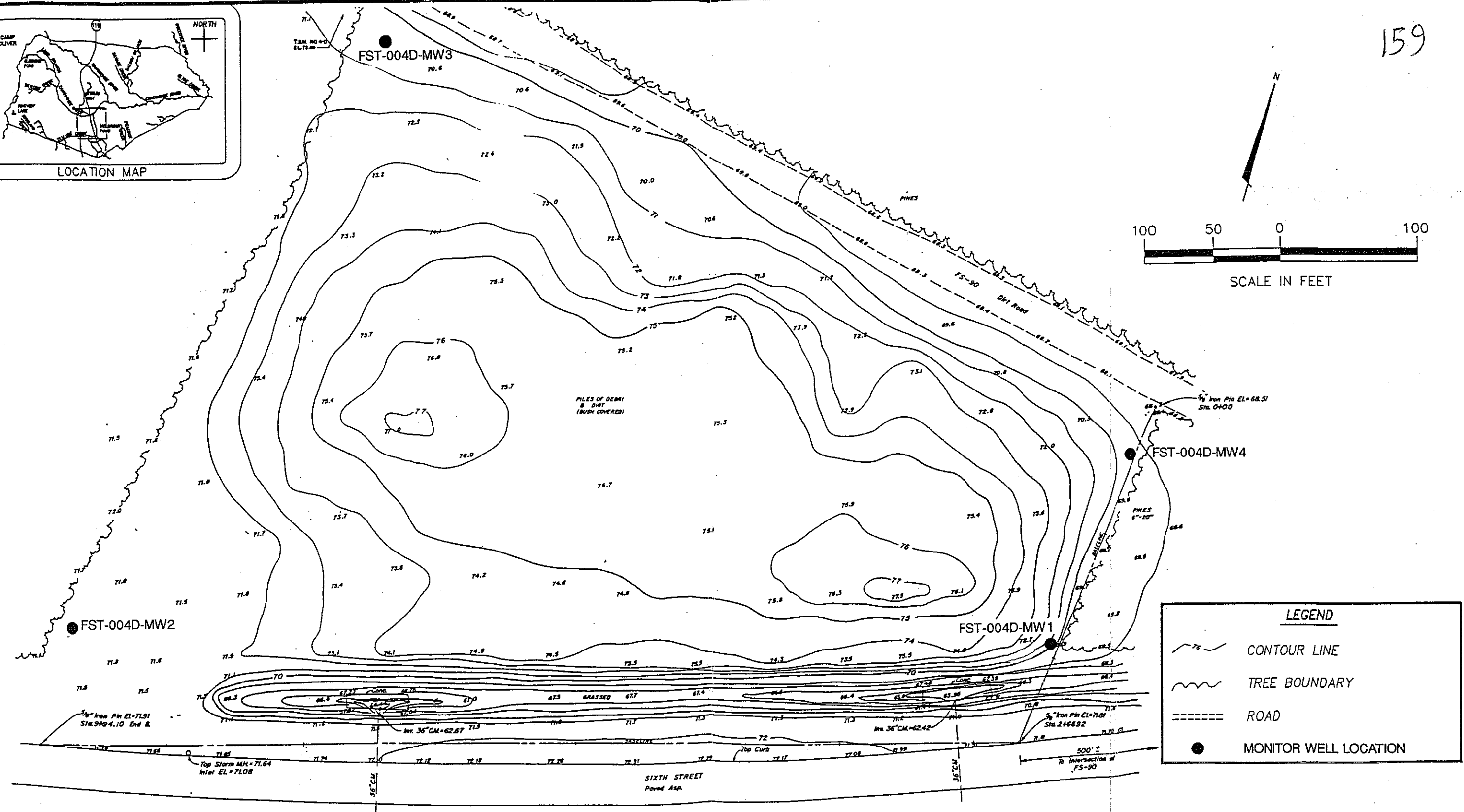
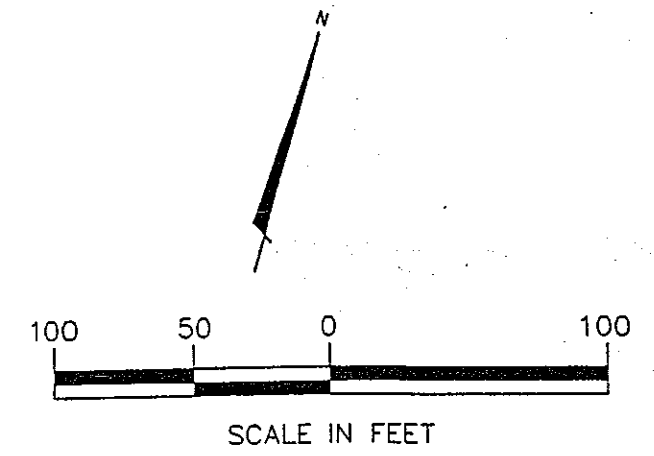
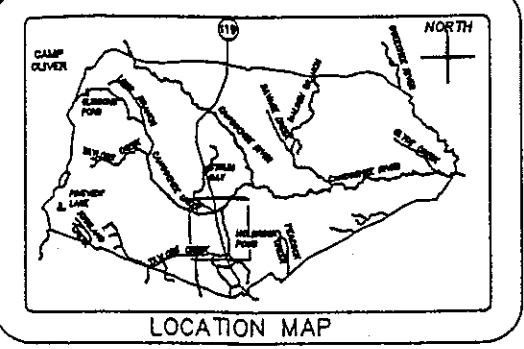
	CONTOUR LINE
	TREE BOUNDARY
	ROAD
	EDGE OF BURN AREA
	MONITOR WELL LOCATION

SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

GERAGHTY & MILLER, INC.
Environmental Services

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

RCRA FACILITY INVESTIGATION
BURN PIT C (FST-004C) TOPOGRAPHIC AND MONITOR WELL LOCATION MAP
FORT STEWART, GEORGIA



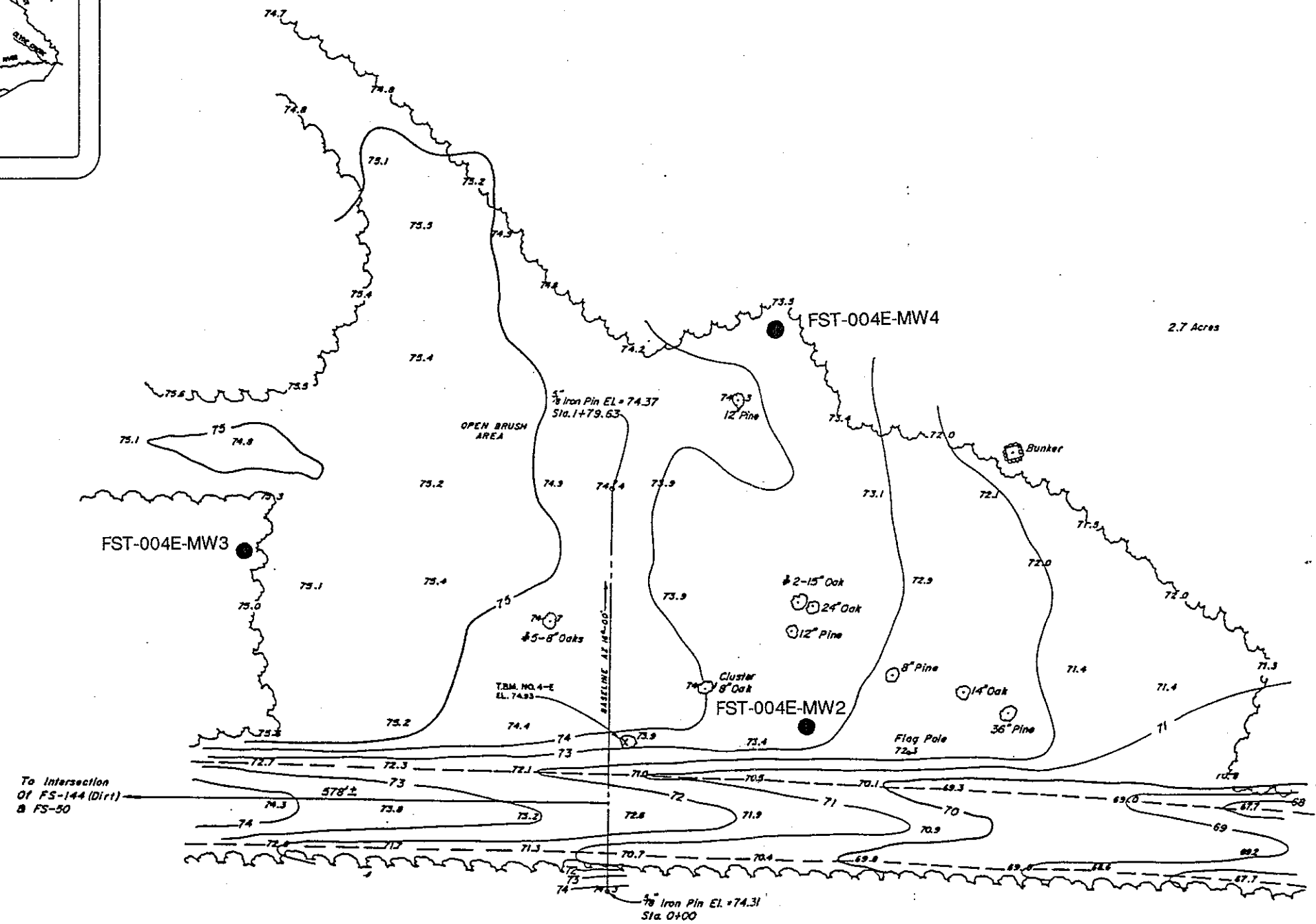
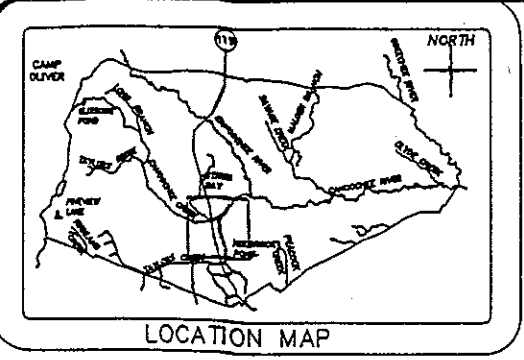
LEGEND	
	CONTOUR LINE
	TREE BOUNDARY
	ROAD
	MONITOR WELL LOCATION

SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

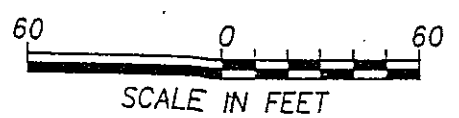
GERAGHTY & MILLER, INC.
Environmental Services

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

RCRA FACILITY INVESTIGATION
BURN PIT D (FST-004D) TOPOGRAPHIC AND MONITOR WELL LOCATION MAP
FORT STEWART, GEORGIA



LEGEND	
	CONTOUR LINE
	TREE BOUNDARY
	ROAD
	EDGE OF BURN AREA
	MONITOR WELL LOCATION



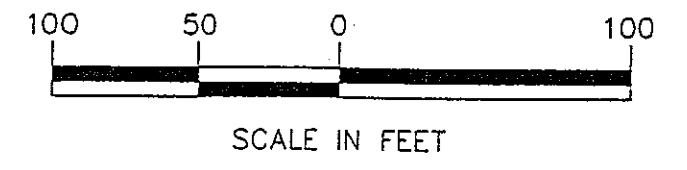
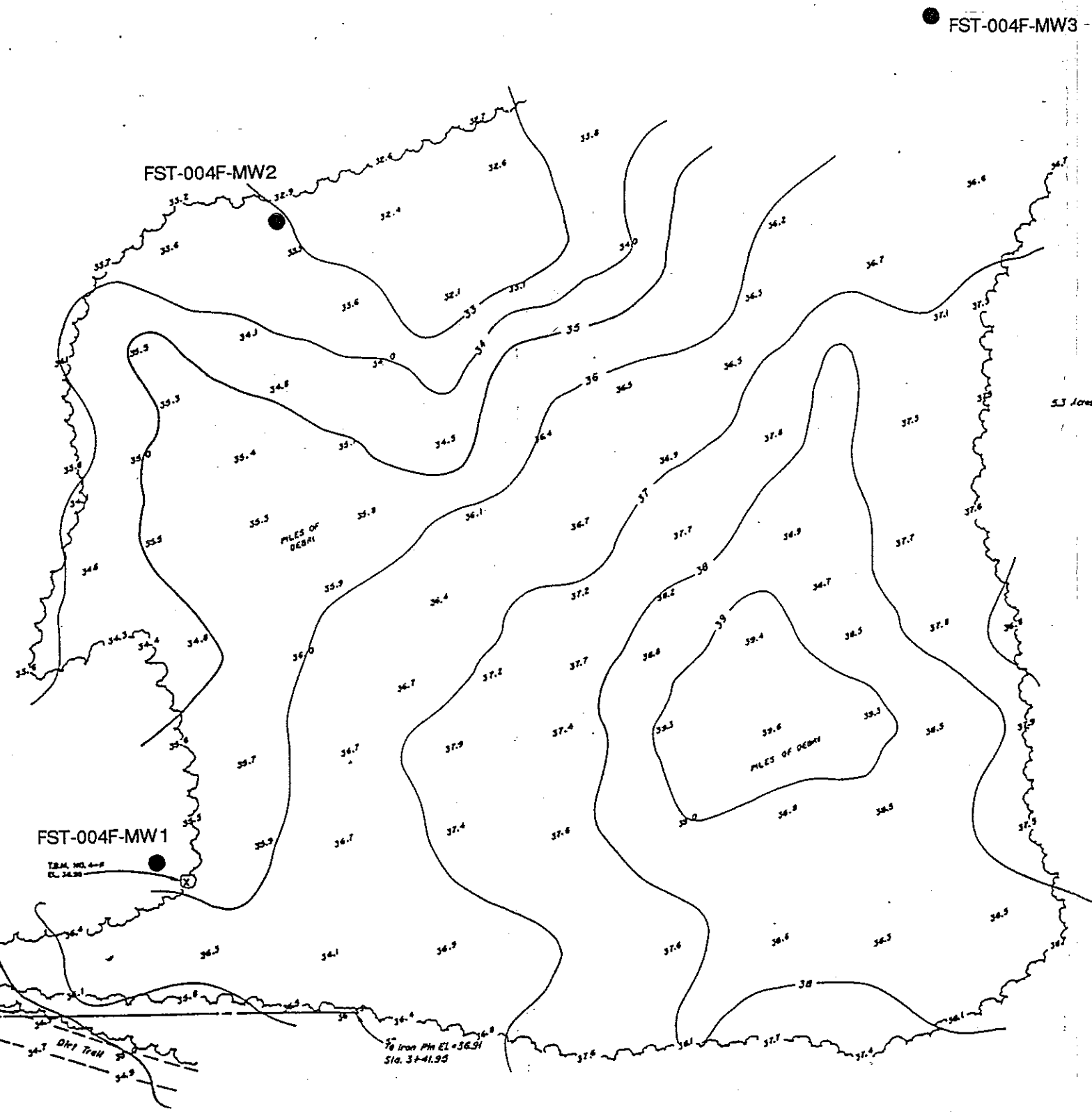
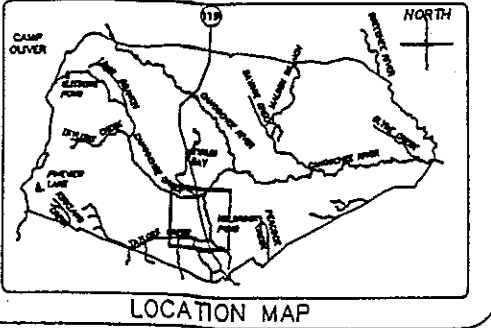
SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

GERAGHTY & MILLER, INC.
Environmental Services

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

RCRA FACILITY INVESTIGATION
BURN PIT E (FST-004E) TOPOGRAPHIC AND MONITOR WELL LOCATION MAP
FORT STEWART, GEORGIA

FIGURE
7



LEGEND	
	CONTOUR LINE
	TREE BOUNDARY
	ROAD
	MONITOR WELL LOCATION

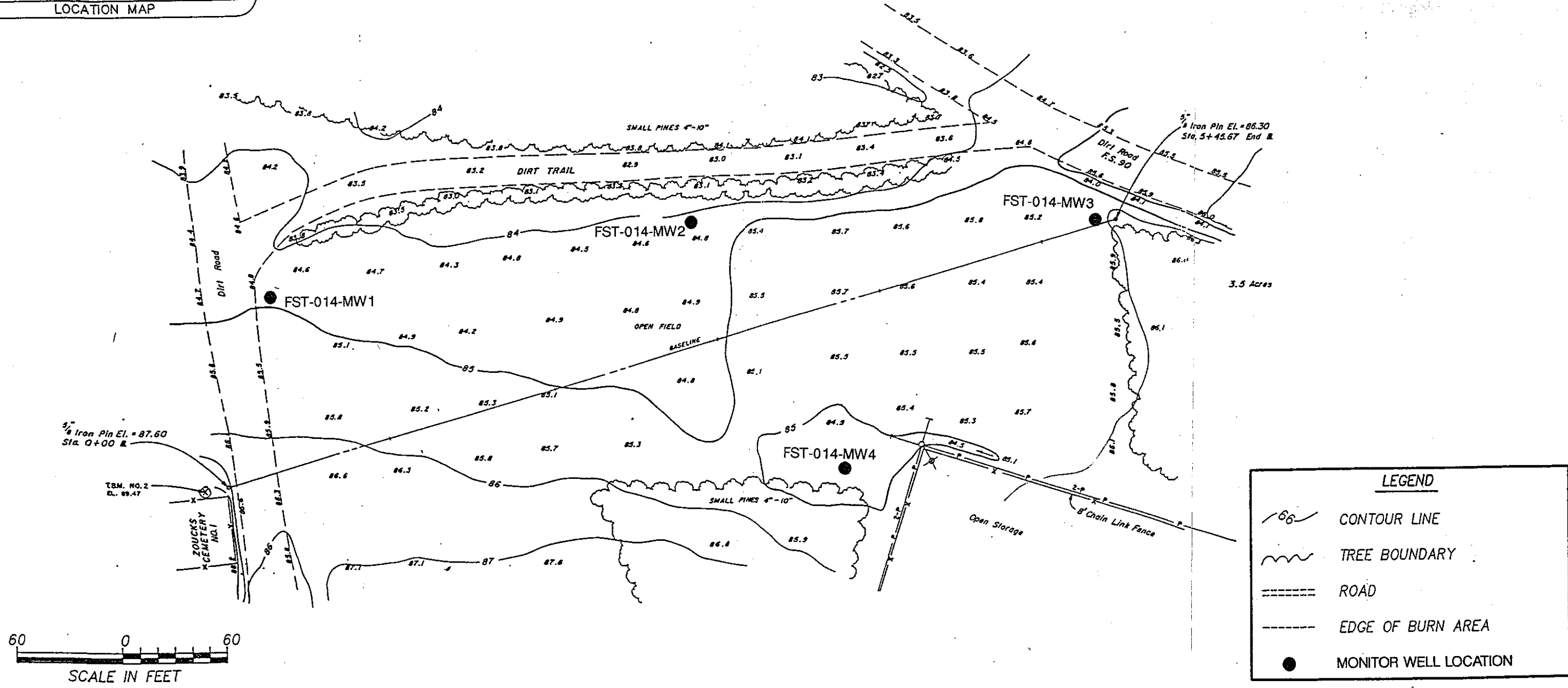
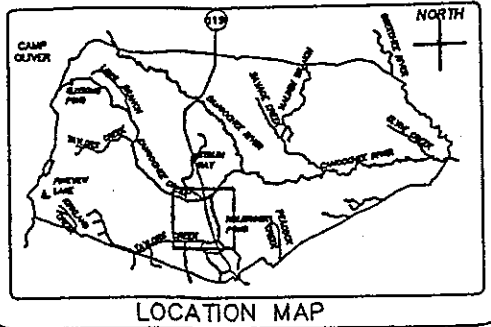
SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

GERAGHTY & MILLER, INC.
Environmental Services

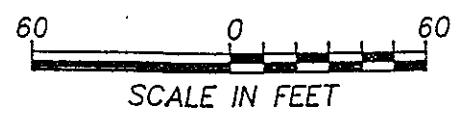
U.S. ARMY ENGINEER DISTRICT, SAVANNAH
CORPS OF ENGINEERS
SAVANNAH, GEORGIA

RCRA FACILITY INVESTIGATION
BURN PIT F (FST-004F) TOPOGRAPHIC AND MONITOR WELL LOCATION MAP
FORT STEWART, GEORGIA

FIGURE
8



LEGEND	
	CONTOUR LINE
	TREE BOUNDARY
	ROAD
	EDGE OF BURN AREA
	MONITOR WELL LOCATION



SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

GERAGHTY & MILLER, INC.
Environmental Services

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

RCRA FACILITY INVESTIGATION
OLD FIRE TRAINING AREA (FST-014) TOPOGRAPHIC AND MONITOR WELL LOCATION MAP
FORT STEWART, GEORGIA

FIGURE
9

APPENDIX A
DATA VALIDATION CHECKLIST

FIELD DATA VALIDATION CHECKLIST

169

DATA VALIDATION CHECKLIST
SECTION ONE

PROJECT NAME: Pt. Stewart -
 PROJECT NUMBER: TF 764, 03
 SAMPLING DATE: 1/22/93 VALIDATION DATE: 9/93
 SAMPLE IDENTIFICATION: EST 014 - SL-1-2, SL-4-4, SL-2-6, SL3-2, SL93-2
EST004C - SL1-4, SL2-4, SL3-4, SL4-4
 SAMPLING TEAM: G. Weiss, M. Mosek, K. Thoman
 ANALYZING LABORATORY: Savannah (GA) - S3 43631
 ANALYSES PERFORMED: 8240, TPH (8015), RCRA Metals, Cond, pH
 SAMPLE MATRIX: Soil
 QA REPORTING LEVEL: II

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/ PERFORMANCE REPORTED ACCEPTABLE NOT
 NO YES NO YES REQUIRED

FIELD SAMPLING LOGS:	PERFORMANCE REPORTED		ACCEPTABLE		NOT REQUIRED
	NO	YES	NO	YES	
1. SAMPLING DATES NOTED		✓		✓	
2. SAMPLING TEAM INDICATED		✓		✓	
3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED		✓		✓	
4. SAMPLE LOCATION		✓		✓	
5. SAMPLE DEPTH FOR SOILS		✓		✓	
6. COLLECTION TECHNIQUE (BAILER, PUMP ETC)		✓		✓	
7. FIELD SAMPLE PREPARATION TECHNIQUES		✓		✓	
8. SAMPLE TYPE (GRAB, COMPOSITE)		✓		✓	
9. SAMPLE CONTAINER TYPE		✓		✓	
10. PRESERVATION METHODS		✓		✓	
11. CHAIN OF CUSTODY FORM COMPLETED		✓		✓	
12. REQUIRED ANALYTICAL METHODS REQUESTED		✓		✓	
13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED		✓		✓	
14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.)		✓		✓	
15. FIELD EQUIPMENT CALIBRATION		✓		✓	
16. FIELD EQUIPMENT DECONTAMINATION		✓		✓	
17. SAMPLE SHIPPING		✓		✓	
18. LABORATORY TASK ORDER		✓		✓	

1/ FIELD SAMPLING LOGS = WATER AND/OR SOIL/SEDIMENT SAMPLING LOGS
 COMMENTS:

ANALYTICAL DATA VALIDATION CHECKLIST

171

DATA VALIDATION CHECKLIST
SECTION ONE CONTINUED

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

ALL QA REPORTING LEVELS	REPORTED		PERFORMANCE ACCEPTABLE		NOT REQUIRED
	NO	YES	NO	YES	
1. SAMPLE RESULTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. PARAMETERS ANALYZED	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. METHOD OF ANALYSIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. DETECTION LIMITS OF ANALYSIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. MASTER TRACKING LIST	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. SAMPLE COLLECTION DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. LAB SAMPLE RECEIVED DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. SAMPLE PREPARATION/EXTRACTION DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. SAMPLE ANALYSIS DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

AFTER COMPLETING SECTION ONE PROCEED TO THE APPROPRIATE QA REPORTING LEVEL OF SECTION TWO (INORGANIC ANALYSES) AND/OR SECTION THREE (ORGANIC ANALYSES). FOLLOWING COMPLETION OF THESE SECTIONS PROCEED TO SECTION FOUR (DATA EVALUATION SUMMARY).

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES

METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: I

REQUIREMENTS (BATCH SPECIFIC QA) 1/

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. METHOD BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. MS ^{2/} OR RWS ^{3/} % RECOVERY (%R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. MSD ^{4/} OR RWSD ^{5/} OR LD ^{6/} %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. RPD ^{7/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

N/A

COMMENTS: _____

1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH REGARDLESS OF THE SOURCE.

/ MS = MATRIX SPIKE;

3/ RWS = REAGENT WATER SPIKE;

4/ MSD = MATRIX SPIKE DUP.;

5/ RWSD = REAGENT WATER SPIKE DUP.;

6/ LD = LABORATORY DUPLICATE;

7/ RPD = RELATIVE PERCENT DIFFERENCE

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES
METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: II
REQUIREMENTS (BATCH SPECIFIC QA)^{1/}

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. METHOD BLANKS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. MS % RECOVERY (%R)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. MSD OR LAB DUPLICATE % R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. RWS % R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. RWSD % R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. RPDs FOR MS/MSD, SAMPLE/LD, RWS/RWSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. LCS ^{8/} %R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. ICVS ^{9/} %R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COMMENTS: See Attached: Cd, Se

QA REPORTING LEVEL: III
REQUIREMENTS (SAMPLE SPECIFIC QA)^{10/}

1. CALIBRATION CURVE STANDARDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ICVS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. CCVS ^{11/} %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. LCS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. METHOD BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. ICS ^{12/} %R (ICP ONLY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. DCS ^{13/} %R (ICP ONLY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. MS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. LD OR MSD %R AND RPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. POST DIGESTION ANALYTICAL SPIKE ^{14/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NA

COMMENTS: _____

- 1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH.
 2/ MS = MATRIX SPIKE; 3/ RWS = REAGENT WATER SPIKE;
 4/ MSD = MATRIX SPIKE DUP.; 5/ RWSD = REAGENT WATER SPIKE DUP.;
 6/ LD = LABORATORY DUPLICATE; 7/ RPD = RELATIVE PERCENT DIFFERENCE
 8/ LCS = LABORATORY CONTROL SAMPLE;
 9/ ICVS = INITIAL CALIBRATION VERIFICATION STANDARD;
 10/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT SPECIFIC SAMPLES.
 11/ CCVS = CONTINUING CALIBRATION VERIFICATION STANDARD;
 12/ ICS = INTERFERENCE CHECK SAMPLE; 13/ DCS = DILUTION CHECK SAMPLE;
 14/ POST DIGESTION ANALYTICAL SPIKE APPLIES TO FURNACE AA ONLY;

ANALYTICAL DATA VALIDATION CHECKLIST

175

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE

ORGANIC ANALYSES

QA REPORTING LEVEL: I
REQUIREMENTS

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. WATER BLANKS	—	—	—	—	—
2. EXTRACTION BLANKS	—	—	—	—	—
3. RWS ^{1/}	—	—	—	—	—
4. RWSD ^{2/}	—	—	—	—	—
5. RPD ^{3/}	—	—	—	—	—

COMMENTS:

QA REPORTING LEVEL: II
REQUIREMENTS

A. GAS CHROMATOGRAPHY (NO MASS SPEC) OR WET CHEMISTRY PROCEDURE (TPH)

	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. WATER BLANKS	—	✓	—	✓	—
2. EXTRACTION BLANKS	—	✓	—	✓	—
3. MS ^{4/} (BATCH SPECIFIC)	—	✓	—	✓	—
4. MSD ^{5/} (BATCH SPECIFIC)	—	✓	—	✓	—
5. LD ^{6/} (OPTIONAL)	—	—	—	—	—
6. MS/MSD RPD OR SAMPLE/LD RPD	—	—	—	—	✓
7. RWS (yes)	—	✓	—	—	—
8. RWSD	—	✓	—	—	—
9. RWS RPD	—	—	—	—	✓
10. SURROGATE SPIKES	✓	—	—	—	✓

B. GAS CHROMATOGRAPHY/MASS SPECTROMETER (8240)

	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. WATER BLANKS	—	✓	—	✓	—
2. EXTRACTION BLANKS	—	—	—	—	—
3. MS (BATCH SPECIFIC)	—	✓	—	—	—
4. MSD (BATCH SPECIFIC)	—	✓	—	—	—
5. LD (OPTIONAL)	—	—	—	—	—
6. MS/MSD RPD OR SAMPLE/LD RPD	—	—	—	—	✓
7. RWS	—	—	—	—	—
8. RWSD	—	—	—	—	—
9. RWS RPD	—	—	—	—	✓
10. SURROGATE SPIKES	—	✓	—	—	—

COMMENTS:

1/ RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE;
3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE;
5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE CONTINUED

ORGANIC ANALYSES

QA REPORTING LEVEL: III
REQUIREMENTS

A. GAS CHROMATOGRAPH OR WET CHEMISTRY

	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. WATER BLANKS (VOC)					
2. EXTRACTION BLANKS					
3. MS ^{1/} %R SAMPLE SPECIFIC					
4. MSD ^{2/} %R SAMPLE SPECIFIC					
5. LD ^{3/} SAMPLE SPECIFIC (OPTIONAL)					
6. MS/MSD RPD ^{4/} OR SAMPLE/LD RPD					
7. RWS ^{5/}					
8. RWS ^{6/}					
9. RWS/RWS RPD					
10. SURROGATE SPIKES					

B. GAS CHROMATOGRAPH/MASS SPECTROMETER

	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. BFB OR DFTPP TUNING ^{7/}					
2. INITIAL CALIBRATION (IC)					
A. SPCC COMPOUNDS (RRF ^{8/} > 0.3/0.05)					
B. CCC COMPOUNDS (RSD ^{9/} < 30%)					
C. OTHER COMPOUNDS (RRF > 0.05)					
3. CONTINUING CALIBRATION (CC)					
A. SPCC COMPOUNDS (RRF > 0.3/0.05)					
B. CCC COMPOUNDS (MAX %D ^{10/} < 25%)					
C. OTHER COMPOUNDS (RRF > 0.05)					
4. WATER BLANKS					
5. EXTRACTION BLANKS					
6. RWS					
7. RWS ^{6/}					
8. RWS/RWS RPD					
9. MS (SAMPLE SPECIFIC)					
10. MSD (SAMPLE SPECIFIC)					
11. SURROGATE SPIKE					

COMMENTS: _____

1/ MS = MATRIX SPIKE; 2/ MSD = MATRIX SPIKE DUPLICATE; 3/ LD = LAB DUP
 4/ RPD = RELATIVE PERCENT DIFFERENCE; 5/ RWS = REAGENT WATER SPIKE;
 6/ RWS^{6/} = REAGENT WATER SPIKE DUPLICATE; 7/ BFB TUNING IS FOR
 VOLATILES AND DFTPP TUNING IS FOR SEMI-VOLATILES (BNA
 EXTRACTABLES). 8/ RRF = RELATIVE RESPONSE FACTOR;
 9/ RSD = RELATIVE STANDARD DEVIATION; 10/ %D = PERCENT DIFFERENCE;

ANALYTICAL DATA VALIDATION CHECKLIST

179

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FOUR

DATA EVALUATION SUMMARY

PROJECT NAME: Ft Stewart PROJECT NUMBER: TF 764.04
 QA REPORTING LEVEL: II VALIDATION DATE: 9/93

ALL QA REPORTING LEVELS (I, II, III)

SUMMARY OF CHECKLIST FINDINGS

PERFORMANCE
 REPORTED ACCEPTABLE NOT
 NO YES NO YES REQUIRED

FINDING	REPORTED		ACCEPTABLE		NOT
	NO	YES	NO	YES	REQUIRED
1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA					✓
2. FIELD RECORDS		✓		✓	
3. METHODS (GEN. INFO. SECTION ONE)		✓		✓	
4. HOLDING TIMES (MASTER SAMPLE LIST)					
A. EXTRACTION HOLDING TIMES		✓		✓	
B. ANALYSIS HOLDING TIMES		✓		✓	
5. DETECTION LIMITS (SECTION ONE)		✓		✓	
6. BLANKS (SECTIONS TWO OR THREE)					
A. EQUIPMENT RINSATE BLANKS					✓
B. FIELD BLANKS					✓
C. TRIP BLANKS					✓
D. LABORATORY BLANKS		✓		✓	
7. FIELD REPLICATES		✓			
8. FIELD SPLITS	✓				✓
9. GEOPHYSICAL COMPARISONS					
A. CATION VS ANION					✓
B. TDS VS SPEC. CONDUCTANCE					✓
C. PH VS ALK/ACIDITY					✓
D. OTHER					✓
10. METALS QA DATA (SECTION TWO)		✓		✓	
11. INORGANIC WET CHEMISTRY (SEC. TWO)		✓			
12. ORGANIC QA DATA-GC (SECTION THREE-A)		✓		✓	
13. ORGANIC WET CHEMISTRY (SEC. THREE-A)					✓
14. ORGANIC QA DATA-GC/MS (SEC. THREE-B)		✓		✓	

AFTER COMPLETING THIS SECTION GO TO SECTION FIVE.
 COMMENTS:

FST014-SL3-2 / Dup FST014-SL93-2

<u>Ba 6.4/6.2</u>	} OK	<u>Cond 10/3.3</u>	} RPD =
<u>Ca 2.2/2.1</u>		<u>pH 7.3/7.1 - OK</u>	
<u>Pb 1.2/1.5</u>			

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FIVE

DATA VALIDATION CODING

PROJECT NAME: <u>F7 Stewart</u>	PROJECT NUMBER: <u>TF 764.04</u>
QA REPORTING LEVEL: <u>11</u>	VALIDATION DATE: <u>9/93</u>

1. QUALIFIER CODES ASSIGNED TO DATA: R, U, J, U/J, B, NO FLAG
2. IDENTIFICATION OF SAMPLES AND PARAMETERS WITH CODES:

SAMPLE ID	PARAMETERS
-----------	------------

R CODE		
B CODE		
U CODE		
J CODE		
U/J CODE		

See Attached 2-10
 Table

EXPLANATION: _____

VALIDATION PERFORMED BY: Kathryn Garrison
 SIGNED: Kathryn E. Garrison
 DATE: 9/93

DATA VALIDATION CHECKLIST
SECTION ONE

PROJECT NAME:	FE Stewart
PROJECT NUMBER:	TF 764.04
SAMPLING DATE:	9/24-25/93
VALIDATION DATE:	9/93
SAMPLE IDENTIFICATION:	FE-004A-SL2-6, SL3-6, SL92-6, SL1-4, SL4-4, EST 004A-SL4-8, SL94-8, SL1-6, SL2-4, SL3-4, EST004B-SL1-8
SAMPLING TEAM:	Hallman, Nosen, Weiss
ANALYZING LABORATORY:	Savannah (GA) / 33-13675
ANALYSES PERFORMED:	8240, Sp. Cond, pH, RDRR metals,
SAMPLE MATRIX:	Soil
QA REPORTING LEVEL:	II

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/

	PERFORMANCE		REPORTED		NOT REQUIRED
	ACCEPTABLE	NOT	YES	NO	

	PERFORMANCE		REPORTED		NOT REQUIRED
	ACCEPTABLE	NOT	YES	NO	
1. SAMPLING DATES NOTED	—	✓	—	—	—
2. SAMPLING TEAM INDICATED	—	✓	—	—	—
3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED	—	✓	—	—	—
4. SAMPLE LOCATION	—	✓	—	—	—
5. SAMPLE DEPTH FOR SOILS	—	—	—	—	—
6. COLLECTION TECHNIQUE (BAILER, PUMP ETC)	—	✓	—	—	—
7. FIELD SAMPLE PREPARATION TECHNIQUES	—	✓	—	—	—
8. SAMPLE TYPE (GRAB, COMPOSITE)	—	✓	—	—	—
9. SAMPLE CONTAINER TYPE	—	✓	—	—	—
10. PRESERVATION METHODS	—	✓	—	—	—
11. CHAIN OF CUSTODY FORM COMPLETED	—	✓	—	—	—
12. REQUIRED ANALYTICAL METHODS REQUESTED	—	✓	—	—	—
13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED	—	✓	—	—	—
14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.)	—	✓	—	—	—
15. FIELD EQUIPMENT CALIBRATION	—	✓	—	—	—
16. FIELD EQUIPMENT DECONTAMINATION	—	✓	—	—	—
17. SAMPLE SHIPPING	—	✓	—	—	—
18. LABORATORY TASK ORDER	—	—	—	—	—

1/ FIELD SAMPLING LOGS = WATER AND/OR SOIL/SEDIMENT SAMPLING LOGS
 COMMENTS: _____

DATA VALIDATION CHECKLIST
SECTION ONE CONTINUED

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

ALL QA REPORTING LEVELS	REPORTED		PERFORMANCE ACCEPTABLE		NOT REQUIRED
	No	YES	No	YES	
1. SAMPLE RESULTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. PARAMETERS ANALYZED	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. METHOD OF ANALYSIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. DETECTION LIMITS OF ANALYSIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. MASTER TRACKING LIST	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. SAMPLE COLLECTION DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. LAB SAMPLE RECEIVED DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. SAMPLE PREPARATION/EXTRACTION DATE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. SAMPLE ANALYSIS DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

AFTER COMPLETING SECTION ONE PROCEED TO THE APPROPRIATE QA REPORTING LEVEL OF SECTION TWO (INORGANIC ANALYSES) AND/OR SECTION THREE (ORGANIC ANALYSES). FOLLOWING COMPLETION OF THESE SECTIONS PROCEED TO SECTION FOUR (DATA EVALUATION SUMMARY).

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES
METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: I
REQUIREMENTS (BATCH SPECIFIC QA)^{1/}

	REPORTED		IN LIMITS		NOT REQUIRED
	No	YES	No	YES	
1. METHOD BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. MS ^{2/} OR RWS ^{3/} % RECOVERY (%R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. MSD ^{4/} OR RWSD ^{5/} OR LD ^{6/} %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. RPD ^{7/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH REGARDLESS OF THE SOURCE.
 2/ MS = MATRIX SPIKE; 3/ RWS = REAGENT WATER SPIKE;
 4/ MSD = MATRIX SPIKE DUP.; 5/ RWSD = REAGENT WATER SPIKE DUP.;
 6/ LD = LABORATORY DUPLICATE; 7/ RPD = RELATIVE PERCENT DIFFERENCE

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE

ORGANIC ANALYSES

QA REPORTING LEVEL: I
REQUIREMENTS

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. WATER BLANKS	—	—	—	—	—
2. EXTRACTION BLANKS	—	—	—	—	—
3. RWS ^{1/}	—	—	—	—	—
4. RWSD ^{2/}	—	—	—	—	—
5. RPD ^{3/}	—	—	—	—	—

NA

COMMENTS:

QA REPORTING LEVEL: II
REQUIREMENTS

A. GAS CHROMATOGRAPHY (NO MASS SPEC) OR WET CHEMISTRY PROCEDURE

1. WATER BLANKS	—	—	—	—	—
2. EXTRACTION BLANKS	—	—	—	—	—
3. MS ^{4/} (BATCH SPECIFIC)	—	—	—	—	—
4. MSD ^{5/} (BATCH SPECIFIC)	—	—	—	—	—
5. LD ^{6/} (OPTIONAL)	—	—	—	—	—
6. MS/MSD RPD OR SAMPLE/LD RPD	—	—	—	—	—
7. RWS	—	—	—	—	—
8. RWSD	—	—	—	—	—
9. RWS RPD	—	—	—	—	—
10. SURROGATE SPIKES	—	—	—	—	—

NA

B. GAS CHROMATOGRAPH/MASS SPECTROMETER

1. WATER BLANKS	—	✓	—	✓	—
2. EXTRACTION BLANKS	—	—	—	—	—
3. MS (BATCH SPECIFIC)	—	✓	—	✓	} Toluene
4. MSD (BATCH SPECIFIC)	—	✓	—	✓	
5. LD (OPTIONAL)	—	—	—	—	—
6. MS/MSD RPD OR SAMPLE/LD RPD	—	✓	—	✓	—
7. RWS (Lcs)	—	✓	—	✓	—
8. RWSD	✓	—	—	—	—
9. RWS RPD	✓	—	—	—	—
10. SURROGATE SPIKES	—	✓	—	✓	—

COMMENTS: Toluene MS/MSD = 144/142 (>141) - NO data

1/ RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE;
3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE;
5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES
METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: II
REQUIREMENTS (BATCH SPECIFIC QA)^{1/}

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. METHOD BLANKS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. MS % RECOVERY (%R)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. MSD OR LAB DUPLICATE % R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. RWS % R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. RWSD % R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. RPDs FOR MS/MSD, SAMPLE/LD, RWS/RWSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. LCS ^{8/} %R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. ICVS ^{9/} %R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: See Attached Notes: As, Co, Pb, Se

QA REPORTING LEVEL: III
REQUIREMENTS (SAMPLE SPECIFIC QA)^{10/}

1. CALIBRATION CURVE STANDARDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ICVS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. CCVS ^{11/} %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. LCS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. METHOD BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. ICS ^{12/} %R (ICP ONLY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. DCS ^{13/} %R (ICP ONLY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. MS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. LD OR MSD %R AND RPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. POST DIGESTION ANALYTICAL SPIKE ^{14/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NA

COMMENTS:

- 1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH.
- 2/ MS = MATRIX SPIKE; 3/ RWS = REAGENT WATER SPIKE;
- 4/ MSD = MATRIX SPIKE DUP.; 5/ RWSD = REAGENT WATER SPIKE DUP.;
- 6/ LD = LABORATORY DUPLICATE; 7/ RPD = RELATIVE PERCENT DIFFERENCE
- 8/ LCS = LABORATORY CONTROL SAMPLE;
- 9/ ICVS = INITIAL CALIBRATION VERIFICATION STANDARD;
- 10/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT SPECIFIC SAMPLES.
- 11/ CCVS = CONTINUING CALIBRATION VERIFICATION STANDARD;
- 12/ ICS = INTERFERENCE CHECK SAMPLE; 13/ DCS = DILUTION CHECK SAMPLE;
- 14/ POST DIGESTION ANALYTICAL SPIKE APPLIES TO FURNACE AA ONLY;

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE CONTINUED

ORGANIC ANALYSES

QA REPORTING LEVEL: III
REQUIREMENTS

A. GAS CHROMATOGRAPH OR WET CHEMISTRY

	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. WATER BLANKS (VOC)					
2. EXTRACTION BLANKS					
3. MS ^{1/} %R SAMPLE SPECIFIC					
4. MSD ^{2/} %R SAMPLE SPECIFIC					
5. LD ^{3/} SAMPLE SPECIFIC (OPTIONAL)					
6. MS/MSD RPD ^{4/} OR SAMPLE/LD RPD					
7. RWS ^{5/}					
8. RWSD ^{6/}					
9. RWS/RWSD RPD					
10. SURROGATE SPIKES					

B. GAS CHROMATOGRAPH/MASS SPECTROMETER

1. BFB OR DFTPP TUNING ^{7/}					
2. INITIAL CALIBRATION (IC)					
A. SPCC COMPOUNDS (RRF ^{8/} >0.3/0.05)					
B. CCC COMPOUNDS (RSD ^{9/} < 30%)					
C. OTHER COMPOUNDS (RRF > 0.05)					
3. CONTINUING CALIBRATION (CC)					
A. SPCC COMPOUNDS (RRF >0.3/0.05)					
B. CCC COMPOUNDS (MAX %D ^{10/} < 25%)					
C. OTHER COMPOUNDS (RRF >0.05)					
4. WATER BLANKS					
5. EXTRACTION BLANKS					
6. RWS					
7. RWSD					
8. RWS/RWSD RPD					
9. MS (SAMPLE SPECIFIC)					
10. MSD (SAMPLE SPECIFIC)					
11. SURROGATE SPIKE					

COMMENTS: _____

1/ MS = MATRIX SPIKE; 2/ MSD = MATRIX SPIKE DUPLICATE; 3/ LD = LAB DUP
 4/ RPD = RELATIVE PERCENT DIFFERENCE; 5/ RWS = REAGENT WATER SPIKE;
 6/ RWSD = REAGENT WATER SPIKE DUPLICATE; 7/ BFB TUNING IS FOR
 VOLATILES AND DFTPP TUNING IS FOR SEMI-VOLATILES (BNA
 EXTRACTABLES). 8/ RRF = RELATIVE RESPONSE FACTOR;
 9/ RSD = RELATIVE STANDARD DEVIATION; 10/ %D = PERCENT DIFFERENCE;

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FOUR

DATA EVALUATION SUMMARY

PROJECT NAME: F7 Stewart PROJECT NUMBER: TF 7/4.04
 QA REPORTING LEVEL: II VALIDATION DATE: 9/93

ALL QA REPORTING LEVELS (I, II, III)

SUMMARY OF CHECKLIST FINDINGS

PERFORMANCE
 REPORTED ACCEPTABLE NOT
 NO YES NO YES REQUIRED

1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA					✓
2. FIELD RECORDS		✓		✓	
3. METHODS (GEN.INFO. SECTION ONE)		✓			
4. HOLDING TIMES (MASTER SAMPLE LIST)					
A. EXTRACTION HOLDING TIMES					✓
B. ANALYSIS HOLDING TIMES		✓			
5. DETECTION LIMITS (SECTION ONE)		✓			
6. BLANKS (SECTIONS TWO OR THREE)					
A. EQUIPMENT RINSATE BLANKS					✓
B. FIELD BLANKS					✓
C. TRIP BLANKS					✓
D. LABORATORY BLANKS		✓			
7. FIELD REPLICATES		✓			
8. FIELD SPLITS		✓			
9. GEOPHYSICAL COMPARISONS					
A. CATION VS ANION					✓
B. TDS VS SPEC. CONDUCTANCE					✓
C. PH VS ALK/ACIDITY					✓
D. OTHER					✓
10. METALS QA DATA (SECTION TWO)		✓	✓		
11. INORGANIC WET CHEMISTRY (SEC. TWO)		✓			
12. ORGANIC QA DATA-GC (SECTION THREE-A)					
13. ORGANIC WET CHEMISTRY (SEC. THREE-A)					✓
14. ORGANIC QA DATA-GC/MS (SEC. THREE-B)		✓			

AFTER COMPLETING THIS SECTION GO TO SECTION FIVE.

COMMENTS:

Dup Results/RPD: KST-004A-SL4-8/dup EST004A-SL94-8

Benzene 28/12 Cond 11/4.6

Toluene 12/6 Ba 4.4/5.5

Xylene 8.5/<5.9 Pb 12/7.4

KST004D-SL2-6/dup EST004D-SL92-6

Ace 110/58 pH 4.6/5.2

Tol 21/18 Ba 5.9/6.7

Xyl 22/25

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FIVE

DATA VALIDATION CODING

PROJECT NAME: <u>Ft Stewart</u>	PROJECT NUMBER: <u>TF 764.04</u>
QA REPORTING LEVEL: <u>11</u>	VALIDATION DATE: <u>9/93</u>

1. QUALIFIER CODES ASSIGNED TO DATA: R, U, J, U/J, B, NO FLAG

2. IDENTIFICATION OF SAMPLES AND PARAMETERS WITH CODES:

SAMPLE ID

PARAMETERS

R CODE		
B CODE		
U CODE		
J CODE	<i>See 12/1/93</i>	<i>8-10</i>
U/J CODE		

EXPLANATION:

VALIDATION PERFORMED BY: Kathryn Garrison

SIGNED: Kathryn Garrison

DATE: 9/93

FIELD DATA VALIDATION CHECKLIST

197

DATA VALIDATION CHECKLIST
SECTION ONE

PROJECT NAME:	Pt. Stewart - Run Pit B/E		
PROJECT NUMBER:	TF 764.03		
SAMPLING DATE:	6/26 + 6/28	VALIDATION DATE:	9/93
SAMPLE IDENTIFICATION:	FST004B-SL2-8, SL3-8, SL4-4, FST004C-SL1-1, SL2-8 FST014-IDWEL, FST004A, FST004C, FST004D		
SAMPLING TEAM:	G. Weiss, M. Mosek, K. Holman		
ANALYZING LABORATORY:	Savannah (GA) - S3-43711		
ANALYSES PERFORMED:	RCRA Metals, pH, Cond, 8240 / pH, TCLP Metals, 8240		
SAMPLE MATRIX:	Soils		
QA REPORTING LEVEL:	II		

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/

PERFORMANCE
REPORTED ACCEPTABLE NOT
NO YES NO YES REQUIRED

	REPORTED NO	REPORTED YES	ACCEPTABLE NO	ACCEPTABLE YES	NOT REQUIRED
1. SAMPLING DATES NOTED	—	✓	—	✓	—
2. SAMPLING TEAM INDICATED	—	✓	—	✓	—
3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED	—	—	—	—	—
4. SAMPLE LOCATION	—	✓	—	✓	—
5. SAMPLE DEPTH FOR SOILS	—	✓	—	✓	—
6. COLLECTION TECHNIQUE (BAILER, PUMP ETC)	—	✓	—	✓	—
7. FIELD SAMPLE PREPARATION TECHNIQUES	—	✓	—	✓	—
8. SAMPLE TYPE (GRAB, COMPOSITE)	—	✓	—	✓	—
9. SAMPLE CONTAINER TYPE	—	✓	—	✓	—
10. PRESERVATION METHODS	—	✓	—	✓	—
11. CHAIN OF CUSTODY FORM COMPLETED	—	✓	—	✓	—
12. REQUIRED ANALYTICAL METHODS REQUESTED	—	✓	—	✓	—
13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED	—	✓	—	✓	—
14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.)	—	✓	—	✓	—
15. FIELD EQUIPMENT CALIBRATION	—	✓	—	✓	—
16. FIELD EQUIPMENT DECONTAMINATION	—	✓	—	✓	—
17. SAMPLE SHIPPING	—	✓	—	✓	—
18. LABORATORY TASK ORDER	✓	—	—	—	—

1/ FIELD SAMPLING LOGS = WATER AND/OR SOIL/SEDIMENT SAMPLING LOGS
COMMENTS:

ANALYTICAL DATA VALIDATION CHECKLIST

199

DATA VALIDATION CHECKLIST
SECTION ONE CONTINUED

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

ALL QA REPORTING LEVELS

	REPORTED		PERFORMANCE ACCEPTABLE		NOT REQUIRED
	NO	YES	NO	YES	
1. SAMPLE RESULTS	—	✓	—	✓	—
2. PARAMETERS ANALYZED	—	✓	—	✓	—
3. METHOD OF ANALYSIS	—	✓	—	✓	—
4. DETECTION LIMITS OF ANALYSIS	—	✓	—	✓	—
5. MASTER TRACKING LIST	✓	—	—	✓	—
6. SAMPLE COLLECTION DATE	—	✓	—	✓	—
7. LAB SAMPLE RECEIVED DATE	—	✓	—	✓	—
8. SAMPLE PREPARATION/EXTRACTION DATE	—	✓	—	✓	—
9. SAMPLE ANALYSIS DATE	—	✓	—	✓	—
10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN	—	✓	—	—	—
11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.	✓	—	—	—	—

COMMENTS: _____

AFTER COMPLETING SECTION ONE PROCEED TO THE APPROPRIATE QA REPORTING LEVEL OF SECTION TWO (INORGANIC ANALYSES) AND/OR SECTION THREE (ORGANIC ANALYSES). FOLLOWING COMPLETION OF THESE SECTIONS PROCEED TO SECTION FOUR (DATA EVALUATION SUMMARY).

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES
METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: I

REQUIREMENTS (BATCH SPECIFIC QA) 1/

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. METHOD BLANKS	—	—	—	—	—
2. MS ^{2/} OR RWS ^{3/} % RECOVERY (%R)	—	—	—	—	—
3. MSD ^{4/} OR RWSD ^{5/} OR LD ^{6/} %R	—	—	—	—	—
4. RPD ^{7/}	—	—	—	—	—

NA

COMMENTS: _____

1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH REGARDLESS OF THE SOURCE.

/ MS = MATRIX SPIKE;

4/ MSD = MATRIX SPIKE DUP.;

6/ LD = LABORATORY DUPLICATE;

3/ RWS = REAGENT WATER SPIKE;

5/ RWSD = REAGENT WATER SPIKE DUP.;

7/ RPD = RELATIVE PERCENT DIFFERENCE

ANALYTICAL DATA VALIDATION CHECKLIST

201

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES
METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: II
REQUIREMENTS (BATCH SPECIFIC QA)^{1/}

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

	REPORTED NO	YES	IN LIMITS NO	YES	NOT REQUIRED
1. METHOD BLANKS	—	✓	—	✓	—
2. MS % RECOVERY (%R)	—	✓	—	—	—
3. MSD OR LAB DUPLICATE % R	—	✓	—	—	—
4. RWS % R	—	—	—	—	—
5. RWSD % R	—	—	—	—	✓
6. RPDs FOR MS/MSD, SAMPLE/LD, RWS/RWSD	—	✓	—	✓	✓
7. LCS ^{8/} %R	—	✓	—	✓	—
8. ICVS ^{9/} %R	✓	—	—	✓	—

COMMENTS: pH 6/30, Cond 7/9 Se MS/MSD 42/36 < 75

QA REPORTING LEVEL: III
REQUIREMENTS (SAMPLE SPECIFIC QA)^{10/}

1. CALIBRATION CURVE STANDARDS	—	—	—	—	—
2. ICVS %R	—	—	—	—	—
3. CCVS ^{11/} %R	—	—	—	—	—
4. LCS %R	—	—	—	—	—
5. METHOD BLANKS	—	—	—	—	—
6. ICS ^{12/} %R (ICP ONLY)	—	—	—	—	—
7. DCS ^{13/} %R (ICP ONLY)	—	—	—	—	—
8. MS %R	—	—	—	—	—
9. LD OR MSD %R AND RPD	—	—	—	—	—
10. POST DIGESTION ANALYTICAL SPIKE ^{14/}	—	—	—	—	—

COMMENTS:

- 1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH.
- 2/ MS = MATRIX SPIKE;
- 3/ RWS = REAGENT WATER SPIKE;
- 4/ MSD = MATRIX SPIKE DUP.;
- 5/ RWSD = REAGENT WATER SPIKE DUP.;
- 6/ LD = LABORATORY DUPLICATE;
- 7/ RPD = RELATIVE PERCENT DIFFERENCE
- 8/ LCS = LABORATORY CONTROL SAMPLE;
- 9/ ICVS = INITIAL CALIBRATION VERIFICATION STANDARD;
- 10/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT SPECIFIC SAMPLES.
- 11/ CCVS = CONTINUING CALIBRATION VERIFICATION STANDARD;
- 12/ ICS = INTERFERENCE CHECK SAMPLE;
- 13/ DCS = DILUTION CHECK SAMPLE;
- 14/ POST DIGESTION ANALYTICAL SPIKE APPLIES TO FURNACE AA ONLY;

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE

ORGANIC ANALYSES

QA REPORTING LEVEL: I
REQUIREMENTS

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. WATER BLANKS					
2. EXTRACTION BLANKS					
3. RWS ^{1/}					
4. RWSD ^{2/}					
5. RPD ^{3/}					

NA

COMMENTS:

QA REPORTING LEVEL: II
REQUIREMENTS

A. GAS CHROMATOGRAPHY (NO MASS SPEC) OR WET CHEMISTRY PROCEDURE

1. WATER BLANKS					
2. EXTRACTION BLANKS					
3. MS ^{4/} (BATCH SPECIFIC)					
4. MSD ^{5/} (BATCH SPECIFIC)					
5. LD ^{6/} (OPTIONAL)					
6. MS/MSD RPD OR SAMPLE/LD RPD					
7. RWS (Les)					
8. RWSD					
9. RWS RPD					
10. SURROGATE SPIKES					

NA

B. GAS CHROMATOGRAPHY/MASS SPECTROMETER

1. WATER BLANKS		✓		✓	
2. EXTRACTION BLANKS		✓		✓	✓
3. MS (BATCH SPECIFIC)		✓		✓	
4. MSD (BATCH SPECIFIC)		✓		✓	
5. LD (OPTIONAL)		✓		✓	✓
6. MS/MSD RPD OR SAMPLE/LD RPD		✓		✓	✓
7. RWS (Les)		✓		✓	
8. RWSD		✓		✓	
9. RWS RPD					✓
10. SURROGATE SPIKES		✓		✓	✓

COMMENTS:

1/ RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE;
3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE;
5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST

205

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE CONTINUED

ORGANIC ANALYSES

QA REPORTING LEVEL: III
REQUIREMENTS

A. GAS CHROMATOGRAPH OR WET CHEMISTRY	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. WATER BLANKS (VOC)					
2. EXTRACTION BLANKS					
3. MS ^{1/} %R SAMPLE SPECIFIC					
4. MSD ^{2/} %R SAMPLE SPECIFIC					
5. LD ^{3/} SAMPLE SPECIFIC (OPTIONAL)					
6. MS/MSD RPD ^{4/} OR SAMPLE/LD RPD					
7. RWS ^{5/}					
8. RWSD ^{6/}					
9. RWS/RWSD RPD					
10. SURROGATE SPIKES					

B. GAS CHROMATOGRAPH/MASS SPECTROMETER	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. BFB OR DFTPP TUNING ^{7/}					
2. INITIAL CALIBRATION (IC)					
A. SPCC COMPOUNDS (RRF ^{8/} > 0.3/0.05)					
B. CCC COMPOUNDS (RSD ^{9/} < 30%)					
C. OTHER COMPOUNDS (RRF > 0.05)					
3. CONTINUING CALIBRATION (CC)					
A. SPCC COMPOUNDS (RRF > 0.3/0.05)					
B. CCC COMPOUNDS (MAX %D ^{10/} < 25%)					
C. OTHER COMPOUNDS (RRF > 0.05)					
4. WATER BLANKS					
5. EXTRACTION BLANKS					
6. RWS					
7. RWSD					
8. RWS/RWSD RPD					
9. MS (SAMPLE SPECIFIC)					
10. MSD (SAMPLE SPECIFIC)					
11. SURROGATE SPIKE					

COMMENTS:

1/ MS = MATRIX SPIKE; 2/ MSD = MATRIX SPIKE DUPLICATE; 3/ LD = LAB DUP
 4/ RPD = RELATIVE PERCENT DIFFERENCE; 5/ RWS = REAGENT WATER SPIKE;
 6/ RWSD = REAGENT WATER SPIKE DUPLICATE; 7/ BFB TUNING IS FOR
 VOLATILES AND DFTPP TUNING IS FOR SEMI-VOLATILES (BNA
 EXTRACTABLES). 8/ RRF = RELATIVE RESPONSE FACTOR;
 9/ RSD = RELATIVE STANDARD DEVIATION; 10/ %D = PERCENT DIFFERENCE;

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FIVE

DATA VALIDATION CODING

PROJECT NAME: <u>Kt Stewart</u>	PROJECT NUMBER: <u>TF 764.03</u>
QA REPORTING LEVEL: <u>II</u>	VALIDATION DATE: <u>9/93</u>

1. QUALIFIER CODES ASSIGNED TO DATA: R, U, J, (U/J), B, NO FLAG

2. IDENTIFICATION OF SAMPLES AND PARAMETERS WITH CODES:
SAMPLE ID
PARAMETERS

R CODE		
B CODE		
U CODE		
J CODE		
U/J CODE	<u>SL2-8 } B</u> <u>SL2-8 } B</u> <u>SL4-4 } B</u> <u>SL8-6 } e</u> <u>SL3-8 } e</u>	<u>Se MSPMSD-42/316 < 75</u> <u>< 1.2 mg/kg</u> <u>Se</u> <u>< 1.1</u> <u>Se</u> <u>< 1.1</u> <u>Se</u> <u>< 2.4</u> <u>Se</u> <u>< 2.3</u>

EXPLANATION: _____

VALIDATION PERFORMED BY: Kathryn Parrison
 SIGNED: Kathryn Parrison
 DATE: 9/93

FIGURE 9

FIELD DATA VALIDATION CHECKLIST

211

DATA VALIDATION CHECKLIST
SECTION ONE

PROJECT NAME:	Ft. Stewart - Burn Pit E/F		
PROJECT NUMBER:	TF 764.03		
SAMPLING DATE:	6/29-30/93	VALIDATION DATE:	9/93
SAMPLE IDENTIFICATION:	EST 004E-SL2-8, SL4-6, EST004F-SL1-8, SL3-8, SL2-8, SL4-4, EST004B-IDW5L, 004E-IDW5L		
SAMPLING TEAM:	G. Weiss, M. Moser, K. Therman		
ANALYZING LABORATORY:	Savannah (GA) - S3-43768		
ANALYSES PERFORMED:	8240, RRA Metals, Cond, pH		
SAMPLE MATRIX:	Soil		
QA REPORTING LEVEL:	II		

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/

	REPORTED		PERFORMANCE ACCEPTABLE		NOT REQUIRED
	NO	YES	NO	YES	

	REPORTED		PERFORMANCE ACCEPTABLE		NOT REQUIRED
	NO	YES	NO	YES	
1. SAMPLING DATES NOTED	—	✓	—	✓	—
2. SAMPLING TEAM INDICATED	—	✓	—	✓	—
3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED	—	✓	—	✓	—
4. SAMPLE LOCATION	—	✓	—	✓	—
5. SAMPLE DEPTH FOR SOILS	—	✓	—	✓	—
6. COLLECTION TECHNIQUE (BAILER, PUMP ETC)	—	✓	—	✓	—
7. FIELD SAMPLE PREPARATION TECHNIQUES	—	✓	—	✓	—
8. SAMPLE TYPE (GRAB, COMPOSITE)	—	✓	—	✓	—
9. SAMPLE CONTAINER TYPE	—	✓	—	✓	—
10. PRESERVATION METHODS	—	✓	—	✓	—
11. CHAIN OF CUSTODY FORM COMPLETED	—	✓	—	✓	—
12. REQUIRED ANALYTICAL METHODS REQUESTED	—	✓	—	✓	—
13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED	—	✓	—	✓	—
14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.)	—	✓	—	✓	—
15. FIELD EQUIPMENT CALIBRATION	—	✓	—	✓	—
16. FIELD EQUIPMENT DECONTAMINATION	—	✓	—	✓	—
17. SAMPLE SHIPPING	—	✓	—	✓	—
18. LABORATORY TASK ORDER	—	✓	—	✓	—

1/ FIELD SAMPLING LOGS = WATER AND/OR SOIL/SEDIMENT SAMPLING LOGS

COMMENTS:

ANALYTICAL DATA VALIDATION CHECKLIST

213

DATA VALIDATION CHECKLIST
SECTION ONE CONTINUED

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

ALL QA REPORTING LEVELS	REPORTED		PERFORMANCE ACCEPTABLE		NOT REQUIRED
	NO	YES	NO	YES	
1. SAMPLE RESULTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. PARAMETERS ANALYZED	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. METHOD OF ANALYSIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. DETECTION LIMITS OF ANALYSIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. MASTER TRACKING LIST	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. SAMPLE COLLECTION DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. LAB SAMPLE RECEIVED DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. SAMPLE PREPARATION/EXTRACTION DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. SAMPLE ANALYSIS DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

AFTER COMPLETING SECTION ONE PROCEED TO THE APPROPRIATE QA REPORTING LEVEL OF SECTION TWO (INORGANIC ANALYSES) AND/OR SECTION THREE (ORGANIC ANALYSES). FOLLOWING COMPLETION OF THESE SECTIONS PROCEED TO SECTION FOUR (DATA EVALUATION SUMMARY).

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES

METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: I
REQUIREMENTS (BATCH SPECIFIC QA) 1/

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. METHOD BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. MS ^{2/} OR RWS ^{3/} % RECOVERY (%R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. MSD ^{4/} OR RWSD ^{5/} OR LD ^{6/} %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. RPD ^{7/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH REGARDLESS OF THE SOURCE.

2/ MS = MATRIX SPIKE;

3/ RWS = REAGENT WATER SPIKE;

4/ MSD = MATRIX SPIKE DUP.;

5/ RWSD = REAGENT WATER SPIKE DUP.;

6/ LD = LABORATORY DUPLICATE;

7/ RPD = RELATIVE PERCENT DIFFERENCE

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES
METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: II
REQUIREMENTS (BATCH SPECIFIC QA) 11'

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. METHOD BLANKS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. MS % RECOVERY (%R)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. MSD OR LAB DUPLICATE % R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. RWS % R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. RWSD % R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. RPDs FOR MS/MSD, SAMPLE/LD, RWS/RWSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. LCS ^{11'} %R	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. ICVS ^{9'} %R	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: pH 7/9, Cond 7/5

MS/MSD - As (20/29) Ag (74/74) RPD - As (36)
Se (10/5.8) Se (52)

QA REPORTING LEVEL: III
REQUIREMENTS (SAMPLE SPECIFIC QA) 10'

1. CALIBRATION CURVE STANDARDS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. ICVS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. CCVS ^{11'} %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. LCS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. METHOD BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. ICS ^{12'} %R (ICP ONLY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. DCS ^{13'} %R (ICP ONLY)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. MS %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. LD OR MSD %R AND RPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. POST DIGESTION ANALYTICAL SPIKE ^{14'}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS:

- 1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH.
 2/ MS = MATRIX SPIKE; 3/ RWS = REAGENT WATER SPIKE;
 4/ MSD = MATRIX SPIKE DUP.; 5/ RWSD = REAGENT WATER SPIKE DUP.;
 6/ LD = LABORATORY DUPLICATE; 7/ RPD = RELATIVE PERCENT DIFFERENCE
 8/ LCS = LABORATORY CONTROL SAMPLE;
 9/ ICVS = INITIAL CALIBRATION VERIFICATION STANDARD;
 10/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT SPECIFIC SAMPLES.
 11/ CCVS = CONTINUING CALIBRATION VERIFICATION STANDARD;
 12/ ICS = INTERFERENCE CHECK SAMPLE; 13/ DCS = DILUTION CHECK SAMPLE;
 14/ POST DIGESTION ANALYTICAL SPIKE APPLIES TO FURNACE AA ONLY;

ANALYTICAL DATA VALIDATION CHECKLIST

217

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE

ORGANIC ANALYSES

QA REPORTING LEVEL: I
REQUIREMENTS

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

NA	1. WATER BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. EXTRACTION BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3. RWS ^{1/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4. RWSD ^{2/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5. RPD ^{3/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS:

QA REPORTING LEVEL: II
REQUIREMENTS

A. GAS CHROMATOGRAPHY (NO MASS SPEC) OR WET CHEMISTRY PROCEDURE

NA	1. WATER BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	2. EXTRACTION BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3. MS ^{4/} (BATCH SPECIFIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	4. MSD ^{5/} (BATCH SPECIFIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5. LD ^{6/} (OPTIONAL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	6. MS/MSD RPD OR SAMPLE/LD RPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	7. RWS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	8. RWSD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	9. RWS RPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	10. SURROGATE SPIKES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. GAS CHROMATOGRAPH/MASS SPECTROMETER

1. WATER BLANKS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. EXTRACTION BLANKS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. MS (BATCH SPECIFIC)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. MSD (BATCH SPECIFIC)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. LD (OPTIONAL)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6. MS/MSD RPD OR SAMPLE/LD RPD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. RWS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. RWSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. RWS RPD	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10. SURROGATE SPIKES	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

COMMENTS:

1/ RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE;
3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE;
5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE CONTINUED

ORGANIC ANALYSES

QA REPORTING LEVEL: III
REQUIREMENTS

A. GAS CHROMATOGRAPH OR WET CHEMISTRY

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. WATER BLANKS (VOC)	---	---	---	---	---
2. EXTRACTION BLANKS	---	---	---	---	---
3. MS ^{1/} %R SAMPLE SPECIFIC	---	---	---	---	---
4. MSD ^{2/} %R SAMPLE SPECIFIC	---	---	---	---	---
5. LD ^{3/} SAMPLE SPECIFIC (OPTIONAL)	---	---	---	---	---
6. MS/MSD RPD ^{4/} OR SAMPLE/LD RPD	---	---	---	---	---
7. RWS ^{5/}	---	---	---	---	---
8. RWS ^{6/}	---	---	---	---	---
9. RWS/RWS RPD	---	---	---	---	---
10. SURROGATE SPIKES	---	---	---	---	---

B. GAS CHROMATOGRAPH/MASS SPECTROMETER

1. BFB OR DFTPP TUNING ^{7/}	---	---	---	---	---
2. INITIAL CALIBRATION (IC)	---	---	---	---	---
A. SPCC COMPOUNDS (RRF ^{8/} > 0.3/0.05)	---	---	---	---	---
B. CCC COMPOUNDS (RSD ^{9/} < 30%)	---	---	---	---	---
C. OTHER COMPOUNDS (RRF > 0.05)	---	---	---	---	---
3. CONTINUING CALIBRATION (CC)	---	---	---	---	---
A. SPCC COMPOUNDS (RRF > 0.3/0.05)	---	---	---	---	---
B. CCC COMPOUNDS (MAX %D ^{10/} < 25%)	---	---	---	---	---
C. OTHER COMPOUNDS (RRF > 0.05)	---	---	---	---	---
4. WATER BLANKS	---	---	---	---	---
5. EXTRACTION BLANKS	---	---	---	---	---
6. RWS	---	---	---	---	---
7. RWS	---	---	---	---	---
8. RWS/RWS RPD	---	---	---	---	---
9. MS (SAMPLE SPECIFIC)	---	---	---	---	---
10. MSD (SAMPLE SPECIFIC)	---	---	---	---	---
11. SURROGATE SPIKE	---	---	---	---	---

COMMENTS: _____

1/ MS = MATRIX SPIKE; 2/ MSD = MATRIX SPIKE DUPLICATE; 3/ LD = LAB DUP
4/ RPD = RELATIVE PERCENT DIFFERENCE; 5/ RWS = REAGENT WATER SPIKE;
6/ RWS = REAGENT WATER SPIKE DUPLICATE; 7/ BFB TUNING IS FOR
VOLATILES AND DFTPP TUNING IS FOR SEMI-VOLATILES (BNA
EXTRACTABLES). 8/ RRF = RELATIVE RESPONSE FACTOR;
9/ RSD = RELATIVE STANDARD DEVIATION; 10/ %D = PERCENT DIFFERENCE;

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FIVE

DATA VALIDATION CODING

PROJECT NAME: <u>Ft Stewart</u>	PROJECT NUMBER: <u>TF764.04</u>
QA REPORTING LEVEL: <u>II</u>	VALIDATION DATE: <u>9/93</u>

1. QUALIFIER CODES ASSIGNED TO DATA: (R), U, J, U/J, B, NO FLAG
2. IDENTIFICATION OF SAMPLES AND PARAMETERS WITH CODES:

<u>SAMPLE ID</u>	<u>PARAMETERS</u>
------------------	-------------------

R CODE	All samples	As/Se
B CODE		
U CODE		
J CODE	See Table 9-10	
U/J CODE		

EXPLANATION:

all As values < or ND

Se = <

VALIDATION PERFORMED BY: Kathryn Garrison

SIGNED: Kathryn E. Garrison

DATE: 9/93

FIELD DATA VALIDATION CHECKLIST

225

DATA VALIDATION CHECKLIST
SECTION ONE

PROJECT NAME:	<u>Ft. Stewart -</u>
PROJECT NUMBER:	<u>TF 764, 03</u>
SAMPLING DATE:	<u>7/1/93</u>
VALIDATION DATE:	<u>9/93</u>
SAMPLE IDENTIFICATION:	<u>EST 002 - SL1-12, SL4-8, SL94-8,</u>
SAMPLING TEAM:	<u>G. Weiss, M. Moser, K. Thoman</u>
ANALYZING LABORATORY:	<u>Savannah (GA) - S3 - 43808</u>
ANALYSES PERFORMED:	<u>RERA Metals, pH, Cond, 8240</u>
SAMPLE MATRIX:	<u>Soil</u>
QA REPORTING LEVEL:	<u>II</u>

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/

PERFORMANCE
REPORTED ACCEPTABLE NOT
NO YES NO YES REQUIRED

	REPORTED NO	YES	ACCEPTABLE NO	YES	NOT REQUIRED
1. SAMPLING DATES NOTED	—	✓	—	✓	—
2. SAMPLING TEAM INDICATED	—	✓	—	✓	—
3. SAMPLE IDENTIFICATION TRACEABLE TO LOCATION COLLECTED	—	✓	—	✓	—
4. SAMPLE LOCATION	—	✓	—	✓	—
5. SAMPLE DEPTH FOR SOILS	—	✓	—	✓	—
6. COLLECTION TECHNIQUE (BAILER, PUMP ETC)	—	✓	—	✓	—
7. FIELD SAMPLE PREPARATION TECHNIQUES	—	✓	—	✓	—
8. SAMPLE TYPE (GRAB, COMPOSITE)	—	✓	—	✓	—
9. SAMPLE CONTAINER TYPE	—	✓	—	✓	—
10. PRESERVATION METHODS	—	✓	—	✓	—
11. CHAIN OF CUSTODY FORM COMPLETED	—	✓	—	✓	—
12. REQUIRED ANALYTICAL METHODS REQUESTED	—	✓	—	✓	—
13. FIELD (WATER AND SOIL) SAMPLE LOGS COMPLETED PROPERLY AND SIGNED	—	✓	—	✓	—
14. NUMBER AND TYPE OF FIELD QC SAMPLES COLLECTED (BLANKS, REPLICATES, SPLITS, ETC.)	—	✓	—	✓	—
15. FIELD EQUIPMENT CALIBRATION	—	✓	—	✓	—
16. FIELD EQUIPMENT DECONTAMINATION	—	✓	—	✓	—
17. SAMPLE SHIPPING	—	✓	—	✓	—
18. LABORATORY TASK ORDER	—	—	—	—	—

1/ FIELD SAMPLING LOGS = WATER AND/OR SOIL/SEDIMENT SAMPLING LOGS
COMMENTS:

ANALYTICAL DATA VALIDATION CHECKLIST

227

DATA VALIDATION CHECKLIST
SECTION ONE CONTINUED

ANALYTICAL DATA PACKAGE DOCUMENTATION

GENERAL INFORMATION

ALL QA REPORTING LEVELS	REPORTED		PERFORMANCE ACCEPTABLE		NOT REQUIRED
	NO	YES	NO	YES	
1. SAMPLE RESULTS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. PARAMETERS ANALYZED	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. METHOD OF ANALYSIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. DETECTION LIMITS OF ANALYSIS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. MASTER TRACKING LIST	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. SAMPLE COLLECTION DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. LAB SAMPLE RECEIVED DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. SAMPLE PREPARATION/EXTRACTION DATE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9. SAMPLE ANALYSIS DATE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. COPY OF CHAIN-OF-CUSTODY FORM SIGNED BY THE LAB SAMPLE CUSTODIAN	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. A NARRATIVE SUMMARY OF QA OR SAMPLE PROBLEMS IS PROVIDED.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

AFTER COMPLETING SECTION ONE PROCEED TO THE APPROPRIATE QA REPORTING LEVEL OF SECTION TWO (INORGANIC ANALYSES) AND/OR SECTION THREE (ORGANIC ANALYSES). FOLLOWING COMPLETION OF THESE SECTIONS PROCEED TO SECTION FOUR (DATA EVALUATION SUMMARY).

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES

METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: I REQUIREMENTS (BATCH SPECIFIC QA) 1/	REPORTED		IN LIMITS		NOT REQUIRED
	NO	YES	NO	YES	
1. METHOD BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. MS ^{2/} OR RWS ^{3/} % RECOVERY (%R)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. MSD ^{4/} OR RWSD ^{5/} OR LD ^{6/} %R	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. RPD ^{7/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH REGARDLESS OF THE SOURCE.

- / MS = MATRIX SPIKE;
- 4/ MSD = MATRIX SPIKE DUP.;
- 6/ LD = LABORATORY DUPLICATE;
- 3/ RWS = REAGENT WATER SPIKE;
- 5/ RWSD = REAGENT WATER SPIKE DUP.;
- 7/ RPD = RELATIVE PERCENT DIFFERENCE

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION TWO

INORGANIC ANALYSES
METALS AND CLASSICAL WET CHEMISTRY METHODS

QA REPORTING LEVEL: II
REQUIREMENTS (BATCH SPECIFIC QA)^{1/}

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. METHOD BLANKS	—	✓	—	✓	—
2. MS % RECOVERY (%R)	—	✓	—	✓	—
3. MSD OR LAB DUPLICATE % R	—	✓	—	✓	—
4. RWS % R	—	—	—	—	—
5. RWSD % R	—	—	—	—	—
6. RPDs FOR MS/MSD, SAMPLE/LD, RWS/RWSD	—	✓	—	✓	—
7. LCS ^{8/} %R	—	✓	—	✓	—
8. ICVS ^{9/} %R	✓	—	—	—	—

COMMENTS: See Attached: As, Pb, Se

QA REPORTING LEVEL: III
REQUIREMENTS (SAMPLE SPECIFIC QA)^{10/}

1. CALIBRATION CURVE STANDARDS	—	—	—	—	—
2. ICVS %R	—	—	—	—	—
3. CCVS ^{11/} %R	—	—	—	—	—
4. LCS %R	—	—	—	—	—
5. METHOD BLANKS	—	—	—	—	—
6. ICS ^{12/} %R (ICP ONLY)	—	—	—	—	—
7. OCS ^{13/} %R (ICP ONLY)	—	—	—	—	—
8. MS %R	—	—	—	—	—
9. LD OR MSD %R AND RPD	—	—	—	—	—
10. POST DIGESTION ANALYTICAL SPIKE ^{14/}	—	—	—	—	—

COMMENTS: _____

- 1/ BATCH SPECIFIC QA: APPLIES TO ANY SAMPLES IN ANALYTICAL BATCH.
 2/ MS = MATRIX SPIKE; 3/ RWS = REAGENT WATER SPIKE;
 4/ MSD = MATRIX SPIKE DUP.; 5/ RWSD = REAGENT WATER SPIKE DUP.;
 6/ LD = LABORATORY DUPLICATE; 7/ RPD = RELATIVE PERCENT DIFFERENCE
 8/ LCS = LABORATORY CONTROL SAMPLE;
 9/ ICVS = INITIAL CALIBRATION VERIFICATION STANDARD;
 10/ SAMPLE SPECIFIC QA: APPLIES TO PROJECT SPECIFIC SAMPLES.
 11/ CCVS = CONTINUING CALIBRATION VERIFICATION STANDARD;
 12/ ICS = INTERFERENCE CHECK SAMPLE; 13/ OCS = DILUTION CHECK SAMPLE;
 14/ POST DIGESTION ANALYTICAL SPIKE APPLIES TO FURNACE AA ONLY;

ANALYTICAL DATA VALIDATION CHECKLIST

231

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE

ORGANIC ANALYSES

QA REPORTING LEVEL: I
REQUIREMENTS

REPORTED IN LIMITS NOT
NO YES NO YES REQUIRED

1. WATER BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. EXTRACTION BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. RWS ^{1/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. RWSD ^{2/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. RPD ^{3/}	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

N/A

COMMENTS: _____

QA REPORTING LEVEL: II
REQUIREMENTS

A. GAS CHROMATOGRAPHY (NO MASS SPEC) OR WET CHEMISTRY PROCEDURE

1. WATER BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. EXTRACTION BLANKS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. MS ^{4/} (BATCH SPECIFIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. MSD ^{5/} (BATCH SPECIFIC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. LD ^{6/} (OPTIONAL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. MS/MSD RPD OR SAMPLE/LD RPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. RWS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. RWSD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. RWS RPD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. SURROGATE SPIKES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

N/A

B. GAS CHROMATOGRAPHY/MASS SPECTROMETER

1. WATER BLANKS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. EXTRACTION BLANKS	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. MS (BATCH SPECIFIC)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. MSD (BATCH SPECIFIC)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. LD (OPTIONAL)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. MS/MSD RPD OR SAMPLE/LD RPD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7. RWS (LES)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. RWSD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. RWS RPD	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
10. SURROGATE SPIKES	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COMMENTS: _____

1/ RWS = REAGENT WATER SPIKE; 2/ RWSD = REAGENT WATER SPIKE DUPLICATE;
3/ RPD = RELATIVE PERCENT DIFFERENCE; 4/ MS = MATRIX SPIKE;
5/ MSD = MATRIX SPIKE DUPLICATE; 6/ LD = LAB DUP

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION THREE CONTINUED

ORGANIC ANALYSES

QA REPORTING LEVEL: III
REQUIREMENTS

A. GAS CHROMATOGRAPH OR WET CHEMISTRY	REPORTED		IN LIMITS		NOT REQUIRED
	No	Yes	No	Yes	
1. WATER BLANKS (VOC)	—	—	—	—	—
2. EXTRACTION BLANKS	—	—	—	—	—
3. MS ^{1/} %R SAMPLE SPECIFIC	—	—	—	—	—
4. MSD ^{2/} %R SAMPLE SPECIFIC	—	—	—	—	—
5. LD ^{3/} SAMPLE SPECIFIC (OPTIONAL)	—	—	—	—	—
6. MS/MSD RPD ^{4/} OR SAMPLE/LD RPD	—	—	—	—	—
7. RWS ^{5/}	—	—	—	—	—
8. RWS ^{6/}	—	—	—	—	—
9. RWS/RWS RPD	—	—	—	—	—
10. SURROGATE SPIKES	—	—	—	—	—

B. GAS CHROMATOGRAPH/MASS SPECTROMETER	REPORTED		IN LIMITS		NOT REQUIRED
	No	Yes	No	Yes	
1. BFB OR DFTPP TUNING ^{7/}	—	—	—	—	—
2. INITIAL CALIBRATION (IC)	—	—	—	—	—
A. SPCC COMPOUNDS (RRF ^{8/} >0.3/0.05)	—	—	—	—	—
B. CCC COMPOUNDS (RSD ^{9/} < 30%)	—	—	—	—	—
C. OTHER COMPOUNDS (RRF > 0.05)	—	—	—	—	—
3. CONTINUING CALIBRATION (CC)	—	—	—	—	—
A. SPCC COMPOUNDS (RRF >0.3/0.05)	—	—	—	—	—
B. CCC COMPOUNDS (MAX %D ^{10/} < 25%)	—	—	—	—	—
C. OTHER COMPOUNDS (RRF >0.05)	—	—	—	—	—
4. WATER BLANKS	—	—	—	—	—
5. EXTRACTION BLANKS	—	—	—	—	—
6. RWS	—	—	—	—	—
7. RWS ^{6/}	—	—	—	—	—
8. RWS/RWS RPD	—	—	—	—	—
9. MS (SAMPLE SPECIFIC)	—	—	—	—	—
10. MSD (SAMPLE SPECIFIC)	—	—	—	—	—
11. SURROGATE SPIKE	—	—	—	—	—

COMMENTS: _____

1/ MS = MATRIX SPIKE; 2/ MSD = MATRIX SPIKE DUPLICATE; 3/ LD = LAB DUP
 4/ RPD = RELATIVE PERCENT DIFFERENCE; 5/ RWS = REAGENT WATER SPIKE;
 6/ RWS^{6/} = REAGENT WATER SPIKE DUPLICATE; 7/ BFB TUNING IS FOR
 VOLATILES AND DFTPP TUNING IS FOR SEMI-VOLATILES (BNA
 EXTRACTABLES). 8/ RRF = RELATIVE RESPONSE FACTOR;
 9/ RSD = RELATIVE STANDARD DEVIATION; 10/ %D = PERCENT DIFFERENCE;

ANALYTICAL DATA VALIDATION CHECKLIST

235

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FOUR

DATA EVALUATION SUMMARY

PROJECT NAME: <u>F2 Stewart</u>	PROJECT NUMBER: <u>TF 964.04</u>
QA REPORTING LEVEL: <u>II</u>	VALIDATION DATE: <u>9/93</u>

ALL QA REPORTING LEVELS (I, II, III)

SUMMARY OF CHECKLIST FINDINGS

PERFORMANCE
REPORTED ACCEPTABLE NOT
NO YES NO YES REQUIRED

	REPORTED		ACCEPTABLE		NOT
	NO	YES	NO	YES	REQUIRED
1. FIELD MEASUREMENTS OF PH AND SPECIFIC CONDUCTANCE ARE CONSISTENT WITH HISTORICAL DATA					✓
2. FIELD RECORDS		✓		✓	
3. METHODS (GEN. INFO. SECTION ONE)		✓		✓	
4. HOLDING TIMES (MASTER SAMPLE LIST)					
A. EXTRACTION HOLDING TIMES					✓
B. ANALYSIS HOLDING TIMES		✓		✓	
5. DETECTION LIMITS (SECTION ONE)		✓		✓	
6. BLANKS (SECTIONS TWO OR THREE)					
A. EQUIPMENT RINSEATE BLANKS					✓
B. FIELD BLANKS					✓
C. TRIP BLANKS					✓
D. LABORATORY BLANKS		✓			
7. FIELD REPLICATES		✓			
8. FIELD SPLITS	✓				✓
9. GEOPHYSICAL COMPARISONS					
A. CATION VS ANION					✓
B. TDS VS SPEC. CONDUCTANCE					✓
C. PH VS ALK/ACIDITY					✓
D. OTHER					✓
10. METALS QA DATA (SECTION TWO)		✓	✓		
11. INORGANIC WET CHEMISTRY (SEC. TWO)		✓			
12. ORGANIC QA DATA-GC (SECTION THREE-A)					✓
13. ORGANIC WET CHEMISTRY (SEC. THREE-A)					✓
14. ORGANIC QA DATA-GC/MS (SEC. THREE-B)		✓		✓	

AFTER COMPLETING THIS SECTION GO TO SECTION FIVE.

COMMENTS:

Duplicate Results: FST 002-SL4-8 / dup FST 002-SL94-8
 As 1.8/2.2 Cond 4.2/3.6
 Ba 4.2/5.8
 Ca 7.9/14 Vinyl Acetate <13 vs <64? data entry error?
 Pb 3.1/2.6

ANALYTICAL DATA VALIDATION CHECKLIST

ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FIVE

DATA VALIDATION CODING

PROJECT NAME: <u>Ft Stewart</u>	PROJECT NUMBER: <u>TF 764.04</u>
QA REPORTING LEVEL: <u>11</u>	VALIDATION DATE: <u>9/93</u>

1. QUALIFIER CODES ASSIGNED TO DATA: R, U, J, U/J, B, NO FLAG
2. IDENTIFICATION OF SAMPLES AND PARAMETERS WITH CODES:
 SAMPLE ID PARAMETERS

R CODE		
B CODE		
U CODE		
J CODE		
U/J CODE		

EXPLANATION: _____

VALIDATION PERFORMED BY: Kathryn Garrison
SIGNED: Kathryn Garrison
DATE: 9/93

APPENDIX B
DATA QUALIFIER CODES

Detailed Explanation of Data Qualifier Codes

- R Code** Data flagged with an "R" has not met the required DQOs and the analytical QA requirements. This data is unusable even if field QC data is acceptable.
- J Code** Data flagged with a "J" has failed some of the analytical QA requirements but not sufficient to warrant classifying the data as unusable. Data receiving a "J" flag is considered to be qualitative (an estimated value) provided the field data meets all criteria and the sample is valid. Data that has numerous QA parameters outside acceptance criteria that each individually warrants a "J" flag, should be evaluated for potentially being unusable and flagged with an "R".
- U Code** Data flagged with a "U" means the analyte was analyzed for but not detected, i.e., the analyte was below the detection limit. Often this flag is seen in conjunction with a "J" flag. Care should be exercised in evaluating the significance of the "U" code.
- No Code** Data that meets all DQO criteria is considered to be quantitative. No codes are applied.

245
243

**RCRA FACILITY INVESTIGATION
ANALYTICAL PACKAGE
FORT STEWART, GEORGIA**

January 1994

Prepared for

Department of the Army
Savannah District Corps of Engineers
Savannah, Georgia

Geraghty & Miller Project No. TF0764.006

Prepared by

Geraghty & Miller, Inc.
14497 N. Dale Mabry Hwy., Suite 115
Tampa, Florida 33618



TABLE OF EXHIBITS

245

- A. Field Logs
 - A.1 Daily Logs
 - A.1.1 Geologist Mark Moser
 - A.1.2 Geologist Katherine Thalman
 - A.1.3 Geologist Garrett Weiss
 - A.2 Log Books
 - A.2.1 Geologist Mark Moser
 - A.2.2 Geologist Katherine Thalman
 - A.2.3 Geologist Garrett Weiss
 - A.3 Daily Quality Control Reports
- B. Soil Sampling Logs
 - B.1 Camp Oliver Landfill, FST-002
 - B.2 Burn Pit A, FST-004A
 - B.3 Burn Pit B, FST-004B
 - B.4 Burn Pit C, FST-004C
 - B.5 Burn Pit D, FST-004D
 - B.6 Burn Pit E, FST-004E
 - B.7 Burn Pit F, FST-004F
 - B.8 Old Fire Training Area, FST-014
- C. Chain-of-Custody Logs
- D. Laboratory Test Results
 - D.1 Camp-Oliver Landfill, FST-002
 - D.2 Burn Pit A, FST-004A
 - D.3 Burn Pit B, FST-004B
 - D.4 Burn Pit C, FST-004C
 - D.5 Burn Pit D, FST-004D
 - D.6 Burn Pit E, FST-004E
 - D.7 Burn Pit F, FST-004F
 - D.8 Old Fire Training Area, FST-014
- E. Abandoned Boring/Well Record for Monitoring Well CO-M1



247

EXHIBIT A
FIELD LOGS

249

EXHIBIT A.1

DAILY LOGS

253

EXHIBIT A.1.1

GEOLOGIST MARK MOSER

FST-004A-MW3
 FST-004A-MW2 Well(s) Project/No. TF 76403 Page 1 of 2

Site Location FST 004A-(MW-2)(MW-3) FST 004B-(MW-1)

Prepared By MG Moser

6/25/93
 Date/Time

Description of Activities

6:15	Met team at Hotel / went to pick up ice and Make to site
7:30	Met drillers at wash rack / calibrated FID and Explorimeter.
8:00	Moved to 1 st drill site FST 004A-MW3, Had tailgate meeting, collected background OVA/FID reading
8:20	STARTED TO DRILL MW-3 (FST 004A) DATA on drill logs / collected soil samples for lab at 2-4 ft bls.
10:10	COMPLETED MW-3
10:40	SET up on MW-2
10:41	Toni Nickson with CURR of Eng. arrived last at 11:00
11:25	Drpt to water approx 4.0 ft will set bottom of well at 14.0 ft bls.
11:47	Took FID readings on head space samples
12:10	Down to 15.0 ft will set well at 14.0 ft
12:25	Well complete will move to FST 004B-MW1 Took lunch and drillers back to wash area to clean equipment.
12:40	Drillers at Down Pad change EQ
2:30	Went to wash rack to see what is taking so long. Drillers still drilling
3:30	Set up rig on FST 004B-MW1 START TO RAIN

DAILY LOG

FST-004B-MW1

Well(s) _____ Project/No. TF 764.03

Page 2 of 2

Site Location FST 004B

Prepared By M G Moser

6/25/93
Date/Time

Description of Activities

Date/Time	Description of Activities
4:00	STILL RAINING Hard with lightning in distance
4:45	Helper left, start to drill with out him / Perm veg light
4:55	Helper arrived.
5:05	Light Perm collect 4-6 ft sample / 2-4 ft sample only recovered .8 ft.
6:12	Water at 105 ft.
6:25	Veg coarse sand at 125 ft
6:40	Explosimeter battery dead must replace
6:45	Over drill to 15 ft to set call at 16.5 ft. Had 4 ft of sand up in auger (over drill to hammer out sand in auger)
7:00	Sand kicked in auger around call / used 1 gallon distilled H ₂ O to see sand.
7:05	Continue to sand up well / set bottom at well at 16.5 ft b/s (well has .5 ft sump on bottom)
7:25	Well set start to clean up site
8:30	Back at Motel



FST 004B-MW4

DAILY LOG

257

Well(s) _____ Project/No. TF 76403

Page 1 of 2

Site Location FST004B-MW4

Prepared By M G Moser

6-26-93
Date/Time

Description of Activities

6:00	Left Motel, pick up ice and DI Water / passed
	drillers at wash rack at 6:30
7:00	At well location FST004B-MW4, SET up OVA
	and ran headspace of samples from FST004B-MW1
7:15	All ova results were 0 ppm unfiltered and 0 ppm
	Filtered. Will collect lab soil sample from 6-8ft
	interval. (directly above water table)
8:05	Drillers arrived
8:15	Duron (steam cleaner) not working, cleaned spools (3) by
	hand
8:26	Checked calibration on FID SN# A51970 read 94ppm with 100ppm
	methane standard, checked Explosimeter with CO ₂ and
	methane. Showed results:
8:30	STARTED TO DRILL, H
8:50	STOPPED DRILLING, Hydrolicize hose breaker, here to fix.
12:40	Drillers back at site install new hose
1:00	START TO DRILL / Get 4-6ft sample
1:10	4-6 ft sample only had .5ft recovery
1:18	H ₂ rot with spurn at 6ft will drill to 7ft
	and take next sample at 7-9 ft.
1:30	Auger on rot or stump has to move 5ft East
	will collect 1st sample at 6-8ft.
1:46	FID READINGS UP TO 10 ppm (over action level)

DAILY LOG

FST-004B-MW4

Well(s) _____ Project/No. TF76403 Page 2 of 2

Site Location FST 004 B - MW 4

Prepared By M G Moser

6/24/93
Date/Time

Description of Activities

	Description of Activities
	STOPPED DRILLING went to notify Geretz
2:20	Geretz on site. Took additional readings. Some
	readings over 1,000ppm (levels varied) Decided to stop
	drilling operations until further investigation of high
	readings were conducted. Driller will clean rig.
3:30	Went to see sight sites E and F
3:00	END OF DAY IN FIELD
7:45	Paper work
10:15	

FST-004B-MW-3

FST-004B-MW-2

Project/No. TF 76403

Page

of

Site Location FST 004B

Prepared By MG Moser

6/28/93

Date/Time

Description of Activities

6:00	Load truck
6:15	Load metal To store to pick up ice
7:15	On site at FST 004B MW-4, took FID ready from Auger. Over 1,000 ppm
7:30	Will meet at MW-4 due to high OVA/FID readings.
8:00	Set up on MW-3, did tailgate safety meeting, check Explosimeter calibration STU # H1C0222 CO ₂ OK
8:15	CO ₂ show elevate ready (46 ppm) ground via [Due to Exhaust]
8:18	Collect 0-2 ft specs
9:50	Completed buy will install well at 16 ft b/s.
10:00	Put samples on ice
10:25	Completed well installation, Drillers will go down specs at well rock.
10:35	Move to MW-2
10:45	Drillers take saw down rock I went to Section FE to get H ₂ from Corby
12:20	Back at FST004B MW-2
12:45	Drillers arrived
1:00	Checked calibrator at FID read 95 ppm w/ 100 ppm methane

DAILY LOG

Ⓞ FST-004B-MW-2
FST-004B Well(s) MW-3 Project/No. TF 76403 Page 2 of 2

Site Location FST004B

Prepared By JMG Man

6/20/03
Date/Time

Description of Activities

Date/Time	Description of Activities
1:00	STARTED on MW 2
1:45	Garrett and Levi (core) stopped by well took pictures
1:55	They left site
2:00 1:45	Better as OUB went out
2:00	START TO Install well
3:15	Well completed, had problems with sand bridging in casing
3:40	Left site back to motel to do paper work
4:40	Left motel to get drillers, will take us to section F
5:00	At well redc
5:30	At FST004F
6:25	Back at motel
7:30	To Garretts van to do paper work
8:30	OFF FOR DAY

FST004F-MW-3

Well(s) _____ Project/No. TJF 764 03 Page 1 of 1

Site Location FST004F-MW3, Install posts at various sites

Prepared By MOSIER

6/29/93
Date/Time

Description of Activities

6:00	START DAY: Drilling at FST004F-MW-1 for MW-3
8:37	Drillers arrived
8:40	Checked calibration of OVI / Explosimeter
9:00	STARTED TO COLLECT sample at 0-28" MW-3
10:30	Water appears to be at 9ft. / Stopped drilling to see water will come in screen, Dr still at 16ft
11:00	Put well at 16ft b/s.
11:25	Completed MW-1 will go to Campobasso and track-x to locate wells.
2:00	Back at FST004F-MW-2 START DRILLING
3:40	Start to set well at 14.5 ft b/s.
4:45	Well set move to MW-3
6:00	At Home

DAILY LOG

FST-004F-MW3

(B)

Well(s) _____ Project/No. TF 76403

Site Location Ft Stewart - FST-004F (M)

Prepared By Mere

~~6/17/93~~ 6/21/93
Date/Time

Description of Activities

Date/Time	Description of Activities
6:00	Left for site / exp time
6:45	on site
7:29	Drillers arrived
8:00	check out on OVI / EXPLASIMETER (M)
8:10	STARTED TO DRILL - FST004F-MW3
10:10	Well installed
11:00	Want to help install posts and posts to save time and money. Crew will install MW-4 at FST004F
	Install protective posts and posts at C.P. E, Trimmer
7:00	Finish for Day

Well(s) _____ Project/No. TR76403 Page 1 of 1

Site Location TRACK-X

Prepared By MGMOSER

~~6/22~~ 7/1/43
Date/Time

Description of Activities

6:00	Left motel to site
6:30	ON SITE inspecting protective posts at various sites
10:00	Met driller at Camp Oliver.
11:00	At Track-X to repair posts and install protective posts
2:45	Complete posts (go back to Camp Oliver)
3:30	At Camp Oliver will go to FST004R to set protective posts
4:15	At FST004R install posts, lighting started at 5:45.
5:50	Went to FST004F to see if long rig will be able to drill out past hole
6:30	Left site see end of day
7:10	END of DAY

DAILY LOG

Well(s) Various sites Project/No. TF 764.03 Page 1 of 2

Site Location Ft. Stewart

Prepared By M G Moser

7/2/93
Date/Time

Description of Activities

Date/Time	Description of Activities
9:30	Meet Driller at FST004E, he was dropping off Drums, Cement truck dec at 10:30.
10:20	At Drum pad, moving Drum trailer, waiting for cement truck
LOCK ALL WELLS	To Do
	4D → MW-3 no pellets
	4C → MW-3 New Drum Lid
	MW-2 No pellets
	4B → MW-4 New Drum Lid
	4B → Drum Lid on MW-4 Trash drum
	Wells MW-1, MW-2 cover need to be located.
	4D → Trash barrel on pellets
	4E → MW-2 No pellets
	MW-1 EMPTY DRUM needs to be moved
4F → pick up trash	
	CUTT assigns off
	Camp Oliver - Take concrete and put in woods

Well(s) _____ Project/No. TF764.03 Page 2 of 2

Site Location FT. Stewart

Prepared By Moser

7/2/93
Date/Time

Description of Activities

11:00	Want to check protective covers at PST004B
	for plumbness,
11:20	found all checked out ok
1:00	Back at down cover unit for 2ND concrete track / check zones nearby area for protective covers.
3:30	Track on site lost for Track X to install posts
4:45	Arrive at Track - X,
5:00	START TO PERFORM WORK AT 1ST WELL and install protective posts
7:00	cut posts to walls and wheel barrier around to well, had problem with gravel cut saw (would not cut) had to break gravel for well by hand to get protective post low enough.
9:00	back at motel



DAILY LOG

(18)

FST-014-mw1

Well(s) _____ Project/No. TF76403 Page 1 of 1

Site Location Ft. Stewart GA.

Prepared By M G Moser

Date/Time	Description of Activities
7:30	Met G. Weiss / leave for hardware store
8:00	Purchasing supplies to develop wells (pvc, fittings, tools ect)
10:30	Arrive FST014 TO Dr. well / met G. Weiss
10:50	START TO DEV. FST014
15:30	Completed development
16:05	Collect IDW of development H ₂ O
16:40	OFF Base



DAILY LOG

FST-004D-MW2
 FST-004D-MW3, FST-004C-MW2
 Well(s) _____ Project/No. TF76403

Page 1 of 1

Site Location Fl. Stewart GA. ; FST-004D & FST-004C

Prepared By M G Muser

Date/Time	Description of Activities
7:00	On Base / set up to Do FST004D-MW2
8:00	CALIBRATE METERS
9:26	START TO PUMP FST004D-MW2
9:38	SURGE well
9:15	Took picture of water to show how turbid it is.
10:20	Traced to cell Jeff P. (Tampa) Jeff wants G. Weiss to call back
12:00	Will stop dev of MW-2 with 120 gal per J. Peterson
12:30	Mve to FST004D-MW-3
12:40	START TO PUMP
13:20	CALIBRATE METERS
14:45	complete MW-2
15:22	on site at FST004C MW3 to deaerate well
16:00	set up on FST004C MW2 took 1st reading / unable to get well to pump very well (.25 gpm)
16:45 17:54	Unable to get consistent flow at MW-3 will finish on 7/14/93
19:40	OFF Base

7-15-93



DAILY LOG

269

Well(s) FST-004A-MW2, FST-004A-MW3 Project/No. TF764 03 Page 1 of 1
FST-004A-MW1
004E-MW4
FST-004E-MW2
 Site Location FT. Stewart GA. ; FST-004A, FST-004E
 Prepared By M G Moser

Date/Time	Description of Activities
6:45	Load truck left for site
8:00	AT FST004A MW-2, MW-3
8:45	STARTED TO develop MW-2, MW-3 (see logs for times)
10:00	Move TO MW-1, MW-4 / unable to get MW-4 to pump. / FREE-PRODUCT IN MW-4
12:00	STARTED TO pump MW-1
12:30	check meter calibrations
13:20	Collect 1 DW at FST004A
15:00	AT FST004E MW-4, MW-2
15:30	STARTED TO pump MW-4, MW-2 (see logs for times and results)
18:00	Completed MW-4 MW-2
19:30	OFF Base
20:00	Paper work at motel
20:30	OFF



DAILY LOG

FST-004 F - MW1, FST-004 F - MW2
FST-004 F - MW4, FST-004 E - MW1

Well(s) _____ Project/No. TF76403

Site Location Ft. Stewart GA ; FST-004E, FST-004F

Prepared By M G Mason

Date/Time	Description of Activities
6:00	Left for FST004E-MW1
7:00	Arrived / calibrate meters
7:30	START TO Develop MW 1
9:00	Move to FST004 F - MW1, MW2
9:20	START TO Develop MW1, MW2
11:30	Move to FST004 F - MW4 / USED BANNER
	FREE Product Present 1", did not use
	ph or cond. meters due to FREE product
12:45	Completed Dev. MW-4
1:30	G/let IDW at FST004 F
14:30	Leave site

EXHIBIT A.1.2

GEOLOGIST KATHERINE THALMAN

DAILY LOG

FST-014-mw1

Well(s) _____ Project/No. TF764.03

Page 1 of 27

Site Location Ft Stewart, GA - FST-014-mw1

Prepared By Kathy Thalman

6/22/93
Date/Time

Description of Activities

700 Am	Arrived at site FST-014 - Beginning to set up.
715	- Daniel Nicolas } Lynn arrived on site. Ricky Lewis }
	12862 OVA - 100 ppm methane - read 88 ppm
	1286C meth A 51856
	OVA - A51970 - 100 ppm methane ⁹² 52 ppm ¹⁹
	GASTEC MODEL HCO212 - O2 OK - ^{4%} LEL Reads to 2.5% methane
	GASTEC MODEL HCO222 - O2 OK Reads 4% LEL to 2.5% methane
822	Inventorizing sample bottles - Savannah did not ship extra VOC bottles called Lab - Gloria Fulwood will ship extra bottles for delivery late today.
	FST-014-mw1
1000	Setting up at mw-1 for Site FST-014
1140	Task break - drills having trouble with dust
1200	Break Began drilling again
1243	Break - wet at 7'
1324	Left to obtain clearance - PVC - Per Pedro Fieris

DAILY LOG

FST-014-mw1 &
FST-014-mw4

Project/No. TF 764.03

Page 2 of 27

Site Location Ft. Stewart - FST-014

Prepared By Kathy Thelma

6/22/93
Date/Time

Description of Activities

Date/Time	Description of Activities
1:30	20' 6" of PVS - Bottom of casing - Begin setting well 20/30 Sand - 2.5 bags 1/2 bag bentonite to 2.5 ft
1400	Well completed to bentonite - picked up site - went to lunch drillers 1 composite sample FST014- ^{SL} mw1 -2 for lab had highest OVA reading of 3 ppm.
1430	Toni Nichol called - We do not have to wear Tyvek - if don't want to. It's OK to use methanol to Decon with
1530	Begin setting up at FST-014-mw-4 Drillers decommissioning equipment
1611	Begin to collect 0-2 ft specimen
1710	Final drilling - began setting well - 6' of stick up
1710	Adding sand - well screen set for 4-14' bgs.

DAILY LOG

FST-014-mw4 Well(s) Project/No. TR 764.03 Page 3 of 37

Site Location FT STEWART - FST-014 jet

Prepared By Kathy Thalman

6/22/93
Date/Time

Description of Activities

Date/Time	Description of Activities
	FST-014-mw4
	2 bags of 20# 30 sand
	1/2 bag bentonite pellets.
~1740	Completed well to bentonite jet FST-014-mw4
1750	Drilling left at to Decan - cleaned up area & secured.
1830	Arrived back at hotel
6/23/93	
6:30	Arrived on site
650	Beginning to put protective casing on FST-014-mw4
700	Mixing Grout - in drum
	24 Gallons of water & 1/4 bag bentonite
715	Finished putting protective casing in FST-014-mw4
~730	Finished protective casing FST-014-mw-1

DAILY LOG

FST-004C - MW1
Well(s) _____ Project/No. TF764.03 Page 4 of 21

Site Location Ft Stewart FST-004C

Prepared By Kathy Tholman
Date/Time 6/23/73
Description of Activities methane
collected methan - AS1856 100ppm/read 100ppm
AS1970 100ppm read 92ppm

0745	Finished protective casing at FST-014 - MW3
0750	Garrett showed me laboratory site FST-004C
	Decanning Pipe - casing -
	Securing & labeling drums.
0850	mobilized rig to FST-004C - MW1 & MW3
	Setting up.
	Called Ken DeLong about Explanets - O ₂ claim needed to be sent.
	Savannah casing will pick up Thursday Am
0954	Heat held Health & safety meeting
0955	Begin drilling 0-2 ft for FST-004C - MW1
	OVA - 85 ppm in borehole at 4.6 ft - H ₂ S
	Odor
1037	62 ppm in OVA - ok Break zone
1040	Took water level measurement -
	5' H ₂ O 9.5-4ft stick up at 5.5ft
	span out at 3'
1119	Beginning to set FST-004C - MW1

FST-004C-MW2 Well(s) Project/No. TF764.03 Page 5 of 27

Site Location Ft Stewart FST-004C (RF)

Prepared By Kathy Thelmer

6/23/93
Date/Time

Description of Activities

1137	Well completed to bentonite (RF) 7/21/93
1150	Break for lunch - drilled - finished head gear & broke for lunch
1210	both sample - selected 2-4 ft interval for lab analysis
1315	Ret'd to rig - moving rig to set up on FST-004C-MW2
21400	Daniel Ret'd from deanning - could not find Rocky Lewis - unloaded went back to find him & to get water
1430	Began drilling - 0-2' for FST-004C-MW2
1524	beginning to set well with at 3'
	Settly well run from 4-14'
	FST-004C-MW2
	14' 13 1/2' 14' 1/2"
1600	Finished well - ^{to bentonite (RF)} doing head gear - Driller left site
	Lab sample - FST-004C-SH-4
1630	left site to go to Devon Pad - Tried to contact Connor
1720	Left site to go back to Hotel.

DAILY LOG

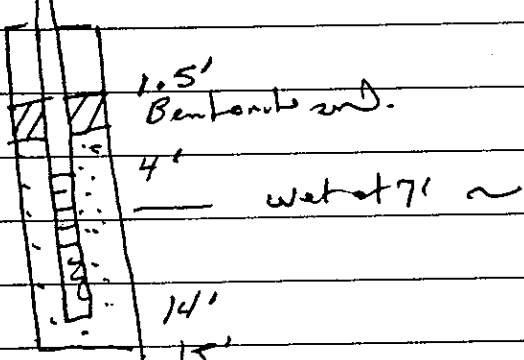
FST-004D-MW3 Well(s) Project/No. TF764.03 Page 6 of 8

Site Location Ft Stewart, FST-004D 

Prepared By Kathy Thalm

6/24/93
Date/Time

Description of Activities

0630	Left hotel to pick up supplies, transport equipment
0720	Arrived on site - FST-004D-MW3 -
	Driller had rig set up -
	Gannett Conduit - Health & Safety Tailgate.
	Lewis Weeks arrived on site to replace
	Daniel Nicolson
	Calibrated: A 5 1856 - 100 ppm methane /
	ready 100 ppm methane
	O2/LEL - GX-91 GasTech O2 OK /
	LEL OK
805	Began drilling - FST-004D-MW3
930	Finished drilling to 15'
	wet at 7' - setting will occur from 4-14'
	overdrilled by 1' to 15'
0942	Began setting well. - 10' screen.
	
	Sand. 2.5 bag.
	1/2 bag pellets

FST-0040-mw2
Well(s) _____ Project/No. TP764.03

Page ^{K+} 27 of 37

Site Location FT STEWART - FST-0040 ^(G)

Prepared By Kathy Tholman
Date/Time 6/24/93

Description of Activities

1013	Finished setting well ^{to bentonite} cleaning up ^(K)
1044	Ready left to Duro
1130	Broke for lunch - trouble shot OVA - flow problems
1230	- Thundering - Drilling halted Daniel switch out down.
1400 1353 1300	Drills at site FST-0040-mw2 - still thundering waiting for storm to pass - Daniel Musher left site.
1445	Bayer setting up at FST-0040-mw2
1452	Collecting first screen from 0-2 ft bl. This will be done by split auger
1542	Wet at 5' ^{ring} on rods
1620	Bayer setting well - overdrilled to 15'
1640	Pulling well casing out of borehole - there is a bridge casing casing to pull out with auger - void in borehole last cutting at ~12-15'
1649	Pulled auger sand at 5' - have ~4' of fluff

DAILY LOG

FST-004D-mwr

Well(s) _____ Project/No. TF764.03

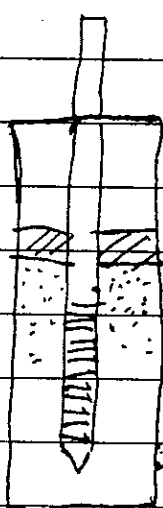
Page 8 of 21

Site Location Ft STEWART, GA - FST-004D (K)

Prepared By Kathy Thalman

Date/Time 6/23/93 6/24/93

Description of Activities

	pulling out well casing redrilling & resetting well 1 bag sand
	redrilled - had 3' of stuff sand in auger - used rod & plug to push out of auger
	- because of heaving sands overdrilled borehole to 19' - borehole open to ~16 ft b/c ^{hammered down to ~18.56'} will put sand from 17' to 13.5' beneath well
	(cutting did not come out ^{when} overdrilled to 19')
	
	2.5 Bentonite. 2 1/2 bag of sand 3.0 3.5' bentonite.
	13.5 18.5
1830	Finished well to bentonite (K) moved up 5' to drill to collect additional soil for splits - collect sample from 4-6' above WT - all soil samples had zero hydrocarbons
1914	Cleaning up site - hydrated bentonite pellets

DAILY LOG

FST-0040-mwz
 Well(s) ~ Project/No. TF264.03 Page 9 of 27

Site Location FT Stewart - FST-0040 **(EP)**

Prepared By Kathy Thalmann

6/24/93
Date/Time

Description of Activities

6/25/93

	S FST - 000 0040-SL2-6
	FST - 0040-SL2-6
	FST - 0040 - SL2-6 (Sp/LE)
1930	Lift out
0615	Left Hotel, picked up lei & gear
~ 0715	arrived at work site.
0730	Driller mixing grout for Site FST-0040- 7 gallons with per bag Portland Type I-II 3 bags cement / 21 gallons of water 6 hard bags of bentonite
	AS1856 - 94 for 100 ppm methanol
	AS1970 - 96 " " " "
845	LEL/02 methanol Driller done grouting & installing surface casing deanning - went to get samples
	FST-0040C - MW1
	6.9
	-2.8
	<u>4.1' bl.</u>
	FST-0040-MW2
	11.05
	-5.90
	<u>5.15'</u> bl. ~

DAILY LOG

6FST-004A-mw1

Well(s) _____ Project/No. TF 764103

Page 10 of 21

Site Location FT STEWART ~ FST-004A

Prepared By Kathy Thalmus

6/25/93
Date/Time

Description of Activities

1015	Finished decontam & loading mobilizing to site.
1035	arrived at site FST-004A-mw1 - setting up -
1100	Genett held heald in salt mesh -
1105	Began drilling 0-2 FST-004A-mw1
1220	Broke for lunch - picked up supplies & borehole at 8'
	Did test healds for 0-8
1330	beginning to drill - 8-10 split spoon sample rods out at 6'
1352	Beginning to put milk
	2 1/2 bags cement
1445	Finished with FST-004A-mw1 to bentonite (KT)
15:15	Ricky left to DeCon - moving to site FST-004A-mw1
1545	Left site to find wood to level rig -
	Steam chamber would not work - Lewis tried to fix, it -
	could not - unwashed spoons using decon procedure in QAPP

DAILY LOG

FST-004A MW4 Well(s) Project/No. TF764.03 Page 11 of 27

Site Location Ft Stewart - FST-004A (KT)

Prepared By Kathy Thelmer

6/25/93 Date/Time

Description of Activities

1	Lens talked to Kevin about fixing steam clean
1802	Beginning to drill FST-004A-MW4
1915	Beginning to set well - FST-004A-MW4 - All hole logs reading well about 6-8' for log
	confining unit from 4 - 8.5
	setting well-top of screen 3.5 - seawater will probably come up to well in other areas well in area
2011	Completed well to bentonite (KT) moving forward to collect additional soil for the split - 6-8' approx 5'
	collected soil sample at
	FST-004A-MW4 FST004A-SL4-8
	FST-004A-MW4 FST004A-SL9-8
	FST004A-SL4-8 Split
2038	Finished collecting split & dry metal / SEC sample

DAILY LOG

FST-004E-MW1 Well(s) Project/No. TF-64.03 / Ft Stewart Page 12 of 27

Site Location FT STEWART - FST-004E (E)

Prepared By Kathy Thalman

6/25/93
Date/Time

Description of Activities

	2050	Left site
	2110	Arrived at Hotel.
6/26/93	7:15	Left ^{Hotel} to pick up supplies
	745	Arrived at site FST-004E - packing bottles for lab - Several distills
		Steam cleaner down - trying to find replacement.
	915	Left site to take cooler back to hotel for pickup by Savannah Co.
	934	left hotel - put sample behind desk
		Went to site FST-004E & FST-004F with Garrett. - to load beams from area with site -
	1115	Ret'd to site decon area after visited site - Steam cleaner fixed at approx 1100 - idowning auger for Gus Peck.
	1204	Calibrated OVA - AS1856 - 100 ppm methane read 100 ppm methane - LEL/O2 meter checked out -
	1206	Mobilizing to FST-004E
	1300	Arrived at Site FST-004E-MW1 - set up (E)
	1321	Begin to collect 0-2 ft zone
	1415	Finished collecting zone to 14' 6" - beginning to set well - had 3' of ^{heavy} sand in auger pulled out well casing - overdrilling 3' 1" Water at ~ 6.5-7'; setting well screen from 3.5-13.0'

DAILY LOG

FST-004E-MWI Well(s) _____ Project/No. TF764.03 / FST STEWART Page 13 of 27

Site Location Ft. Stewart, GA - FST-004E (EP)

Prepared By Kathy Thelma

6/26/93

Date/Time

Description of Activities

	like other wells
1450	Selected 4-6' interval for log analysis - all headspace filtered and non filtered was ϕ .
H	
	over drilled well ~ 5' 4.5' 5.5'
1530	Finished well \leftarrow to bentonite (EP) FST-004E-MWI hydrated bentonite pellets
	Decanned split sections using QAPP decan procedure - except used methanol instead of isopropanol.
1645	Left site.
1710	Arrived at hotel.

DAILY LOG

FST-004E-mw3 Well(s) Project/No. TF764.03 Page 14 of 21

Site Location Ft Stewart, GA, FST-004E (14)

Prepared By Kathy Thelmer

6/28/93 Date/Time

Description of Activities

0600	Loaded truck, picked up supplies
0700	arrived at site Driller filling water tank & picking up supplies
	cloudy, 70% humidity, very slight wind
	mobilizing to FST-004E kt
0718	Driller left to go to Hardware store, calibrating meter.
	OVA 128 AS1856 100ppm methane → 97ppm
0800 0800 KR	EEL/02 checked
0738	Left work area for FST-004E
0830	Arrived at site - road block caused delay in reaching site. - Setting up rig & location MW-2 through 4
	Setting up on MW3 - FST-004E-MW3
0915	Began drilling FST004E ^(E) MW3
1055	16' rods - 7 = 9' 6' - 16'
	Center plug stuck in rods -
1120	Removed center plug -
1140	Breaky for lunch
	WT at 10' - measured with Tape 11" - 1 foot stick up = 10'
1236	WL 9.4 - 1" stick up = 8.4'

4/12
2/12
1/12

DAILY LOG

FST-004E - MW3 Well(s) Project/No. ^{kt} ~~EST~~ Ft Stewart / TF764.03 Page 15 of 27

Site Location Ft Stewart, GA - FST-004E

Prepared By Kelly Thelma

6/28/93 Date/Time

Description of Activities

FST-004E-MW3 (10)	
	WL - Held 9.4' - ~11' 8.5'
1248	Driller ret'd from lunch - beginning to set FST-004E-MW3 ~3' of heavy sands in auger - will overdrill to 18'
1404	completed sand pack - 1 foot above screen - pellets to 3 ft bl. Completed to bench mark. (12)
1445	Ricky Left to Decon - Top broken off of transfer case - Rig down Lewis removing piece which needs to be repaired
1530	Took Lewis to Washrack - He was at got the Base shop to weld transfer case com back together
1600	together
1624	Left Washrack Arrived back at site FST-004E - fixed rig & moved to FST-004E-MW2, c
1710	Left Site

DAILY LOG

FST-004E-mw4 Project/No. TF764.03 Page 16 of 27

Well(s) _____ Site Location Ft Stewart, GA - FST-004E (KT)

Prepared By Kathy Thalman

6/28/93 Date/Time

Description of Activities

0600	loading truck - picked up ice & supplies
0640	Arrived at wash rack - gave Garrett Development supplies
0700	Left for site FST004E
0715	stopped along 144 supply truck ran out of gas waiting for Lewis
0750	Lewis arrived with Gas - calibrating OVA 100 ppm 94 ppm
	Grouted & set protective casing at FST-004E-mw1 & FST-004E-mw3 - setting up at FST-004E-mw4
0857	Beginning to drill FST-004E-mw4
1000	Drilled to 15' - WT at ~ 8' - setting well from 5-15' GL - - 4" to heavy sand No water in auger - put head in 5' of water in auger add 25 gal/min Beginning to set well

FST-004E-MW4

Well(s) _____ Project/No. FE Stewart / TF764.03 Page 17 of 27

Site Location FE Stewart, GA, FST-004E (RP)

Prepared By Kathy Thelma

6/29/93
Date/Time


Description of Activities

1030	putting sand pack in well - using water with sand to form slurry solans Water so used 8 30 gallons total to slurry sand pack & put head in well -
1115	Finished FST-004E-MW4 to bentonite (G) Selected Interval from 4-6' for lab analysis sample FST004E-SL4-6
1130	Left site - Drillers went to Union & down - Cannot locate Mark at I to the TAC-X site of
1215	Camp Oliver
1330	Ret'd to site FST-004E - Ricky did not return with drillers (Drillers had accident with truck while going to down)
1345	Began drilling FST-004E-MW2 - Cable has jumped
1515	Lewis tangled on rig - trying to untangle - off with reel.
1530	Lewis left to find Ricky
1721	Lewis ret'd to site could not find Ricky Lewis (Hilary) - Trying to fix winch - fixed winch &
1745	Began drilling depth 6-8'
1820	Began setting well - WT at ~ 8' setting screen from 8' to 5-15' 6in. No heard no augers when installed casing 2 1/2 bar pt Selected 6-8' interval for lab just about WT - all head-gage readings = 0

DAILY LOG

FST-004E-MWZ

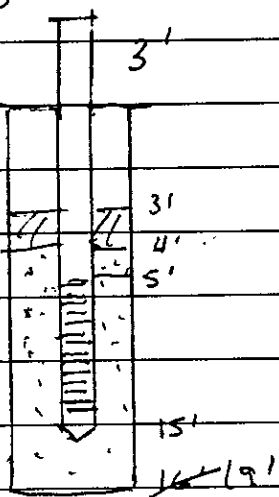

Well(s) _____ Project/No. TF764.03 Page 18 of 27

Site Location Flt Stewart, GA ; FST-004E 

Prepared By Kathy Tholme

2/29/93
Date/Time

Description of Activities

<p><u>18</u> <u>0832</u></p>	<p>Began adding sand pecks</p>
	
<p>Sand bridged - pulled well casing out - re-drilling and will slurry sand in. Overhauled well to 19' because of heaving sand in casing -</p>	
<p>took 2 1/2 bags of sand -</p>	
<p>bentonite pellets.</p>	
<p>Slurred sand into well added 35 gallons of water to well.</p>	
<p><u>1920</u> <u>09</u></p>	<p>Finished installing FST-004E-MWZ to bentonite </p>
<p><u>1940</u></p>	<p>Left site.</p>
<p><u>2000</u></p>	<p>Arrived back at hotel</p>

FST-004F-MW4

Well(s) _____ Project/No. TF764.03 / Ft Stewart Page 19 of 27

Site Location (R) Ft Stewart GA. - FST-004F

Prepared By Kathy Thelma

6/30/93
Date/Time

Description of Activities

0600	Loading truck
0615	Lift hole, picked up 1st gear
0645	Arrived at Washroom - & left drillers gear
0710	Arrived at site FST-004F & dropped the calibration kit
0730	Arrived at site FST-004E - Lewis cleaning up & taking down rig mat.
0830	Lewis left site to dean apsons & take truck to Ricky - Ricky injured neck during accident with truck on 8/6/29/93
	Moved to site FST-004F, caught up in paperwork, filled out water level at FST-004F-MW2
	14.75 held
	6.00 stick up.
	8.75
	(R) Mark Mosin teamed up with Lewis to help install pads & posts -
	Kathy Thelma continued drilling at FST-004F
1030	Mobilized to FST-004F-MW4
	Seth up.
1100	Began drilling FST-004F-MW4 Q2.
1245	Began setting well.

DAILY LOG

FST-004F-MW4

Well(s) _____ Project/No. Ft Stewart / TF764.03

Page 20 of 27

Site Location Ft Stewart - FST-004F (ST)

Prepared By Kathy Thelma

6/30/93
Date/Time

Description of Activities

1210	Finished reth well ^{to bank} <u>3 bags of sand</u>
1330	Drill was cleaned up & left site
	Selected sample from 0-2' interval for lab
	had high head gear of 18 ft
	Difficult to get WT - ~8' set screen from 6-16'
1430	Finished selecting soil sample for Lab analysis & cleaning up. - see located FS129 - road to Camp Oliveri -
1500	Rated to work back - drill was cleaned up & ^{left} loaded up - loading up - discussed schedule with Gemant
1540	Left for Camp Oliveri
1640	Arrived at Camp Oliveri - looking at well location

DAILY LOG

FST-002 - mw4

Well(s) ^ Project/No. Ft Stewart / TE76403 Page 21 of 27

Site Location Ft Stewart, GA FST-002

Prepared By Kathy Thalman (K)

6/30/93
Date/Time

Description of Activities

	Put up rig at mw4, checked location of other wells
<u>17</u> <u>1507</u>	Left site to go back to wash rack, looked for diller at FST-004 <u>(K)</u>
<u>1807</u>	Arrived back at hotel -
<u>1824</u>	Unloaded truck.
<u>7/1/93</u>	
<u>0600</u>	Loaded Truck - picked up supply
<u>0640</u>	Arrived at wash racks diller yard - Left for camp Oliver FST-002 <u>(K)</u>
<u>0730</u>	Arrived at Camp Oliver
	Lewis breaking up pads - showed furn pad location
	Colibroto OVA AS1856 - checked oxygen @ 2.5' @ 100 ft, replaced battery 100 ppm methane / 94 ppm
	Measured WL in FST-002 <u>Co-mw3</u> <u>7.7</u>
	<u>-2.8</u>
	Held Health & Safety Tailgate <u>(K)</u> <u>4.9' 6L</u>
<u>0830</u>	Began Sample 0-2 ft interval WL in for Co-mw1 = ~ 13' according to Xerox
<u>1000</u>	Began installing FST-002-mw4 - Seth, scum from 4-14 lbs - (unit of 5' in <u>mw4</u>) <u>Co-mw3</u>
<u>1030</u>	Finished installing FST-002-mw4 to bentonite <u>(K)</u>

DAILY LOG

Well(s) _____ Project/No. Ft Stewart / Page 22 of 27

Site Location Ft Stewart - FST-002

Prepared By Kathy Thalmer

7/1/93
Date/Time

Description of Activities

Date/Time	Description of Activities
	FST-002-MW4
	3'
	2.5' Benthoite sand
	4'
	9' of screen total
	15' 14'
	cage depth = 6" + 6" of blind at bottom of screen.
	<p> Took 2.5 bag of sand - Selected 6-8" sample for 1/6 analysis of VOCs, PCBs metals, spc of pH, ^{own} 0.2 ^{ppm direct} directly = time wt. at 7-8' - collecting split & duplicate at this site </p>
1033	<p> moved rig forward to collect additional soil from 6-8' for ^{1/6} sample - finished sampling & collected IDW for MW4 </p>
1130	- Brake for lunch & setting up.
1200	Beginning FST-002-MW1
1400	- clay came up in auger lead auger & could not center plug through - had to pull 15' of auger out & change lead auger.
1500	Spinned to 20' beginning to set well - FST-002-MW1

DAILY LOG

FST-002-mw1

Well(s) _____ Project/No. Ft Stewart) TF764.03 Page 23 of 27

Site Location Ft Stewart, GA, FST-002

Prepared By Kathy Thalman (EP)

7/11/93
Date/Time

Description of Activities

	<p>clay has come up in auger & ^{plugged them} clay - removing clay plug</p>
1500	<p>Final extra well to Bentonite 10</p> <p style="margin-left: 100px;">3'</p> <p style="margin-left: 100px;">5.0</p> <p style="margin-left: 100px;">Bentonite</p> <p style="margin-left: 100px;">7.0</p> <p style="margin-left: 100px;">10.0</p> <p style="margin-left: 100px;">20.0</p> <p style="margin-left: 150px;">Well at 13' ext</p> <p style="margin-left: 150px;">Screen from 10-20</p> <p style="margin-left: 150px;">used 4 bags of sand</p> <p style="margin-left: 150px;">hydrated pellets</p>
1542	<p>Drilling post holes for protective posts at FST-002-mw1</p> <p>Selected interval 10-12' bb for lab analysis directly above ext with high t OVA 0.4 reading</p> <p>Collecting IDW soil sample</p>
1630	<p>Driller left to get gas & hose to abandon FST CO-mw1 - Did paper work</p>
1800	<p>Driller arrived back on site - beginning to abandon CO-mw1</p>

DAILY LOG

Co-mw1 Abandoned
Well(s) Project/No. TF764.03

Page 24 of 25

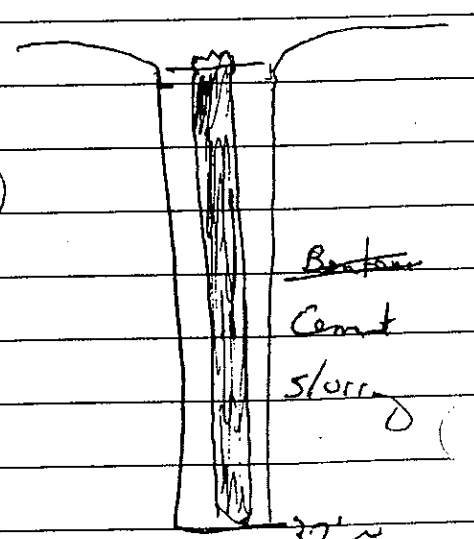
Site Location Ft Stewart - Camp Olum - CO-mw1

Prepared By Kathy Thalmann

7/1/93
Date/Time

Description of Activities

	cutting casing off approx 1 ft 66.
	0.65 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 Olum
0633	Arrived at camp olum (EST-002)
	70's, foggy, calm
	Mixing grout to abandon EST-002 CO-mw1
	Bag 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

DAILY LOG

299

Well(s) _____ Project/No. Ft Stewart / TF764.02 Page 25 of 27

Site Location Ft Stewart - FST-014

Prepared By Kathy Thalman

7/2/93
 Date/Time

Description of Activities

	Drillina cleaning up - beginning to drill pilot hole at FST-002-mw4, sized 4" on drillin horns		
0800	Left site FST-002		
0835	Arrived at FST-014 - get Garrit turned on development equipment		
0910	Left to buy w/e & supplies		
0930	Beginning to setup to develop FST-014-mw ³ /M		
0950	Toni Nicholson & surveyor visited site & Garrit used		
1000	Left site - visitors		
	Calibrating meters		
	pH	STD	Ready
		4.0	4.05
		7.0	7.00
	SPC	1413	1350
		447.1	480
	Turbidity meter		
		10	10.49 11.95
		5	5.08
			Well
	Wet	12.25	TD = 15.1'
	Stickup	3.00	= 9.25
		9.25	5.85 ft of water
			0.16 gal/ft
			0.9 gallons

DAILY LOG

(CT)

Well(s) _____ Project/No. Ft Stewart / TF764.03 Page 26 of 27

Site Location Ft Stewart, GA FST-014

Prepared By Kathy Tholman

7/2/93
 Date/Time

Description of Activities

1100	Began developing FST-014 - MW3
1245	Completed development NTU reading of 2.89 evacuated 55 gallons of water / approx 55 well volume surged well with degradable balls after ~15 gallons of water evacuated also moved base Teflon tubing up & down stem during development.
1320	Finished cleaning up & moved to FST-014 - MW2 Broke for lunch
1340	Setting up to develop FST-014 - MW2 Well Depth <u>1500</u> <u>7.56</u> <u>7.44</u> ft <u>X.16</u> gal/ft <u>1.19</u> gallons per well volume
1400	trying to Began purging FST-004 - MW2
1440	Began purging well
1600	stopped to get another drum
1625	started purging again
1643	completed development Took pictures of dev water, cleaned up
1700	Left site for hotel
1725	Arrived at hotel & unloaded back truck

FST-014

Well(s) _____ Project/No. FE Stewart / FF764.03 Page 27 of 27

Site Location FE Stewart, GA - FST-014

Prepared By Kathy Thelma

7/31/93
Date/Time

Description of Activities

0745	loading & sorting equipment on truck - giving of Garrett mason jars & 1 lb bottle to take back to TN.
0830	Left hotel to go to FE Stewart - FST-014 - Zouck's cemetery - drillis cleaning up cemetery area - checking to make sure all wells had caps & locks, - putting protective posts in at FST-014
1000	finished with protective posts - loading equipment. Grand up Rig - cleaned up Zouck's cemetery
1200	Drillis left site. - signed off on paperwork.

EXHIBIT A.1.3

GEOLOGIST GARRETT WEISS

FST-014

MW-2/

(K)

Well(s) MW-3 Project/No. TF764.03

Page 1 of 1

Site Location Ft. Stewart / FST-014

Prepared By G. Weiss

Date/Time 22 June 1993

Description of Activities

Date/Time	Description of Activities
0700	Arrive at site
0745	Spoke to Thomas Flynn (CoE) to locate drums and sample containers
0810	Drums/containers located - both drill crews move drums from CoE warehouse to staging Area.
0900	Met with Howard Bullard (CoE range control) to process vehicle permits
1045	Return to FST-014, begin drilling MW-2
1235	MW-2 completed
1310	Call Pedro Fierro - expressed concern about tyvek and heat. PVC must be steam cleaned prior to installation
1320	Call T. Nicholson - talked to her re heat.
1430	Crew breaks for lunch
1530	B-57 set up on MW-3
1543	Begin drilling
1735	Drilling completed, well installed
1830	Leave site

DAILY LOG

FST-004C MW-3, MW-4 Project/No. TF 76403 Page 1 of 2

(R)

Site Location Ft Stewart, GA / FST 014 and FST 004C

Prepared By Garrett Weiss

Date/Time	Description of Activities
0600	Pickup supplies and ice.
0630	Arrive @ FST 014
0657	Collect split and duplicate samples from FST 014 - MW 3. Unable to collect samples yesterday due to thunderstorm.
0715	Sampling completed - rig moved to wash rack.
0730	Calibrate/deck OVA and explosimeter.
0800	Show K. Thulman drill sites at FST-004C
0825	Show Kirby Hodges (CoE) areas @ FST 004B and D that need clearing.
0930	B-57 set up on FST 004C - MW-3
0957	Conduct tailgate safety meeting
1005	Begin drilling
1110	MW-3 borehole completed to 15'
1142	Well set to Bentonite
1200	Crew leaves for lunch
1330	B-57 set up on FST 004C - MW 4
1352	Drilling begins
1457	Borehole completed to 15'
1530	Well set to Bentonite
1620	Both rigs @ wash rack, begin down

DAILY LOG

FST004D-MV-1,
FST004D-MV-4

Well(s) MV-4 Project/No. TF 76403

Page 1 of 2

Site Location Ft. Stewart, GA., FST004D

Prepared By _____

Date/Time 24 June 1993

Description of Activities

Date/Time	Description of Activities
0615	Prepare soil samples for shipment.
0650	Pickup supplies
0710	At FST 004D, conduct tailgate safety meeting.
0730	B-57 crew @ site FST004C to grout annulus of wells and set protective casing. Left site to ship samples.
0800	At Building 1139, called Fed. Ex. for split samples to Army Lab, called courier for Savannah Lab samples. Left coolers with Lawson Smith (C.O.E). Spoke to Smith about drums - wrong type and number (too few) were transferred to staging area.
0900	Instructed crew to trade 67 open-top drums for bung drums and pick up additional 23 bung drums.
0910	Call Pedro Fiero to check on TPH-ext. method number (8100 or 8015?).
1000	B-57 set up on FST004D-MV1.
1030	Spoke to P. Fiero - use 8100 Mod.
1100	Drilling begins on FST004D-MV1
1145	Borehole completed to 15'

DAILY LOG

FST004D Mw-1,
 (12) FST004D Mw-4 Well(s) Project/No. TF 76903 Page 2 of 2

Site Location Fl. Stewart, GA. ; FST004D

Prepared By G. Weiss

Date/Time	Description of Activities
1215	Spoke to J. Petersohn. Sacrifice well top construction to make sure screen dissects water table (cut off bottom of protective pipe and use no grout in annulus if necessary).
1230	Battery on my OVA is dead (did not recharge last night). K. Thalman's OVA is not working. Called service for assistance (KT spoke). Took soil sample from above water table in lieu of OVA-based measurements.
1300	Thundersform delays drilling
1440	Storm passed. Rig set up on FST004D-Mw-4.
1500	Begin drilling
1552	Borehole completed to 15'.
1625	Well completed up to Bentonite.
1700	Stop by FST004D-Mw2.
1745	At well pad. Crew finishing decom of rig.
1830	At FST004A - set up 0-57.
1900	At FST004D-Mw2. Well completed. Met with Mark Moser. Transferred equipment to Mark.
1925	Leave base

DAILY LOG

Well(s) Project/No. TF 76403 Page 1 of 2

Site Location FT STEWART, GA; FST004A and FST004B

Prepared By G. Weiss

Date/Time 25 June 1993 Description of Activities

0620	Pick up supplies at store, meet with M. Moser and K. Thalman to redistribute equipment and supplies.
0700	At wash rack; M. Moser repairs/calibrates OVA's
0800	At FST004A-MW3
0823	Begin drilling.
0900	Call J. Peterson - moved location for FST004A-MW2 to mid point between MW-1 and MW-3. He concurred.
0927	Borehole for FST004A-MW3 completed to 15'
1025	Rig (B-57) moved to MW-2. Left site for Bid 1139.
1030	stopped to call Howard Bullard with range control - ok to drill at E and F Areas on Monday/Tuesday next week.
	T. Nicholson (C.O.E.) stopped by to observe. No problems noted.
1109	At Bid 1139, called Reynolds Surveying - not in. Called Lanier Surveying in Richmond Hill - will fax quote to hotel

DAILY LOG

(ET)

Well(s) _____ Project/No. TF 76403 Page 2 of 2

Site Location Ft Stewart, GA ; FST004A & FST004B (ET)

Prepared By G. Weiss

Date/Time	Description of Activities
1230	Return to FST 004 A. B-57 finished
	with MW-2, mobilizing to wash rack. Guspock
	@ 8' on MW-1. Will collect split/
	duplicate samples from MW-4.
1300	Bring M. Moser to FST004B.
1325	Break for lunch.
1410	Return to FST004A - well MW-1
	completed - no problems.
1520	Bring B-57 crew to FST004B. Helper
	forgot well materials - went back to
	wash rack to get them - got
	lost on way back.
1700	Found helper - took him to
	FST004B. Observed drilling - no
	problems noted.
1800	At FST004A - Guspock begins drilling
	FST004A - MW4.
2100	Well completed, leave site.

DAILY LOG

EDW - FST-0048
 IDW - FST-014
 Well(s) _____ Project/No. TF 76403 Page 1 of 2

Site Location Ft Stewart, FST-004B, FST-014, H

Prepared By G. Weiss

Date/Time 26 June 1993 Description of Activities

0730	Arrive @ FST004B - prep samples for shipment
0800	steam cleaner down, crew attempts to find replacement or repair.
1050	checked with range control - ok to move to Areas E & F today
1130	Return to wash rack - prep to sample drums for IDW. Sampling protocol used:
	- Open drum
	- Collect VOC sample in lab container: to be composited in lab
	- Samples collected by hand - new latex gloves worn at each site
	- Samples for Metals/pH/spec. Cond. were archived by storing in aluminum foil and plastic ziplock. Samples were composited in the field
	- Excess soil was placed in drum for last well sampled
	- Drums were capped and bolted tight.
1205 to	Sample drums @ FST014
1233	

DAILY LOG

Well(s) — Project/No. T#0764,003 Page 1 of 1

Site Location FT. STEWART, GA. - FST-004B, FST-004E

Prepared By G. Weiss

Date/Time	Description of Activities
0625	- Pick up supplies
0720	@ FST004B-MW4. Check top of auger with OVA. >1000 both w/ filter and without. Called J Petasohn - instructed to abandon hole. Rig moved to next hole (MW2)
0930	Met T. Nicholson (CoE) at FST004E.
1017	Shown wells at Tur-X (FST003) All wells 4" diameter - need protective casing and post
1100	Locate wells at Camp Oliver (FST002)
1300	Break for lunch
1330	Check by FST004B-MW2, no problems
1400	@ FST004E, Finishing MW-3. Transfer case on rig broken - leaking oil. Stopped to get repaired.
1530	Leave base.

DAILY LOG

Well(s) Project/No. TF76403 Page 1 of 1

Site Location Ft Stewart, GA. FST-004F, FST-004B, FST-004E

Prepared By G. Weiser

Date/Time 29 June 1993 Description of Activities

0600	Prepared soil samples and splits for shipment - left cooler at hotel desk for pick up.
0620	At wash rack - get well development equipment from K. Thulman. Do not have turbidity meter.
0710	Met Gripech crew on road side - ran out of gas.
0740	Arrive at FST004F. M. Moser waiting on crew to complete grouting wells at Area B.
0913	Leave FST004F - no problems noted.
0935	Spoke to P. Fiero (Proj. PD):
	A. No need for PG on site during development.
	B. Break pads on existing wells if necessary to install protective casing. Layne to order casing large enough for 4" wells
	C. Can use PIE bailers to develop wells if more efficient
	a. He'll check on turbidity meter
1124	FST004F - MW1 completed - no problems. Leave site to show M. Moser and K. Thulman location of wells @ FST 002 and 003.
1445	Sample 1DW (soil) @ FST004B.
1520	Sampling complete
1550 to	Set well FST004E - MW2 - slow because
1950	helper is missing.

DAILY LOG

Well(s) _____ Project/No. TF76403 Page 1 of 2

Site Location Ft Stewart, GA. FST-004E, FST-004F

Prepared By G. Weiser

Date/Time	Description of Activities
0605	Speak to drillers regarding missing helper (Rickie Lewis). He reported being injured (back pain and nausea) from a minor traffic accident yesterday. He is unable to continue work.
0620	AA wash rack - crews loading materials
0710	@ FST004E, prepare to sample 10W.
0804	Sampling completed
0822	@ FST004F - MW3 - no problems noted
0830	Call T. Nicholson (Co E)
	A. Abandon well per contract at FST002
	B. She'll check to see if a PG is
	needed onsite for development
0844	Spoke to Dan Kowal - we do not need to file OSHA 101 or 200 forms for helper.
1025	FST004F - MW3 completed. Called J. Petersen with projected field work schedule.
1135	Pick up supplies
1215	Call to find additional water pump and bung wrench. Called surgeon - left message regarding Friday meeting.

DAILY LOG

Well(s) _____ Project/No. TF76403 Page 2 of 2

Site Location FT. STEWART, GA. FST004F
(E)

Prepared By G. Weiss

Date/Time	Description of Activities
1250	Return to FST 004F - completing
	last well.
1350	Begin sampling FST004F IDW soils
1435	Sampling completed; call J. Petersohn.
	Turbidity meter on its way - needs
	generator. PG needed onsite during
	development.
1530	Return to hotel to pick up fax
	from K. DeLoze regarding generator
	specifications. Return to base - set
	up B-57 @ Camp Oliver
1800	Leave base

DAILY LOG

FST-014-mw4

Well(s) _____ Project/No. TIF 76403 Page 1 of 11

Site Location FT. STEWART, GA. FST-014

Prepared By G. Weiss

Date/Time 1 July 1993 Description of Activities

0600-0620	Prepare samples for shipment
0755	On base - attempt to locate M. Mose
0900	Called K. Thalman - M. Mose at Camp Oliver. Drive to Camp Oliver
1000	Leave Camp Oliver - no problems noted
1100	Arrive at hotel, pick up turbidity meter, extra pH/S.C. meter, and bung wrench.
1135	Call Thomas Frye (C.O.E.) regarding complaints about wash rack - will move trailer and augers and wash off dirt
1150	pick up rental generator for turbidity meter. Call K. Thalman regarding wash rack complaints - will comply.
1215	Buy supplies, refuel truck.
1225	Break for lunch - read manual for turbidity meter.
1300	@ FST014-mw4 for development
1327	Unload equipment/meters - discover discharge line fittings and discharge line missing.
1425	Return to site, unload equipment and calibrate meters.
1740	Well developed (turb - 3.6 NTU).
1745	Leave base.

FST014-mw1

DAILY LOG

Well(s) _____ Project/No. TF 76403 Page 1 of 1

Site Location FT STEWART, GA., FST-014

Prepared By G. Weiss

Date/Time	Description of Activities
0730	Met with Mark Moser, coordinate well development activities
0750	Informed T. Houston (Army) that we are on base.
0800	Waiting on Layne crew. Called surveyor - he will start surveying today.
0845	Called J. Peterson. No word from Layne - I'll coordinate with them.
0847	Called G. Marolis (Layne) - crew should be on base this afternoon*
0910	Stake location for well MW-4 @ FST004B for horizontal survey.
1050	Arrive at FST014-MW1 for development. Calibrate instruments.
1150	Begin development
1530	End development - well would silt up and become as turbid as it was when development started after surging. Call J. Peterson. New development protocol - pump ~ 5-10 min. to remove coarse material, surge, pump until turb. < 75 NTU, surge, pump until < 40 NTU, surge, pump until < 10 NTU.
1600	Spoke to M. Price in Atlanta because metals containers from lab are not preserved - not needed for TCLP. 1605 - Sample FST014 1PW

1640 Leave base.

* Arrived in evening - had tire blowout in Macon

DAILY LOG

(K) FST004D-MW-1
 FST004C-MW2 & MW3
 Well(s) _____ Project/No. TF76403 Page 1 of 2

Site Location FT. STEWART, GA.; FST-004D, FST-004C

Prepared By G. Weiss

Date/Time	Description of Activities
0700	At base, met with Layne personnel:
	Explained construction of pads and posts
0750	Moved open-topped drums to Army
	warehouse with Layne personnel. Bring
	extra drums and pallets to FST004D.
0845	Began development of FST004D-MW-1.
1050	Spoke to T. Nicholson of CoE - OK to
	pump wells, surge once, then pump until
	clear. Need to remove grout pile at
	Tac-X
1145	Development of FST004D-MW1 completed
1220	Refuel van and buy fuel for
	pumps
1300	Inspect wells and concrete pile at
	Tac-X. Pile is ~15' in
	circumference and ~3' high.
1335	Return to FST004D. M. Maser developing
	both MW-3 and MW-4
1350	@ MW-4, recalibrate instruments, resume
	monitoring development.
1514	Development completed, sample 1PW
1550	Sampling completed, pick up 4 drums
	and a pallet - drive to FST004C.
~1630	@ FST004C - Monitor development of MW-2.
	M. Maser has started pumping MW-2 & 3.

Well(s) _____ Project/No. TF 76403 Page 1 of 2
 Site Location FT. STEWART, GA. - FST-004C, FST-004B
 Prepared By G. Weiss

Date/Time	Description of Activities
0700	Re-ice 10WGW sampler, leave for base.
0715	Met with Layne crew - got keys to drum warehouse and returned them to the DEM.
0730	At hardware store to buy fittings and smaller dropline.
0840	At FST004C, assist M. Moser to rig new fittings on pump.
0920	Begin development of FST004C-MW4.
1045	FST004C-MW4 producing very little water - able to bail dry. M. Moser will continue developing MW-3 and MW-4.
1102	At FST004C-MW1, setup for development.
1111	Begin development.
1334	Development ended, pH, S.C., and turbidity stabilized. water did not clear up (remained > 200 NTU). Begin sampling 10W.
1405	Sampling completed. Break to get lunch.
1430	Return to FST004B. M. Moser reports all bag drums at this site have been stolen. leave to get more
1530	Return with drums. Wells MW-2 and MW-3 cleared up rapidly.
1615	Begin development of MW-1.

DAILY LOG

FST-004B-mw ↓

TF964.03

KT

Page 2 of 2

KT

Well(s) _____ Project/No. _____

Site Location Ft. Stewart, GA, FST-004B

Prepared By G. Weiss

Date/Time	Description of Activities
1650	Stop development of FST004B-MW1.
	Unable to sustain pumping and thunderstorm is threatening.
1710	Complete low sampling @ FST004B.
	Leave base.

DAILY LOG

FST-004B-MW1

Well(s) _____ Project/No. TF76403 Page 1 of 2

Site Location FT STEWART, GA. ; FST-004B

Prepared By G. Weiss

Date/Time	Description of Activities
0700	Prep. samples for shipment (IDWGW)
0730	Met with drillers - they requested to be shown Tac-X and Camp Oliver sites. Must pick up supplies and equipment first. Agreed to meet at Area B.
0750	At FST004B, put lid on trash drum, look all wells, pick up empty bung drums.
0815	Calibrate instruments
0826	Resume development of FST004B-MW1 by bailing.
0832	Bailed well dry after 2 gallons.
0850	Bailed well dry after ~0.8 gallons.
0912	Development completed - all parameters stabilized. Well did not clear up (>200 NTUs).
0915	Meet Layne crew @ FST004B to show them Tac-X and Camp Oliver sites.
0930	Drop of extra drum @ FST004A - spoke briefly with M. Moser regarding plan for the day. Left with crew for Tac-X and Camp Oliver.
1213	Return to FST004A. M. Moser reports gasoline-like odor and steam from MW-4. Well was unlocked.

DAILY LOG

FST-004F-MW3

Well(s) _____ Project/No. TF76403 Page 1 of 1Site Location FT. STEWART, GA. ; FST-004F (ST)Prepared By G. Weiss

Date/Time

7/16/93

Description of Activities

Date/Time	Description of Activities
0758	At bid 1137, speak to T. Frye re on-base disposal of waste concrete from Tac-X and gave him keys to wells and storage area.
0900	Met w/ Layne crew - told them to dispose of waste off-site. T. Houston with DEH must make decision for on-site disposal and he'll be out until Monday.
0920	Buy more dropline (3/8") and fittings, pick up pallets for site E.
1000	@ FST004F
1017	Set up on FST004F-MW3. Calibrate instruments.
1039	Begin pumping.
1105	Unable to sustain pumping - pump overheating. Switch to sailing.
1120	M. Nash reports free-product (gasoline?) in MW-4.
1300	MW-3 developed
1315	Complete 10V sampling @ Area F
1350	Complete 10V sampling @ Area E
1430	Leave base

DAILY LOG

Well(s) _____ Project/No. TF76403 Page 1 of 1

Site Location FT. STEWART, GA.

Prepared By G. Weiss

Date/Time	Description of Activities
0800-	Prepare IDW samples and Check of Custody
0835	Form for shipment.
1055	Begin placing placards on wells.
1250	Placed placards on all wells, pick up locks at hotel.
1430	All wells locked, pick up left-over drop line at storage area. 14 drums left. Layne has left ~ 2 pallets of concrete/cement, saw horses, well supplies, some trash in storage area.
1455	Complete logs.

EXHIBIT A.2

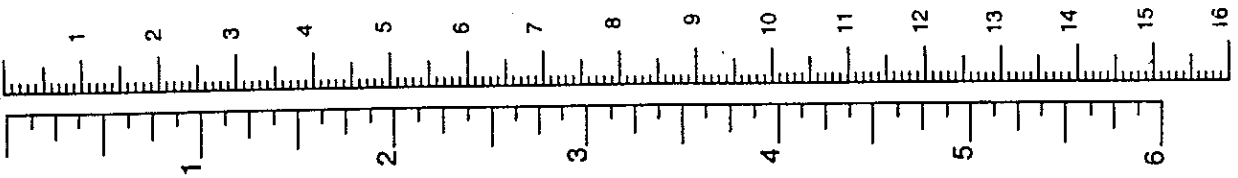
LOG BOOKS

381

EXHIBIT A.2.1

GEOLOGIST MARK MOSER

INCH/CM



MEASUREMENT CONVERSIONS

IF YOU KNOW MULTIPLY TO FIND
BY

LENGTH	MULTIPLY BY	TO FIND
inches	2.540	centimeters
feet	30.480	centimeters
yards	0.914	meters
miles	1.609	kilometers
millimeters	0.039	inches
centimeters	0.393	inches
meters	3.280	feet
meters	1.093	yards
kilometers	0.621	miles

WEIGHT	MULTIPLY BY	TO FIND
ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds

VOLUME	MULTIPLY BY	TO FIND
fluid ounces	29.573	milliliters
pints	0.473	liters
quarts	0.946	liters
gallons (U.S.)	3.785	liters
milliliters	0.033	fluid ounces
liters	1.056	quarts
liters	0.264	gallons (U.S.)

TEMPERATURE

$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times .555$
 $^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$

Inches	Decimals of foot	Millimeters
1/16	.0625	1.5875
1/8	0.125	3.1750
3/16	0.1875	4.7625
1/4	0.2500	6.3500
5/16	0.3125	7.9375
3/8	0.3750	9.5250
1/2	0.5000	12.7000
5/8	0.6250	15.8750
3/4	0.7500	19.0500
7/8	0.8750	22.2250
1"	1.0000	25.4000
2"	2.0000	50.8000
3"	3.0000	76.2000
4"	4.0000	101.6000
5"	5.0000	127.0000
6"	6.0000	152.4000
7"	7.0000	177.8000
8"	8.0000	203.2000
9"	9.0000	228.6000
10"	10.0000	254.0000
11"	11.0000	279.4000
1 foot	12.0000	304.8000



"Rite in the Rain"
ALL-WEATHER WRITING PAPER ©

Name Mark Mast

Address _____

Phone _____

Project FL Stewart

"Rite in the Rain"—a unique all-weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

a product of

J. L. DARLING CORPORATION
TACOMA, WA 98421-3696 USA

333

①

6-24-93

TF76403

FT. STEWART

8:00 AT OFFICE. Prepare for trip

Gather up papers work along the streets

Tried to call Cathy at Ft Stewart

to see if she needs additional

supplies. Unable to get in touch

with her.

11:00 Look for site

6:00 Arrived in Ft Stewart located

Early on site went over

Procedure and helped with ho-

well. Met Genna.

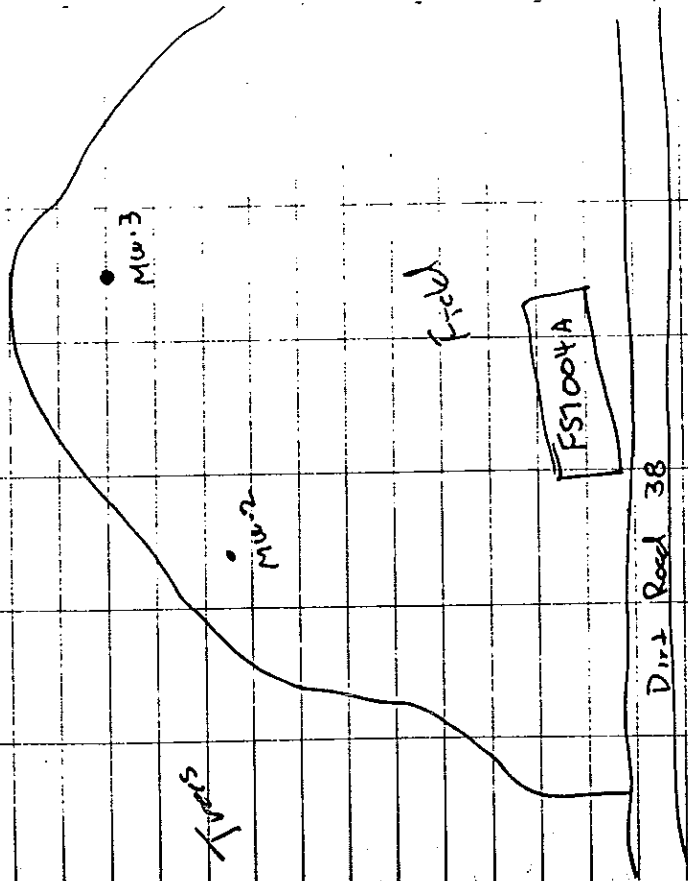
8:00 Back to motel for night

Traveled 360 miles

~~7/1/93~~

6-24-93

Site Map



(2)

6-25-93

6:00	Met Carly and Garrett at hotel went to store to get cc for samples.
7:00	met drill crews at wash took & calibrated FID and O ₂ meter
8:00	Went to drill site → FST 004A-MW-3
	Held tailgate safety meeting, started up FID. Took back ground reader put in safety log book
8:20	STARTED TO DRILL
10:40	SET UP ON MW-2, started over, explanation put results in OVA log book
10:41	Toni Nickerson (care of Fran.) on site
11:00	Toni left site
11:25	Down to collect 8-10 ft sample
	Water at approx 4.0 ft ^{14.0}
	will set bottom of well at 17.5 14.0 ft b/s
	top of screen at 3.5 ft

(3)

(4)

11:47 Took head space readings on all samples

12:10 START TO SET WELL (MW-8)

12:25 well set at 14.0ft.

12:40 Drillers want to down EQ, and take lunch I want to locate next well FST004B-MW1

2:30 Went to wash truck to get drillers

Drillers down EQ,

3:30 Set up rig on FST004B-MW1

STARTED TO RAIN

4:45 UNABLE TO FIND Helper - started to collect 0-2 ft sample with only driller

4:55 Helper arrived / still raining.

FID Betting Dead.

5:05 Rain very light, collect 4-6 ft sample / 2-4 ft sample only recovered .8 ft NOT ENOUGH FOR SAMPLES IS NEEDED

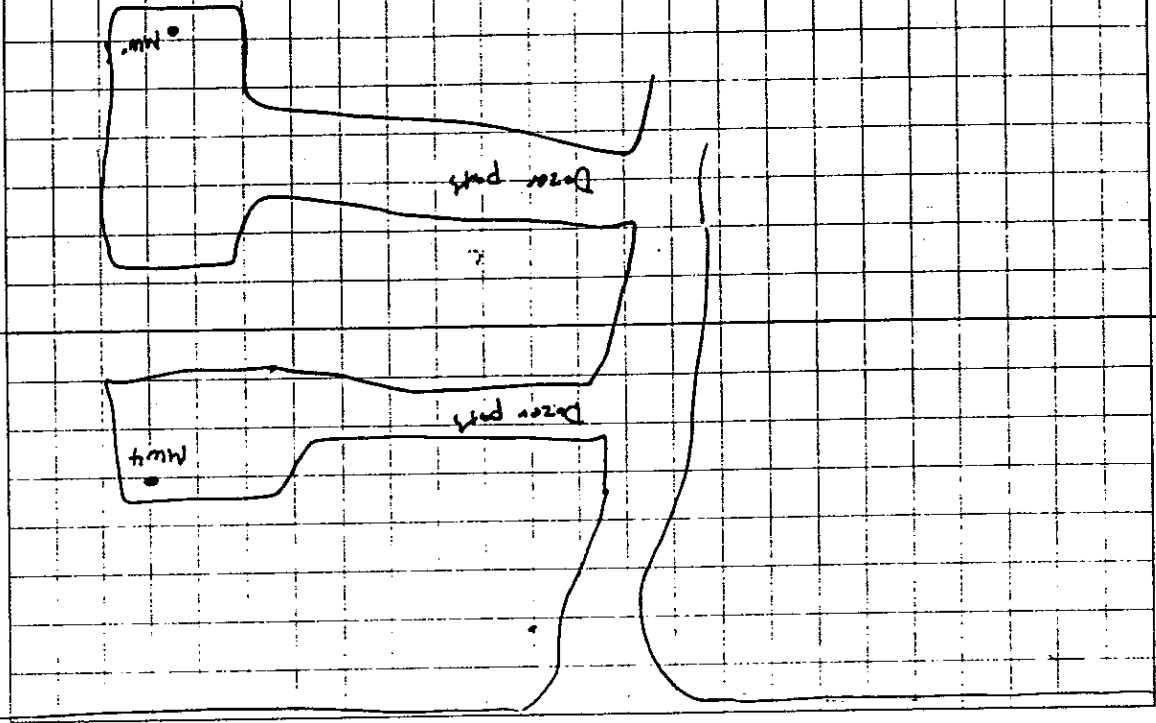
6:12 WATER AT 10 ft.

Well set bottom at well at 18ft with

FST0048

Dirt road

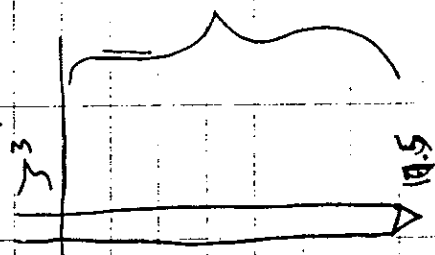
(5)



(6)

2 ft of screen above water table
 6:25 Very coarse sand at 12 ft.
 6:40 Exploratory boring least cloud.
 6:45 WATER in auger rose to 8 ft +
 bls, decided to set bottom of
 well at 15 ft. Over drilled to 19 ft
 to set well, SAND running up auger.
 hammered out sand from auger with drill
 rod. Augers now at 17 ft bls. Will set
 well now at 16.5 ft.
 7:00 SAND LOCKED AT 15 ft, put DI water
 down well to free plugged sand
 7:05 Continue to sand up well

20
 - 3
 17.5



(5)

Pulled well up to set the bottom is at
 16.5 ft Well hrs. 5 ft sump on
 bottom. Top of screen at 6.0 ft
 Sand to 5.5 ft, 5.0 ft, Bandwidth to
 4.0 ft bls.

7:25 well set start to clean up.
 8:30 Back w Muel

(15)

~~Muel~~
 6-7-1963

6-26-93 TF 76403

6:00 Left Motel went to get 1cc and DI Water

6:00 AT Location FST004B-MW-4

6:00 STARTED OUT WILL RUN HAND SPEC samples from MW-1

7:15 OVA Results were % on soil

Samples. Will collect soil sample

FST004B-SL1-8 from 6-8ft sample that was directly above water table.

8:05 Pillars arrived

8:05 Drilling machine not working allowed 3 spurs to be bored.

8:26 Patti checked calibration of FID

SN A51970 Read 94ppm on 100ppm Methane.

Calibrated Explorer. Had reaction to CO₂ and Methane

8:30 STARTED TO DRILL

8:30 STOPPED DRILLING, Hydraulic Hose broken. Have to repair

12:40 Drillers back on site installing new hydraulic base.

9

1:00 START TO DRILL / Go my gun

4-6 ft Sample

1:10 4-6 ft sample had .5 ft recovery

1:15 Hit root with spoon at 6ft will

drill down to 7ft. and take next

spurs 7-9

1:30 Auger on root or stump here to move. (5ft to the East) will

collect 1st sample from 6-8ft interval.

1:46 FID reads up to 10ppm

USDR filter. STOPPED DRILLING

Will try to seal GARRETT

2:20 Found GARRETT, TOE REMAINS

remained by hole up to 1000ppm

around access cleared to step work

Due to hole too off by with start

ascent on Meth. Drillers will close

all equipment.

3:30 Went to see sites E and F

to locate well locations

5:00 END OF DAY

7:45

↓
3 pipes work in Group.

10:15

Well materials
 FST 004A - MW-3
 108# screen
 6.5 riser
 sand 20-30 2.5 bags
 bitwhite

9.5

[Signature]
 6/27/83

(10)

6-28-93 TF 76403

6:15 left motel to store for ice and supplies
 7:15 on site FST 004B MW-1 will take ready from auger to see if reveals one stry very high in boring.
 7:30 freckly STM over 1,000 will call Jeff to see how to proceed will move off hole to FST 004B MW-3
 8:00 SET UP on MW-3, did 7-11 get safety meeting, checked calibration at Explanator re HCO₂ CO₂ OK
 8:15 CO₂ meter shows elevated levels of CO₂ ground ref. Due to exhaust, START to collect 1st split span
 9:00 completed boring will install well at 165ft bls

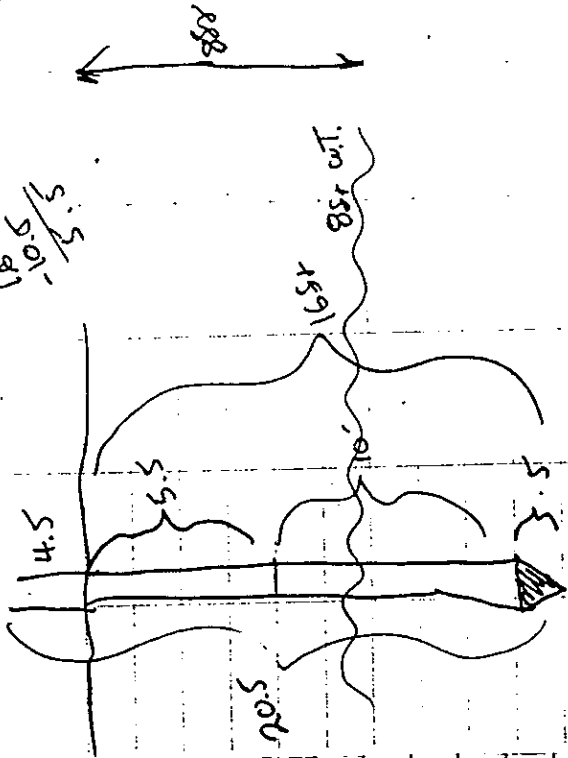
[Signature]
 6/27/83

339

(11)

(12)

$$\frac{17.6}{5.5} = 3.2$$



10:00 Packed samples in appropriate containers and put on ice.

10:25 Completed well installation. Will go back to well rack and clean all spools.

10:35 Move to F57004B MW-2

10:45 into Drillers unit to Dean, I want to Carlys vs to get Hr and calibrate FID.

12:20 I'm back at site MW-2

12:45 Drillers arrived.

(13)

1:00 Checked calibration of FID with 100ppm Methane used 94ppm

STARTED on F57004B - MW-2

1:45 Garrett and Lori (Pine) stopped by. Lori took pictures of FID for Lab 44 Feb 154

1:45 Battery on OVA unit DIED

2:00 START TO SAVER

3:15 Got 11 samples but problems with saved print in 5 years.

3:40 Left site back to motel to do paper work

4:40 Went to Dean pool to get Drillers, well. Talked to next location F57004F

5:00 147 Dean pool. Lots of size

5:30 147 F57004F. Deep end of YD

6:25 Back at motel

7:30 To Garrett's Room to go over

paper work

8:30 Complete

(74)

6-29-93 TF76403

6:00 Load truck to stage for ICR
 7:00 AT PST004F M4-1 / Driller greets well
 8:37 Driller's arrival
 8:40 Checked calibrator on OVR
 SN# AS1970 with 100gpm Meter 7 Jppm
 Explosive #
 SN# H10222

9:00 STARTED TO COLLECT 1st sample
 0.2 ft

10:30 WATER APPEARS to be at
 9 ft. / STOPPED driving to see

if water comes up in 9 ft. s.
 10:45 Dig at 16 ft (used M-sample)

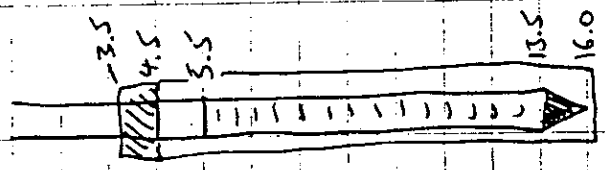
START TO DRILL TO 18 ft well
 set well at 18 ft b/s.

11:07 Finally well at 16 ft b/s.

~~6/29/93~~
 6/29/93

341

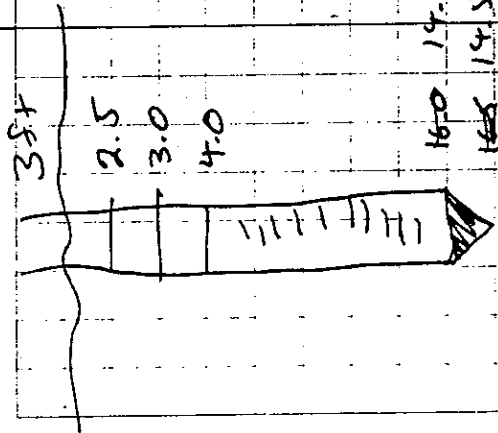
(17)



11:25 Completed roughly MW-1 will
 go to F57002-003 Comp. dress
 and Fork Truck X to locate well
 2:00 Bed. at F57004F-MW2 P
 START TO DRILL
 2:40 START TO DRILL
 3:40 START TO SET well at ~~14.5~~ ft

~~11/11/13~~
 6/29/13

(17)



16.0 14.0
~~16.5~~ 14.5

4:45 Well set More m.t. to MW-3

~~11/11/13~~
 6/29/13

4:00

(18)

12
14
15
12
12.5
12
<u>77.5</u>

~~WPA~~
6/20/43

(19)

6/30/43 TPT6403

6:00	Left for 1st well to site
6:30	AT SITE
7:49	Drill was started
8:00	Check calibration of OPA/RIP
	# A 51970 with paper marks
	Pool 92 8000
	Explosive # HCO272
	with CO2 OK
	MoRone
8:10	STARTED TO PULL EST004F - MW3
10:10	Well installed
11:00	Final check - 10' length of 2 1/2" pipe
	yellow. The well is good. Dr. Ho
	100' and 100' full pipe and pressure well
	Check well Smith history - many
	1000' Deep water holes some plastic
	3' 4" 10' 10' CD, # A, B.
	Finished at 7:00 pm. Leds. as noted.

~~WPA~~
6/20/43

343

(23)

7/1/53 T.F. 76403

6:02 to 5th road station.
to 2nd road station. Pits
at grade 1-15 set probes.

AT EIGHT, CAP 01-11,
Break pit. Pick up 700 ft of
to 100 ft. pit. Probe surface of
pocket. Pumps.

9:31pm. Found back to surface.

7/2/53

5:30 met abrasives at 2nd road station.
Saw 10 pipe spades in
B.

10:30 Time with Case and Company met
me at C. Found pits at 15
year drilled. I went to 10 banks
1/2. One was 1/2. level bubble
out.

Continued to place probes at
C. P. 1000 ft

3:30. 2nd Company back ground

(21)

well. 10 ft. 10 ft. 10 ft. 10 ft.
of the well. 10 ft. 10 ft. 10 ft. 10 ft.

6:45. 10 ft. 10 ft. 10 ft. 10 ft.
10 ft. 10 ft. 10 ft. 10 ft.

6:55. 10 ft. 10 ft. 10 ft. 10 ft.
10 ft. 10 ft. 10 ft. 10 ft.

1:30 10 ft. 10 ft. 10 ft. 10 ft.
2:30 15 ft. 10 ft. 10 ft. 10 ft.

3:00. 10 ft. 10 ft. 10 ft. 10 ft.
10 ft. 10 ft. 10 ft. 10 ft.

~~7/1/53~~
~~7/2/53~~

22

7/9/93
M/ARM

53

11/1/93

Eq.

- 2 sets (C.O.) ± pH & Temp, solutions
- 2 MScaps
- 1 Camera, video
- Q/A FORMS
- Instr. lck keys, D/L fr. keys
- 2 tanks pumps, or 2" pump & Bot
- Disposable Tubing 26 x 20ft (600ft)
- Maps of sites with well #s
- All FORMS
- TOOLS
- Card board for pictures and labels
- Labels for water
- CHEMIC WITH LARVE
- TUBING 3/4" w/2 Check valve
- 2 boxes for discharged
- Bong wrench
- TABLE

345

(55)

DN

PUT DATE
PURSES

7/9/93

(28)

7/9/93

11/1/93

(57)

IF764.03 7/12/93

7:30 Leave Jr. Hardware store / Met G. Weiss
 8:00 AT. hardware store to pick up pipe straps
 and 1" pvc for drop tubes.
 10:30 AT FSS 0014
 11:18 Collect PTW TPW on FST 014 MW-1
 15:30 Development complete
 16:05 Collect IDW for FST 014

W/PTW

18:40 OFF BASE

347

(26)

7/13/93 TF76403

7:00 TO SITE

8:00 Calibrate ph meter # L91002808

w/ins lot # 2 0785 Exp 7/93

7:00 aed ph 4.00 lot # 915709-24

Exp 12/93

Therm. # 21424-1 (TAYLOR)

EST004P.MW2

ph meter # 1 w/ins 1413 read 1430

8:26 STARTED TO PUMP

8:38 Surged well

water very milky brown

Took picture of water

9:15 Flow rate 1 gal in 48 sec

9:41 2nd Dim Full went to csk

Genette: It we need to pump 3rd done, don't have any w/s site

10:20 Tried to call Jeff P.

STAND BY

12:00 Jeff gave ok to STOP Pump at 120 gal

(59)

12:30 AT EST004D - MW 4

12:40 START TO PUMP

DTW TPK

MW 4 7:18 17:0

13:70 CALIBRATE METERS SAME AS

Before except very anal. meter

103 / 030235

13:25 Surged well at 50 gal

DRUMS AT EST004D - MW 2

1 Soil

2 Dec. H₂O

on pellet

EST004D - MW 2

1 Soil

2 Dec H₂O

on pellets

EST004D - MW 4

1 Soil

2 Dec H₂O

on pellets

(30)

FST004 D-MW3

1 Soil

2 Des. H₂O

on Pallott

14:00 Flow RATE = 1 gpm

14:45 Set off pump completed well
Turboizer down to 13 NTUS

15:22 on site FST004C MW3

TDW 7.57 TDW 17.60

15:30 STARTED TO PUMP FST004C MW3

FST004C-MW-E 2

DSW 6.82 TDW 17.5

16:00 Took 1st read on FST004C-MW2

17:10 FST004C-MW2 2.5 gpm

17:34 Unable to get constant flow from

MW-3 Pumps do not leak

swell

Lab Bar 19:40

(31)

7-14-93 7F764.03

7:00 Lat. for STA

7:30 START TO PUMP FST004C-MW3

with Honda pump. This pump will

pump slow enough to do well and

not break section.

CALIBRATE METERS

ph # L91002808 with solution as

started before in this test

ph/m meter # GM #1

STAINPERS AS ABOVE

ph # 030239

FST004C MW4

static DW 9.27 TDW 17.20

pumping DTW - 16.80

8:30 Sec. Des. H₂O for sample - 17.20 results

9:00 Pumping vs slow

10:30 set of Pump at FST004C MW3

to return

10:57 STARTED PUMP AGAIN Flow approx

2.50 gpm

12:45 Check cylinder on JMW Listed

check (EXCEPT COND. meter # 030239

(Garratt has it now)

349

7-15-93 TF70403

6:45 Load truck
 7:15 Load pipe drums
 8:00 AT FST 004A MW-2 (incl. 2nd meter)
 TDW 9:21 TDW 17.0
 8:20 STARTED TO PUMP MW-2
 FST 004A - MW-3
 TDW 8:49 TDW 16.50
 8:45 STARTED TO PUMP MW-3
 SEE DEV. Summary
 10:00 Move TO MW-1
 TDW 9:13 TDW 16.80
 FST 004A - MW-4
 TDW 11:71 TDW 17.1
 STRONG GAS OPEN and SHOWN
 UNABLE TO GET MW-4 TO PUMP
 12:00 STARTED TO PUMP MW-1
 12:30 Check calibration on meters
 As before described

ph meter # 491002808 read 7.355 on 7:00
 pH meter # 6M1 read 7.11 on 7:00
 Cond. meter # 6M1 read 1210 on 14:13
 → pH 4.17
 → pH 4.03

1:00 STOPPED DEV. FST 004D MW-3 after
 4 hrs. Turbidity still over 100 NTU'S

13:30 collected TDW as FST 0040C
 MW-3, MW-4

14:20 BEGIN AT FST 004B / wind drums silent
 FST 004B MW-2
 TDW 9:31 TDW 19.1
 MW-3

TDW 10:52 TDW 19.3

14:45 RAIN STARTED

14:45 STARTED TO DEV. MW-2

15:15 Drum (55 gal.) full at MW-2

RAIN STOPPED 16:10

Collected TDW 16:40

LOD 57% 17:10

Paper work 7:15 to 8:15

(34)

13:15 Collect IDW AT FST004A ^{MGM} WGW
pack up car to FST004B to put lid
on drums.

15:00 AT FST004E - MW 4
MW 4

DTW 12.45 IDW 16.2

15:30 STARTED TO PUMP MW-4

MW-2

DTW 17.99 IDW 16.7

16:36 STARTED TO PUMP MW 2

18:00 Rinsed Dec MW-4, MW-2

18:30 Lst. Boxes

20:00 paper work

20:30

(35)

7-16-93

6:00 Collect Site size

FST004E

MW-1

7:00 DTW 2.85 IDW 16.5

7:15 Rechecked ph cond. turb es

Started on 7/12/93 All OK

7:30 STARTED TO PUMP MW-1

FST004E - MW-2

DTW 13.36 IDW 17.30

9:20 STARTED TO PUMP MW-2

MW-1

DTW 15.50 IDW 19.25

MW-4

DTW 17.45 IDW 19.3

11:30 USED BALLED / DID NOT

USE ph or cond meter because

of free product. It looks like

gasoline

351

Bills dry after approx .5 gal.

Tasks

12:00 Unable to use pt or sand meter due to hrs amounts (shows) of ~~the~~ product.

12:40 Complete MW-4

14:30 Leave site

M/M
7/10/00

7-17-93

6:00 Leave for site (Camp 01) pick up supplies

7:45 Arrive camp 01

8:45 START TO PUMP MW-4

9:50 START TO DECREASE MW-1

12:00 MUST USE WATER TO CHANGE MW-1 (use slow recovery)

1:30 Leave site for Tack-X

2:20 Arrive Tack-X

Put CLIM at CUSTODY TAP on

Two southern water wells, one

water wells on other two

Wells tested with diphen leads

at Camp 01

5:00 OFF Base

39

FST OI#	SOIL	Dry H ₂ O	PP/E
MW-1	1	3	1
MW-2	1	2	1
MW-3	1	1	
MW-4	1	1	
FST-004A			
MW-1	1	1	1
MW-2	1	2	
MW-3	1	1	
MW-4	1	1	
FST-004B			
MW-1	1	1	1
MW-2	1	1	
MW-3	1	1	
MW-4	1	1	
FST-004C			
MW-1	1	1	1
MW-2	1	1	
MW-3	1	1	
MW-4	1	1	

353

EXHIBIT A.2.2

GEOLOGIST KATHERINE THALMAN

Gerrett 912 - 656-7626
615-250-5846

4 1/4 OD
7 1/4 OD



"Rite in the Rain"
ALL-WEATHER WRITING PAPER ©

MEASUREMENT CONVERSIONS

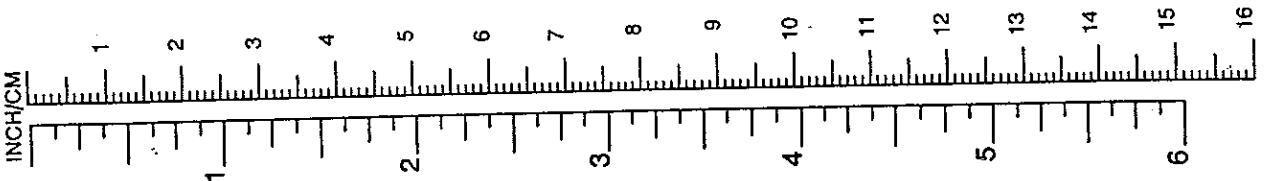
IF YOU KNOW	MULTIPLY BY	TO FIND
LENGTH		
inches	2.540	centimeters
feet	30.480	centimeters
yards	0.914	meters
miles	1.609	kilometers
millimeters	0.039	inches
centimeters	0.393	inches
meters	3.280	feet
meters	1.093	yards
kilometers	0.621	miles
WEIGHT		
ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds

IF YOU KNOW	MULTIPLY BY	TO FIND
VOLUME		
fluid ounces	29.573	milliliters
pints	0.473	liters
quarts	0.946	liters
gallons (U.S.)	3.785	liters
milliliters	0.033	fluid ounces
liters	1.056	quarts
liters	0.264	gallons (U.S.)

TEMPERATURE

$^{\circ}\text{C} = (F^{\circ} - 32) \times .555$
 $^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$

Inches	Decimals of Foot	Millimeters
1/16	.0625	1.5875
1/8	.1250	3.1750
3/16	.1875	4.7625
1/4	.2500	6.3500
5/16	.3125	7.9375
3/8	.3750	9.5250
1/2	.5000	12.7000
5/8	.6250	15.8750
3/4	.7500	19.0500
7/8	.8750	22.2250
1"	1.0000	25.4000
2"	2.0000	50.8000
3"	3.0000	76.2000
4"	4.0000	101.6000
5"	5.0000	127.0000
6"	6.0000	152.4000
7"	7.0000	177.8000
8"	8.0000	203.2000
9"	9.0000	228.6000
10"	10.0000	254.0000
11"	11.0000	279.4000
1 foot	1.0000	304.8000



Name Kathy Thelmer
Address 14497 N. Dale Mabry Hwy
Suite 115, Tampa FL 33618
Phone 813-961-1921

Project Ft. Stewart

"Rite in the Rain"—a unique all-weather writing surface created to shed water and to enhance the written image. Makes it possible to write sharp, legible field data in any kind of weather.

a product of

J. L. DARLING CORPORATION
TACOMA, WA 98421-3696 USA

957

6/22/93

(2)

1710 Finished collecting samples
 began with FST-014-mud
 sited well across 4-14'
 water at 5.5 ft ~
 Top of gravel 0.5' above sands
 Top of bentonite at 2.5 ft. 66
 FST-014-mud
 1750 Finished with well
 Drillho downing, auger & spurs
 FST-014-mud
 FST-014
 FST-014-mud
 Dirb Road.

Sunny - 70 to 80
 humid - No wind

(3)

6/23/93 Kathy Thelma, Deane
 Nicklas Rocky Lewis
 6:30 Arrived on site -
 Drilling getting underway to
 Grant annular
 6:50 Putting predrilled casing on
 FST-014-mud - 3 ft stack
 US
 700 mixing gravel
 24 gallon of water & 1/4 bag bentonite
 3 bags of Type I-II
 Portland cement.
 0715 Finished putting predrilled casing
 on FST-014-mud
 0727 Finished putting predrilled
 casing on FST-014-mud with
 C-116 bit OVA 45/856
 OVA 45/870
 0740 Finished predrilled casing
 at FST-014-mud
 FST-014-mud.
 Deane & I went to second ch
 Mobilized Rig to site
 FST-0040 -

(4)

6/23/93

Explosives GX-91 GASTECH

O₂ - read + checked

LEL% checked with 2.5% methane

0955 Bayou casing 0-2 ft

FST-004C - MW1

Setting Wall

1119 Kwat at ~3'

set wall from 14.3' -

saw cut from 4.3 - 14.3'

Sand to 3.5'

benzene 3.5 - 2.5

Did not set casing even wt - too shallow

1137 Finished setting wall

Selected 16 in - 0

2-4 ft for lab analysis

FST-004C - SL1 - 4

bedrock 34 - 17 ft

16 - filled

1210 Filled sample at FST-004C - MW1

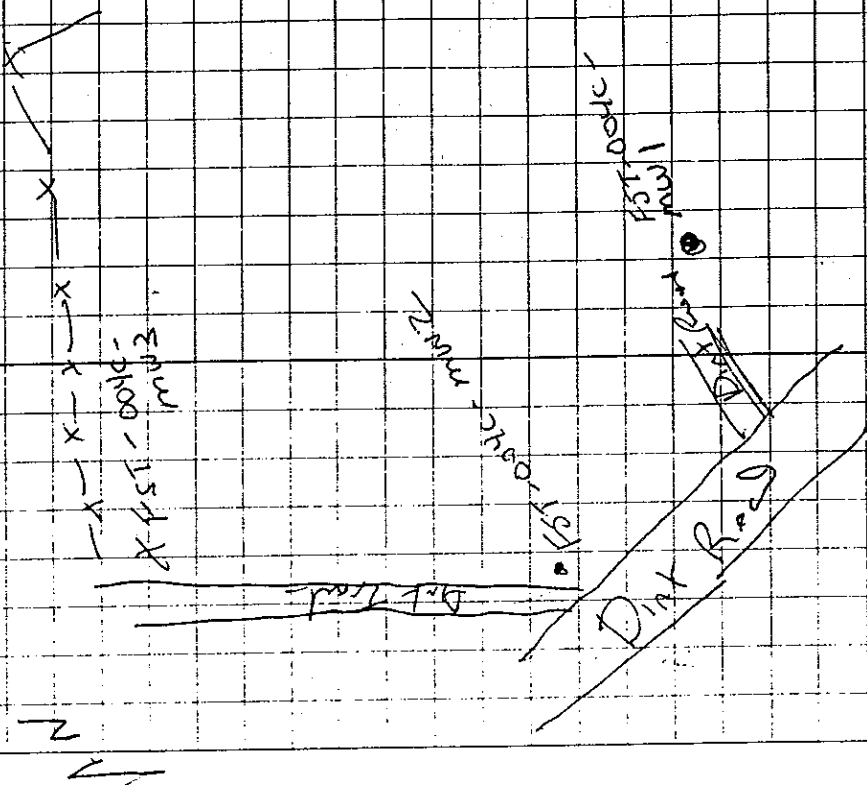
1315 mobilizing rig to site

FST-004C - MW2

6/23/93

(5)

weather 90's, high humidity -
Slight wind - Thunders



6/23/93

1529 Began split spoon sampling
FST-0046-MW2

1600 Finished sampling & well
WT at ~3' ^{6' head}

overhilled 1' to 15'

Set well from 4-14' bbl
↑ sum

sand to 3.5'

beat out pellets at 5'

Did NOT cross WT because
of shallow depth.

1630 Cleaned up - left site to go to Penn
avenue - Tried to set up sensor at

Footway parking

1720 Lift site

1730 Arrived back at hotel.

~~6/26/93
6/26/93~~

⑦

FST-0040-MW3

-- 6/24/93

Spinning - humid - 70's - No wind

Kathy Thelma

Debra Nicolas

Rickie Lewis

Lewis Weeks - replaced chiller

11th

0740 Arrived onsite - chiller and up
health & safety Tailgate
mech

0805 Began drilling FST-0040-
MW3

1

0930 Finished soil sampling

0942 Began auger FST-0040-MW3

Justing came from 4-14'
Well at 7'

20% sand to 3.5 ft bbl
benzene to 1.5 ft

putting packets using

1013 finished auger well
Selected 4-6 ft

⑧

6/24/93

Moved for lab analysis

EST 004D - 513-6

1044 Left site to Devon

1130 Broke for lunch - moved

lunch

1353-1445 down but waiting for

storm to pass -

EST-004D - NWZ

1452 collecting first night again from

0-2 ft

1542 Went out 5-6" - moved 4-6

1620 Begun with "wind" -

undrilled to 15 -

had trouble with heavy sands

lost cutting circulation at ~

16 ft 6 in. Then worse

for bringing sand to the surface

1 bag of sand filled barrels to 51.6.6

Had drillers pull out well &

redrill.

1900 Mark marks across road in site.

pr GDM, Scintal.

⑨

6/24/93

undrilled well to 19 ft - when

begin sand pack installation

barrels open to 18.5' -

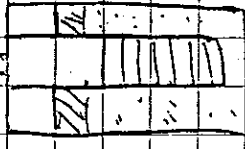
installed sand pack from well casing

at 18.5' then pulled casing up to

13.5 -

Took 2.5 bag of sand to

sand screen to 3 ft 6 in -



1830 completed well - moved rig to

S1 away from well to collect

additional soil from 4-6' casing &

water to 6 5-6 ft 6 in.

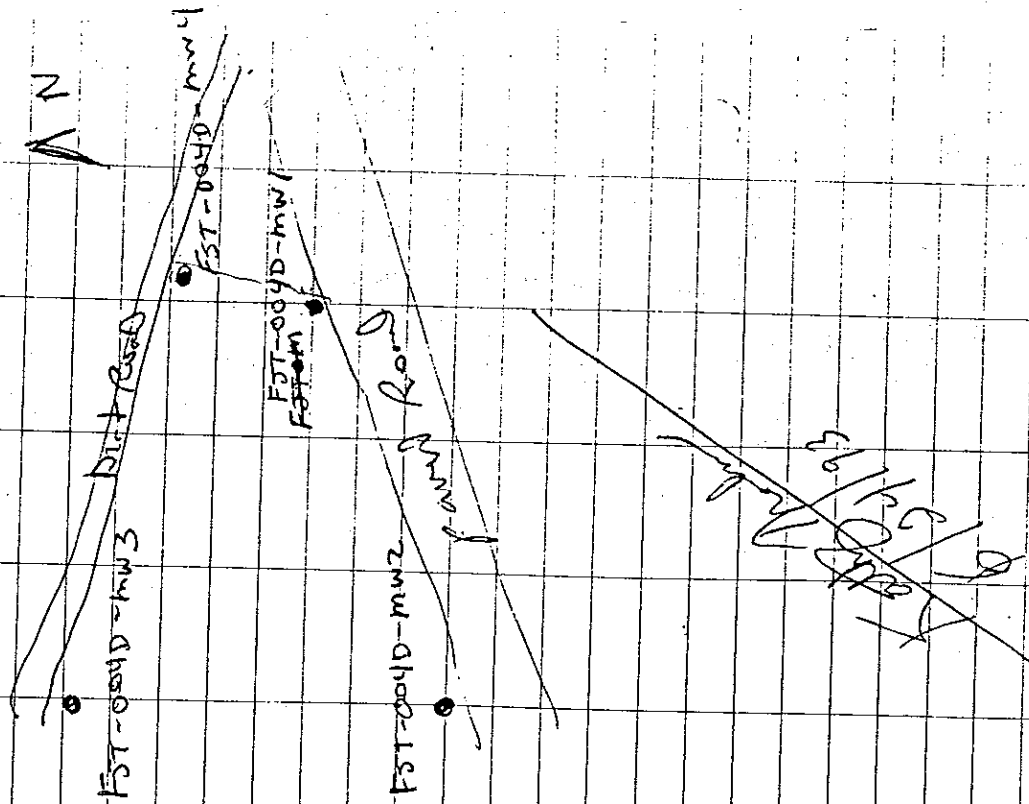
collected dry break slough

EST 004D - 512-6

EST 004D - 519-6

6/24/93

1930 Lupt. notes



(10)

6/25/93

0715 → cloudy, hot (90%) wind
 light breeze
 Kathy Thelmer Staff Scientist/
 Lewis Weeks - driller
 Rickley Lewis - nd for
 0715 Arrived at workrack
 0730 Driller mixed gravel for
 site FST-004D
 7 30 min work to
 3 bags cement
 4 bentonite
 Cellulose based muds
 AS1836 150 ppm methine → 94 ppm
 AS1970 " " → 96 ppm
 0845 - Finished grouting production
 casing - decanning & laying out
 Took water truck in
 FST-004C - MW 1 - 41' 66"
 FST-004D - MW 2 - 51' 66"
 1015 Finished decanning - mobilizing
 to site FST-004A - MW 1
 1100 Seth says - Health & Safety
 meeting
 John: ~~Widok...~~

(11)

363

6/25/73

(12)

drill from 0-8'

1230 Break up for lunch

picked up supplies

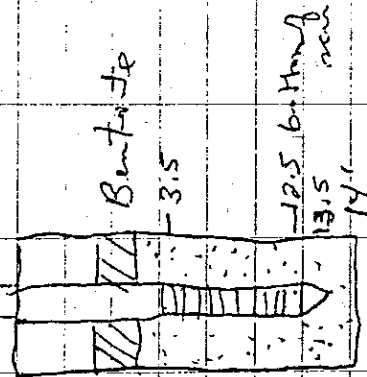
1330 Began setting rods and

at 6' when it was set

was - difficult to fix

WT table programs.

1352 Began to set well FST-004A-mw1



1445 Finished well install-hin

1515 Rick Left to Decontaminate

Maint. logs -

Left FST - went to find well to

rig. Stem cleaned - tried to repair -

could not - hand cleaned system -

1802 Began drilling FST-004A-mw4 sampling 0-2'

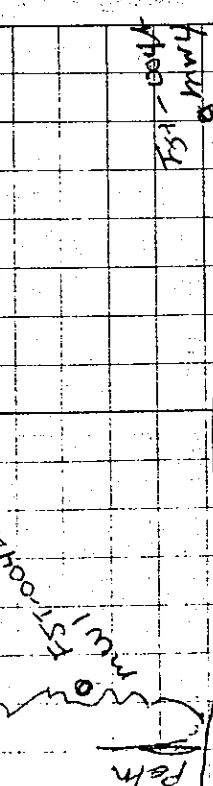
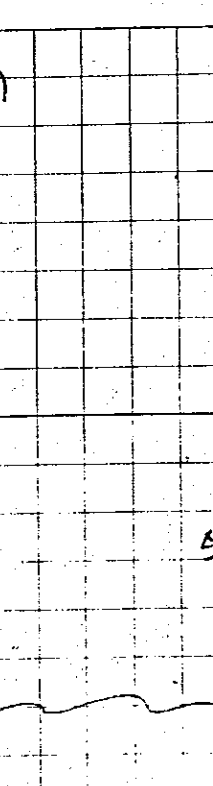
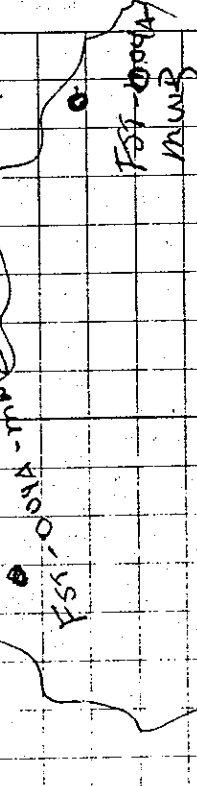
1915 Began to set well - wet at 8.5'

6/25/73

(13)

continuing unit from 4-8.5'

Setting well like other at FST-004A. becomes water band will probably be observed



33 Dirt Road

46 days of work

2.5'

3.0'

3.5'

13.5'

14'

FST-004A-mw4

FST-004A-SL4-8

FST-004A-SL4-8 deep

FST-004A-SL4-8 split

called and completed about WT.

2011 Completed well - moved forward 5' to collect additional soil for analysis 2050 LTR site

Foley Malone

hilly, evening (80°) / 14

6/26/73

7:15 Left Hotel, picked up supplies

7:45 Arrived at site FST-0048

packing bottles & cleaning chem

of contents for soil samples.

Caution will pick up & take to

Severnash Lab.

Finished packing samples

09:15 Left to take samples to Hotel &

pick up extra NAC bottles.

07:34 Left hotel going to site FST-004E
& FST-004F

Checked water temp control on
aerator FST-004E

11:15 Ret'd to dorm area -

5 hours - clean fixed test eggs

11:00 - Decanting sample

Calibrating OVA - A51856

100 ppm → 700 ppm head

methane

LEL/02 OK.

15

6/26/73

12:30 Mobilizing to FST-004E

13:00 Arrived at site FST-004E

13:27 Began to collect 0-2 ft of
soil

14:15 Collect split system to 1916L

beginning to set well head 3'

16 heavy sand sample

condensing 3' - water at

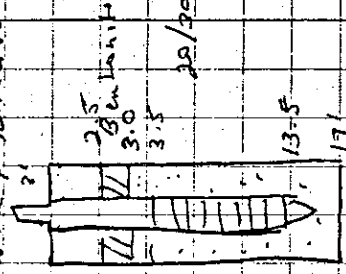
approx 6.5-7 ft (6.5) after well down

at 3.5 - 13.5 ft curves WT.

14:50 Selected 4-6' interval for 1.56

analysis - all headspace readings

with selected interval come WT



15:30 Finished well - hydrod benches

6/26/73

365

6/24/93

Describing of 1600000 using GPS
dual procedure / used by Thomas
instead of 1500000

1645 left 214

1710 arrived back at hotel

← FST-0046-mw3

FST-0046-mw4

FST-0046-mw2

FST-0046-mw1

FST-0046-mw2

FST-0046-mw1

FST-0046-mw3

Dirt Road

6/26/93

6/26/93

6/26/93

(16)

6/28/93

cloudy, humid, 90°, very slight breeze

0600 Loaded truck picked up supplies,

0700 Arrived at wash rack -

Drillers filling with tank of

collecting 288 lbs

0718 Driller went to hardware store

Calibrated

OVA 128 (AS1855) / oxygen method -

read 9.77 ppm, LFE/92 OK - 2.59%

0738 Methoxy found 7.61% OK - 1.61%
left wash rack area for FST-0046

0830 Arrived at site - road block

caused delay in reaching site had

to go around by site 004A

Finding locations for mw-2 to mw3

Setting up rig on FST-0046-mw3

Toni Nicholson - on site working

for Garitt.

0915 Began drilling FST-0046-mw3

1055 To 16' block

1/6' rods - 7' = 9' water level

Center plug stuck in rods - trying to

release.

Garitt arrived on site at ~ 9:30 pm

Kathy Thalmann (17)
Ricky Lewis
Lewis Wacker

6/28/93

(18)

1120 Center plug was freed

1140 Breaking for lunch

Wet at 10' (M case 11')

1 Foot stick (8)

1236 WL = 9.4 - 1' = 8.4'

Selected 6 - 8' 1/2 hole

for lab analysis - at this sample had the highest head space reading - about WT.

system wet at ~9' 66-

FST-0051E-MW3

3'

1240

with level

had 9.4

- 9'

~ 8.5



6/28/93

(19)

1248 Driller rode from lunch -

beginning to set FST-004E-MW3

a 3' of heavy sand in casing - overdrilled to 18'

1404 Completed sand pack - bridged at one time - pulled casing up & was able to shake bridge free

1445 Ricky left to Decon -

Top broken to transfer case - leaking oil - rig down - removed broken top

1530 took Lewis to Washrock shop - Bob shop welded case back together

1600 left Washrock -

1624 Arrived back at rig fixed rig & moved to FST-0051E-MW2

1719 Left Site - Driller arrived to Decon Deconder

Am Cloudy, 70% humidity, slight breeze (20) / 90% humidity, slight breeze.

6/29/93 Rig - Gus Peck 1000

Lewis Weeks
Kathy Thelman
Ricky Lewis

0600 Loading up truck at 144

0615 Left to pick up supplies

0640 Arrived at Washrock area - June
Geonit Development equipment

0700 left for EST-004E

0715 Stopped along Rt 144 -
Derrick truck ran out of gas -
waiting for Lewis to return with gas.

Began calibrating OVA
100 ppm methane / read 94 ppm

LEL/O₂ O₂ OK
LEL alarm went off with
2.5% methane.

0750 Dr Lewis arrived with gas -
went to site EST-004E &
busted monitoring well
EST-004E = MW1 and
EST-004E = MW3 and

6/29/93

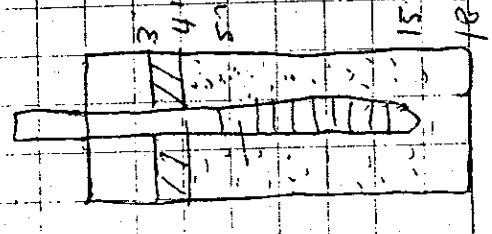
put in extra protection posts
Setting up at EST-004E - MW4

0857 Beginning to build
EST-004E - MW4

1000 Drilled to 15' - cut at
~8' - setting wall around
from 5-15' 66

4' of heaving sands to auger -
put head of water (sp. 66) into
well - approx 25 gallons
Beginning to set well

undrilled
base hole to 18'
to remain heaving sand



6/29/93

1030 putting sand pack in well using water to slurry sand into well.

used ~ 5 gal. water - A total of 30 gal. of potable water was added to well during installation.

1115 finished monitoring well FST-004E-mw4 Selected 4-6' interval for 1st analysis of VOCs, SCRA metals, SPC & pH (FST004E-SL4-6)

1130 drilling Left site for lunch & dinner. Garrett, monk & Kathy went to TAC-X and Camp Oliver to locate wells - going down & TAC-X had 4' well.

1415 Ret'd to site FST-004E - Riding Did mt. return with Lewis. (Drillhead accident with truck on way to dean - bumped further)

6/29/93

1445 Began drilling FST-004E-mwZ 1515 ^{1st} comb. cable core 1/8" winch reel used to hammer screen - Lewis trying to fix.

1530 Lewis left site to find casing to help drill with

1721 Lewis Ret'd & was not able to find Ricks Lewis (Chapel), trying to fix winds

1745 fixed wind & began drilling & sample 6-8' bb. hit water at approx 8' - sample wet - saturated.

1820 Finished drilling to 16' bb. & doing

Began setting well with 4" x 8" casing will return from 5-15' bb. (31 above WT)

Selected 6-8' interval for 2nd analysis of VOCs, SCRA metals & pH, SPC - at point above WT only, headspace = 8m. or 1' 309

(24)

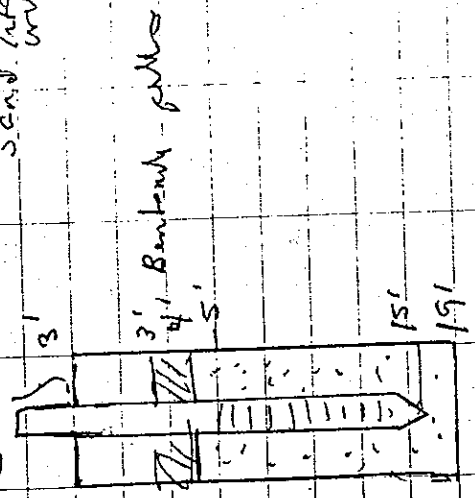
6/29/93

No heavy sands in auger when began installing well.

1832
0650 Begins installing sand pack.

Sand bridge - pulled well casing out and reinstalled.

overshield to 19' because of heavy sands in auger - started sand into well.



Took 2.56 gpf sand added ~ 35 gallons of water to well.

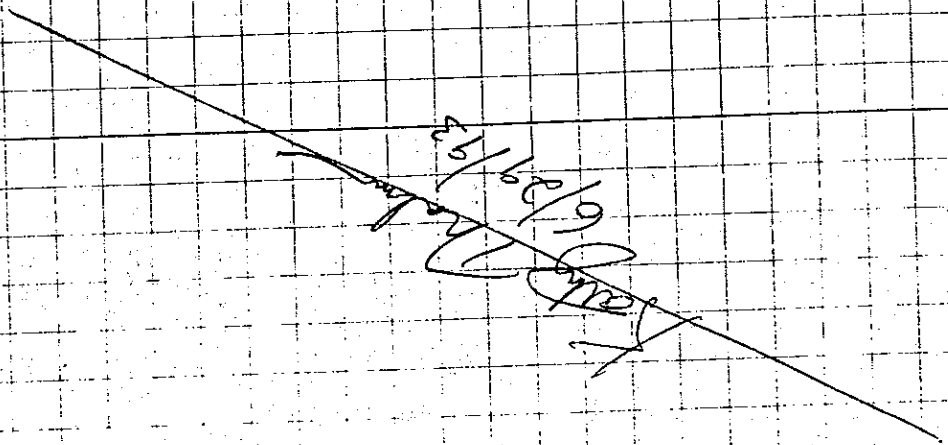
(35)

6/25/93 hydrofractured bentonite pillers

1920 Finished installing #1 FST - 054E - MW2

1940 Left site.

2000 drilled back to HstL.



~~Hydrofractured bentonite pillers~~

(26)

6/30/93

0600 Left Began loading truck

0615 Left Hotel

0645 Arrived at Westbank & left
for site FST-004F - dropped off
Celebaga

0730 Arrived at site FST-001E -
cleaning up - Grand saying Ford
Risky Lewis was injured during car
accident - want to be hospitalized 6/29/93.
That is why we couldn't find him

GUSPECT 1000 Rig down -
MOBILE B-57 Rig will break but
4 weeks

0830 Lewis left site to drive ^{spare} back
supplies truck to Risky so he could
return to Atlanta.

Took water haul in FST-004F - m.w.

14.75 held

6.00 stick v

1 8.75 WL

Checked out GA work abandoned by

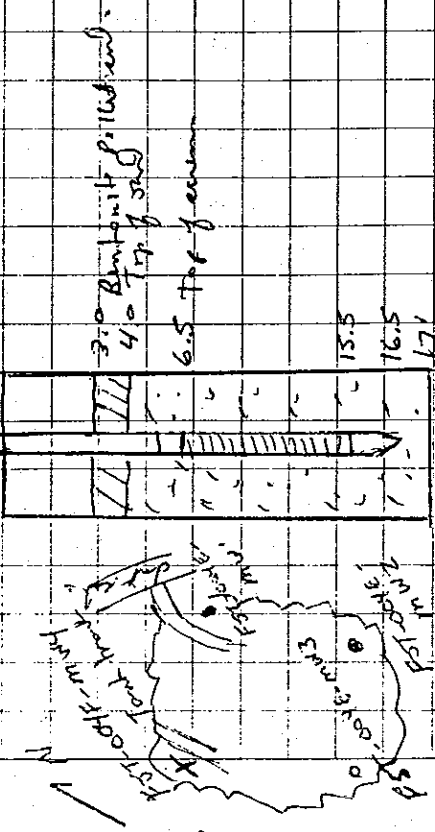
(27)

6/30/93

1030 Took over Mobile B-57 -
Hauling mobilized to
FST-004F - m.w. - setting up.

1100 Began drilling - split screen 0-21
interval

1245 drilled to 1417 to set well -
collected split screen depth to 16'.
Beginning to set well.



Selected sample 0-2 interval for
hydrogen head highest OVA
read 18 ppm
Difficult to date water level ~ 8'

set screen from 6.5 - 16.5.

371

6/30/93

1430 Finished collecting soil samples & cleaning up - left site

Loaded for F5129 for ^{route to} Camp Ollivier

1500 Rtd to wash rack - chiller decanning & loading up to mobilize to Camp Ollivier F51-002

1540 left for camp Ollivier

1640 Arrived at camp Ollivier

Set rig up on F51-002 - mwf

1707 Left site to go back to Washrack -

1807 Arrived back at Hotel.

1824 finished unloading truck.

1900 - 1945 press work

(28)

6-7/1/93

F51-002 - Camp Ollivier

0600 loaded truck

0640 Left hotel -

0640 Arrived at wash rack - chiller gone - mobilized to F51-002

0730 Arrived at camp Ollivier F51-002

work

Kathy Thelton

Xavier Samuel

Robert Holcomb

Louis Weck

Arrived at site F51-002 at 6:15

& started breaking up pads

Showed Lewis location of

Co-MWZ & Co-MWI

Calibrated OWA 128

100 ppm methanol / read 94 ppm

Checked LEL meter / OK

Measured WL in Co-MWZ -

held 7.7'

stack up 2.8

~4.9 ft bl

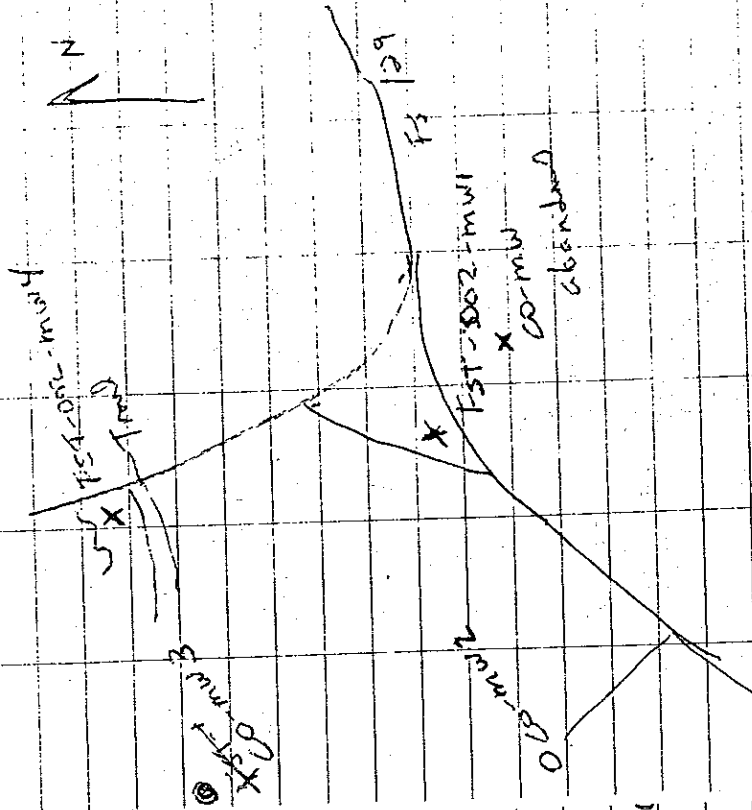
(29)

Robert Holcomb
Kathy Thelton
Xavier Samuel

(30)

7/1/93

0830 - Begin sampling 0-2 ft at
FST-002 - mwt

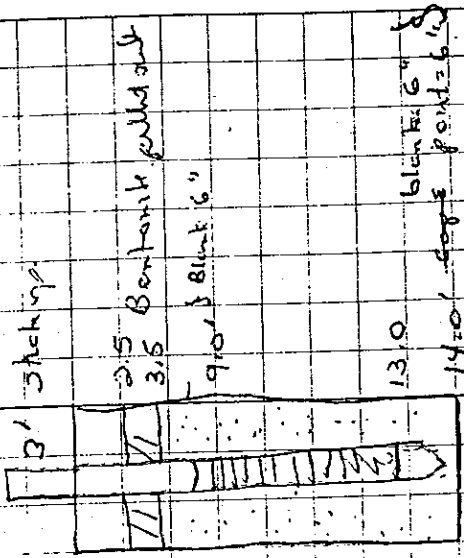


1000 Final collecting split open B
 begin installing FST-002 - mwt
 WT at ~ 7' in CO - mwt 3 wt at
 5'

(31)

7/1/93

1030 Final mwt logging FST-002 - mwt



Took 2.5 bags of sand
 Selected 6-8 ft 6" sample for lab
 analysis of NO₃ (0.2%) RCEA mwt B
 spec / pH
 Sample brought about WT ~ 7
 and had 0.2 ppm OWA readings
 Collected split & duplicate at
 this site

FST002-524-8

FST002-5294-8

FST002-524-8 - split 50 ft

3973

7/1/73

1038 Moved rig forward ~ 4' and collected additional 3' split specimen for split & dup samples finished sampling & collected IDW samples
Moved rig to EST-002-MW1

1130 Drilline broke for lunch

1200 Began drilling EST-002-MW1

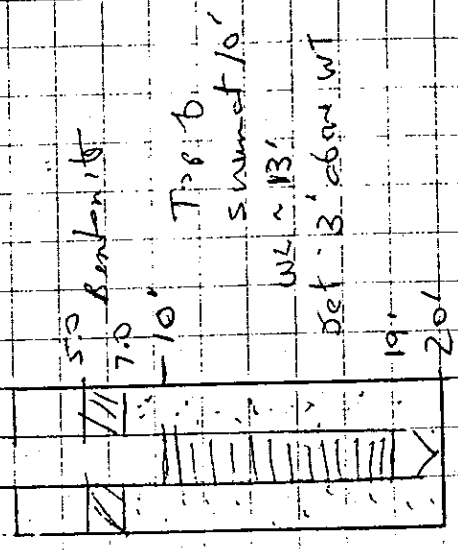
1400 Clay ^{let} ~~to~~ plugging in auger - had to pull out 15' ^{of} auger & replace lead auger

1500 Collected split specimen to 20' beginning to set well

1545 Clay in auger again - plugging them - removed auger to remove plug

7/1/73
let
west span

1510 Finished setting well



used 4 bags of sand

1542 Drilling past hole for protection pipe at EST-002-MW1 Selected 10-12' interval for 1.06 analyses - directly above WT # here highest OVA reading Collecting IDW soil samples

7/1/93

1630 Drillis left to get hose to grout & goes in for rig to abandon CO-MW1 Doing paperwork

1800 Drillis ret'd - beginning to set up to mix grout - cutting casing off approximately 1 ft 66

will take 24 sacks of grout to fill well
0.65 sal/ft
837 ft
24 sacks

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

1830 Started to storm left out

1915 Arrived back at hotel -

Am foggy - cool
7/2/93

0530 Left hotel for Camp Oliv

0633 Arrival at Camp Oliv (F5T-0P2)
mixing grout to abandon CO-MW1

Mixed 3 bags of Portland
~ 21 sacks of water
2-3 1/2 barrels

Grout pumped from bottom of monitoring well to surface using tremie pipe method

grout displaced in water in well - pumped until grout set top of monitoring well

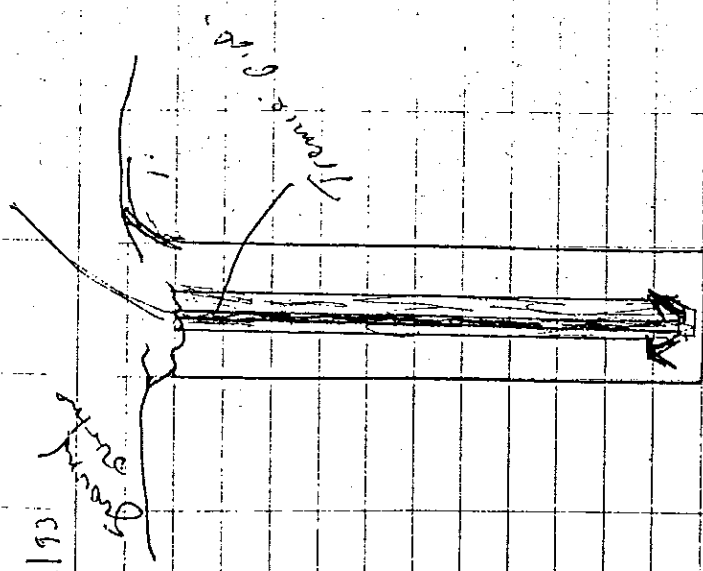
70' - calm
Kathy Tholme
Kevin Smith
Rabbit Holcomb

(35)

375

7/2/73

(36)



Told drillers to fill in hole with sand & soil

0700 Flashed abandoned well - hole ~ 30 yds in diameter

Drillers cleaning up rig - drilling part hole at FST-002 MW 4

(37)

7/2/73

Signed 16 in diameter hoists

0800 Left via FST-002

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

0910 Left to buy oil supplies

0930 Beginning to set up to develop FST-014 - MW 1

0950 Tom Nickerson & surveyor visited site with Granville MW.

1000 Van Harg left site

Calibrating meters STD Riedinger

p.H. 4.0 4.05

7.0 7.09

S.P.C. 1413 1350

447.1 480

(38)

7/2/93

Turbidity meter

570 Reading
 10 11.95
 5 5.08

Measured WL

12.25 water
 - 3.00 stick up
 9.25' 66.

Well TD 15.1'

- 9.25
 5.85 ft of water
 0.16
 0.9 Gallons in well.

1100 Begin developing FST-014-MW3

1245 Comp. Ltd. well development -
 find NTU reading of 2.89 NTUs.
 Evacuated 55 gallons of water/
 approx 55 well volumes.

(39)

7/2/93

surged well with boiler after ~
 15 gallons water consumed &
 also moved flyten base up &
 down while developing

1320 Finished cleaning up & moved
 to FST-014-MW2 -
 Broke for lunch

1340 Setting up to Develop
 FST-014-MW2

Water level
 10.56 wt
 - 3.00 ft stick up
 ~ 7.56 ft 66.

Well depth

15.00
 - 7.56
 7.44'
 7.16 5c1/ft
 1.19 gallons per well volume

377

7/2/53

1400 Trying to pump F51-004-mwz
had diff. health time getting
pump to pump

1440 Begin pumping well F51-014-mwz

1510 Surged well for ~5 min

1643 Completed well development.
Took pictures of picture of
Duv. water & chum. up.

Final NW - 8.0 -

Took picture -

Removed ~75 gals of water

1710 Left site

1725 Arrived back at the well

1900-2100 - Did back from
pumped samples for
shrimp

7/3/53

0745 loading & packing equipment
on truck

0830 Left hold to go to Ft. Stewart

F51-014 - Zovex Company

drillers cleaning up gear & going to

equipment & checking to make

sure all wells have logs & back

also putting material back at

F51-014

1000 Driller finished up with

Zovex smoking jar -

loaded equipment -

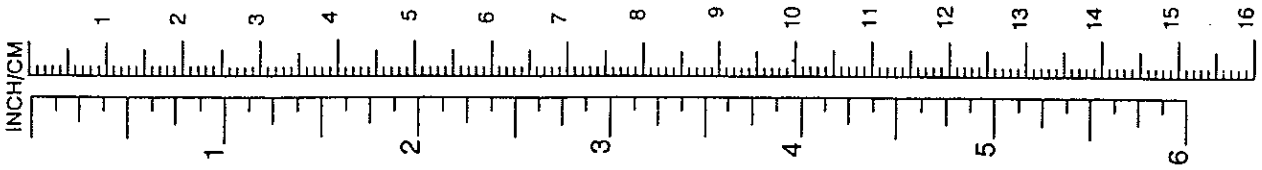
left to go up by truck

1200 Driller left site

~~7/3/53~~

EXHIBIT A.2.3

GEOLOGIST GARRETT WEISS



MEASUREMENT CONVERSIONS

IF YOU KNOW . . . MULTIPLY BY . . . TO FIND

LENGTH	MULTIPLY BY	TO FIND
inches	2.540	centimeters
feet	30.480	centimeters
yards	0.914	meters
miles	1.609	kilometers
millimeters	0.039	inches
centimeters	0.393	inches
meters	3.280	feet
kilometers	1.093	yards
	0.621	miles

WEIGHT	MULTIPLY BY	TO FIND
ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds

VOLUME	MULTIPLY BY	TO FIND
fluid ounces	29.573	milliliters
pints	0.473	liters
quarts	0.946	liters
gallons (U.S.)	3.785	liters
milliliters	0.033	fluid ounces
liters	1.056	quarts
	0.264	gallons (U.S.)

TEMPERATURE

$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \times .555$
 $^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$

Inches	Decimals of foot	Millimeters
1/16	.0052	1.5875
1/8	.0104	3.1750
3/16	.0156	4.7625
1/4	.0208	6.3500
5/16	.0260	7.9350
3/8	.0313	9.5250
1/2	.0417	12.7000
5/8	.0521	15.8750
3/4	.0625	19.0500
7/8	.0729	22.2250
1"	.0833	25.4000
2"	.1667	50.8000
3"	.2500	76.2000
4"	.3333	101.6000
5"	.4167	127.0000
6"	.5000	152.4000
7"	.5833	177.8000
8"	.6667	203.2000
9"	.7500	228.6000
10"	.8333	254.0000
11"	.9167	279.4000
1 foot	1.0000	304.8000



"Rite in the Rain"
ALL-WEATHER WRITING PAPER ©

T.N.
912-612-5675

Name Garrett Weiss

Georgy & Miller, Inc.

Address 97 Midway Lane

Oak Ridge, TN

Phone 615-481-3000

Project F.T. STEWART, GA.

RFI

"Rite in the Rain"—a unique all-weather writing surface created to shed water and to enhance the written image. Makes possible to write sharp, legible field data in any kind of weather

a product of

J. L. DARLING CORPORATIC
TACOMA, WA 98421-3696 U

381

Jeff (Home) 813-947-4367

CONTENTS

PAGE NO.	REFERENCE	DATE
	912-688-7626	
	Kathy - 813-744-1325	
	Maroldis - 800-851-4587	
	Haley Inn - 912-368-2275	
	fax 912-368-5894	
	Toni - 912-767-2910	
	J. Lemier - 658-3743	
	Meet TN @ E @ 0800	
	Mon. - Copy Exhibit. Permit	
	Speed Dial	
	OA - 01	
	Tanya - 02	
	Kathy - 03 + 04	
	Sam Lab - 05	
	Meet TN @ 1139 @ 0900	
	Fridy 7/2	

G. Weiss

22 June 1993			
1045-	FST-014 - MW-2		
	begin drilling		
01-2'	3/7/9/12		
2'-4'	6/13/13/12		
4'-6'	2/17/14		
Uthology			
0-1'	10 YR 714 Grayil		
	Orange, fine grained sand, well sorted, dry (SM)		
1-2'	5 3/2 oliv. gray lith. aka (SM)		
2-4'	No recovery		
4-6'	5 Y 3/2 Grayil brown fine sand, cont at 5', wet at 5 - SM		
6-8'	91.w. 3/5/7/8		
	5 YR 3/2 Grayil brown		
	some floccs from 6'-7' saturated. SM		

Headspace measurements
(all unfiltered)

0-2 0.2
 2-4 No recovery
 4-6 0.2 - Sample for lab @ WT
 6-8 1.6
 8-10 0.6

8-10 Blows - 2/4/6/8
 Lith (in 10% recovery)
 5 YR 2/2 Outkey below
 fine smt, some
 rootlets, saturated,
 SM

10-12 5/6/7/10
 10-11 ea/ar
 11-12 5 YR/2/2
 medium to coarse
 sand, saturated,
 SM
 OVA - 0.4

12-14 4/3/8/14
 5 YR 2/2 Sandy
 gravel, angular, poorly
 sorted, SP
 OVA - 0.8

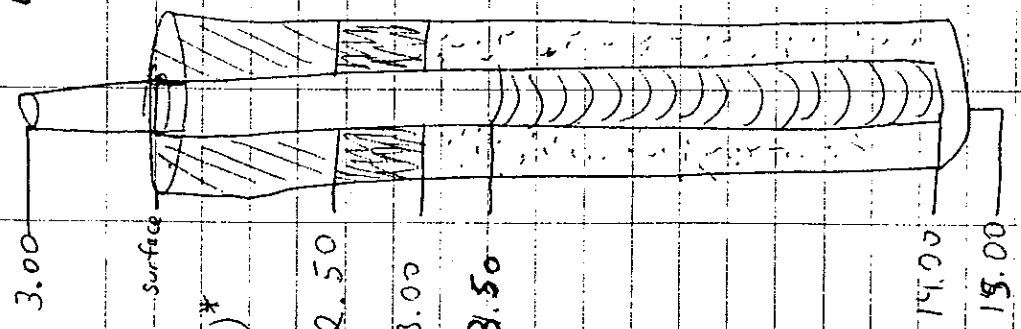
1235 - Bench for FST 014 -
 MW-2 completed to
 15' below surface
 (core drilled by 11 to allow backfilling)
 ~1310 - Aragon pit called
 Pedro Fierro GCM P.O.
 A. Express concern regarding
 typicity / heat
 B. Asked if IVC
 needed to be cleaned
 (yes)
 1320 - Called T. Nicholson
 (COFE) re heat - she
 will re re disposal
 w/ tyndes

FST014- MW 2
Well Const.

Screen - 10.50 (4 ply)*
 Casing - 10.00
 Total - 20.50
 Stickup - 6.50
 Bottom/Screen - 14.00
 Screen - 10.50
 Top/Screen - 3.50

* 6" plug

Sand - 1/2 to test 6" (20/10 grade)
 Bentonite - 1/2 buckets
 Rig - 0-57
 Driller - Xavier Samuels



1340-	Crew silk with	return to deoxid PVC.
1347-	Begin (thru augers)	setting well
1430-	MW-2 set, for 1 inch	crew broke
1530-	B-57 set up on MW-3.	
1543-	Begin drilling	

Interval (ft)	Blow Counts	std. OVA	Gr. mod.
0-2	15/18/18/18	4.6	0.0
2-4	14/15/15/17	0.2	0.0
4-6	8/11/10/10	0.4	< 0.1
6-8	3/4/5/6	0.4	0.2
8-10	3/7/7/11	0.8	0.8
10-12	7/14/23/27	1.4	2.0
12-14	15/32/40/29	0.2	0.0

Lithology (ft)

0-2	5 YR 7/4	Mod. brown
2-3 1/2	fine sand, dry	
3 1/2-4	aka 10 YR 6/6	Dark yellowish orange, white mottling
4-4 1/2	aka	fine sand, dry
4 1/2-6	N9, white, well sorted	
	fine ind, clay @ 5'	

6-8	5 YR 2/2	Dusky to red fine sand, wet.
8-9	aka (color) wet	mottled red in.
9-10	N2	gray, med. to coarse sand, few fines, saturated
10-12	5 R 4/2	Grayish red, coarse sand (~2-3 mm), saturated angular to sub angular, mostly quartz
12-14	aka	Overdrill to 15'
1735-	Mw-3	set up to bottom & due to lighting

1630 - Lamer site.

FST017 MW-3

Screen - 10.50

Casing - 10.00

20.50

Stick 5.40

Bottom Screen 15.10

Bottom Screen 10.50

Top Screen 4.60

3.0

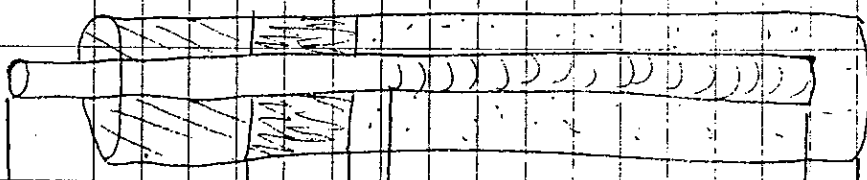
2.5

3.5

4.6

15.1

15.1



Sand - 2 1/2 bags

Bentonite - 1/2 bag

G. Weiser

TF 764103

23 Jun 1993

0630- Arrive @ site

0657- Begin collecting split/dupl. samples @ FST 004C MW-3

(unable to collect yesterday due to thunderstorm).

Samples collected from 2

separate holes 2' to

west of MW-3 (3" split

spins contain enough volume

for only 1 set of

samples.

0715- Sampling completed - rig
move to wash rack

0730- Calibrate OVA check
O₂/LFL meters

0800- Show K. Tholman well location
@ FST - 004C.

0825 - Show Kelly, Hyster (CoE) area @
FST 004 B & D that need dozer
work.

10

11

0930-	B-57	set up on		
	FST-004C-	MW-3		
0957-	Conduct	tailgate	spoty	
	meeting			
FST 004C-	MW-3			
Instrud	Blow	in Bl	OVA	Filtered
0-2	5/11/12/15	0.4	0.2	
2-4	8/12/12/12	70	90	*
4-6	7/16/8/11	Ns	recovery	
6-8	17/8/6/5	Ns	recovery	
8-10	5/7/7/6	10	6	
10-12	5/9/11/11	80	66	
12-14	5/4/5/4	12	12	
14-16				
*	Collected	for	had	analyse.

387

FST-004C. MW-3

Lithology

0-2 5 YR 2/2 Partly brown
silty sand, numerous
rootlets, dry. Slightly
fetid odor, very earthy.

2-2 1/2 wh

2 1/2-4 N2 Grayish black, silty
sand, moist

Wet at 3 1/2 ft

4-6 No recovery - lost wet
sand.

6-8 No recovery - spoon blocked
by coat. No changes noted
in auger cuttings from
2 1/2 ft. to 7 ft. Increasingly
clay content at 7-8 ft.

8-10	N2 ^{grayish} silty clayey, numerous rootlets / wood fragments, saturated, silt / sand,
10-12	N4 med. Dk gray clayey silty redish brown sandy silty clayey, fragmentary, scattered, some wood / no
12-14	u / ca
	Over drill to 15' to allow for heavy sand.
1110-	FST 004C MW-3 borehole completed to 150 ft
	Done hole diameter - nominal 8"
1142-	MW-3 set up for bit test

FST 004C-MW-3 3.0

Screen 10.5

Casing 10.0

Total 20.5

Stickup 5.7

Screen Bottom 14.8

Screen 10.5

Screen Top 4.3

2.6

3.5

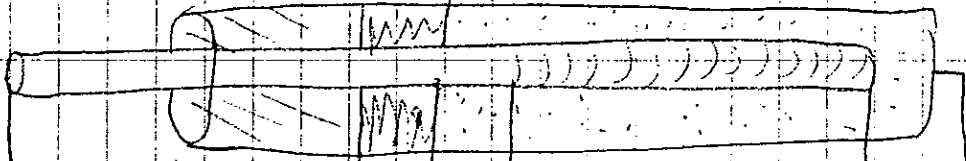
4.3

14.8

15.0

Sand - 2 1/2

Perforate - 1/2



1200 - Break for	Lunch			
1330 - 0-57	set up	over		
FST 004C-MW-4				
1352 -	Begin	drilling		
MW-4				
Interd.	Blow		OVA	Filtered
0-2	5/9/13/15		Unfil	0.0
2-4	8/17/14/15		120	70
4-6	2/2/2/2		58	50
6-8	1/4/6/8		20	10
8-10	3/5/6/7		48	34
10-12	4/8/7/10		12	12
12-14	5/6/5/7		44	22

EST 004C MW-4
Lithologic

0-2 N2 dk grey, silty fine
grained sand, clay

2-4 w/a, dump
cuttings wet @ 4'

4-6 N7 Very light gray, clayey
fine grained sand, saturated

~~6-8~~ w/a, light green, ip

8-10 w/a

10-12 w/a

12-14 N7, clayey coarse sand,
saturated, not cohesive

Borehole overdrilled to 15'

1457 - Borehole for FITOONE-
MW-4 completed to
11'

1530 - MW-4 completed to
 Bentonite
down. Crew rig

1620 - @ design ped, both
Rigs & tools, steam
cleaned.

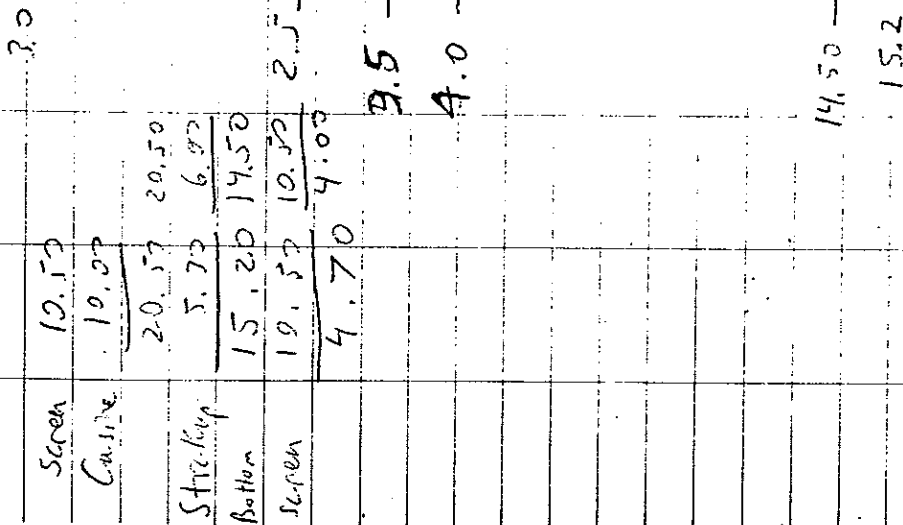
Concrete Pickle

Smoke Stack

Near lift station

1720 - Care site

FST004C - MW4



Bliss
 Sand - 2 1/2
 Bentonite - 1/2

Co. Weirs

24 June 1993									
TF 76403									
0615 -	Prepare soil samples for shipment to lab.								
0650 -	Pick up ice.								
0710 -	@ FST004D, conduct safety meeting.								
0730 -	8-57 crew to grant holes @ FST004C while I ship samples. Will also pick up more pallets for drums.								
0800 -	SAVA #13 - Field. Ex. Pick up #13. Call Fed. Ex. and courier to pick up soil samples. Left coolers with Cameron Smith.								
0900 -	Inform B-17 crew that drums will need to be switched.								

Atlanta - 404-434-9666
 Tampa - 813-961-1921

8910	- Galled hill check method A	Radio on (8015 v. 8100)	Fiber - TTH ext.
1000	A-57 Mw-1 coordinate switch	set up on Leave site effort to drum.	FST00411 -
1030	- checked use 8100 ext.	w/ Radio - Mod. for TCH	
1110	- Bunting on will receive OVA	sent space w/RT's	
1215	- Update to with level section across use. No great if necessary.	J. Peterjohn, is shallow place regardless -	
			Dg m. drilling @ 1100 ended @ 1145

Open-top down C sites

$$\begin{array}{r} 7 \\ 3 \\ 5 \\ \hline 15 \end{array}$$

$$\begin{array}{r} 107 \\ 38 \\ \hline 67 \end{array}$$

$$\begin{array}{r} 121 \\ 23 \\ \hline 105 \end{array}$$

FST0041C ~~||||~~
 FST0041D ~~||||~~
 FST0041E ~~||||~~

Stock yard 89 91 90 92
 105

ordered - 38 open top
 90 bung
 128

Need to exchange 67 open top for bungs
 pick up 23 more bungs

EST 0040 - MW-1

ft	B/blow	WFL to rod	GVA	Fill level
0-2	2/4/19/15	0.4*	0.4*	
2-4	9/14/19/17	0.6*		
4-6	7/8/19/11			
6-8	8/10/19/13			
8-10	9/14/19/15			
10-12	3/7/18/7			
12-14	5/10/17/17			

* GVA's (som) are not working

L. M. 10. 10. 10.

0-1	5 R: 4/2	Gravel red
	silty fn	graded sand, dry
	same	rocks
1-2 1/2	N 8	Very light gray
	silty fn	graded md,
	dry	
1/2 2	color 3/4	dk reddish
	brown,	clayey fn grade
	sand	moist
2-3	same as 0-1	b-f moist
2-4	same as 1/2-2	
4-6	5 YR 2/2	Dusky brown,
	very clayey	fine grained sand,
	water 4'	poorly sorted
6-8	1 YR 3/R	Grayish brown
	coarse	granuloly sand
	(up to 6mm),	clayey
	saturated,	(poorly sorted)
	finely	quartz grains -
	subangular	
8-10	5 YR 6/1	light brick gray,
	with	2/10

24

12-12 NR, very light grey, fine to coarse grained clayey sand (no gravel), poorly sorted, sub-angular, saturated.

12-14 10 VR6/2 pale yellowish brown, gravelly coarse sand, about 40 fines

Over drilled to 15" - no samples collected.

$$\begin{array}{r} 20.5 \\ 6.7 \\ \hline 14.8 \\ 1.2 \\ \hline 16.0 \end{array}$$

$$\begin{array}{r} 20.5 \\ 6.7 \\ \hline 14.8 \\ 1.2 \\ \hline 16.0 \end{array}$$

$$\begin{array}{r} 20.5 \\ 6.7 \\ \hline 14.8 \\ 1.2 \\ \hline 16.0 \end{array}$$

25

FST004D - MW-1

Screen 10.50

Gravel 19.00

Total 29.50

Stick 6.50

Sec Bottom 14.00

Screen 10.50

Tip of c 3.50

3.0

2.5

3.0

3.5

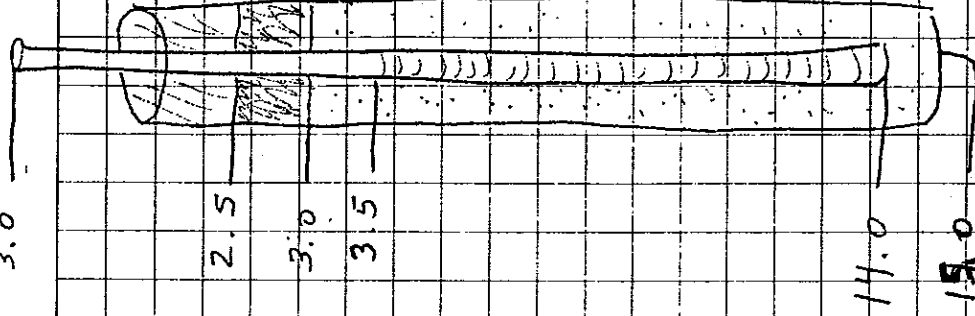
14.0

15.0

Bag

Sand - 2

Depthwise - 1/2



1210 - Attempt to repair OVA -
 call service for assistance.

Took sample from 2-4 interval
 from FST 001D MW1 (sample
 above water table).

1300 - Wait for Henderson to
 show, crew breaks for
 lunch.

1410 Henderson passed. Set up
 on FST 001D - MW1.

OVA not functioning.

1500 - Begin drilling.

1520 - Drilling complete to 15'

1620 - well completed to bentonite.

FST 001D - MW 4

Interval	Blows	W.G. Head	OVA
0-2	3/7/8/9	0.0	0.0
2-4	4/7/10/12	2.6	0.0
4-6	5/11/13/11	3.2	4.8
6-8	6/9/7/8	6.8	3.4
8-10	2/4/6/12	2.2	8.4
10-12	3/3/5/9	1.8	2.2
12-14	7/9/5/6	5.8	4.4
* Collected for analysis			
<u>Lithology</u>			
0-2	N2	Medium gray silty fine grad sand some roots	
2-3	Root		
3-4	N3	Dark gray, silty fine grad sand, wet	
	0	4 ft	

4-4 1/2 - root

4 1/2 - N5 medium gray, fa

6-8 - N2 grayish black, medium

grained silty sand, wet

grained silty sand, clayey

in places, strong earthy, slightly

faded odor, saturated.

8-10 - N8 very light gray

medium to coarse grained sand, almost

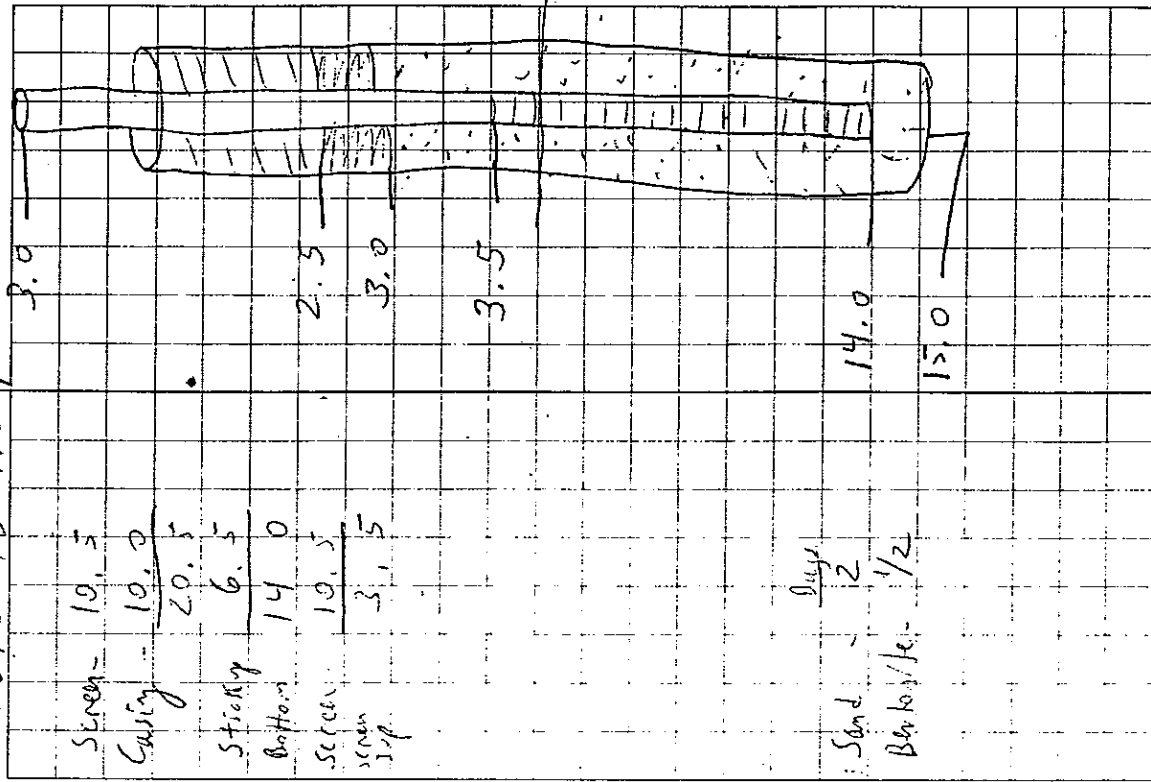
no fines, sat, subsurface

to angular.

10-12 a/w

12-14 u/w

FST004D-MW4



G. Weiss

25 June 1993

TF 76403

0700 - Att wash check, repair/double check
OVAs

To Do:

- ✓ 1. Call G. Martin with H/S does (1 weeks - med), ✓ on other
- ✓ 2. Call Range control - E-mail ✓
P. Silvio M. M. - Tres *
- ✓ 3. Call T. Nicholson, make call
to him at Camp Oliver
- ✓ 4. Call Surveyor

* 767 8100

0800 - Att FST004 A - MW3

0823 - Begin drilling

FST004 A - MW3

For hand	blows	OVA
0-2	3/11/6/7	Unfilled / Filled
2-4	3/7/9/11	
4-6	18/15/14/16	
6-8	5/7/9/10	
8-10	off site to call	
10-12	to Petropola	
12-14		
	M. make prepared lith. description	
	Surveyor	
	July Whitely Reynolds	
	9/12 - 352-0464	
	April for probe	
	via elev. / bivariate control.	
	T.C. to handmarker	
	parallel	
0900 -	Call J. Petropola - ok	
	to make MV-2 to 100'	
	to wait	

0927 - EST004A - MW3
borehole
completed to 15'

1025 - Rig moved to MW-2.
Leave site

1030 - Call Howard Ballard -
clear for E & F sites
Mon - Tues.

T. Nicholson on site -
will go to Camp Olive on
Mon. Burn Area B cleared.
No problems noted.

1107. Called surveyor - out until
1:00.

EST 004A - MW3

Screen - 10.50

Casing - 10.00

Total 40.50

Filter pack 6.5

Screen 14.0

Super 10.50

Total 3.50

Screen 2

Filter pack 1/2

3.0

2.0

3.0

3.5

14.0

15.0



1125- Lease A site to make
arrangements for surveyor.

Packer Surveyors - Kingsville
912 876-3816

Lambert Land Surveyors
912 781-366 fax 786-5904
biweekly - \$155
CID - \$30

Schedule open late next week?
Janis Lambert

J. Petryshin with box materials to
Lambert

1230- Stop by 157004A 11/5/7
Completed MW. 2, demising
Geograph @ 8' on mudfl.

No problems - will collect
split/dupl. forms now
1300 - show M. near Area
B

1325- Break for lunch

1410- Return to Area A
completing well manual.
No problems.

To do:

1. Call Cover for soil sampling
2. Review Surveyors bid
3. Prep sample cooler for 10W sampler *
4. Review claims to get old drums on pallets
5. Prep fax timetable and expense reports.

* Need:

- ✓ Cooler ✓ Sample labels
- ✓ Ice ✓ Sample bags
- ✓ CD x 100/1000/1000/1000 ✓ Containers
- ✓ Glass
- ✓ Surveyor fee
- ✓ 11/16 report

1530 - Show crane where to
set up B-11 @
EST004B.

1700 - ✓ check size of the
dike on steam cleaner.
Located flange - got lost
with 2" pipe. Skipped
him where EST004B is.
Observed drilling @ EST0040 -
MW-1

1800 - AT EST007A MW-1. Begin
drilling.

2100 - mud completed. lean side.

G. Willis

6/26/93

TIF 76403

0770 - @ EST004B - prep. soil
sample for pigment

0800 - steam cleaner down - event

looking for replacement

1070 - checked w/ Range control -

OK by wire to

4:45 E of today.

1170 - Return to work track -

prep materials for PDWSL
sampling.

1205 - Sample drums @

1230 EST0041.

1240 - EST004D

1311

1316 - EST004C

1350 Drum lid on MWV)
does not fit.

912-686-7626
Cell # Area #

38

1700 - @ FST007 M. Maria
getting OVA readings
> 1000 ppm Fil > 5
min. Shut down drilling.
more rig Needs to
be decon'd due to
hydraulic line rupture.

1715 - @ FST0051A to sample
drums.

1730 - Sampling completed
Shovel mark E & R
occurs

1600 shovel M. Maria E&F sites,
check on Guped @

FST0051E Completed one
well.

1700 shovel rig

59

28 June 1993

6. Weigh

TI 76403

0625 - Pick up supplies

To Do

- ✓ 1. Call Courier - arrange for
Tup. pickup.
- ✓ 2. Evaluate FST0048-MW4
safety levels (OVA)
- ✓ 3. meet T. Nickelson @ E
@ 0800
- ✓ 4. Ship M.A.D. samples
- ✓ 5. Review well development
- ✓ 6. prep to call talk to TM
for surveyor bid.

0720 - @ FST0048-MW4

- Check auger top with
OVA Reading > 1000 with
filter at 1000 yd
J. Petrosola - stands 1/2
more to next well site

401

0745- stuck in traffic on base caused by hoop conducting IT on main roads.
 Called Sam las to get carrier to pick up samples tomorrow morning.

0930 - @ FIT004E, meet J. Nicholson.

1017 - @ FST-003 Tag-X MW-1 4" well w/ ports Needs pot. pipe / ports 4x 4" wells with pads.

~ 1100 - locate wells at FST-002 - Camp Oliver.

~ 1300 - break for lunch.

1330 - @ FST004B - MW-2, no problems.

1400 @ FIT004E
 [Fishing MW-1]
 Transferred cable on rig broken, landing site shut down.
 1530 - Same site

To Do:

- ✓ 1. Call JP - ✓ GE boilers
- ✓ A. pot. call parts ✓ 2x mob.
- ✓ 4. P.C. in dead FST-13 meter
- 2. Gas - bath and
- 3. Get - a gloves (Korologed)
- A. Spool - FST-13 meter
- 4. Disc well pot. ✓ Zent/JP
- 5. Buy / Get
- ✓ A. Gas can - staging area
- ✓ B. Gloves
- ✓ C. Spray bottles
- ✓ D. Paper Towels
- ✓ E. D1

Sw. Las
 Roke
 Walling

0935-	Spoke to leado Firoo -			
	A. OR to mobilize team			
	back after the holiday -			
	no need for 16 Jan			
	site for development			
	is break pads out on			
	existing wells @ FST-002			
	mid 003 Get Logre			
	to order pipe			
	C. Can use 16 trailer to			
	develop f. gridda.			
	A. Hill ✓ on Turf. Note.			
1121-	FST004F - MW1 set -			
	Dr. Peterson leave site			
	to show M. MARR.			
	FST002 & 003 sites.			
1130-	Show M. MARR & K. Thulman			
1409	wells @ FST002 & 3			
1409	- pick up materials for			
	sample 10W @ FST004B			

29 June 1993				
G. W. P. S.				
7F 764103				
0600-	Pipe samples for shipment -			
	left at hotel desk			
0620-	@ work materials set			
	development material from			
	K. Thulman.			
0710-	Get up crew on out of			
	job on way to			
	FST 004 E.			
0740-	@ FST004F, met M. MARR.			
	Crew Hill @ FST004B			
	grouting wells.			
0810-	Call J. Petersohn - not in.			
0830-	" " " " " "			
	arrives			
0900-	Talked with J. Petersohn			
	P. Firoo K. DeLong - none			
	available			
0911-	Leave FST004F (MARR) @			
	problems noted.			

1445 - c FST0048 to sample
soil cutting IOW near

1520 - Sampling complete.

1550 - c FST004E, rig
stopped. driller looking for
helper

1700 - driller returns without
helper. Continue drilling.

1950 - well completed, leave
site.

30 June 1993

G. Weir

TF76403

0605 - Speak to drillers,
helper on Gupac's reported
being injured (back pain
and nausea) from minor
traffic accident yesterday
unable to work. Will continue
with one rig, use other
personnel for pads/parts.

Top Do:

- ✓ 1. Call M. Ormsby - accident
report needed? On 0930 -
found -
- ✓ 2. Call T. Nicholson re
Camp Oliver - station/replace re
repair damaged well?
- ✓ 3. Brief J. Peteroburo project -
check on turbidity meter
and surveyor.
- X 4. Begin well development
also turb. meter

0620 - E wash truck, crews loading materials.

0710 - @ FST 0041F, prep. to sample DW.

0804 - sampling complete.

0822 - @ FST 0041F

0830 - Call T. Nicholas

A Asbestos/Asphene well @ Camp Olinde.

B will ✓ to see if 16 needed for development.

0844 - spoke to Don Leonard - we don't file 101/2001 for 2526. Recommended telling Lynne to do so.

0855 - J. Peterobis called, work out schedule/ground plans. Call. Surveys, construction meeting with site for Friday.

1025	FST 0041F - MW3 completed. Call J. Peterobis with proposed schedule.
1106	Leave FST 0041F to buy supply and locate equipment (acidity, meter and extra pump).
1135	Call A.P. supplies (glover and pipe knurl).
1215	Call to find pump for development (found one) and buy wrench (unsuitable to locate).
	Called surveyor - left message to meet on Friday.
1250	Return to FST 0041F - completing last well.

1350 - Begin sampling FST 004F
IDW

1435 Sampling completed.
Called Jeff Peterson

T-13 meter needs generator.
813-968-2078 } Ken DeBorja
813-269-3506 }

PG must be on site during development

1530 - Return to hotel to packing
- Fax from Ken DeBorja re generator. spec. Return to site - set up @ camp oliver.

1800 - Leave site

1st July 1993

0600 - Prep. sampler for shipment

0735 - on bus - attempt to locate M. Moss. Both

crew at Camp Oliver

0900 - @ Camp Oliver - no problems. B-J7 drilling

Wankle to locate M. Moss

Need to pay for development

JA. Strick for surge stack (110g)

o. Gloves

c. OI water

~~A. Moss~~ bottles (2x)

0945 - M. Moss arrives @ Camp Oliver

1000 - Leave site A. Moss and

Lewis week go to Tasc-X

7/2 break pads

1100 - Arrive at Hotel Turk

meter bring wrench and

PH/SC meter see in

1137 Called Tom Frye:

- A. well blocked by trucker
- B. August left on track
- C. Prod left on track

1150. Pick up cable separator.

1177. Call Frady regarding Army's complaints on waste water.

1215 - Pick up supplies, refuel truck.

1225 - Brand for lunch - could track water manually.

1390 - @ EST 014 - MW 4 for development.

Water level (from 700) = 10.16'

Well vol = (15.00 - 10.16) * 0.175 =

0.82 gallons.

1327 -	inland equipment	for
	development -	discovered
	fittings for pump discharge	
	is missing	leave site
	to buy	hole
1352 -	Return to site	off-high
	on person	slightly larger
	than box	fittings.
1400 -	Load truck -	leave to
	find hardware	store.
1425 -	Return to site	valve
	assemble, and	adjust
	meter	
	Turbidity meter (La M. He Chem Mod. 2008)	
	5 NTU std =	6.56
	10 NTU std =	15.40
	pH meter	
	6.00 std =	4.00
	7.00 std =	7.12
	S.C. meter	
	1413 std =	1.47
	1477 std =	0.48

Time	pH	S.C.	NTUs
1540	5.14	80 mg/L cm	Black (>200)
~ 5 gallons	Many fumes, very turbid		
1550	5.48	70	974.4
~ 10 gallons			
1602	5.12	60	>200
~ 20 gallons			
1620	Surged well with slug ~ 20x.		
1628	5.50	50	>200
1634	Pumping rate = 0.5 gpm		
	Water level = 10.65 ft stoc		
1642	5.18	60	>200
~ 40 gallons			
1645	5.17	60	130.3
1655	5.14	60	59.0
Water clears markedly, f well is not agitated, but becomes turbid (>200 NTUs) if surged or even if pump drop-line is moved vigorously.			
~ 47-70 gallons			

Time	pH	S.C.	NTUs
1700	5.18	60	32.1
1711	5.12	60	6.6
~ 50+ gallons			
1722	5.18	50	3.6
57 gallons - End Development			
1740	Well secured drum closed, equipment loaded, trail picked up. Leave FITO14.		
1745	V. 54 work sheet, again picked up and placed in sewer. but this time is still there.		
1750	Leave base		

Leave Truck @ 1139 AM TM 54

✓ Call Courier - Sent. Pick up
 ✓ Ask re extra drums

2 July 1993
 G. Weiser
 TF P6403

0720 - Arrive at staging area
 pick up 3 drums. Deep off at
 Mon 1 thru 3 @ FST014
 0740 - Received and from M. Thalman -
 finishing up assembly with @
 Cam & Oils - will be here
 shortly (FST014) Complete
 daily logs

- Development equipment
- ✓ Generator
 - ✓ Pump
 - ✓ Scoping (Hemphill)
 - ✓ Stroy
 - ✓ Rope
 - ✓ pH meter
 - ✓ v. meter
 - ✓ Soil meter
 - ✓ Sample jacks
 - ✓ Well Keys
 - ✓ Bags, wire mesh (in and out)
 - ✓ Forms
 - ✓ Camera
 - ✓ Photo bulbs
 - ✓ m. scope
 - ✓ Grease oil

0820 -	Called	Joe	103	made
	arrange	for	sample	pick up
	to	Wickham		
0900 -	Met T. Woodson	T. Woodson	I. Luper	
0924 -	A. Switch	drums		
	B. Stringer	with	rocks	row
	C. Leave	material	in	B Area
		will	not	able
				to
				exit.
	Jul	PUC -	not	sent
		Leave	parts,	guards.
			Keys	(in in & out)
			w/	Army & CoF
0947 -	Leave	1139	Am	site
	hour	T. Wickham	I. Luper	
1000 -	FST014	- no	problem	
1009 -	FST004D	- MW 3	- no	pallet
				no
				locks
				Metric
				size
				all
				metric
				are
				lacked.
				Give
				Metric
				Protection
				re:
				with
				metric

1012 - FST004C - MW3, drum

lid not on

FST004K - MW2 - no pallet

FST004L - MW4, lid

grated

Put level on empty tops

1032 - FST004B - MW4

Trunk drum needs lid.

FST004B - MW2 / MW1

covers coated

Stake location of MW4

for MW2, visible only

1094 - FST004D

Trunk barrel wiped on

pallet.

1113 - FST004E - MW2

Not grouted, no pallet

FST004E - MW4

Not grouted

MW-1	grout removed.	drum needs to
1131 - FST004F - MW1	pick up	trash
MW-2		
2" not cut, no cap (taped)		
MW-3	"	pick up trash
MW-4	"	
1225	Place concrete from pads	
	out of way	
	make sure top of 4" wells are above lip of prot. casing.	
~1770	Return from Camp Drive	Attempt to find cross.

1500 - Attempt to repair display
 everyone is busy
 home.

1600 - 1 well @ F17041 ok

1770 - Return generator, leave
 site.

3 July 1993

6:45 AM
 TKE 076903

0700 - Prep samples, load
 trucks.

0800 - Leave for
 site check.

0820 - Meet with
 Xaviera, sample
 to finish job

Do today:

A. Finish F17044 - post,

B. locate all
 painting
 new wells

C. Clean up
 Zoukri Cemetery
 Area

Week after next:

A. Finish Camp Oliver - post,
 posts (new wells located)

B. F17041E - post, painting

C. Touch up paint on
 wells.

D. Set out bug drums

at each site

E. Put all
 drums on

pallets.

411

12 July 1997

G. Weiss

TF 76403

- 0720 - met w/m. meet - he'll find pump fittings - I'll coordinate with driller, surveyor, etc.
- 0750 - checked in w/T. Houston.
- 0800 - Layne crew not in yet. Call supervisor - will start this morning.
- 0810 - call J. Peteroka - not in yet.

To Do:

- ✓ 1. Get open top drums moved
- ✓ 2. Stake well location at F57004B for surveying
- ✓ 3. Buy pump fittings
- ✓ 4. Reveal F57014 MWL 1st for 4 hrs
- ✓ 5. Get forms from M. Major - Development logs and QA forms.

0845 - Called J. Peteroka - no word on required action for concrete pile @ F57003. I'll call G. Mowbray w/Layne.

0847	Layne crew due on site by mid afternoon.
0910	stake well location @ F57004B
1050	C F57014-MWL for development
	Instrum ents:
	pH - Martison Model 88
	S.C. - Martison Model 103
	turb. - ESO Model 800
	Cal's Station - Temp - 30°C
	pH
	std. measurement
	7.00 = 7.00
	4.00 = 3.98
	447.1 = 0.46 (1000x actual)
	1,413 = 1.34
	0 = 0.02
	10 = 8.76
	Turb

1119- FST014 MW1
 Static water level 11.11 btoc

1150- Begin development of FST014 MW1
 1530- End development of " "
 Call J. Peterson
 Set pump 3x until clear
 Surge initially
 Pump to 10-75 NTU
 Surge again
 Pump to 20-40 NTU
 Surge
 Pump < 10
 1545 Call M. Price re static
 preservative

1600- Spoke to M. Price - T&EI noted
 don't need preservatives.

~1605 Begin sampling 19w @
 FST014.

1640- Sampling completed - leave
 base

13 July 1993

G. Weiss
TF-78903

0700- @ site, coordinate with
 driller to get drum
 moved, bring more drums to
 wells @ FST004D

0845- Begin development of
 FST004D - MW1

Calibrate instruments

pH

STC

4.00

7.00

Reading

4.00

7.09

S.C.

447.1

0.47

1.713

1.30

Turb.

0

0.00

10

8.10

14.91
 8.47
 6.44

413

See daily log for details.

FST004C - MW 2 Revdevelopment

Time	Vol.	Temp	pH	S.C.	Yrds.
1805 ~ 25	27	5.48	130	> 200	
1820 ~ 28	28	5.53	130	> 200	
1840	33	5.49	130	174	
1900	45	5.54	149	53	
1915	50	5.55	149	44	
1930	55	5.52	140	34	

Development complete.

Flow rate - 0.25 gpm

1940 - Levee base

14 July 1993

G. Weir

TF76403

0700 - Reice IPW sampler, leave for base.

0715 - Met Layne crew - get keys to drum warehouse - return them to DEH.

0720 - at hardware store - wait to open. Need more drop line and fittings.

To Do:

- ✓ 1. Call lab for pick up tomorrow
- ✓ 2. Call J. Peterson, concrete pile
- ✓ 3. Complete logs
- ✓ 4. Move FST004B well material to DEH area.
- ✓ 5. Buy 1/4" drop line & fittings and 1" PVC drop line.

1/4" - 74' = 148'

1" - ~~74'~~ 74'

29 - (4 + 1 + 2) = 22

66

0840 - @ FST004C, assist M. Moser
 missing new fittings on pump

0920 - Begin development of

FST004C - MW4, using
 Tanaka pump w/ 5/16" flex
 dropline.

0930 - Well dry - pumped 3-4 gallons.
 stop pump, drop P.C. pail
 in well, allow to
 recharge before surging.

0945 - Drilled ~ 1.5 gallons - well dry
 again.

Calibrate instruments

PH 4.00 = 4.00

7.00 = 7.09

Turb. 0 = 0.00

1.0 = 8.02

SC. 447.1 = 0.54

14113 = 1.46

67

FST004C - MW4

Time	Vol	Temp	PH	S.C.	Turb
1015	~10	23	6.12	390	181
	bailed	dry	after ~ 0.75		gallons
1035	~10	22	6.26	480	>200
	bailed	dry	after ~ 0.5		gallons
1045	M. Moser	to	constant		
	bauling	MW4.	Decon		
	5/16" dropline	by	pumping		
	1 galloon	DI	water		
	it,	washed	outside		
	Micro	and	lined		
	DI	water.			
1102	@	FST004C - MW1,	setup		
		for	development.		
1111	-	Start	development - details on		
		log.			
1334	-	Development	completed - well's		
		turbidity	did not decrease.		
1405	-	Complete	(New sampling.		
		M. Moser	proceeds to		
		Area 0	break for		
		lunch / restroom.			

415

- 1430 - Return to F5T0040B.M.
Moser reports all bung drums
at this site have been
stolen
- 1530 - Return to F5T0040B with drums
- 1615 - Begin developing MW-1
- 1650 - ~~Ent~~ stop development unable
to sustain pumping and
thunderstorm is threatening.
- 1710 - Leave base

15 July 1991

G. Weiss

TF 76403

- 0700 - Prep mapler (10WGW) for
shipment
- 0730 - Met driller, will show
Mem Tac-X & C. Olivin
this morning
- 0750 - @ F5T0040B, get lid
on trash drum, look
MW-3, pick up empty
bung drums. Finish
development of MW-1.

0815 - Calculate differences

$$\text{pH} - 4.00 = 4.00$$

$$7.99 = 7.05$$

$$\text{S.C. } 447.1 = 0.50$$

$$1413 = 1.32$$

$$\text{Tvd } 0 = 0.02$$

$$10 = 9.88$$

0826 - Begin (resume) development by drilling.

F5004B-MW1

0832 - Bailed well dry after 2 gallons.

0850 - Bailed dry after 0.75 gallons

0912 - Development completed - parameters stabilized. Well did not clear up.

0915 - Meet drillers @ Area B

0930 - Drop of drum at Area A, spoke briefly with M. Moore.

0945 - Left to show drillers Tac-X and Camp driver.

1213 - @ F5004A - MW4

M. Moore reports gasoline odor not shown in MW4, well was not locked.

F5004A - MW4

Time	Volume	Temp	pH	S.C.	Trips
1220	~10	26	4.84	60	72
	No odor or sheen				
1230	Pump out of gas - surge well by building ~3 gallons with LE. Gauger - faint gasoline-like odor - no discernible sheen				
1246	Resume pumping				
1248	~14	25	4.60	50	>200
	No odor				
	Flow rate - 0.5 gpm				
1258	20	26	4.67	60	14
1315	30	25	4.66	60	7.5
1325	35	25	4.60	60	7.8
~1400	Leave to pick up more drum and dropline and to move materials for F5004B-MW4				
	Near OEH Building				
~1515	@ F5004E				
1543	Begin developing MW-3				
1640	Completed MW-3, move to MW-2				

1738 Outgoing complete.
1870- Leave base

16 July 1993

G. Weiss
TF 76403

0758- @ Bid 1139 to speak with
T. Frye (guarding on base
disposed of walk concrete
from Tee-X and to
return key to storage
area (3x well keep too).

0809 - Gave keys to T. Frye -
T. Houston will make
decision on concrete but
won't return until Monday -
will arrange for off-base
disposed.

0820 - Complete logs/timestamp -
wait on Layne crew at
washrock.

0900 met w/ Layne - they'll finish
pods/posts @ C. Oliver then
arrange for concrete disposal.

0920 - Pick up drop line / fittings
and pallets

1000 - @ 1700 hrs

1017 - Begin set-up for development
@ Mw-3. Calibrate
instruments.

pH 4.00 - 4.00

7.00 - 7.04

S.G. 447 = 0.49

1413 = 1.35

tools 0.00 = 0.00

12.00 = 8.94

Initial water level 16.50' btoe

1039 - Begin pumping

1042 - Pumped dry - < 2 gallons

1105 - Unable to sustain pumping -
pump overheating. Switched to
variable

1120 - m. most reports free product
(gasoline?) in Mw-4.

1300 - development of Mw-3 completed

1311 - Complete 10w sampling.

1350 - Complete 10w sampling
@ E, place all drums
in pallets

1430 - Leave base

17 July 1993

0800 - Repair DW samples for
0830 shipment, complete check
of custody form.

1055 - Begin placing placards on
wells.

Wells needing locks:

✓ FST014 - MW1
✓ FST004A - MW1
✓ " MW2
✓ " MW3
✓ " MW4

FST004E - MW1

2

3

4

1250 - Placards placed on all wells -
return to hotel pick up locks.

1430 all wells locked

EXHIBIT A.3

DAILY QUALITY CONTROL REPORTS

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

423

Date: June 22, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):
90s, light wind, Thunderstorms late afternoon, high humidity (high)

B. Work Performed: Installed 4 monitoring wells (FST-014-mw1, FST-014-mw2, FST-014-mw4 and, FST-^{KT}014-mw3~~KT~~) and collected soil samples for laboratory analysis at fire training Area FST-014; 0700 - 1830

C. Sampling Performed (location/number, sample type, etc.): Site FST-014
FST-014-SL-1-2 - Soil (0-2 ft interval)
FST-014-SL-2-6 - Soil (4-6 ft interval)
FST-014-SL-3-2 - Soil (0-2 ft interval)
FST-014-SL-4-4 - Soil (2-4 ft interval)

D. Field Analyses Performed (including instrument checks, calibration, etc.):
VOCs (8240), TPH (single to 4 extractable), ~~SPC, pH, RCRA metals~~ ^{KT}
OVA calibrated to 100 ppm methane - ~~not~~ measured headspace for soil samples from 0-14 ft for FST-014-mw2 and FST-014-mw3.

OVA Reading
51856 - 88 ppm
51970 - 92 ppm

headspace measured: 0-8 ft FST-014-mw1 and 0-6 ft FST-014-mw4.
LEL/O₂ meter checked O₂ & with 2.5% methane - both OK.
E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.): and ~~Dev~~ and Deviations from WORK PLAN

Extreme heat contacted USACE about not using Tyvek - Toni →
Nicholson contacted H&S personnel who said we did NOT HAVE TO
Wear Tyvek in level D; Tyveks was NOT worn IN THE AFTERNOON.
Did not collect headspace to bottom of boring in ^{FST-014-mw4} FST-014-mw1 ^{called to write tabs}

F. Quality-Control Activities Initiated: Calibrated OVA; checked
LEL/O₂ meters.

Signature of Reporter: Katherine J. Thalm
Geraghty & Miller, Inc.
Janett P. Klein

Personnel on site:

Kathy Tholman	Geom	Staff Scientist
Garrett Weiss	Geom	H&S Officer, Project Scientist
Daniel Nicolas	Layer	Driller
Ricky Lewis	Layer	Helper
Xavier Samuel	Layer	Driller
Harvey Littlefield	Helper Layer	Driller Helper

Equipment

FOXBORO	OVA 128	# A 51856
"	OVA 128	# A 51970
GASTEC	MODEL	HCO212
GASTEC	MODEL	HCO222
Nissan Truck		
GUS PECH	- Drill Rig	
MOBILE B-57	Drill Rig	

Soil samples analyzed for VOCs, ~~to~~ RECA metals, SPC & pH.

→ Filtered headspace NOT measured in FST-014-mw2; Thunderstorms caused shut down of rigs - did not finish duplicate and split sampling at FST-014-mw3 because additional soil samples need to be collected from 0-2 ~~ft~~ Ft Bls. Will collect 6/23/93.

Monitoring Well Installation: Deviation 10.5 ft sand placed 6m ~~at~~ top of screen because of shallow water table ~~1.5 ft bentonite~~ ~~at~~ 0.5 & 0.9 ft bentonite seal. FST-014-mw2 & FST-014-mw3, respectively.

Health & Safety Considerations - Extreme heat (had to take frequent breaks) - wore modified tent
 D_{max} ^{norm} - changed to Level D in afternoon after WACE Approval
 Monitored OVA - ~~FST-014-mw1~~ FST-014-mw1 - ϕ ppm readings
 FST-014-mw2 - ϕ ppm readings; FST-014-mw3 - ϕ ppm readings;
 FST-014-mw4 - ϕ ppm readings - same for LEL meters -
 Next day Activities: FST-004C - Burn Pit Area. - install 4 monitors and

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

425

Date: June 23, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):

A.M. sunny, hot (90's), humid, light wind

P.M. cloudy, hot (90's) humid, breezy with Thundershowers in area - did not rain at site

B. Work Performed: FST-004C - Burn Pit i ⁰⁶³⁰ - 1720

Installed 4 monitoring wells - FST-004C-mw1, FST-004C-mw2, FST-004C-mw3, FST-004C-mw4 and collected soil samples for lab. analysis

C. Sampling Performed (location/number, sample type, etc.):

Collected soil samples at 4 monitoring well locations at Site FST-004C

Samples analyzed for
VOCs, RCRA
metals, SPCF
pH

FST004C-SL-4 (soil) - 2-4 ft interval

FST004C-SL-2-4 (soil) - 2-4 ft interval

FST004C-SL3-4 (soil) & FST004C-SL4-4 - 2-4 ft interval

D. Field Analyses Performed (including instrument checks, calibration, etc.):

Head Space analysis - OVA's calibrated

methane	OVA No	Reading
100	AS197	92
	AS1856	100

Explosimeter - O₂ & LEL checked; head space analysis completed on total for all soil samples collected

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

na

F. Quality-Control Activities Initiated: collected SPLIT - FST014-SL3-2-SPLIT

& Duplicate FST014-^{SL93}SL3-2; calibrated metho OVA & LEL/O₂

Signature of Reporter: Kathleen J. Thalmann
Geraghty & Miller, Inc.
Kathleen J. Thalmann

G. Deviation from work plan: Worn table at site at 3-3.5 ft - screws set from 4-14 ft - did not cross worn table.

Personnel on Site

Kathy Tholman	G & M	Staff Scientist / Geologist
Garrett White	G & M	Project Scientist / Geologist
Daniel Nicolas	Layne	Driller
Ricky Lewis	Layne	Helper
Kevin Samuel	Layne	Driller
Harvey Littlefield	Layne	Helper

Equipment - 2 Foxboro OVA 128
2 GASTEC GX-91
Nissan Truck
GUS PECH 1000
MOBILE 8-57

Next days work activities - Install monitoring wells at FST-004D

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

427

Date: June 24, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):
Sunny (A.M.), Thunderstorm (P.M.) in area but did not rain

B. Work Performed: Installed 4 monitoring wells & collected soil samples
(FST-004D-MW1, FST-004D-MW2, FST-004D-MW3,
FST-004D-MW4) at FST-004D; 0615-0730

C. Sampling Performed (location/number, sample type, etc.): Site FST-004D
headspace analysis; FST004D-SL1-4 (soil 2-4' ft 66)
FST004D-SL2-6 (soil 4-6' ft 66)
FST004D-SL3-6 (soil 4-6'); FST004D-SL4-4 (soil 2-4' ft 66)
[Soil samples analyzed for VOL, RCRA metals, SPC & pH.]

D. Field Analyses Performed (including instrument checks, calibration, etc.):
Calibrated OVA# A51856 100 ppm methane - reading 100 ppm
LEL/O₂ calibration OK

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
OVA A51970 - battery discharged; OVA A51856
had problems with sample flow - called OVA service & corrected
used probe from A51970 temporarily. - Mark ^{KT} was corrected.
problem

F. Quality-Control Activities Initiated: Calibrated meters,
Collected duplicate & split FST004D-SL92-6 and
Split FST004D-SL2-6 (split)

Signature of Reporter: Kathy Thalm
Geraghty & Miller, Inc.
David P. Miller

G. Deviations from Work Plan:
PROJ\TF764\DQCR.W51

Personnel on site

Kathy Thalman	Geol M	Staff Scientist
Ganutt Weiss	Geol M	H&S Officer, Project Scientist
Daniel Nicolas	Layne	Driller
Ricky Lewis	Layne	Helper
Xavier Samuel	Layne	Driller
Harvey Littlefield	H Layne	Helper
Lewis Weeks	Layne	D Driller
arrived 6:00pm Mark Moser	Geol M	Scientist/Geologist

Equipment used

2 Foxboro OVA 12B (AS1856 & AS1970)
2 GASTEC GX-91 (HCO212, HCO222)
Nissan Truck
GUS PECH Drill Rig
Mobil B-57 Drill Rig

Next days work: FST-004A monitoring well.

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

429

Date: June 25, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):

Sunny → raining, thunderstorms in distance
90's; humid

B. Work Performed: At Site FST-004A installed 4 wells

FST-004A-mw1, FST-004A-mw2, FST-004A-mw3,
FST-004A-mw4) and installed one well at

FST-004B (FST-004B-mw1) and collected soil samples; 0700 -
2100

C. Sampling Performed (location/number, sample type, etc.):

~~FST-004A-mw~~ FST004A-SL2-4 (soil from 2-4 ft);

FST004A-SL3-4 (soil from 2-4 ft); FST-004A-SL1-6 (soil

from 4-6 ft); FST004A-SL4-8 (soil from 6-8 ft). ←

D. Field Analyses Performed (including instrument checks, calibration, etc.):

(measured headspace ~~collected~~ soil sample for VOL, ROA mtd), pH ei 58

Calibrated OVA A51856 100 ppm read 94 ppm

A51970 100 ppm read 96 ppm

LEL/O₂ meters O.K. ;

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

OVA A51970 battery discharged at 5:00 pm; steam cleaner
would not produce steam in afternoon - tried to repair ^{but could}
disconnected spooze using OAPP procedure (mix - methanol - DI water)
so could begin FST-004A-mw4

F. Quality-Control Activities Initiated: calibrated meters,

collected ^{duplicate} split (FST004A-SL94-8) and split
(FST004A-SL4-8-split);

Signature of Reporter: Kath Malin
Geraghty & Miller, Inc.

John P. Miller

Personnel on Site

Kathy Thalman	Geom	Staff Scientist
Garnett Weiss	Geom	H&S officer, Project Scientist
Ricky Lewis	Layne	Helper
Lewis Weeks	Layne	Driller
Xavier Samuel	Layne	Driller
Harvey Littlefield	Layne	Driller
Toni Nicholson	visited site	

Equipment	2 Foxboro OVA5128	} A51856 A51970
	2 Gostee GX-91	
	Nissan Truck	
	GUSPECH	Drill Rig
	MOBILE B-57	Drill Rig

Next days work activities: Install monitoring wells at FST-004E
& FST-004B., collect IDW

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

431

Date: June 26, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):

hot, humid (90s) partly cloudy,

B. Work Performed: FST-004B^{+mw4} - collected soil sample to 4 ft 6 in;

FST-004E - installed monitoring well FST-004E-MW1,

0600 - 1700; Collected Investigative Derived Waste

Samples for FST-004C, FST-004D, FST-004A - Soil

C. Sampling Performed (location/number, sample type, etc.):

FST-004E-SL1-6 (soil sample from 4-6 ft 6 in) - analyzed for
VOG, RCRA metal, SPC d, pH

D. Field Analyses Performed (including instrument checks, calibration, etc.):

Calibrated OVA A15 A51970 100 ppm methane/read 94
A51856 " " " read 100 ppm

LEL/O₂ checked

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

Steam cleaner broke down - tried to find rental but could not,
repaired by approx 1100; Hydraulic line broke at 0850 on
mobile B-57 and repaired by approx 1300; at 1318^v hit root of
had to move FST-004B - MW1 and began drilling again; at 1340

F. Quality-Control Activities Initiated: Calibrated meters,

Signature of Reporter: Kathy Thelma
Geraghty & Miller, Inc.

Janett R. Wilkin

Personnel on Site

Kathy Tholman	Geom	Geologist	/ Staff Scientist
Mark Mosier	"	"	/ Scientist
Garrett Wai	"	"	/ H&S / Project Scientist
Ricky Lewis	Layne	Helper Helper	
Xavin Samuel	Layne	Helper Driller	
Lewis Weiler	Layne	Driller	
Harvey Littlefield	Layne	Driller Helper	

Equipment

- 2 Foxboro OVA's
- 2 GasTech GX-91
- Nissan Truck
- GUSPECH 1000
- Mobile B-57

III. OVA hit H&S action level (between 0 and +1000) ^{for} both filtered & unfiltered ^{and was} ~~not~~ ^{stayed} for > 5 minutes. — Immediately stopped ~~drilling~~ drilling and monitored. Then had site evacuated & rig removed to Devon using methanol for devon instead of isopropanol.

Projected work: Install monitoring wells at FST-004E & FST-004B

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

433

Date: June 28, 1993

- A. Weather (temperature, wind speed and direction, precipitation, etc.):
hot (70s → 90s), humid, sunny to cloudy,
rained in the evening, slight breeze to none.
- B. Work Performed: FST-004E → installed monitoring well
FST-004E-MW3; FST-004B installed monitoring
wells FST-004B-MW3 and FST-004B-MW2; located
wells at TAC-X and Camp Oliver; 0600 - 1700
- C. Sampling Performed (location/number, sample type, etc.): Soil Sampling —
FST004E-~~M3~~^{SL3-8} (6-8' interval), FST004B-SL3-8
(6-8' interval), FST004B-SL2-8 (6-8' interval)
Analyzed for VOC (8240), RCRA metals, SPC (9050) &
pH (9045)
- D. Field Analyses Performed (including instrument checks, calibration, etc.):

	A51856	Methan	Reading
		100ppm	197 ppm
	A51970	100ppm	95 ppm

Headspace analysis; Calibrated OVA. 128
LEL meter checked out O.K.
- E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
At FST-004B-MW4 — measured sustained OVA readings >1000 ppm in
the ^{auger} breathing zone; ^{The} bore hole ^{was} abandoned and monitoring well ^{(FST-004B-M} was not
installed; Translucent cover broke off on Gus Pech 1000 Rig and was
repaired at Base shop; Heaving sands in auger at FST-004E-M3 covered
- F. Quality-Control Activities Initiated: Calibrated instruments.

Signature of Reporter: Kathy Thalm
Geraghty & Miller, Inc.

Scott P. Miller

Personnel on Site

Kathy Thalman	G&M Staff Scientist
Mark Mason	G&M Geologist
Garrett Wise	G&M Health & Safety Officer / Project Supervisor
Daniel	Helper-Layne Helper
Ricky Lewis	Layne ^{1st} Helper
Xavier Samuel	Layne Driller
Lewis Weeks	Layne Driller
Toni Nicholson	USACE

Equipment Used

2 Foxboro OVA5-128
2 GASTEC GX-910
Nissan Truck
GUSPECH 1000
Mobile 8-57

centric plug and rods to become stuck in auger & took several minutes before were released. Sand pack was installed slowly ~~at 100 F~~ in FST-004E-MW3 to avoid bridging. The sand bridged once but we were able to correct remove the bridge. Water will be used during sand pack installation of other wells to ~~prevent~~ prevent bridging.

Project Work

Install 2 monitoring wells at FST-004E & FST-004F

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

435

Date: 6/29/93

A. Weather (temperature, wind speed and direction, precipitation, etc.):

cloudy → sunny (pm), 75+ - 90°, slight wind

B. Work Performed: FST-004F - installed FST-004F-mw1

an FST-004F-mw2; FST-004E - installed FST-004E-mw4
and FST-004E-mw2; 0600 - 2000

C. Sampling Performed (location/number, sample type, etc.):

FST-004E-mw2 / FST004E-SL2-6 / soil

FST-004E-mw1 / ~~FST-004E~~ FST004F-SL1-8 / soil

FST-004F-mw2 / FST004F-SL2-8 / soil

D. Field Analyses Performed (including instrument checks, calibration, etc.):

Headspace; Calibrated OVA's: A51856 100 ppm / read 94 ppm
A51970 100 ppm / read 95 ppm

Checked LEL/O₂ meter with 2.5% methane - OK

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

Winch off reel - on GW PECH 1000 - Ricky Lewis
left site;

F. Quality-Control Activities Initiated: Calibrated OVA & LEL

meter

Signature of Reporter: Kathy Thibault
Geraghty & Miller, Inc.
David P. Miller

Personnel On Site

Kathy Thalman	G & M	Geologist / Staff Scientist
Mark Mosher Mosh	G & M	" / Scientist
Ganitt - Weiss	G & M	" / Project Scientist
Xavin Samuel Samuel	Layne	Driller
Robert Holcomb		Driller
Ricky Lewis	Large	Helper

Equipment Used

2 Foxboro OVA's - 128
2 GASTEC GX-915
Nissan Truck
GUS PECH 1000
Mobile B-57

Project Work - Fund FST-004F - mobility to FST-002

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

437

Date: 6/30/93

A. Weather (temperature, wind speed and direction, precipitation, etc.):
70s-90s; am - calm & variable, pm - breezy
5-10 mph, sunny

B. Work Performed: Installed two monitoring wells at site
FST-004^{ET} - FST-004^{ET}-mud3 and FST-004^{ET}-mud4;
0600-0600; dug post hole at FST-004D, FST-004G;
~~FST-004~~ IDW soil at FST-004E & FST-004F

C. Sampling Performed (location/number, sample type, etc.):
FST-004^{FE} / FST-004^{FK}-SL3-8 / soil
FST-004^F / FST-004^{FK}-SL4-4 / soil

D. Field Analyses Performed (including instrument checks, calibration, etc.):
Headspace analysis; Calibrated OWA, AS1970 100 ppm / read 94
AS1856 100 ppm / read
LEL/O₂ - checked with 2.5% methane

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

F. Quality-Control Activities Initiated: Calibrated meters.

Signature of Reporter: Kathy Thaler
Geraghty & Miller, Inc.

John A. Miller

Personnel on site.

Kathy Thalman	G & M	Geologist / Staff Scientist
Mark Moon	G & M	Geologist / Scientist
Garnett Wini	G & M	" / Project Scientist / Scientist
Kevin Samuel	Logan	Driller
Lewis Weeks	Logan	Driller
Robert Holcomb	Logan	Helper.

Equipment Used - 2 Foxboro OVA's -128
2 GASTEC GX-796.
Nissan Truck
Mobile B-57

Project ~~Work~~ Work - Install monitoring well at FST-002
& Abandon well.

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

439

Date: July 1, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):
hot (90's), humid, calm to gusty - Thunderstorms
late afternoon & early evening

B. Work Performed: Camp Oliva - installed ^{KR} monitoring
well FST-~~014~~^{002 KR}-MW4 & FST-~~014~~^{002 KR}-MW1; collected Camp Oliva
FST-~~014~~⁰⁰² IDWV SOIL WASTE; Developed FST-014-MW4;
Existing ^{pad} well removed at TAR-X (FST-003) & Camp Oliva CO-MW1
CO-MW3, CO-MW

hours
0600-1900

C. Sampling Performed (location/number, sample type, etc.):
FST-002 - FST002-SL1-^{KR 12}8/Soil
FST002-SL4-^{KR 8}12/Soil
FST002-IDWSL/Soil cuttings.

D. Field Analyses Performed (including instrument checks, calibration, etc.):
Headspace; Calibrated OVA 100ppm methane → 94ppm
pH, Specific Conductivity, turbidity -
pH Calib 4.0 std read 4.0, 7.0 std reading 7.06; ~~SP~~

→ ~~SP~~
OVA

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

F. Quality-Control Activities Initiated: Calibrated methan
collected duplicate (FST002-SL4-8) and split
(FST002-SL4-8-split)

Signature of Reporter: Katherine L. Deane
Geraghty & Miller, Inc.
G. Anita P. Miller

Personnel on site

See 6/30/93 list

Equipment used:

Foxboro OVA
GX-91 Gastec Explosimeter
Nissan Truck
Mobile B-57 rig
pH meter
Specific Conductivity meter
Turbidity meter
Thermometer
Centrifugal ~~two~~ pump.

D	Sp ^{IC} Specific Conductivity	STD	Reading
		447	480
		1413	1410
	Turbidity	5	6.56
		10	15.40

Project work - Develop FST-014 wells, abandon EO-MWI
at Camp Oliver.

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

Date: July 2, 1993

441

A. Weather (temperature, wind speed and direction, precipitation, etc.): ^{NO}
hot (90°), humid, sunny, slight breeze, ~~precip~~

B. Work Performed: Abandoned EO-mw1 at Camp Oliver. Site FST-014
Developed FST-014-mw2 and FST-014-mw3;
Took ^{Inm. Lantier} survey of Toni Nicholson on site tour; installed
posts & pads

protected

C. Sampling Performed (location/number, sample type, etc.):

D. Field Analyses Performed (including instrument checks, calibration, etc.):

pH, SPC, Turbidity meter		STD Reading	
SPC	1413	Turbidity	10
	1350	pH	4.0
	447		7.0
	480		7.00

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

F. Quality-Control Activities Initiated: Calibrated meters

Signature of Reporter: Kathleen L. Thalm
Geraghty & Miller, Inc.

J. D. Miller

Personnel on Site

Same as Jun 30, 1993

Equipment used

Nissan Truck
pH meter - Martson Model 98
Specific Conductivity Meter Martson
Turbidity Meter. LaMotte Chemical Model 2000
Thermometer
~~Co~~ Centrifugal pump.

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

443

Date: July 3, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):
hot (90°), humid, slight breeze, 1

B. Work Performed: Cleaned up Zovets container, drilled
protective post holes at FST-014 & installed post,
verified all wells had caps & locks on protective
posts; 0800-1200

C. Sampling Performed (location/number, sample type, etc.):
None

D. Field Analyses Performed (including instrument checks, calibration, etc.):
None

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
None

F. Quality-Control Activities Initiated: None

Signature of Reporter: Kathy Thalm
Geraghty & Miller, Inc.
James D. Miller

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

445

Date: July 12, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):

Temp in AM 80 to a high of 101 from 11:30 to 4:00
then falling back to 85 by dusk, wind calm, no rain

B. Work Performed: Obtained necessary equipment to develop monitor wells,

(Fittings for pumps, drop tubes, drums, etc) Developed FST014 MW-1,
Developed best method to purge wells

C. Sampling Performed (location/number, sample type, etc.):

Collected IDW at FST014 for VOC's, ph, and metals, on
development water. (collected samples from drums using disposable bailer)
Composite for ph, and metals, separate (2 40ml vials) from each drum
for VOC's.

D. Field Analyses Performed (including instrument checks, calibration, etc.):

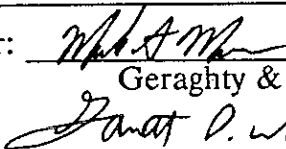
Meters calibrated according to manufacturer's specifications
Instruments used ph meter #L91002808 (GM), ph cond #1 (GM),
thermometer #21424-1 (GM), Turbidity meter #870902987 (GM), cond. #030239 (GM)
turbidity meter # ~~800~~ (HARCO) #TUR 800455, ph meter #983912 (GM), Taylor 21424 (GM)

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

7/12/93 ~~FST004~~ ^{MM} MW2 did not clear up Turb. 7:00 after 120 gallons of dev.

F. Quality-Control Activities Initiated: Meters calibrated start of Day then

approx every four hours. Follow GM standard procedures

Signature of Reporter: 

Geraghty & Miller, Inc.

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

447

Date: JULY 13, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):
Temp AM 80's to a high of 103 from 12:00 to 16:00 then
fully back to mid 80's in evening, winds calm, no rain

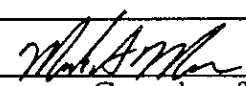
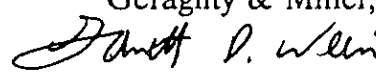
B. Work Performed: Developed FST004^{MEM} D MW-1, MW-2, MW-3, MW-4
FST004^{MEM} C MW-2, STARTED ON MW-3, Moved storage drums
to building 105B, dropped off drums at FST004D for development
water. Inspected well protective casings and posts at TAC-X (all OK)
Collected IDW at FST004D

C. Sampling Performed (location/number, sample type, etc.):
Developed wells at FST004D-MW-1, MW-2, MW-3, MW-4 / FST004C-MW2
Started on MW3, Collected IDW at FST004D

D. Field Analyses Performed (including instrument checks, calibration, etc.):
Used same instruments as listed on 7/12/93 log, calibrations as
per manufacturers recommendations

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
FST004D-MW-2 would not clear up after 110 gallons, No improvement, Toni
Nicholson (CORE ENG.) advised to use professional judgment, // Protocol established:
pump well initially to remove coarse sediment, surge, pump until all parameters, pH, SC,
and turb) stabilized and/or turbidity ^{5 approx.} 10 NTU's.

F. Quality-Control Activities Initiated: calibrate meters beginning of day, eng
for hours.

Signature of Reporter: 
Geraghty & Miller, Inc.


A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

449

Date: July 14, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):
Temp AM 85°, high at 11:30 of 98°, approx 14:45 Thunder storm and rain started,
16:10 rain stopped, lightning + thunder in area) cooled off to 85° in PM

B. Work Performed: Developed FST004C - MW-1, MW-3, MW-4
Collected IDW at FST004C, Developed FST004B - MW2, MW-3, started
on MW-1, collected IDW at FST004B, deamed drums to FST004B
(Drums were stolen)

C. Sampling Performed (location/number, sample type, etc.):
Collected IDW at FST004C, FST004B for VOC's (2 40ml vials)
To pH (250 ml plastic), RCRA metals (500ml plastic unpreserved
unfiltered)

D. Field Analyses Performed (including instrument checks, calibration, etc.):
SAME AS 7/12/93 (Meters)

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
Slow recharge on FST 004C MW-4, bailed dry, 5 times
Slow recharge on FST 004C MW-3, pumped for 4 hours.

F. Quality-Control Activities Initiated: Calibrated meters per
manufactures protocol and GM protocol

Signature of Reporter: *W. L. Amherst*
Geraghty & Miller, Inc.
Janet P. Wilkin

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

451

Date: July 15, 1993

- A. Weather (temperature, wind speed and direction, precipitation, etc.):
Temp. in AM mid 80's clear, to a high in mid 90's no
rain, cooled off to mid 80's in PM, slight breeze
- B. Work Performed: Developed wells at FST004B-MW#1, FST004A-MW, 1, MW-2,
MW-3, MW-4; FST004E-MW-2, MW-3, MW-4; closed drums at FST004B (put hel
on trash drum) took drillers to TRACK-X, and pump down to show what needed to
be completed, moved well material from storage area to DEH building, sent samples out
from samples collected on 7-12 through 7-13 (IDW samples)
- C. Sampling Performed (location/number, sample type, etc.):
Collected IDW at FST004A, (pH, TCLP RCRA metals, Voc's)
pH, Metals (not filtered) were composited, Voc's were collected in 2 Homl (HCL)
vials ^{mon} for each drum.
- D. Field Analyses Performed (including instrument checks, calibration, etc.):
Calibrated instruments as stated on 7-12-93 log and every 4 hours
per manufacturer specifications
- E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
Very slow pump rates in FST004A-MW4, FST004B-MW1, FST004A-MW1,
FST004E-MW4
- F. Quality-Control Activities Initiated: Meter Calibration, clean equipment

Signature of Reporter: [Signature]
Geraghty & Miller, Inc.

[Signature]
Dwight B. Wilkin

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

453

Date: July 16, 1993

- A. Weather (temperature, wind speed and direction, precipitation, etc.):
In Am temp mid 80's to a high of 98° from 11:30 - 3:30
back down to 80's by afternoon and evening, No rain, slight breeze
- B. Work Performed: Developed wells at FST004E-MW1, FST004E-MW-1,
MW-2, MW-3, MW-4, put drums on pallets at FST004E. Wass met with
Tom Fry about amonite at Tank-X, Coordinated work plan with drillers
- C. Sampling Performed (location/number, sample type, etc.):
Collected IDW at FST004E, FST004F for VOC's
pH, RCRA TELP Metals.
- D. Field Analyses Performed (including instrument checks, calibration, etc.):
Calibrated instruments as stated on 7-12-93 log, in accordance
with GM and Manufacturers recommendations
- E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
Encountered 1" of free product at FST004F-MW4, Damaged pH and
conductivity meter, (did not collect pH, cond, data) FST004F-MW1, MW-3,
MW-4 very slow to recover had to haul bite MW-3, MW-4
- F. Quality-Control Activities Initiated: Calibrated meters as stated
above

Signature of Reporter: [Signature]

Geraghty & Miller, Inc.

[Signature]

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

455

Date: July 17, 1993

A. Weather (temperature, wind speed and direction, precipitation, etc.):
Temp. Am mid 80's to high 90's at mid day to low to mid
80's afternoon and evening, no rain, slight breeze


B. Work Performed: Developed wells FST002 - MW1, MW-4,
Check Track-X to be sure all wells were sealed or sealed
wid's check at outside, ATTACHED all plastics and all locks

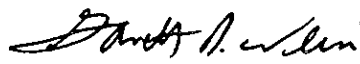
C. Sampling Performed (location/number, sample type, etc.):
Collected IDW at FST002, shipped samples to LAB
VIA Fed-X

D. Field Analyses Performed (including instrument checks, calibration, etc.):
Calibrated meters as stated on 7-12-93 log,

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
Slow recovery at Wells FST002 MW1, and MW-4
Had to hand bail MW-1

F. Quality-Control Activities Initiated: Calibrated meters per specifications

Signature of Reporter: 
Geraghty & Miller, Inc.



457

EXHIBIT B
SOIL SAMPLING LOGS

459

EXHIBIT B.1

CAMP OLIVER LANDFILL, FST-002

SOIL/SEDIMENT SAMPLING LOG

461

Project No. TF764.03 2 Page 1 of 1

Site Location FT Stewart, GA, FST-002-MW1

Sample I.D. No. FST002-SL1-12 Coded/Replicate No. -

Date 7/1/93 Time of Sampling: Begin 1430 End 1440

Weather Hot (100), humid, calm to slight breeze

Site Description FST-002 - Southeast area of site - in triangle area between roads - near location of CO-MW1

SAMPLING DATA

Collection Method B 3" split spoon

Depth 10-12' Moisture Content moist

Color 10% 4/6 (moderate reddish brown) & 10% 6/6 dark yellowish brown Odor -

Description Silty clayey sand; Sand (70%) med, cr, very coarse & fine, poorly sorted, friable - in lower portion > 1/2 of very coarse sand & pebbles (tr), subrounded

Analyses Required

Container Description

<u>8240 vola</u>	From Lab <u>X</u> or G&M <u>-</u>
<u>RCRA metals</u>	<u>125 ml amber</u>
<u>SPC / pH</u>	<u>250 ml w/m plastic</u>
<u>9050/9045</u>	<u>100 ml w/m glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.) 0.4, Nat Filtered
0.4, filtered
pen
(K)

Remarks _____

Sampler(s) Kathy Thalman

SOIL/SEDIMENT SAMPLING LOG

Project No. TF764.03 Page 1 of 1
 Site Location Ft. Stewart, GA - FST-002-mwy KR
 Sample I.D. No. FST002-SL4-8 Coded/Replicate No. FST002-SL94-
 Date 7/1/93 Time of Sampling: Begin 0830 End 1030
 Weather Sunny, hot (90's), calm, (no breeze) KR
 Site Description FST-002 - at former location of Co-mwy
located located in NE part of site

SAMPLING DATA

^{8/3/93}
 Collection Method KR 3" split spoon
 Depth 6-8' bl. Moisture Content moist
 Color 0-1'- 10YR 4/6 (mod yellowish brown) & 1'-2'- 5YR 5/6 KR Odor —
 Description 1'-2'- 5YR 5/6 (yellowish gray)
Clayey silty sd, moist, sd (60%+) (mod & fine with trace coarse)
firm, mod sorted,

Analyses Required

Container Description

From Lab <u>X</u> or G&M <u>—</u> <u>VOCs (8240)</u> <u>RCRA Metals</u> <u>Spc / pH 9050 / 9045</u>	<u>125 ml amber</u> <u>250 ml w/m plastic</u> <u>100 ml w/m glass</u>
--	---

Sample Monitoring (TIP, OVA, HNU, etc.) Non fibrous 0.2 / filtered / ppm KR
KR

Remarks Split FST002-SL4-8-split

Sampler(s) Kathy Tholman

463

EXHIBIT B.2

BURN PIT A, FST-004A

SOIL/SEDIMENT SAMPLING LOG

465

Project No. TF764.03 Page 1 of 1
 Site Location FT STEWART, GA - FST-004A-MW1
 Sample I.D. No. FST004A-3L1-6 Coded/Replicate No. -
 Date 6/25/93 Time of Sampling: Begin 1145 End 1200
 Weather Sunny, hot (90°) humid
 Site Description FST-004A south west corner of site

SAMPLING DATA

Collection Method 3" split spoon
 Depth 4-6 ft 66 Moisture Content moist
 Color 5YR 3/4 & 5YR 4/4 moderate brown Odor -
 Description Silty sand with little clay; very friable, well to med sorted

Analyses Required

Container Description

VOC 8240 RCRA metals Spc / pH (9050/9045)	From Lab <u>X</u> or G&M 125 ml amber 250 ml w/m plastic 100 ml w/m glass
Sample Monitoring (TIP, OVA, HNU, etc.)	<u>0/0.1 ppm Non filtered / filtered</u>

Remarks _____
 Sampler(s) K.T

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 76403 Page 1 of 1
 Site Location FST-004A - MWZ
 Sample I.D. No. 8/3/93 KT MW-2 FST004A-SL2-4 Coded/Replicate No. -
 Date 6-25-93 Time of Sampling: Begin 10:45 End 10:45
 Weather Sunny 86° breezy
 Site Description Field with metal in ground, knee high weeds

SAMPLING DATA

Collection Method 3" split spoon
 Depth 2-4 ft bls Moisture Content Slightly moist water at 4.0%
 Color Moderate brown 5YR 4/4 Odor -
 Description Well graded, slightly silty, sub-rounded, fine to coarse grained sand, rounded

Analyses Required

Container Description

VOC's 8240	From Lab <input checked="" type="checkbox"/> or G&M <input type="checkbox"/>
RCRA Metals	125 ml amber glass
Pb / SC 9045 / 9050	250 ml plastic
	100 ml clear glass

Sample Monitoring (TIP, OVA, HNU, etc.) FID reader 0 ppm

Remarks _____

Sampler(s) Moser

SOIL/SEDIMENT SAMPLING LOG

467

Project No. TF76403 Page 1 of 1

Site Location FST-004A - MW-3

Sample I.D. No. SAME FST004A-SL3-4 ^{for} 8/3/93 Coded/Replicate No. -

Date 6-25-93 Time of Sampling: Begin 8:35 End 8:45

Weather Pty cloudy 85° slight breeze

Site Description Field open with knee high vegetation, field full of metal fragments, plowed by machine

SAMPLING DATA

Collection Method 3" split spoon

Depth 2-4 ft b/s Moisture Content damp (above water table)

Color Dusky brown 5YR 2/2 Odor FID out Total 23p

Description SAND: poorly graded, sub-rounded, medium grained

Analyses Required

Container Description

Analyses Required	Container Description
<u>VOC's 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M <u>125 ml amber glass -</u>
<u>RCRA Metals</u>	<u>250 ml plastic</u>
<u>PH/S.C. 4045/4050</u>	<u>100 ml clear glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.) FID 23ppm

Remarks _____

Sampler(s) Moser

SOIL/SEDIMENT SAMPLING LOG

Project No. TF764.03 Page 1 of 1
 Site Location Ft Stewart - FST-004A-mw/2/22/93
 Sample I.D. No. FST004A-SL4-8 Coded/Replicate No. FST004A-SL4-8
 Date 6/25/93 Time of Sampling: Begin 1 End 1840
 Weather cloudy, humid, hot (90°), raining at times in Bay
 Site Description FST004A, southwest corner of site

SAMPLING DATA

Collection Method ^{K¹ 3"} split spoon
 Depth 6-8 ft Bl. Moisture Content moist
 Color N7 Odor none
 Description Silty clayey sand, slightly sticky (forms ribbons) hard, sand (medium, fine, trace no) [50%], moderately sorted,

Analyses Required

Container Description

<u>VOCs 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M
<u>pH / Spc (9045/9050)</u>	<u>125 ml amber</u>
<u>RCA A metals metals</u>	<u>100 ml w/m glass</u>
	<u>250 ml w/m plastic</u>

Sample Monitoring (TIP, OVA, HNU, etc.) ppm non filtered
 ppm filtered

Remarks also collected split for USACE

Sampler(s) Kathy Thaler

469

EXHIBIT B.3

BURN PIT B, FST-004B

SOIL/SEDIMENT SAMPLING LOG

471

Project No. TF164.03 Page 1 of 1

Site Location FST-004B - MW1 ^{Kr}

Sample I.D. No. ~~165 MW-1~~ FST004B-541-8 Coded/Replicate No. -

Date 6-25-93 Time of Sampling: Begin _____ End _____
Collected 17:00

Weather Pty Cloudy MID 80's

Site Description Scrub brush, drill location was cleared with dozer

SAMPLING DATA

Collection Method 3" split spoon

Depth 6-8 ft b1s Moisture Content Slightly moist (above WT)

Color Light Gray N7 Odor NA

Description Slightly silty sandy clay

Analyses Required

Container Description

From Lab or G&M

VOC's 8240

125 ml amber

RCRA Metals

250 ml plastic

pH/S.C 9045/9050

100 ml glass

Sample Monitoring (TIP OVA, HNU, etc.) Filtered & unfiltered = 0 ppm TG
7-22-93

Remarks Sample collect from area of highest OVA/FID reading or
directly above water table.

Sampler(s) MG Moser

SOIL/SEDIMENT SAMPLING LOG

Project No. TF76403 Page 1 of 1
 Site Location FST004B-MW2
 Sample I.D. No. FST004B-SL2-8 Coded/Replicate No. -
 Date 6/28/93 Time of Sampling: Begin _____ End _____
 Weather Sunny 91° Collected: 1:30
 Site Description _____

SAMPLING DATA

Collection Method 3" split spoon
 Depth 6-8' Moisture Content _____
 Color Vary pale orange 10R 9/2 with Varyr amounts of fine reddish brown 10R 5/4 Odor NA
 Description Very clayey slightly silty, sub-rounded med well graded fine to coarse sand.

Analyses Required

Container Description

VOC <u>8240</u>	From Lab <input checked="" type="checkbox"/> or G&M _____
RCRA Metals	<u>125 ml amber</u>
pH, Spec. Cond.	<u>250 ml plastic</u>
	<u>250 ml glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.) As per S. land 0 Silty sand
ppm ppm

Remarks _____

Sampler(s) Mason

SOIL/SEDIMENT SAMPLING LOG

473

Project No. TF 76403 Page 1 of 1

Site Location FST 004B - MW3

Sample I.D. No. FST-004B - SL3 - 8 Coded/Replicate No. -

Date 6/28/93 Time of Sampling: Begin 8:45 End 9:45

Weather Sunny 79° slight breeze

Site Description Field with grass about 3ft high in clearing in woods
(burn area)

SAMPLING DATA

Collection Method 3" split spoon

Depth 6-8ft Moisture Content Slightly moist

Color Very pale orange 10YR 8/2 Odor NH

Description Clayey med. well graded fine to coarse sand, sub-rounded

Analyses Required

Container Description

Analyses Required	Container Description
<u>Voc's 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M <input type="checkbox"/> <u>125ml amber</u>
<u>Metals</u>	<u>250ml plastic</u>
<u>pb spec anal.</u>	<u>250ml glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.) Unfiltered 0 ppm, Filtered 0 ppm

Remarks _____

Sampler(s) MCS



SOIL/SEDIMENT SAMPLING LOG

Project No. TF76403 Page 1 of 1

Site Location FST-004B-MW4

Sample I.D. No. FST-004B-~~MW4~~^{SL}-4 Coded/Replicate No. -

Date 6-26-93 Time of Sampling: Begin End

Weather Sunny few clouds Call # ~ 840 (14) 7/22/93

Site Description Clearing in woods

SAMPLING DATA

Collection Method Split spoon 3"

Depth 2-4 Moisture Content DRY

Color Light olive gray 5Y 5/2 Odor

Description Slightly silty fine to med. grained sand

Analyses Required

Container Description

<u>VOC's 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M <u> </u>
<u>RCRA Metals</u>	<u>125 ml amber</u>
<u>pH; spec. cond. 89045/9050</u>	<u>250 ml plastic</u>
	<u>100 ml glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.)

Remarks Collected sample from 2-4 ft interval, NOT ENOUGH sample for 4-6 ft (unable to collect additional soil because of clouded over rocks)

Sampler(s) Moser

475

EXHIBIT B.4

BURN PIT C, FST-004C

SOIL/SEDIMENT SAMPLING LOG

477

Project No. TF764.03 Page 1 of 1
 Site Location FT-STEWARD - FST-004C^{mod} (K) 8/3/93
 Sample I.D. No. FST-004C-SL1-4 Coded/Replicate No. —
 Date 6/23/93 Time of Sampling: Begin 1010 End 1015
 Weather hot, humid (90%) sunny
 Site Description Southwest corner of site FST-004C-

SAMPLING DATA

Collection Method Split spoon 3"
 Depth 2-4' Moisture Content moist → wet at 3'
 Color 10YR 6/2 - pale yellowish brown (100) Odor slight
 Description Sand medium, loose, subangular, well sorted
 trace of coarse sand & silt

Analyses Required

Container Description

<u>VOCs 8240</u>	From Lab <u>X</u> or G&M
<u>RCRA metals</u>	<u>125 ml amber glass</u>
<u>SPC & PH</u>	<u>250 ml plastic wide mouth</u>
	<u>100 ml glass - wide mouth</u>

Sample Monitoring (TIP, OVA, HNU, etc.) 34 not filtered / 16 filtered
 (100) ^ ppm (100) ^ ppm

Remarks _____
 Sampler(s) KT

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 764.03 Page 1 of 1
 Site Location FT STEWART, Georgia - FST-004C - ^{-mwr} (KT) 8/3/93
 Sample I.D. No. FST-004C-SL-2-4 Coded/Replicate No. -
 Date 6/23/93 Time of Sampling: Begin 1440 End 1450
 Weather Sunny, hot (90's), humid, breezy (5 mph), Thunderstorms in area.
 Site Description FST-004C - located in ~~southern~~ south western part of site east of intersection of Dirt Road & Dirt trail

SAMPLING DATA

Collection Method Split spoon 3"
 Depth 2-4 ft Moisture Content moist - wet @ 3'
 Color 5YR 2/2 & 10YR 5/4 Odor None
 Description medium & fine sand, moderately sorted, loose, gtz

Analyses Required

Container Description

<u>VOG 8240</u>	<u>From Lab <input checked="" type="checkbox"/> or G&M</u>
<u>RCRA metals</u>	<u>125 ml amber</u>
<u>SPC 9050 / pH 9045</u>	<u>250 ml plastic / wide mouth</u>
	<u>100 ml glass wide mouth</u>

Sample Monitoring (TIP (OVA) HNU, etc.) Non Filtered 4.6 ^{ppm} / Filtered 1.9 ppm

Remarks Sample collected across WT - 3'

Sampler(s) Kathy Thalmann

SOIL/SEDIMENT SAMPLING LOG

479

Project No. TF 76403 Page 1 of 1
Site Location FST-004C-mw3^{KR}
Sample I.D. No. FST004C-SL3-~~4~~^{GIV} 4 Coded/Replicate No. —
Date 6/23/93 Time of Sampling: Begin 0930 End 1110
Weather Sunny, very hot, humid
Site Description Burn Area

SAMPLING DATA

Collection Method 3" Split Spoon
Depth ~~1 1/2 - 2'~~ 2'-4' Moisture Content 2-3 1/2 Dry
3 1/2 - 4 Wet
Color 2-2 1/2 - Dusky brown; 2 1/2 - 4 - Grayish black Odor Very earthy, slightly fetid
Description Silty, fine grained sand

Analyses Required

Container Description

<u>VOCs - 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M <input type="checkbox"/>
<u>pH / Spec. Cond. - 9045 / 9050</u>	<u>125 ml amber glass</u>
<u>RCRA metals</u>	<u>100 ml glass</u>
	<u>250 ml plastic</u>

Sample Monitoring (TIP OVA, HNU, etc.) OVA: unfiltered - 70, filtered - 90 ppm
8/3/93

Remarks _____
Sampler(s) G. Weiss

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 76403 Page 1 of 1
Site Location FST-004C - mwy 1cr
Sample I.D. No. FST 004C - SL4 - 4 Coded/Replicate No. —
Date 6/23/93 Time of Sampling: Begin 1352 End 1457
Weather Partly cloudy, very hot, humid
Site Description Burn Area

SAMPLING DATA

Collection Method 3" Split Spoon
Depth 2' - 4' Moisture Content Dry
Color Dark Gray Odor Earthy
Description Silty, fine grained sand

Analyses Required

Container Description

<u>VOCs - 8240</u>	<u>From Lab <input checked="" type="checkbox"/> or G&M <input type="checkbox"/></u>
<u>pH / Spec. Cond. - 9045 / 9050</u>	<u>125 ml amber glass</u>
<u>RCRA Metals</u>	<u>100 ml glass</u>
	<u>250 ml plastic</u>

Sample Monitoring (TIP, OVA, HNU, etc.) OVA: Unfiltered 120, filtered 70 ppm

Remarks _____

Sampler(s) G. Weiss

481

EXHIBIT B.5

BURN PIT D, FST-004D

SOIL/SEDIMENT SAMPLING LOG

483

Project No. TF 76403 Page 1 of 1

Site Location Ft. Stewart, GA. FST-004D-mw1

Sample I.D. No. FST004D-SL1-4 Coded/Replicate No. —

Date 24 June 1993 Time of Sampling: Begin 1100 End 1145

Weather Hot, humid, partly cloudy

Site Description Burn Area

SAMPLING DATA

Collection Method Split Spoon

Depth 2' - 4' Moisture Content Moist

Color Grayish red Odor Unknown

Description 2'-3' - Silty fine grained sand, some roots ;
3'-4' - Clayey fine grained sand, wet at 4'.

Analyses Required

Container Description

<u>VOCs - 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M <input type="checkbox"/>
<u>ACRA Metals</u>	<u>125 ml amber glass</u>
<u>pH/Spec. Cond. - 9045/9050</u>	<u>250 ml plastic</u>
	<u>100 ml glass</u>

Sample Monitoring (TIP, HNU, etc.) ~~OVA: Fi~~ ^{GW} None

Remarks _____

Sampler(s) Garrett Wein

SOIL/SEDIMENT SAMPLING LOG

Project No. TF764.03 Page 1 of 1
 Site Location Ft Stewart, GA ⁽¹⁸⁾ FST-004D-MW2 FST004D-542-6-5pl.
 Sample I.D. No. FST004D-542-6 Coded/Replicate No. FST004D-5492-6
 Date 6/24/93 Time of Sampling: Begin 1630 End 1640
 Weather cloudy, humid, 80%, light wind
 Site Description FST-004D SW corner of site

SAMPLING DATA

Collection Method split spoon
 Depth 4-6' bl. Moisture Content moist
 Color 10YR 6/2 (pale yellowish brown) Odor none
 Description Sand, med (65%), coarse (20%), fine sand & silt (20%), well sorted, loose, subrounded

Analyses Required

Container Description

	From Lab <input checked="" type="checkbox"/>	or G&M <input type="checkbox"/>
<u>VOG 3240</u>	<u>125 ml amber</u>	
<u>RCRA metals</u>	<u>250 ml plastic w/m</u>	
<u>SPC / pH 9050 / 9045</u>	<u>100 ml glass</u>	

Sample Monitoring (TIR (OVA), HNU, etc.) Ø₁₀₀ - Non Filtered
Ø₁₀₀ - Filtered

Remarks _____

Sampler(s) (10)

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 764.03 / FT STEWART Page 1 of 1
Site Location FST - 004P - mm3, FT STEWART, GA
Sample I.D. No. FST0040-SL3-6 Coded/Replicate No. -
Date 6/24/93 Time of Sampling: Begin 0840 End 0850
Weather hot (90°), sunny, humid, slight breeze
Site Description _____

SAMPLING DATA

Collection Method split spoon
Depth 4-6' bbs Moisture Content moist
Color 10YR 4/2 (dark yellowish brown) Odor none
Description Silty sand (med & fine (70%)) with trace of clay,
very slightly sticky, moist-very moist, moderately well

Analyses Required

Container Description

_____	From Lab <u>X</u> or G&M _____
<u>VOCs 8240</u>	<u>125 ml amber</u>
<u>SPC 1 pH</u>	<u>100 ml w/m glass</u>
<u>RCRA metals</u>	<u>250 ml w/m plastic</u>

Sample Monitoring (TIP, OVA, HNU, etc.) Not Filtered / 0.7 ppm
Filtered 0.1 ppm

Remarks _____
Sampler(s) Katy Thadman

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 76403 Page 1 of 1
Site Location Ft. Stewart, GA.; FST-004D-mw4
Sample I.D. No. FST004D-SL4-4 Coded/Replicate No. (RT)
Date 24 June 1993 Time of Sampling: Begin 1500 End 1552
Weather Cloudy, warm
Site Description Burn Area

SAMPLING DATA

Collection Method Split Spoon
Depth 2' - 4' Moisture Content Damp
Color Medium gray Odor Unknown
Description Silty fine grained sand

Analyses Required

Container Description

<u>VOCs - 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M <u>125 ml amber glass</u>
<u>RCRA Metals</u>	<u>250 ml plastic</u>
<u>pH/Spec. Cond. - 9045/9050</u>	<u>100 ml glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.) OVA: Filtered - 0.0 ppm Unfiltered 2.6 ppm

Remarks _____

Sampler(s) Garrett Wein

487

EXHIBIT B.6

BURN PIT E, FST-004E

SOIL/SEDIMENT SAMPLING LOG

489

Project No. TF764.03 Page 1 of 1
 Site Location FT STEWART - FST-004E^{KT} 8/3/93
Amw
 Sample I.D. No. FST-004E-SL1-6 Coded/Replicate No. -
 Date 6/26/93 Time of Sampling: Begin 1346 End 1350
 Weather hot (90s), humid, no breeze
 Site Description FST-004E southeast corner

SAMPLING DATA

Collection Method ^{KT} 3" split spoon
 Depth 4-6' Moisture Content moist
 Color 10YR 5/4 moderate yellowish brown Odor None
 Description Silty sand; sd (60), fin (35), silt (15), tr. clay, moist, well sorted, ^{KT} loose, very friable

Analyses Required

Container Description

<u>VOC 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M <input type="checkbox"/>
<u>Spc/plt 9050/9045</u>	<u>125 ml amber</u>
<u>RCRA Metals</u>	<u>100 ml glass w/m</u>
	<u>250 ml plastic w/m</u>

Sample Monitoring (TIP, OVA, HNU, etc.) Non filtered ϕ ppm
filtered ϕ ppm

Remarks _____

Sampler(s) Kathy Thelma

SOIL/SEDIMENT SAMPLING LOG

Project No. TF764.03 Page 1 of 1
 Site Location FE Stewart - FST-004E-mw2
 Sample I.D. No. FST004E-SLZ-8 Coded/Replicate No. -
 Date 6/29/93 Time of Sampling: Begin 1720 End 1740
 Weather Sunny (90%), humid, slight breeze.
 Site Description FST-004E - SW part of site - west of flag pole

SAMPLING DATA

Collection Method 3" Split Spoon
 Depth 6-8' bl. Moisture Content moist
 Color 10YR 6/2 (greyish red) Odor -
 Description Silty clayey sand, sand med & fine (50);
silt (30), clay (20), very friable, slightly sticky,
well sorted

Analyses Required

Container Description

<u>VOL (9240)</u>	From Lab <u>X</u> or G&M
<u>PCRA Metals</u>	<u>125</u> <u>250 ml amber</u>
<u>SPC / pH (9050/9045)</u>	<u>250 w/m plastic</u>
	<u>100 ml glass w/m</u>

Sample Monitoring (TIR, OVA, HNU, etc.) Nonfiltered & filtered @ ppm

Remarks _____

Sampler(s) Kathy Thaler

SOIL/SEDIMENT SAMPLING LOG

491

Project No. FS TF 764.03 Page 1 of 1
Site Location Ft Stewart, GA - FST-004E-mw3
Sample I.D. No. FST004E-513-8 ^{KT} Coded/Replicate No. -
Date 6/28/93 Time of Sampling: Begin 0946 End 091200
Weather hot (90s), humid, windy
Site Description Site FST-004E - north west corner of site

SAMPLING DATA

^{KT} Collection Method 3" split spoon
Depth 6-8' 6b Moisture Content moist
Color 5YR 3/4 medium brown Odor None
Description SM silty fine & med sand, well sorted, very friable, trace of clay.

Analyses Required

Container Description

From Lab ✓ or G&M _____
VOG 8240 R 125 ml amber
RCRA metals 250 ml w/m plastic
spc / pH (9050/9045) 9050/100 ml w/m glass

Sample Monitoring (TIP, OVA, HNU, etc.) Non filtered 100/ filtered ϕ ppm

Remarks _____

Sampler(s) Kathy Thelma

SOIL/SEDIMENT SAMPLING LOG

Project No. TF76403 Page 1 of 1
 Site Location FE Stewart - FST-004E ^{ED} 8/3/93
 Sample I.D. No. FST004E-5L4-6 Coded/Replicate No. -
 Date 6/29/93 Time of Sampling: Begin 0919 End 0930
 Weather sunny, hot (90°), humid, slight breeze
 Site Description FST-004E - north of flag pole on north part fork.

SAMPLING DATA

Collection Method 3" split spoon
 Depth 4-6' Moisture Content moist
 Color 5YR4/4 moderate brown Odor None
 Description 5m; silty sand, fine (50), med (30), silt (20);
slightly moist, loose, well sorted

Analyses Required

Container Description

VOCs <u>8240</u> SPC / pH <u>(9050/9045)</u> RCRA metals	From Lab <u>X</u> or G&M <u>125 ml amber</u> <u>100 ml wide mouth glass</u> <u>250 ml w/m plastic</u>
--	--

Sample Monitoring (TIP, OVA, HNU, etc.) Non filtered 0.4 / filtered X ppm
ppm

Remarks _____

Sampler(s) Kathy Malman

493

EXHIBIT B.7
BURN PIT F, FST-004F

SOIL/SEDIMENT SAMPLING LOG

495

Project No. TF76403 Page 1 of 1
 Site Location FST004F - MW-1
 Sample I.D. No. FST004F - SL1-8 Coded/Replicate No. -
 Date June 29, 1993 Time of Sampling: Begin _____ End 10:30
 Weather Sunny slight breeze 91°
 Site Description field with sparse pine trees

SAMPLING DATA

Collection Method 3" split spoon
 Depth 6-8ft Moisture Content Slight Moist
 Color L+ Brown 5YR 6/4 Odor _____
 Description Silty slightly clayey fine sand, poorly graded, sub rounded with larger amounts of clay in upper interval, sand increases with depth

Analyses Required

Container Description

<u>VOC's 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M _____
<u>RCRA Metals</u>	<u>125 ml amber</u>
<u>pb, spec. Cond.</u>	<u>250 ml plastic</u>
	<u>250 ml glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.) 0ppm unfiltered 0ppm Filtered (FID)

Remarks _____

Sampler(s) Mason

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 76403 Page 1 of 1
Site Location FST004 F - MW2
Sample I.D. No. FST004 F - SL2 - 6 Coded/Replicate No. -
Date June 29, 1993 Time of Sampling: Begin 3:10 End
Weather PTY Cloudy, 92° slight breeze
Site Description Soil sampled from well next to pine

SAMPLING DATA

Collection Method 3" split spoon
Depth 4-6' Moisture Content Moist
Color Pale yellowish brown 10YR 6/2 Odor NA
Description SANDY SILTY CLAY (ML)

Analyses Required

Container Description

Analyses Required	Container Description
<u>VOC's 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M <u>175 ml amber</u>
<u>RCRA Metals</u>	<u>250 ml plastic</u>
<u>pH Spec. Cond.</u>	<u>250 ml glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.) 0 ppm Unfiltered, 0 ppm Filtered

Remarks

Sampler(s) M G Moss

SOIL/SEDIMENT SAMPLING LOG

497

Project No. TR 76403 Page 1 of 1

Site Location FST004 F - MW3

Sample I.D. No. FST004F - SL3-8 Coded/Replicate No. -

Date June 30, 1993 Time of Sampling: Begin _____ End 9:00

Weather Sunny few clouds 88°

Site Description Sparrow field (pre) field

SAMPLING DATA

Collection Method 3" split spoon

Depth 6.8 ft Moisture Content Slightly Moist

Color ~~Dark Yellow~~ Orange 10YR 6/6 Odor _____

Description Var clayey, med well sorted fine to coarse sand to 6.8ft, Fat clay with silt 6.8-8.0ft

Analyses Required

Container Description

<u>VOCs 8240</u>	From Lab <input checked="" type="checkbox"/> or G&M _____
<u>RCRA metals</u>	<u>175 ml amber</u>
<u>pH, Cond.</u>	<u>250 ml plastic</u>
	<u>250 ml glass</u>

Sample Monitoring (TIP, ^{FID}OVA, HNU, etc.) 40 ppm unfiltered 10 ppm filtered

Remarks _____

Sampler(s) Moser

SOIL/SEDIMENT SAMPLING LOG

Project No. TF764.03 Page 1 of 1
 Site Location Ft Stewart - § FST-004F-MW4 ^{10/8/93}
 Sample I.D. No. FST004F-5L4-4 Coded/Replicate No. 5
 Date 6/30/93 Time of Sampling: Begin 1100 End 1115
 Weather hot (90s), humid, ~~at~~ calm to slight breeze.
 Site Description FST-004F - northwest corner of site

SAMPLING DATA

Collection Method Split spoon
 Depth 0-2' 6L. Moisture Content dry
 Color 5YR 5/6 (Light brown), N7 (light gray) 10YR 4/6 Odor ---
 Description 0-6" Silty sand; sand fine (55), med (10), silt (40), fr clay
roots, loose, well sorted
6-24" clay & silt, sd (20%), very hard, dry, well sorted,

Analyses Required

Container Description

	From Lab <input checked="" type="checkbox"/>	or G&M
<u>VOCs (824A)</u>	<u>125 ml amber</u>	
<u>RCRA metals</u>	<u>250 ml w/m plastic</u>	
<u>SPC & pH (9050/9045)</u>	<u>100 ml w/m glass</u>	

Sample Monitoring (TIF OVA, HNU, etc.) Not Filtered 14 ppm
Filtered 8 ppm

Remarks _____

Sampler(s) Kathy Thalm

499

EXHIBIT B.8

OLD FIRE TRAINING AREA, FST-014

SOIL/SEDIMENT SAMPLING LOG

Project No. TF764.03 Page 1 of 1
 Site Location FT. STEWART, FST-014-mw1 Ⓟ 6/3/93
 Sample I.D. No. FST-014-SL-1-2 Coded/Replicate No. —
 Date 6/22/93 Time of Sampling: Begin 1100 End 1115
 Weather hot, humid 90%, after
 Site Description FST-014 southwest corner gate

SAMPLING DATA

Collection Method Split spoon
 Depth 0-2 ft Moisture Content dry
 Color 10YR5/4 (moderate yellowish brown) Odor None
 Description Sand (medium & coarse fine), trace silt; roots in upper 3"
loose, moderately sorted.

Analyses Required

Container Description

<u>8015</u> <u>VOC - 8240 #TPH (Purge)</u> <u>TPH (extractable) - 8015 8100</u> <u>RCRA metals</u> <u>SPC & TPH</u>	<u>125 ml amber</u> <input checked="" type="checkbox"/> <u>From Lab</u> or G&M <u>500 ml glass</u> <u>250 ml glass</u> <u>of 700 ml glass</u> <u>125</u>
---	--

Sample Monitoring (TIP, OVA, HNU, etc.) 3 ppm. Not filtered / 8 ppm filtered

Remarks _____

Sampler(s) Kathy Thaddeus

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 764.03 Page 1 of 1
Site Location Ft. Stewart, GA. FST-014^{KX} 8/3/93
Sample I.D. No. FST-014-SL2-~~4~~6 Coded/Replicate No. —
Date 6/22/93 Time of Sampling: Begin 1045 End 1235
Weather Sunny, very Hot, Humid
Site Description FST-014 Fire Training Area

SAMPLING DATA

Collection Method Split Spoon
Depth 4' - 6' Moisture Content Dry
Color 5Y 3/2 Grayish brown Odor Unknown
Description Fine grained sand

Analyses Required

Container Description

pH / Spec. Cond. - 9045/9050
TPH (purv)/VOCs - 8015/8240
TPH (ext) - 8015
RCRA Metals

From Lab or G&M
100 ml glass
125 ml amber glass
500 ml glass
250 ml plastic

Sample Monitoring (TIP, OVA, HNU, etc.) OVA - 0.2 ppm

Remarks _____

Sampler(s) G. Wein

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 764.03 Page 1 of 1
 Site Location Ft. Stewart, GA. ; FST-014-⁸¹³¹⁹³mw3 FST-014-
 Sample I.D. No. FST-014-SL3-2 Coded/Replicate No. SL93-2
 Date 6/22/93 Time of Sampling: Begin 1543 End ~1700
 Weather Cloudy, Hot, Humid
 Site Description FST-014 Fire Training Area

SAMPLING DATA

Collection Method Split Spoon
 Depth 0' - 2' Moisture Content Dry
 Color 5 YR 4/4 (mod brown) kt Odor Unknown
 Description Fine grained sand

Analyses Required

Container Description

<p> <u>pH/Spec. Cond. - 9045/9050</u> <u>TPH (purv.) / VOCs - 8015/8240</u> <u>TPH (ext.) - 8015</u> <u>RCRA Metals</u> </p>	<p> From Lab <input checked="" type="checkbox"/> or G&M <input type="checkbox"/> <u>100 ml glass</u> <u>125 ml amber glass</u> <u>500 ml glass</u> <u>250 ml plastic</u> </p>
<p> Sample Monitoring (TIP, <u>OVA</u>, HNU, etc.) <u>OVA - 4.6 (unfiltered) / 0.0 (filtered)</u> ppm ppm </p>	

Remarks _____

Sampler(s) G. W. Wain

SOIL/SEDIMENT SAMPLING LOG

503

Project No. TF764.03 Page 1 of 1
 Site Location FT. STEWART, FST-014-mw4 ^{FD} 8/13/93
 Sample I.D. No. FST-014-SL-4-4 Coded/Replicate No. —
 Date 6/22/93 Time of Sampling: Begin 1626 End 1640
 Weather cloudy humid, thunderstorms
 Site Description FST-014 Northwest Area of site

SAMPLING DATA

Collection Method Split spoon
 Depth 2-4 ft 66 Moisture Content dry
 Color 10 YR 6/6 (Dark yellowish orange) Odor None
 Description Sand (medium & some fine) loose, dry, well sorted

Analyses Required

Container Description

	From Lab <input checked="" type="checkbox"/>	or G&M
<u>VOG 8240 / TPH (purgeable 8015)</u>	<u>125 ml amber glass</u>	
<u>TPH (extractable) 8/00</u>	<u>500 ml glass</u>	
<u>RCRA metals (various)</u>	<u>250 ml plastic</u>	
<u>SPC EPH</u>	<u>100 ml glass</u>	
Sample Monitoring (TIP, <u>OVA</u> , HNU, etc.)	<u>0.2 ppm / ϕ filter filtered</u>	<u>ppm</u>

Remarks _____

Sampler(s) Kathy Thalm

505

EXHIBIT C
CHAIN-OF-CUSTODY LOGS



GERAGHTY & MILLER, INC.
Environmental Services

Laboratory Task Order No. DO746

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number TF764.03
 Project Location FT STEWART
 Laboratory Saxton rd
 Sampler(s)/Affiliation K. Thelmer / GDM
Mick Mason / GDM
Garrett W. / GDM

SAMPLE IDENTITY	Code	Sampled	Lab ID	SAMPLE BOTTLE / CONTAINER DESCRIPTION										TOTAL		
				125 ml envr	VOC (8240)	100 ml Storm W/m	500 ml Storm W/m	550 ml Storm W/m	550 ml Storm W/m	550 ml Storm W/m	550 ml Storm W/m	550 ml Storm W/m	550 ml Storm W/m		550 ml Storm W/m	
FST004D-SL2-6	S	6/24/93-1830														3
FST004A-SL4-8	S	6/25/93-1848														3
FST004A-SL4-8	S	6/25/93-1848														3
FST004A-SL1-6	S	6/25/93-1848														3
FST004D-SL3-6	S	6/24/93-0840														3
FST004D-SL92-6	S	6/24/93-1830														3
FST004A-SL2-4	S	6/25/93-1848														3
FST004A-SL3-4	S	6/25/93-0840														3
FST004B-SL1-8	S	6/25/93-1790														3
FST004D-SL1-4	S	6/24/93-1110														3
FST004D-SL4-4	S	6/24/93-1515														3
Total No. of Bottles/Containers																
33																

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

Relinquished by: Garrett D. Wein Organization: Geraghty & Miller, Inc. Date: 6/26/93 Time: a.m. Seal Intact? Yes No N/A

Received by: _____ Organization: _____ Date: _____ Time: _____ Seal Intact? Yes No N/A

Relinquished by: J. Bara Organization: 43675 Date: 6/26/93 Time: 1:00 Seal Intact? Yes No N/A

Received by: _____ Organization: _____ Date: _____ Time: _____ Seal Intact? Yes No N/A

Special Instructions/Remarks: _____

Delivery Method: In Person Lab Courier Other _____ SPECIFY _____



CHAIN-OF-CUSTODY RECORD

Project Number TF0764.003
 Project Location FT. STEWART, GA.
 Laboratory Savannah Lab.
 Sampler(s) K. Thalman, M. Morely, G. Weiss

SAMPLE IDENTITY	Date Sampled	SAMPLE BOTTLE / CONTAINER DESCRIPTION						TOTAL
		250 ml Plastic TCLP RCR Metals	100 ml Glass PH - 9045	125 ml Amber Glass * TCLP VOCs - 8240	250 ml Plastic RCR Metals	100 ml Glass PH/S.C. - 9045/9050	125 ml Amber Glass VOCs - 8240	
FST0014-10W5L	6/26/93	1	1	H				6
FST0014A-10W5L	6/26/93	1	1	H				6
FST0014C-10W5L	6/26/93	1	1	H				6
FST0014D-10W5L	6/26/93	1	1	H				6
FST0014B-SL2-8	6/28/93				1	1		3
FST0014B-SL3-8	6/28/93				1	1		3
FST0014B-SL4-4	6/26/93				1	1		3
FST0014E-SL1-6	6/26/93				1	1		3
FST0014E-SL3-8	6/28/93				1	1		3
* Composite in Laboratory								39

Relinquished by: Ron P. Lavin Organization: Geoghty & Miller, Inc Date: 6/27/93 Time: 8:00 Seal Intact? Yes No N/A

Received by: D. Campbell Organization: 45711 Date: 6/28/93 Time: 5:10 Seal Intact? Yes No N/A

Relinquished by: _____ Organization: _____ Date: _____ Time: _____ Seal Intact? Yes No N/A

Received by: _____ Organization: _____ Date: _____ Time: _____ Seal Intact? Yes No N/A

Special Instructions/Remarks:
No Matrix Spike req'd for TCLP Metals per Mike Price 7/7/93 RW

509



Laboratory Task Order No. 08746 A
08746 A

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number TF764.03

Project Location Ft Stewart, GA

Laboratory Sevenson

Sampler(s)/Affiliation Kathy Tholman / Gdlm
Samuel Wini / Gdlm
Mark Mason / Gdlm

SAMPLE IDENTITY Code Sampled Lab ID

SAMPLE IDENTITY	Code	Sampled	Lab ID	VOG 8240	RCA metab	250ml w/m plastic	5gc/pH (950/945)	100ml w/m slop	TCLP VOG	125ml ambn	TCLP RCA metab	250ml w/m plastic	PH (9045)	100ml w/m slop	TOTAL
EST004E-S12-8	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004E-S14-6	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004F-S11-8	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004F-S13-8	S	6/30/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004F-S17-8	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004F-S14-4	S	6/30/93		1	1	1	1	1	1	1	1	1	1	1	6
EST004B-IDWSL	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	6
EST004E-IDWSL	S	6/30/93		1	1	1	1	1	1	1	1	1	1	1	5
EST004F-IDWSL	S	6/30/93		1	1	1	1	1	1	1	1	1	1	1	5
Total				6	6	6	6	6	12	3	2				35

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

Relinquished by: Katharine J. Tholman Organization: Sevenson Environmental Services, Inc Date: 7/11/93 Time: 1200 Seal Intact? Yes No N/A

Received by: A. Campbell Organization: Sevenson Environmental Services, Inc Date: 7/11/93 Time: 1200 Seal Intact? Yes No N/A

Relinquished by: _____ Organization: _____ Date: _____ Time: _____

Received by: _____ Organization: _____ Date: _____ Time: _____

Special Instructions/Remarks: 4 samples in Lab for Vols
1 Matrix Spike for TCLP reg'd on Duke Pucc 7/7/93 RW

Relinquished by: _____ Organization: _____ Date: _____ Time: _____

Received by: _____ Organization: _____ Date: _____ Time: _____

Relinquished by: _____ Organization: _____ Date: _____ Time: _____

Received by: _____ Organization: _____ Date: _____ Time: _____

Relinquished by: _____ Organization: _____ Date: _____ Time: _____

Received by: _____ Organization: _____ Date: _____ Time: _____

Relinquished by: _____ Organization: _____ Date: _____ Time: _____

Received by: _____ Organization: _____ Date: _____ Time: _____



CHAIN-OF-CUSTODY RECORD

Project Number IF764.03
 Project Location Ft Stewart, GA
 Laboratory Savannah
 Sampler(s) Kathy Thelma / G. Aghty

SAMPLE IDENTITY	Date Sampled	SAMPLE BOTTLE / CONTAINER DESCRIPTION							TOTAL
		250 ml w/m plate	135 ml embu (06240)	100 ml w/m slon	RCA metab	250 ml w/m plate	135 ml embu	100 ml w/m slon	
FST002-IDWSL	7/1/93	1	2	1	1	1	1	1	4
FST002-SL1-12	7/1/93			1	1	1	1	1	3
FST002-SL4-8	7/1/93			1	1	1	1	1	3
FST002-SL94-8	7/1/93			1	1	1	1	1	3
FST004F-IDWSL	6/30/93	1							1
Total		1	2	3	3	3	3	3	14

Relinquished by: William D. Taylor Organization: Enviro & Quality Inc Date: 7/13/93 Time: Am Seal Intact? Yes No N/A
 Received by: A. Campbell Organization: 43808 Date: 7/13/93 Time: 2:45
 Relinquished by: _____ Organization: _____ Date: _____ Time: _____ Seal Intact? _____
 Received by: _____ Organization: _____ Date: _____ Time: _____ Seal Intact? _____

Special Instructions/Remarks: Need to compare in Lab
No MATRIX SPIKE. Reg'd for TCLP Metal per Mike Price 7/1/93 RU

Delivery Method: In Person Common Carrier Lab Courier Other

511

513

EXHIBIT D

LABORATORY TEST RESULTS

EXHIBIT D.1

CAMP OLIVER LANDFILL, FST-002

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

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

Page 2

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

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
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

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

Page 4

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		<5.7	<6.5	<6.4
Bromoform, ug/kg dw		<5.7	<6.5	<6.4
2-Hexanone, ug/kg dw		<5.7	<6.5	<6.4
4-Methyl-2-pentanone (MIBK), ug/kg dw		<5.7	<6.5	<6.4
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

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

521

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

Page 5

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	---	---

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

Page 6

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	---	---

523

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

Page 7

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	---	---	---

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

Page 8

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	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

525

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

Page 9

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	---	---

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

Page 10

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	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

527

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

Page 11

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
PARAMETER	43808-9	43808-10	43808-11	43808-12	43808-13
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				
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 %	---	---	---	---

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

Page 12

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) %

529

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

Page 13

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-15	FST004F-IDWSL	06-30-93
PARAMETER	43808-15	
pH in Soil (9045)		4.0
pH (9045), units		07.06.93
Date Analyzed		81
Percent Solids, %		

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

Page 14

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	

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

Page 15

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

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

Page 16

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

533

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

Page 17

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

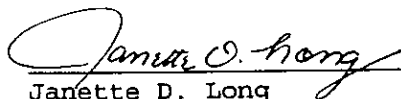
43808-17 Extract Fluid Method Blank

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

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343808Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1029.60	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	98.9			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	1046.00	104.6	1000.0	1053.00	105.3			
Sodium	999.9			999.0					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

535

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343008

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
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.: 5343808

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
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									

537 -

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			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	51.3	102.6	50.0	49.37	98.7	51.42	102.8	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343808Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
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									

539

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			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
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			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
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									

541

EXHIBIT D.2
BURN PIT A, FST-004A

543

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-1	FST004D-SL2-6	06-24-93				
43675-2	FST004A-SL4-8	06-25-93				
43675-3	FST004A-SL94-8	06-25-93				
43675-4	FST004A-SL1-6	06-25-93				
43675-5	FST004D-SL3-6	06-24-93				
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Volatiles by GC/MS (8240)						
Chloromethane, ug/kg dw	<11	<12	<12	<12	<11	
Bromomethane, ug/kg dw	<11	<12	<12	<12	<11	
Vinyl Chloride, ug/kg dw	<11	<12	<12	<12	<11	
Chloroethane, ug/kg dw	<11	<12	<12	<12	<11	
Methylene Chloride, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Acetone, ug/kg dw	110	<58	<59	<57	<57	
Carbon Disulfide, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
1,1-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
1,1-Dichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Chloroform, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
1,2-Dichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
2-Butanone (MEK), ug/kg dw	<56	<58	<59	<57	<57	
1,1,1-Trichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Carbon Tetrachloride, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Bromodichloromethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
1,2-Dichloropropane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Trans-1,3-Dichloropropene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-1	FST004D-SL2-6	06-24-93				
43675-2	FST004A-SL4-8	06-25-93				
43675-3	FST004A-SL94-8	06-25-93				
43675-4	FST004A-SL1-6	06-25-93				
43675-5	FST004D-SL3-6	06-24-93				
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Trichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Dibromochloromethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
1,1,2-Trichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Benzene, ug/kg dw	<5.6	28	12	<5.7	<5.7	
Cis-1,3-Dichloropropene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Bromoform, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
2-Hexanone, ug/kg dw	<56	<58	<59	<57	<57	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<56	<58	<59	<57	<57	
Tetrachloroethene, ug/kg dw	<5.6	<5.8	<5.9	6.1	<5.7	
Toluene, ug/kg dw	21	12	6.0	8.1	5.8	
Chlorobenzene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Ethylbenzene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Styrene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Xylenes, ug/kg dw	22	8.5	<5.9	6.1	<5.7	
Trans-1,2-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Cis-1,2-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
2-Chloroethylvinyl Ether, ug/kg dw	<56	<58	<59	<57	<57	
Vinyl Acetate, ug/kg dw	<11	<12	<12	<12	<11	
Surrogate - Toluene-d8	91 %	94 %	95 %	96 %	94 %	
Surrogate - 4-Bromofluorobenzene	98 %	94 %	95 %	90 %	96 %	
Surrogate - 1,2-Dichloroethane-d4	113 %	108 %	106 %	111 %	107 %	
Date Analyzed	07.02.93	07.02.93	07.02.93	07.03.93	07.03.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

545

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-1	FST004D-SL2-6					06-24-93
43675-2	FST004A-SL4-8					06-25-93
43675-3	FST004A-SL94-8					06-25-93
43675-4	FST004A-SL1-6					06-25-93
43675-5	FST004D-SL3-6					06-24-93
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	4.4	11	4.6	8.0	6.2	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
pH in Soil (9045)						
pH (9045), mg/kg	4.6	4.7	4.8	4.8	4.7	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Arsenic (7060)						
Arsenic (7060), mg/kg dw	<1.1	<1.1	<1.2	<1.1	1.2	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	07.01.93	
Barium (6010)						
Barium (6010), mg/kg dw	5.9	6.4	5.5	5.7	4.8	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Cadmium (6010)						
Cadmium (6010), mg/kg dw	<0.56	<0.58	<0.59	<0.57	<0.57	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Chromium (6010)						
Chromium (6010), mg/kg dw	3.3	6.4	6.4	9.0	6.4	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Lead (7421)						
Lead (7421), mg/kg dw	3.7	12	7.4	9.4	11	
Date Analyzed	07.13.93	07.14.93	07.13.93	07.14.93	07.14.93	

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-1	FST004D-SL2-6					06-24-93
43675-2	FST004A-SL4-8					06-25-93
43675-3	FST004A-SL94-8					06-25-93
43675-4	FST004A-SL1-6					06-25-93
43675-5	FST004D-SL3-6					06-24-93
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Selenium (7740)						
Selenium (7740), mg/kg dw	<1.1	<1.2	<1.2	<5.7*F65	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Silver (6010)						
Silver (6010), mg/kg dw	<1.1	<1.2	<1.2	<1.1	<1.1	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Mercury						
Mercury (7471), mg/kg dw	0.016	0.016	0.017	0.059	0.063	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Percent Solids, %	89	86	85	87	88	

547

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

5i02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-6	FST004D-SL92-6					06-24-93
43675-7	FST004A-SL2-4					06-25-93
43675-8	FST004A-SL3-4					06-25-93
43675-9	FST004B-SL1-8					06-25-93
43675-10	FST004D-SL1-4					06-24-93
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Volatiles by GC/MS (8240)						
Chloromethane, ug/kg dw	<11	<11	<11	<13	<11	
Bromomethane, ug/kg dw	<11	<11	<11	<13	<11	
Vinyl Chloride, ug/kg dw	<11	<11	<11	<13	<11	
Chloroethane, ug/kg dw	<11	<11	<11	<13	<11	
Methylene Chloride, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Acetone, ug/kg dw	58	63	<56	<66	<54	
Carbon Disulfide, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,1-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,1-Dichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Chloroform, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,2-Dichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
2-Butanone (MEK), ug/kg dw	<56	<53	<56	<66	<54	
1,1,1-Trichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Carbon Tetrachloride, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Bromodichloromethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,2-Dichloropropane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Trans-1,3-Dichloropropene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Trichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Dibromochloromethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,1,2-Trichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Benzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	12	
Cis-1,3-Dichloropropene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Bromoform, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
2-Hexanone, ug/kg dw	<56	<53	<56	<66	<54	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<56	<53	<56	<66	<54	
Tetrachloroethene, ug/kg dw	<5.6	8.8	<5.6	8.9	<5.4	
Toluene, ug/kg dw	18	<5.3	<5.6	8.3	5.8	
Chlorobenzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Ethylbenzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Styrene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Xylenes, ug/kg dw	25	8.2	<5.6	<6.6	5.5	
Trans-1,2-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.3	
Cis-1,2-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.3	
Vinyl Acetate, ug/kg dw	<11	<11	<11	<12	<11	
2-Chloroethylvinyl Ether, ug/kg dw	<56	<53	<56	<66	<53	
Surrogate - Toluene-d8	88 %	98 %	92 %	97 %	100 %	
Surrogate - 4-Bromofluorobenzene	91 %	93 %	96 %	91 %	83 %	
Surrogate - 1,2-Dichloroethane-d4	112 %	103 %	99 %	101 %	106 %	
Date Analyzed	07.05.93	07.05.93	07.05.93	07.05.93	07.05.93	

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

549

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	4.0	8.4	5.9	2.6	4.2	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
pH in Soil (9045)						
pH (9045), mg/kg	5.2	5.1	5.3	5.1	5.1	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Arsenic (7060)						
Arsenic (7060), mg/kg dw	<1.1	<1.1	<1.1	1.4	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Barium (6010)						
Barium (6010), mg/kg dw	6.7	6.5	1.4	9.0	2.9	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Cadmium (6010)						
Cadmium (6010), mg/kg dw	<0.56	<0.53	<0.56	<0.66	<0.54	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Chromium (6010)						
Chromium (6010), mg/kg dw	3.0	2.5	<1.1	13	3.4	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Lead (7421)						
Lead (7421), mg/kg dw	4.4	4.0	1.5	7.3	2.7	
Date Analyzed	07.13.93	07.13.93	07.13.93	07.13.93	07.13.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-6	FST004D-SL92-6					06-24-93
43675-7	FST004A-SL2-4					06-25-93
43675-8	FST004A-SL3-4					06-25-93
43675-9	FST004B-SL1-8					06-25-93
43675-10	FST004D-SL1-4					06-24-93
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Selenium (7740)						
Selenium (7740), mg/kg dw	<1.1	<1.1	<1.1	<6.5*F65	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Silver (6010)						
Silver (6010), mg/kg dw	<1.1	<1.1	<1.1	<1.3	<1.1	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Mercury						
Mercury (7471), mg/kg dw	0.016	0.018	0.017	0.013	0.016	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Percent Solids, %	89	94	89	76	92	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

551

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER		43675-11
Volatiles by GC/MS (8240)		
Chloromethane, ug/kg dw		<11
Bromomethane, ug/kg dw		<11
Vinyl Chloride, ug/kg dw		<11
Chloroethane, ug/kg dw		<5.7
Methylene Chloride, ug/kg dw		<5.7
Acetone, ug/kg dw		<5.7
Carbon Disulfide, ug/kg dw		<5.7
1,1-Dichloroethene, ug/kg dw		<5.7
1,1-Dichloroethane, ug/kg dw		<5.7
Chloroform, ug/kg dw		<5.7
1,2-Dichloroethane, ug/kg dw		<5.7
2-Butanone (MEK), ug/kg dw		<5.7
1,1,1-Trichloroethane, ug/kg dw		<5.7
Carbon Tetrachloride, ug/kg dw		<5.7
Bromodichloromethane, ug/kg dw		<5.7
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.7
1,2-Dichloropropane, ug/kg dw		<5.7
Trans-1,3-Dichloropropene, ug/kg dw		<5.7
Trichloroethene, ug/kg dw		<5.7
Dibromochloromethane, ug/kg dw		<5.7
1,1,2-Trichloroethane, ug/kg dw		<5.7
Benzene, ug/kg dw		<5.7
Cis-1,3-Dichloropropene, ug/kg dw		<5.7

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER	43675-11	
Bromoform, ug/kg dw		<5.7
2-Hexanone, ug/kg dw		<57
4-Methyl-2-pentanone (MIBK), ug/kg dw		<57
Tetrachloroethene, ug/kg dw		9.7
Toluene, ug/kg dw		<5.7
Chlorobenzene, ug/kg dw		<5.7
Ethylbenzene, ug/kg dw		<5.7
Styrene, ug/kg dw		<5.7
Xylenes, ug/kg dw		<5.7
Trans-1,2-Dichloroethene, ug/kg dw		<5.7
Cis-1,2-Dichloroethene, ug/kg dw		<5.7
Vinyl Acetate, ug/kg dw		<11
2-Chloroethylvinyl Ether, ug/kg dw		<57
Surrogate - Toluene-d8		97 %
Surrogate - 4-Bromofluorobenzene		92 %
Surrogate - 1,2-Dichloroethane-d4		105 %
Date Analyzed		07.06.93
Specific Conductance (120.1)		
Specific Conductance, umhos/cm		4.6
Date Analyzed		06.30.93
pH in Soil (9045)		
pH (9045), units		5.2
Date Analyzed		06.28.93
Arsenic (7060)		
Arsenic (7060), mg/kg dw		<1.1
Date Analyzed		06.29.93

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

553

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 11

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER		43675-11
Barium (6010)		4.2
Barium (6010), mg/kg dw		06.30.93
Date Analyzed		
Cadmium (6010)		<0.56
Cadmium (6010), mg/kg dw		06.30.93
Date Analyzed		
Chromium (6010)		3.7
Chromium (6010), mg/kg dw		06.30.93
Date Analyzed		
Lead (7421)		2.5
Lead (7421), mg/kg dw		07.13.93
Date Analyzed		
Selenium (7740)		<1.1
Selenium (7740), mg/kg dw		06.29.93
Date Analyzed		
Silver (6010)		<1.1
Silver (6010), mg/kg dw		06.30.93
Date Analyzed		
Mercury		0.017
Mercury (7471), mg/kg dw		06.30.93
Date Analyzed		
Percent Solids, %		88

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 12

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
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	52	50	104 %
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	---	---	---
Bromodichloromethane, ug/kg dw	5.0	<5.0	---	---	---
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	53.3	50	107 %

5i02 LaRoche Avenue • Savannah, GA 31404 • (912) 354-7858 • Fax (912) 352-0165

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 13.

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43675-12 Detection Limits Soil
 43675-13 Method Blank Result
 43675-14 Lab Control Standard (LCS) Result
 43675-15 LCS Expected Value
 43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
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	52.7	50	105 %
Cis-1,3-Dichloropropene, ug/kg dw	5.0	<5.0	---	---	---
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	62.9	50	126 %
Chlorobenzene, ug/kg dw	5.0	<5.0	57.4	50	115 %
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	---	92/92 %	112 %	---	---
Surrogate - 4-Bromofluorobenzene	---	97/98 %	121 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	102/105 %	100 %	---	---
Date Analyzed	---	7.02-05.93	07.02.93	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	4.98	4.80	104 %
Date Analyzed	---	06.29.93	06.29.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 14

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	94.5	98.2	96 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	85.6	92.4	93 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	91.8	96.7	95 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	5.75	5.00	115 %
Date Analyzed	---	07.14.93	07.14.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	5.08	4.94	103 %
Date Analyzed	---	06.29.93	06.29.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	87.4	94.0	93 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.20	1.40	86 %
Date Analyzed	---	06.30.93	06.30.93	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

557

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 15

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43675-12	Detection Limits Soil				
43675-13	Method Blank Result				
43675-14	Lab Control Standard (LCS) Result				
43675-15	LCS Expected Value				
43675-16	LCS % Recovery				
PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
pH in Soil (9045)			8.74	9.00	97 %
pH (9045), units	---	---	06.28.93	---	---
Date Analyzed					
Specific Conductance (120.1)			1408	1354	102 %
Specific Conductance, umhos/cm	1.0	<1.0	06.30.93	---	---
Date Analyzed		06.30.93	06.30.93		

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 16

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43675-17	LCS % Recovery Limits				
43675-18	Matrix Spike (MS) Result/Duplicate				
43675-19	MS Expected Value				
43675-20	MS % Recovery/Duplicate				
43675-21	MS % Recovery Limit				
PARAMETER	43675-17	43675-18	43675-19	43675-20	43675-21
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	46.6/45.7	56	83/82 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	55.2/59.4	56	99/106 %	43-140 %
Benzene, ug/kg dw	48-150 %	64.6/60.2	56	115/108 %	48-150 %
Toluene, ug/kg dw	51-141 %	80.8/79.7	56	144/142 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	66.7/67.1	56	119/120 %	54-138 %
Surrogate - Toluene-d8	---	107/107 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	85/87 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	107/106 %	---	---	---
Date Analyzed	---	07.05.93	---	---	---
Arsenic (7060)	---	---	---	---	---
Arsenic (7060), mg/kg dw	70-130 %	1.11/1.40	6.53	17/21 %	75-125 %
Date Analyzed	---	06.29.93	---	---	---
Barium (6010)	---	---	---	---	---
Barium (6010), mg/kg dw	70-130 %	258/260	263	98/99 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Cadmium (6010)	---	---	---	---	---
Cadmium (6010), mg/kg dw	70-130 %	5.78/6.10	6.58	88/93 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Chromium (6010)	---	---	---	---	---
Chromium (6010), mg/kg dw	70-130 %	24.1/46.3	26.3	92/176 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43675-17	LCS % Recovery Limits				
43675-18	Matrix Spike (MS) Result/Duplicate				
43675-19	MS Expected Value				
43675-20	MS % Recovery/Duplicate				
43675-21	MS % Recovery Limit				
PARAMETER	43675-17	43675-18	43675-19	43675-20	43675-21
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	3.78/2.20	5.87	64/38 %	75-125 %
Date Analyzed	---	07.14.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	75-125 %	*F73	---	---	---
Date Analyzed	---	06.29.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	5.50/5.47	6.58	84/83 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.055/.055	0.0580	95/95 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
pH in Soil (9045)					
pH (9045), units	90-110 %	---	---	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	90-110 %	---	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 18

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43675-22	MS % RPD (Limit)
PARAMETER	43675-22
Volatiles by GC/MS (8240)	
1,1-Dichloroethene	1.2 (<50) %
Trichloroethene	6.8 (<27) %
Benzene	6.3 (<27) %
Toluene	1.4 (<27) %
Chlorobenzene	0.84 (<33) %
Arsenic (7060)	
Arsenic (7060)	21 (<20) %
Barium (6010)	
Barium (6010)	1.0 (<30) %
Cadmium (6010)	
Cadmium (6010)	5.4 (<30) %
Chromium (6010)	
Chromium (6010)	63 (<30) %
Lead (7421) ,	
Lead (7421)	51 (<30) %
Selenium (7740)	
Selenium (7740)	---
Silver (6010)	
Silver (6010)	1.2 (<30) %
Mercury	
Mercury (7471)	0 (<30) %

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

561

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

Page 19

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	
43675-23	Method Blank	
		43675-23
PARAMETER		
Volatiles by GC/MS (8240)		<10
Chloromethane, ug/kg dw		<10
Bromomethane, ug/kg dw		<10
Vinyl Chloride, ug/kg dw		<10
Chloroethane, ug/kg dw		<5.0
Methylene Chloride, ug/kg dw		<50
Acetone, ug/kg dw		<5.0
Carbon Disulfide, ug/kg dw		<5.0
1,1-Dichloroethene, ug/kg dw		<5.0
1,1-Dichloroethane, ug/kg dw		<5.0
Trans-1,2-Dichloroethylene, ug/kg dw		<5.0
Cis-1,2-Dichloroethene, ug/kg dw		<5.0
Chloroform, ug/kg dw		<5.0
1,2-Dichloroethane, ug/kg dw		<50
2-Butanone, (MEK), ug/kg dw		<5.0
1,1,1-Trichloroethane, ug/kg dw		<5.0
Carbon Tetrachloride, ug/kg dw		<10
Vinyl Acetate, ug/kg dw		<5.0
Bromodichloromethane, ug/kg dw		<5.0
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.0
1,2-Dichloropropane, ug/kg dw		<5.0
Trans-1,3-Dichloropropene, ug/kg dw		<5.0
Trichloroethene, ug/kg dw		<5.0
Dibromochloromethane, ug/kg dw		<5.0

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 20

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

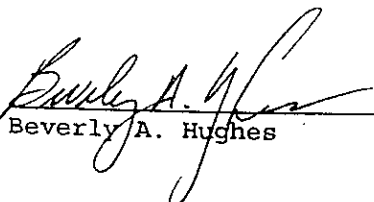
PARAMETER 43675-23

1,1,2-Trichloroethane, ug/kg dw	<5.0
Benzene, ug/kg dw	<5.0
Cis-1,3-Dichloropropene, ug/kg dw	<5.0
Bromoform, ug/kg dw	<5.0
2-Hexanone, ug/kg dw	<50
4-Methyl-2-pentanone (MIBK), ug/kg dw	<50
Tetrachloroethene, ug/kg dw	<5.0
Toluene, ug/kg dw	<5.0
Chlorobenzene, ug/kg dw	<5.0
Ethylbenzene, ug/kg dw	<5.0
Styrene, ug/kg dw	<5.0
Xylenes, ug/kg dw	<5.0
Surrogate - Toluene-d8	92 %
Surrogate - 4-Bromofluorobenzene	96 %
Surrogate - 1,2-Dichloroethane-d4	100 %
Date Analyzed	07.06.93

Methods: EPA SW-846

*F73 = Matrix spikes were not recovered due to matrix interference present in the sample.

*F65 = Elevated detection limits were reported due to sample matrix interference which required sample dilution prior to analysis.


Beverly A. Hughes

Final Page Of Report

563

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1014.00	101.4	999.9	1035.00	103.5			
Beryllium	987.0			987.0					
Cadmium	996.0	1003.00	100.7	996.0	1015.00	101.9			
Calcium	1005.0			1005.0					
Chromium	998.0	1019.00	102.1	998.0	1028.00	103.0			
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	1.74	102.4	1.7	1.73	101.8			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	999.50	100.0	1000.0	1007.00	100.7			
Sodium	999.9			999.9					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	45.76	91.7	49.9	46.72	93.6	50.94	102.1	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	50.33	100.7	50.0	49.98	100.0	51.02	102.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	47.10	93.6	50.3	45.30	90.1	50.83	101.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

565

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	52.07	104.3	49.22	98.6	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	52.12	104.2	50.56	101.1	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	52.59	104.6	48.63	96.7	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No. 343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	48.92	98.0	54.65	109.5	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	51.25	102.5			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.28	98.0	52.59	104.6	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

567

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.89	104.0	52.40	105.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.87	99.7	50.0	51.13	102.3	50.0	100.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.41	98.2	52.67	104.7	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 343675Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	54.92	110.1			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.38	100.8			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.33	98.1			
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

569

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	50.21	100.6	49.9	51.61	103.4	45.41	91.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343675Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	46.64	93.5	52.87	106.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

571

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.19	102.6			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

573

EXHIBIT D.3

BURN PIT B, FST-004B

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER		43675-6	43675-7	43675-8	43675-9	43675-10
Volatiles by GC/MS (8240)						
Chloromethane, ug/kg dw		<11	<11	<11	<13	<11
Bromomethane, ug/kg dw		<11	<11	<11	<13	<11
Vinyl Chloride, ug/kg dw		<11	<11	<11	<13	<11
Chloroethane, ug/kg dw		<11	<11	<11	<13	<11
Methylene Chloride, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Acetone, ug/kg dw		58	63	<56	<66	<54
Carbon Disulfide, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,1-Dichloroethene, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,1-Dichloroethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Chloroform, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,2-Dichloroethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
2-Butanone (MEK), ug/kg dw		<56	<53	<56	<66	<54
1,1,1-Trichloroethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Carbon Tetrachloride, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Bromodichloromethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,2-Dichloropropane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Trans-1,3-Dichloropropene, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Trichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Dibromochloromethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,1,2-Trichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Benzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	12	
Cis-1,3-Dichloropropene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Bromoform, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
2-Hexanone, ug/kg dw	<56	<53	<56	<66	<54	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<56	<53	<56	<66	<54	
Tetrachloroethene, ug/kg dw	<5.6	8.8	<5.6	8.9	<5.4	
Toluene, ug/kg dw	18	<5.3	<5.6	8.3	5.8	
Chlorobenzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Ethylbenzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Styrene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Xylenes, ug/kg dw	25	8.2	<5.6	<6.6	5.5	
Trans-1,2-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.3	
Cis-1,2-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.3	
Vinyl Acetate, ug/kg dw	<11	<11	<11	<12	<11	
2-Chloroethylvinyl Ether, ug/kg dw	<56	<53	<56	<66	<53	
Surrogate - Toluene-d8	88 %	98 %	92 %	97 %	100 %	
Surrogate - 4-Bromofluorobenzene	91 %	93 %	96 %	91 %	83 %	
Surrogate - 1,2-Dichloroethane-d4	112 %	103 %	99 %	101 %	106 %	
Date Analyzed	07.05.93	07.05.93	07.05.93	07.05.93	07.05.93	

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	4.0	8.4	5.9	2.6	4.2	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
pH in Soil (9045)						
pH (9045), mg/kg	5.2	5.1	5.3	5.1	5.1	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Arsenic (7060)						
Arsenic (7060), mg/kg dw	<1.1	<1.1	<1.1	1.4	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Barium (6010)						
Barium (6010), mg/kg dw	6.7	6.5	1.4	9.0	2.9	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Cadmium (6010)						
Cadmium (6010), mg/kg dw	<0.56	<0.53	<0.56	<0.66	<0.54	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Chromium (6010)						
Chromium (6010), mg/kg dw	3.0	2.5	<1.1	13	3.4	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Lead (7421)						
Lead (7421), mg/kg dw	4.4	4.0	1.5	7.3	2.7	
Date Analyzed	07.13.93	07.13.93	07.13.93	07.13.93	07.13.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-6	FST004D-SL92-6					06-24-93
43675-7	FST004A-SL2-4					06-25-93
43675-8	FST004A-SL3-4					06-25-93
43675-9	FST004B-SL1-8					06-25-93
43675-10	FST004D-SL1-4					06-24-93
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Selenium (7740)						
Selenium (7740), mg/kg dw	<1.1	<1.1	<1.1	<6.5*F65	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Silver (6010)						
Silver (6010), mg/kg dw	<1.1	<1.1	<1.1	<1.3	<1.1	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Mercury						
Mercury (7471), mg/kg dw	0.016	0.018	0.017	0.013	0.016	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Percent Solids, %	89	94	89	76	92	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

579

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 12

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER 43675-12 43675-13 43675-14 43675-15 43675-16

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
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	52	50	104 %
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	---	---	---
Bromodichloromethane, ug/kg dw	5.0	<5.0	---	---	---
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	53.3	50	107 %

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 13

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
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	52.7	50	105 %
Cis-1,3-Dichloropropene, ug/kg dw	5.0	<5.0	---	---	---
Bromoform, ug/kg dw	5.0	<5.0	---	---	---
2-Hexanone, ug/kg dw	50	<60	---	---	---
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	62.9	50	126 %
Chlorobenzene, ug/kg dw	5.0	<5.0	57.4	50	115 %
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	---	92/92 %	112 %	---	---
Surrogate - 4-Bromofluorobenzene	---	97/98 %	121 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	102/105 %	100 %	---	---
Date Analyzed	---	7.02-05.93	07.02.93	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	4.98	4.80	104 %
Date Analyzed	---	06.29.93	06.29.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

581

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 14

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
43675-12	Detection Limits Soil				
43675-13	Method Blank Result				
43675-14	Lab Control Standard (LCS) Result				
43675-15	LCS Expected Value				
43675-16	LCS % Recovery				
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	94.5	98.2	96 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	85.6	92.4	93 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	91.8	96.7	95 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	5.75	5.00	115 %
Date Analyzed	---	07.14.93	07.14.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	5.08	4.94	103 %
Date Analyzed	---	06.29.93	06.29.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	87.4	94.0	93 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.20	1.40	86 %
Date Analyzed	---	06.30.93	06.30.93	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 15

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43675-12 Detection Limits Soil
 43675-13 Method Blank Result
 43675-14 Lab Control Standard (LCS) Result
 43675-15 LCS Expected Value
 43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
pH in Soil (9045)					
pH (9045), units	---	---	8.74	9.00	97 %
Date Analyzed	---	---	06.28.93	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	1.0	<1.0	1408	1354	102 %
Date Analyzed	---	06.30.93	06.30.93	---	---

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 16

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43675-17 LCS % Recovery Limits
 43675-18 Matrix Spike (MS) Result/Duplicate
 43675-19 MS Expected Value
 43675-20 MS % Recovery/Duplicate
 43675-21 MS % Recovery Limit

PARAMETER	43675-17	43675-18	43675-19	43675-20	43675-21

Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	46.6/45.7	56	83/82 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	55.2/59.4	56	99/106 %	43-140 %
Benzene, ug/kg dw	48-150 %	64.6/60.2	56	115/108 %	48-150 %
Toluene, ug/kg dw	51-141 %	80.8/79.7	56	144/142 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	66.7/67.1	56	119/120 %	54-138 %
Surrogate - Toluene-d8	---	107/107 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	85/87 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	107/106 %	---	---	---
Date Analyzed	---	07.05.93	---	---	---

Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	1.11/1.40	6.53	17/21 %	75-125 %
Date Analyzed	---	06.29.93	---	---	---

Barium (6010)					
Barium (6010), mg/kg dw	70-130 %	258/260	263	98/99 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---

Cadmium (6010)					
Cadmium (6010), mg/kg dw	70-130 %	5.78/6.10	6.58	88/93 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---

Chromium (6010)					
Chromium (6010), mg/kg dw	70-130 %	24.1/46.3	26.3	92/176 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 17

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43675-17	LCS % Recovery Limits				
43675-18	Matrix Spike (MS) Result/Duplicate				
43675-19	MS Expected Value				
43675-20	MS % Recovery/Duplicate				
43675-21	MS % Recovery Limit				
PARAMETER	43675-17	43675-18	43675-19	43675-20	43675-21
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	3.78/2.20	5.87	64/38 %	75-125 %
Date Analyzed	---	07.14.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	75-125 %	*F73	---	---	---
Date Analyzed	---	06.29.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	5.50/5.47	6.58	84/83 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.055/.055	0.0580	95/95 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
pH in Soil (9045)					
pH (9045), units	90-110 %	---	---	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	90-110 %	---	---	---	---

585

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 18

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-22 MS % RPD (Limit)

PARAMETER 43675-22

Volatiles by GC/MS (8240)

1,1-Dichloroethene	1.2 (<50) %
Trichloroethene	6.8 (<27) %
Benzene	6.3 (<27) %
Toluene	1.4 (<27) %
Chlorobenzene	0.84 (<33) %
Arsenic (7060)	
Arsenic (7060)	21 (<20) %
Barium (6010)	
Barium (6010)	1.0 (<30) %
Cadmium (6010)	
Cadmium (6010)	5.4 (<30) %
Chromium (6010)	
Chromium (6010)	63 (<30) %
Lead (7421)	
Lead (7421)	51 (<30) %
Selenium (7740)	
Selenium (7740)	---
Silver (6010)	
Silver (6010)	1.2 (<30) %
Mercury	
Mercury (7471)	0 (<30) %

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 19

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

PARAMETER 43675-23

Volatiles by GC/MS (8240)	
Chloromethane, ug/kg dw	<10
Bromomethane, ug/kg dw	<10
Vinyl Chloride, ug/kg dw	<10
Chloroethane, ug/kg dw	<10
Methylene Chloride, ug/kg dw	<5.0
Acetone, ug/kg dw	<50
Carbon Disulfide, ug/kg dw	<5.0
1,1-Dichloroethene, ug/kg dw	<5.0
1,1-Dichloroethane, ug/kg dw	<5.0
Trans-1,2-Dichloroethylene, ug/kg dw	<5.0
Cis-1,2-Dichloroethene, ug/kg dw	<5.0
Chloroform, ug/kg dw	<5.0
1,2-Dichloroethane, ug/kg dw	<5.0
2-Butanone (MEK), ug/kg dw	<50
1,1,1-Trichloroethane, ug/kg dw	<5.0
Carbon Tetrachloride, ug/kg dw	<5.0
Vinyl Acetate, ug/kg dw	<10
Bromodichloromethane, ug/kg dw	<5.0
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.0
1,2-Dichloropropane, ug/kg dw	<5.0
Trans-1,3-Dichloropropene, ug/kg dw	<5.0
Trichloroethene, ug/kg dw	<5.0
Dibromochloromethane, ug/kg dw	<5.0

587

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

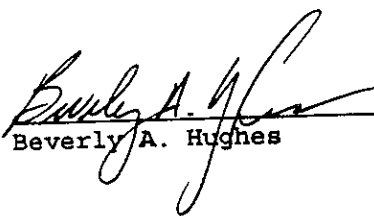
Page 20

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43675-23	Method Blank
PARAMETER	43675-23
1,1,2-Trichloroethane, ug/kg dw	<5.0
Benzene, ug/kg dw	<5.0
Cis-1,3-Dichloropropene, ug/kg dw	<5.0
Bromoform, ug/kg dw	<5.0
2-Hexanone, ug/kg dw	<50
4-Methyl-2-pentanone (MIBK), ug/kg dw	<50
Tetrachloroethene, ug/kg dw	<5.0
Toluene, ug/kg dw	<5.0
Chlorobenzene, ug/kg dw	<5.0
Ethylbenzene, ug/kg dw	<5.0
Styrene, ug/kg dw	<5.0
Xylenes, ug/kg dw	<5.0
Surrogate - Toluene-d8	92 %
Surrogate - 4-Bromofluorobenzene	96 %
Surrogate - 1,2-Dichloroethane-d4	100 %
Date Analyzed	07.06.93

Methods: EPA SW-846

*F73 = Matrix spikes were not recovered due to matrix interference present in the sample.

*F65 = Elevated detection limits were reported due to sample matrix interference which required sample dilution prior to analysis.


Beverly A. Hughes

Final Page Of Report

589

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	45.76	91.7	49.9	46.72	93.6	50.94	102.1	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	50.33	100.7	50.0	49.98	100.0	51.02	102.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	47.10	93.6	50.3	45.30	90.1	50.83	101.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: S343675Initial Calibration Source: SPEXContinuing Calibration Source: SPEXConcentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1014.00	101.4	999.9	1035.00	103.5			
Beryllium	987.0			987.0					
Cadmium	996.0	1003.00	100.7	996.0	1015.00	101.9			
Calcium	1005.0			1005.0					
Chromium	998.0	1019.00	102.1	998.0	1028.00	103.0			
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	1.74	102.4	1.7	1.73	101.8			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	999.50	100.0	1000.0	1007.00	100.7			
Sodium	999.9			999.9					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

591

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No. 843675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	48.92	98.0	54.65	109.5	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	51.25	102.5			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.28	98.0	52.59	104.0	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	52.07	104.3	49.22	98.6	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	52.12	104.2	50.56	101.1	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	52.59	104.6	48.63	96.7	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

593

2A
 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	54.92	110.1			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.38	100.8			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.33	98.1			
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343675Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.89	104.0	52.40	105.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.87	99.7	50.0	51.13	102.3	50.0	100.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.41	98.2	52.67	104.7	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

595

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	46.64	93.5	52.87	106.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	50.71	100.6	49.9	51.61	103.4	45.41	91.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

597

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.19	102.6			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

599

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 1

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43711-1	FST004B-SL2-8					06-28-93
43711-2	FST004B-SL3-8					06-28-93
43711-3	FST004B-SL4-4					06-26-93
43711-4	FST004E-SL1-6					06-26-93
43711-5	FST004E-SL3-8					06-28-93
PARAMETER	43711-1	43711-2	43711-3	43711-4	43711-5	
Arsenic (7060)	<1.2	<1.1	<1.1	<1.2	<1.2	
Arsenic (7060), mg/kg dw	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Date Analyzed						
Barium (6010)	8.0	3.7	9.8	27	8.5	
Barium (6010), mg/kg dw	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Date Analyzed						
Cadmium (6010)	<0.58	<0.57	<0.54	<0.59	<0.58	
Cadmium (6010), mg/kg dw	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Date Analyzed						
Chromium (6010)	2.7	4.5	7.1	12	9.5	
Chromium (6010), mg/kg dw	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Date Analyzed						
Lead (7421)	2.2	2.7	4.2	5.9	5.2	
Lead (7421), mg/kg dw	07.12.93	07.12.93	07.12.93	07.12.93	07.12.93	07.12.93
Date Analyzed						
Selenium (7740)	<1.2	<1.1	<1.1	<2.4*F65	<2.3*F65	
Selenium (7740), mg/kg dw	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Date Analyzed						
Silver (6010)	<1.2	<1.1	<1.1	<1.2	<1.2	
Silver (6010), mg/kg dw	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Date Analyzed						

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43711-1	FST004B-SL2-8	06-28-93				
43711-2	FST004B-SL3-8	06-28-93				
43711-3	FST004B-SL4-4	06-26-93				
43711-4	FST004E-SL1-6	06-26-93				
43711-5	FST004E-SL3-8	06-28-93				
PARAMETER		43711-1	43711-2	43711-3	43711-4	43711-5
Mercury						
Mercury (7471), mg/kg dw		<0.012	<0.011	0.021	0.026	0.062
Date Analyzed		07.02.93	07.02.93	07.02.93	07.02.93	07.02.93
pH in Soil (9045)						
pH (9045), units		4.0	3.9	3.7	4.1	3.9
Date Analyzed		06.30.93	06.30.93	06.30.93	06.30.93	06.30.93
Specific Conductance (120.1)						
Specific Conductance, umhos/cm		2.7	2.6	7.0	5.5	2.1
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

601

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 3

LOG NO	SAMPLE DESCRIPTION, SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43711-1	FST004B-SL2-8					06-28-93
43711-2	FST004B-SL3-8					06-28-93
43711-3	FST004B-SL4-4					06-26-93
43711-4	FST004E-SL1-6					06-26-93
43711-5	FST004E-SL3-8					06-28-93
PARAMETER	43711-1	43711-2	43711-3	43711-4	43711-5	
Volatiles by GC/MS (8240)						
Chloromethane, ug/kg dw	<12	<11	<11	<12	<12	<12
Bromomethane, ug/kg dw	<12	<11	<11	<12	<12	<12
Vinyl Chloride, ug/kg dw	<12	<11	<11	<12	<12	<12
Chloroethane, ug/kg dw	<12	<11	<11	<12	<12	<12
Methylene Chloride, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
Acetone, ug/kg dw	<58	<57	110	<59	<58	<58
Carbon Disulfide, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
1,1-Dichloroethene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
1,1-Dichloroethane, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
Trans-1,2-Dichloroethylene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
Cis-1,2-Dichloroethene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
Chloroform, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
1,2-Dichloroethane, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
2-Butanone (MEK), ug/kg dw	<58	<57	<54	<59	<58	<58
1,1,1-Trichloroethane, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
Carbon Tetrachloride, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8
Vinyl Acetate, ug/kg dw	<12	<11	<11	<12	<12	<12
Bromodichloromethane, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	<5.8

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 4

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43711-1	FST004B-SL2-8	06-28-93				
43711-2	FST004B-SL3-8	06-28-93				
43711-3	FST004B-SL4-4	06-26-93				
43711-4	FST004E-SL1-6	06-26-93				
43711-5	FST004E-SL3-8	06-28-93				
PARAMETER	43711-1	43711-2	43711-3	43711-4	43711-5	
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
1,2-Dichloropropane, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Trans-1,3-Dichloropropene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Trichloroethene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Dibromochloromethane, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
1,1,2-Trichloroethane, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Benzene, ug/kg dw	<5.8	<5.7	30	<5.9	<5.8	
Cis-1,3-Dichloropropene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
2-Chloroethylvinyl Ether, ug/kg dw	<58	<57	<54	<59	<58	
Bromoform, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
2-Hexanone, ug/kg dw	<58	<57	<54	<59	<58	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<58	<57	<54	<59	<58	
Tetrachloroethene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Toluene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Chlorobenzene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Ethylbenzene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Styrene, ug/kg dw	<5.8	<5.7	<5.4	<5.9	<5.8	
Xylenes, ug/kg dw	<5.8	<5.7	9.9	<5.9	<5.8	
Surrogate - Toluene-d8	91 %	91 %	92 %	94 %	92 %	
Surrogate - 4-Bromofluorobenzene	95 %	92 %	84 %	92 %	93 %	
Surrogate - 1,2-Dichloroethane-d4	100 %	126 %	106 %	103 %	103 %	
Date Analyzed	07.05.93	07.05.93	07.05.93	07.05.93	07.05.93	

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

603

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 5

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43711-1	FST004B-SL2-8					06-28-93
43711-2	FST004B-SL3-8					06-28-93
43711-3	FST004B-SL4-4					06-26-93
43711-4	FST004E-SL1-6					06-26-93
43711-5	FST004E-SL3-8					06-28-93
PARAMETER	43711-1	43711-2	43711-3	43711-4	43711-5	
Percent Solids, %	86	88	93	85	86	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 6

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43711-6	Detection Limits Soil				
43711-7	Method Blank Result				
43711-8	Lab Control Standard (LCS) Result				
43711-9	LCS Expected Value				
43711-10	LCS % Recovery				
PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	5.20	4.80	108 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	97.2	98.2	99 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	91.4	92.4	99 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	102	96.7	105 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	4.84	5.00	97 %
Date Analyzed	---	07.12.93	07.12.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	4.74	4.94	96 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	99.5	94.0	106 %
Date Analyzed	---	07.06.93	07.06.93	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

605

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 7

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43711-6 Detection Limits Soil
 43711-7 Method Blank Result
 43711-8 Lab Control Standard (LCS) Result
 43711-9 LCS Expected Value
 43711-10 LCS % Recovery

PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.22	1.40	87 %
Date Analyzed	---	07.02.93	07.02.93	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	1.0	<1.0	1451	1436	101 %
Date Analyzed	---	07.09.93	07.09.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 8

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43711-6 Detection Limits Soil
43711-7 Method Blank Result
43711-8 Lab Control Standard (LCS) Result
43711-9 LCS Expected Value
43711-10 LCS % Recovery

PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10

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	---	---	---
1,1-Dichloroethane, ug/kg dw	5.0	<5.0	52.0	50	104 %
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	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

607

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 9

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43711-6 Detection Limits Soil
 43711-7 Method Blank Result
 43711-8 Lab Control Standard (LCS) Result
 43711-9 LCS Expected Value
 43711-10 LCS % Recovery

PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
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	53.3	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	52.7	50	105 %
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	62.9	50	126 %
Chlorobenzene, ug/kg dw	5.0	<5.0	57.4	50	115 %
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 %	112 %	---	---
Surrogate - 4-Bromofluorobenzene	---	98 %	121 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	105 %	100 %	---	---
Date Analyzed	---	07.05.93	07.05.93	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 10

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43711-6 Detection Limits Soil
 43711-7 Method Blank Result
 43711-8 Lab Control Standard (LCS) Result
 43711-9 LCS Expected Value
 43711-10 LCS % Recovery

PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
pH in Soil (9045)					
pH (9045), units	---	---	9.00	9.00	100 %
Date Analyzed	---	---	06.30.93	---	---

609

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 11

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43711-11 LCS % Recovery Limit
 43711-12 Matrix Spike (MS) Result/Duplicate
 43711-13 MS Expected Value
 43711-14 MS % Recovery/Duplicate
 43711-15 MS % Recovery Limit

PARAMETER	43711-11	43711-12	43711-13	43711-14	43711-15

Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	5.18/4.84	5.77	90/84 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Barium (6010)					
Barium (6010), mg/kg dw	70-130 %	214/215	231	93/93 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	70-130 %	4.74/4.83	5.78	82/84 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	75-125 %	22.6/23.8	23.1	98/103 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	6.06/5.85	5.78	105/101 %	75-125 %
Date Analyzed	---	07.12.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	70-130 %	2.47/2.08	5.82	42/36 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	5.36/5.64	5.78	93/98 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 12

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43711-11 LCS % Recovery Limit
 43711-12 Matrix Spike (MS) Result/Duplicate
 43711-13 MS Expected Value
 43711-14 MS % Recovery/Duplicate
 43711-15 MS % Recovery Limit

PARAMETER	43711-11	43711-12	43711-13	43711-14	43711-15
Mercury					
Mercury (7471), mg/kg dw	70-130 %	0.0512/*	0.0578	89/88 %	75-125 %
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	90-110 %	---	---	---	---
Volatiles by GC/MS (8240)					
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 %
1,1-Dichloroethene, ug/kg dw	36-161 %	45.6/44	53.8	85/82 %	36-161 %
Surrogate - Toluene-d8	---	100/101 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	88/88 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	102/101 %	---	---	---
Date Analyzed	---	07.05.93	---	---	---
pH in Soil (9045)					
pH (9045), units	90-110 %	---	---	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

611

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 13

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID	
43711-16	MS % RPD (Limit)	
PARAMETER		43711-16
Arsenic (7060)		
Arsenic (7060)		6.9 (<30) %
Barium (6010)		
Barium (6010)		0 (<30) %
Cadmium (6010)		
Cadmium (6010)		2.4 (<30) %
Chromium (6010)		
Chromium (6010)		5.0 (<30) %
Lead (7421)		
Lead (7421)		3.9 (<30) %
Selenium (7740)		
Selenium (7740)		15 (<30) %
Silver (6010)		
Silver (6010)		5.2 (<30) %
Mercury		
Mercury (7471)		1.1 (30) %
Volatiles by GC/MS (8240)		
1,1-Dichloroethene		3.6 (<50) %
Trichloroethene		0.87 (<27) %
Benzene		4.8 (<27) %
Toluene		1.7 (<27) %
Chlorobenzene		3.9 (<33) %

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: S343711Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M
	True	Found	%R(1)	True	Found	%R(1)	Found	
Aluminum	1001.1			1001.1				
Antimony	999.0			999.0				
Arsenic								
Barium	999.9	966.60	96.7	999.9	970.90	97.1		
Beryllium	987.0			987.0				
Cadmium	996.0	961.30	96.5	996.0	954.70	95.9		
Calcium	1005.0			1005.0				
Chromium	998.0	964.00	96.6	998.0	960.60	96.3		
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	1.60	94.1	1.7	1.57	92.4		
Nickel	1000.0			1000.0				
Potassium	10016.1			10016.1				
Selenium								
Silver	1000.0	957.10	95.7	1000.0	958.00	95.8		
Sodium	999.9			999.0				
Thallium								
Vanadium	993.0			993.0				
Zinc	1007.0			1007.0				
Cyanide								

613

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343711

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	53.81	92.7	49.9	52.28	104.8	50.50	101.2	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.38	98.8	50.0	49.06	98.1	49.02	98.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	49.52	101.6	50.3	50.44	100.2	49.44	98.3	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343711

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	53.35	106.9	45.90	92.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	49.15	98.3	49.29	98.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	51.14	101.7	51.81	103.0	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

615

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343711

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	50.41	101.0	47.71	95.6	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	48.87	97.7	49.45	98.9	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.09	97.6	48.82	97.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343711

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	48.61	97.2	47.68	95.4	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	48.43	96.3	49.38	98.2	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

617

EXHIBIT D.4

BURN PIT C, FST-004C

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED			
43631-6	FST004C-SL1-4	06-23-93			
43631-7	FST004C-SL-2-4	06-23-93			
43631-8	FST004C-SL3-4	06-23-93			
43631-9	FST004C-SL4-4	06-23-93			
PARAMETER		43631-6	43631-7	43631-8	43631-9
Volatiles by GC/MS (8240)					
Chloromethane, ug/kg dw		<11	<11	<12	<11
Bromomethane, ug/kg dw		<11	<11	<12	<11
Vinyl Chloride, ug/kg dw		<11	<11	<12	<11
Chloroethane, ug/kg dw		<11	<11	<12	<11
Methylene Chloride, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Acetone, ug/kg dw		<55	<56	<60	<54
Carbon Disulfide, ug/kg dw		<5.5	<5.6	<6.0	<5.4
1,1-Dichloroethene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
1,1-Dichloroethane, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Trans-1,2-Dichloroethylene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Cis-1,2-Dichloroethene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Chloroform, ug/kg dw		<5.5	<5.6	<6.0	<5.4
1,2-Dichloroethane, ug/kg dw		<5.5	<5.6	<6.0	<5.4
2-Butanone (MEK), ug/kg dw		<55	<56	<60	<54
1,1,1-Trichloroethane, ug/kg dw		<5.5	<5.6	10	<5.4
Carbon Tetrachloride, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Bromodichloromethane, ug/kg dw		<5.5	<5.6	<6.0	<5.4
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.5	<5.6	<6.0	<5.4
1,2-Dichloropropane, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Trans-1,3-Dichloropropene, ug/kg dw		<5.5	<5.6	<6.0	<5.4

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED			
43631-6	FST004C-SL1-4	06-23-93			
43631-7	FST004C-SL-2-4	06-23-93			
43631-8	FST004C-SL3-4	06-23-93			
43631-9	FST004C-SL4-4	06-23-93			
PARAMETER		43631-6	43631-7	43631-8	43631-9
Trichloroethene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Dibromochloromethane, ug/kg dw		<5.5	<5.6	<6.0	<5.4
1,1,2-Trichloroethane, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Benzene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Cis-1,3-Dichloropropene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Bromoform, ug/kg dw		<5.5	<5.6	<6.0	<5.4
2-Hexanone, ug/kg dw		<55	<56	<60	<54
4-Methyl-2-pentanone (MIBK), ug/kg dw		<55	<56	<60	<54
Tetrachloroethene, ug/kg dw		<5.5	<5.6	48	15
Toluene, ug/kg dw		<5.5	<5.6	14	<5.4
Chlorobenzene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Ethylbenzene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Styrene, ug/kg dw		<5.5	<5.6	<6.0	<5.4
Xylenes, ug/kg dw		<5.5	<5.6	14	<5.4
Surrogate - Toluene-d8		107 %	111 %	102 %	104 %
Surrogate - 4-Bromofluorobenzene		99 %	104 %	77 %	81 %
Surrogate - 1,2-Dichloroethane-d4		94 %	98 %	100 %	102 %
Date Analyzed		07.02.93	07.02.93	07.02.93	07.02.93
Arsenic (7060)					
Arsenic (7060), mg/kg dw		<1.1	<1.1	<1.2	<1.1
Date Analyzed		06.28.93	06.28.93	06.28.93	06.28.93

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

621

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED			
43631-6	FST004C-SL1-4	06-23-93			
43631-7	FST004C-SL-2-4	06-23-93			
43631-8	FST004C-SL3-4	06-23-93			
43631-9	FST004C-SL4-4	06-23-93			
PARAMETER		43631-6	43631-7	43631-8	43631-9
Barium (6010)					
Barium (6010), mg/kg dw		1.3	1.5	2.5	3.2
Date Analyzed		06.28.93	06.28.93	06.28.93	06.28.93
Cadmium (6010)					
Cadmium (6010), mg/kg dw		<0.55	<0.56	<0.60	<0.54
Date Analyzed		06.28.93	06.28.93	06.28.93	06.28.93
Chromium (6010)					
Chromium (6010), mg/kg dw		1.5	1.5	4.0	4.8
Date Analyzed		06.28.93	06.28.93	06.28.93	06.28.93
Lead (7421)					
Lead (7421), mg/kg dw		0.67	0.73	2.0	2.7
Date Analyzed		07.05.93	06.29.93	07.02.93	06.29.93
Mercury					
Mercury (7471), mg/kg dw		<0.011	<0.011	<0.012	<0.011
Date Analyzed		06.29.93	06.29.93	06.29.93	06.29.93
Selenium (7740)					
Selenium (7740), mg/kg dw		<1.1	<1.1	<1.2	<1.1
Date Analyzed		06.28.93	06.28.93	06.28.93	06.28.93
Silver (6010)					
Silver (6010), mg/kg dw		<1.1	<1.1	<1.2	<1.1
Date Analyzed		06.28.93	06.28.93	06.28.93	06.28.93

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES				DATE SAMPLED
43631-6	FST004C-SL1-4				06-23-93
43631-7	FST004C-SL-2-4				06-23-93
43631-8	FST004C-SL3-4				06-23-93
43631-9	FST004C-SL4-4				06-23-93
PARAMETER	43631-6	43631-7	43631-8	43631-9	
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	3.6	65	6.6	17	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	
pH in Soil (9045)					
pH (9045), units	6.2	5.0	5.6	6.2	
Date Analyzed	06.25.93	06.25.93	06.25.93	06.25.93	
Percent Solids, %	91	90	84	93	

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 10

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43631-10 Detection Limits
 43631-11 Method Blank Result
 43631-12 Lab Control Sample (LCS) Result
 43631-13 LCS Expected Value
 43631-14 LCS % Recovery

PARAMETER	43631-10	43631-11	43631-12	43631-13	43631-14
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	50.4	50	101 %
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	---	---	---
Bromodichloromethane, ug/kg dw	5.0	<5.0	---	---	---
1,1,2,2-Tetrachloroethane, ug/kg dw	5.0	<5.0	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 11

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43631-10 Detection Limits
 43631-11 Method Blank Result
 43631-12 Lab Control Sample (LCS) Result
 43631-13 LCS Expected Value
 43631-14 LCS % Recovery

PARAMETER	43631-10	43631-11	43631-12	43631-13	43631-14
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	49.9	50	100 %
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	46.6	50	93 %
Cis-1,3-Dichloropropene, ug/kg dw	5.0	<5.0	---	---	---
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	58.3	50	117 %
Chlorobenzene, ug/kg dw	5.0	<5.0	52.7	50	105 %
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	---	105 %	102 %	---	---
Surrogate - 4-Bromofluorobenzene	---	111 %	108 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	94 %	91 %	---	---
Date Analyzed	---	07.01.93	07.01.93	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

625

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 12

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43631-10	Detection Limits				
43631-11	Method Blank Result				
43631-12	Lab Control Sample (LCS) Result				
43631-13	LCS Expected Value				
43631-14	LCS % Recovery				
PARAMETER	43631-10	43631-11	43631-12	43631-13	43631-14
Hydrocarbons (Modified 8015)					
Hydrocarbons as Gasoline, mg/kg dw	0.25	<0.25	1.07	1.0	107 %
Date Analyzed	---	06.29.93	06.28.93	---	---
Hydrocarbons (Modified 8015 - Ext.)					
Hydrocarbons as Kerosene, mg/kg dw	10	<10	---	---	---
Hydrocarbons as Diesel Fuel, %	10	<10	19.8	33.3	59 %
Hydrocarbons as Heavy Oils, mg/kg dw	10	<10	---	---	---
Hydrocarbons as Mineral Spirits, mg/kg dw	10	<10	---	---	---
Hydrocarbons as Varsol, mg/kg dw	10	<10	---	---	---
Hydrocarbons as Fuel Oil, mg/kg dw	10	<10	---	---	---
Date Extracted	---	06.28.93	06.28.93	---	---
Date Analyzed	---	07.01.93	07.01.93	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	5.12	4.80	107 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	1.02	1.00	102 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	78.5	92.4	85 %
Date Analyzed	---	06.28.93	06.28.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 13

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-10 Detection Limits
43631-11 Method Blank Result
43631-12 Lab Control Sample (LCS) Result
43631-13 LCS Expected Value
43631-14 LCS % Recovery

PARAMETER	43631-10	43631-11	43631-12	43631-13	43631-14
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	86.0	96.7	89 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	4.32	5.00	86 %
Date Analyzed	---	06.29.93	06.29.93	---	---
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.20	1.40	86 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	4.55	4.94	92 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	84.8	94.0	90 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	1.0	<1.0	1435	1408	102 %
Date Analyzed	---	06.30.93	06.30.93	---	---
pH in Soil (9045)					
pH (9045), units	---	---	8.89	9.00	99 %
Date Analyzed	---	---	06.25.93	---	---

Methods: EPA SW-846

HRS Certification #'s: 81291, 87279, E81005, E87052

627

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 14

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-15	LCS % Recovery Limits
43631-16	Matrix Spike (MS) Result/Duplicate
43631-17	MS Expected Value
43631-18	MS % Recovery/Duplicate
43631-19	MS % Recovery Limit

PARAMETER	43631-15	43631-16	43631-17	43631-18	43631-19
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	41.5/40.7	50	83/81 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	49.2/47.7	50	98/95 %	43-140 %
Benzene, ug/kg dw	48-150 %	57.5/53.6	50	115/107 %	48-150 %
Toluene, ug/kg dw	51-141 %	72.0/70.9	50	144/142 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	59.4/59.7	50	119/119 %	54-138 %
Surrogate - Toluene-d8	---	107/107 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	85/87 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	107/106 %	---	---	---
Date Analyzed	---	07.02.93	---	---	---
Hydrocarbons (Modified 8015)					
Hydrocarbons as Gasoline, mg/kg dw	40-140 %	0.54/0.52	1.0	54/52 %	40-140 %
Date Analyzed	---	06.28.93	---	---	---
Hydrocarbons (Modified 8015 - Ext.)					
Hydrocarbons as Diesel Fuel, mg/kg dw	40-140 %	19.6/36.2	33.3	59/109 %	40-140 %
Date Extracted	---	06.28.93	---	---	---
Date Analyzed	---	07.02.93	---	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	5.01/4.79	5.02	100/95 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 15

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43631-15 LCS % Recovery Limits
 43631-16 Matrix Spike (MS) Result/Duplicate
 43631-17 MS Expected Value
 43631-18 MS % Recovery/Duplicate
 43631-19 MS % Recovery Limit

PARAMETER	43631-15	43631-16	43631-17	43631-18	43631-19
Barium (6010)					
Barium (6010), mg/kg dw	80-120 %	184/187	200	92/94 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	70-130 %	3.46/3.50	5.00	69/70 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	70-130 %	16.9/17.4	20.0	85/87 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	3.96/4.54	5.03	79/90 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.042/.043	0.0503	83/85 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	70-130 %	3.07/3.02	5.06	61/60 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	4.23/4.20	5.00	85/84 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---

629

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 16

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-15	LCS % Recovery Limits
43631-16	Matrix Spike (MS) Result/Duplicate
43631-17	MS Expected Value
43631-18	MS % Recovery/Duplicate
43631-19	MS % Recovery Limit

PARAMETER	43631-15	43631-16	43631-17	43631-18	43631-19
Specific Conductance (120.1)					
Specific Conductance	90-110 %	---	---	---	---
pH in Soil (9045)					
pH (9045)	90-110 %	---	---	---	---

Methods: EPA SW-846
HRS Certification #'s: 81291, 87279, E81005, E87052

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 17

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-20 MS % RPD (Limit)

PARAMETER 43631-20

Volatiles by GC/MS (8240)

1,1-Dichloroethene	2.4 (<50) %
Trichloroethene	3.1 (<27) %
Benzene	7.2 (<27) %
Toluene	1.4 (<27) %
Chlorobenzene	0 (<33) %

Hydrocarbons (Modified 8015)

Hydrocarbons as Gasoline	3.8 (<40) %
--------------------------	-------------

Hydrocarbons (Modified 8015 - Ext.)

Hydrocarbons as Diesel Fuel	60 (<40) %
-----------------------------	------------

Arsenic (7060)

Arsenic (7060)	5.1 (<30) %
----------------	-------------

Barium (6010)

Barium (6010)	2.2 (<30) %
---------------	-------------

Cadmium (6010)

Cadmium (6010)	1.4 (<30) %
----------------	-------------

Chromium (6010)

Chromium (6010)	2.3 (<30) %
-----------------	-------------

Lead (7421)

Lead (7421)	13 (<30) %
-------------	------------

Mercury

Mercury (7471)	2.4 (<30) %
----------------	-------------

Selenium (7740)

Selenium (7740)	1.7 (<30) %
-----------------	-------------

Silver (6010)

Silver (6010)	1.2 (<30) %
---------------	-------------

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 18

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-20 MS % RPD (Limit)

PARAMETER 43631-20

Methods: EPA SW-846
HRS Certification #'s: 81291, 87279, E81005, E87052

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 19

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-22 Method Blank Soil

PARAMETER

43631-22

Volatiles by GC/MS (8240)

Chloromethane, ug/kg dw	<10
Bromomethane, ug/kg dw	<10
Vinyl Chloride, ug/kg dw	<10
Chloroethane, ug/kg dw	<10
Methylene Chloride, ug/kg dw	<5.0
Acetone, ug/kg dw	<50
Carbon Disulfide, ug/kg dw	<5.0
1,1-Dichloroethene, ug/kg dw	<5.0
1,1-Dichloroethane, ug/kg dw	<5.0
Trans-1,2-Dichloroethylene, ug/kg dw	<5.0
Cis-1,2-Dichloroethene, ug/kg dw	<5.0
Chloroform, ug/kg dw	<5.0
1,2-Dichloroethane, ug/kg dw	<5.0
2-Butanone (MEK), ug/kg dw	<50
1,1,1-Trichloroethane, ug/kg dw	<5.0
Carbon Tetrachloride, ug/kg dw	<5.0
Bromodichloromethane, ug/kg dw	<5.0
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.0
1,2-Dichloropropane, ug/kg dw	<5.0
Trans-1,3-Dichloropropene, ug/kg dw	<5.0
Trichloroethene, ug/kg dw	<5.0
Dibromochloromethane, ug/kg dw	<5.0
1,1,2-Trichloroethane, ug/kg dw	<5.0

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

633

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 20

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

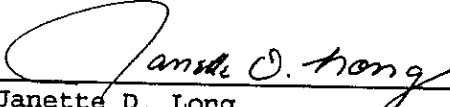
43631-22 Method Blank Soil

PARAMETER

43631-22

Benzene, ug/kg dw	<5.0
Cis-1,3-Dichloropropene, ug/kg dw	<5.0
Bromoform, ug/kg dw	<5.0
2-Hexanone, ug/kg dw	<50
4-Methyl-2-pentanone (MIBK), ug/kg dw	<50
Tetrachloroethene, ug/kg dw	<5.0
Toluene, ug/kg dw	<5.0
Chlorobenzene, ug/kg dw	<5.0
Ethylbenzene, ug/kg dw	<5.0
Styrene, ug/kg dw	<5.0
Xylenes, ug/kg dw	<5.0
Surrogate - Toluene-d8	92 %
Surrogate - 4-Bromofluorobenzene	97 %
Surrogate - 1,2-Dichloroethane-d4	101 %
Date Analyzed	07.02.93

Methods: EPA SW-846


 Janette D. Long

Final Page Of Report

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343631Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1025.00	102.5	999.9	1008.00	100.8			
Beryllium	987.0			987.0					
Cadmium	996.0	988.00	99.2	996.0	986.70	99.1			
Calcium	1005.0			1005.0					
Chromium	998.0	996.90	99.9	998.0	982.50	98.4			
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	1.66	97.6	1.7	1.64	96.5			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	989.50	99.0	1000.0	980.30	98.0			
Sodium	999.9			999.0					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

635

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	52.88	106.0	49.9	54.19	108.6	50.96	102.1	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.52	99.0	50.0	48.50	97.0	44.65	89.3	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	52.60	104.6	50.3	54.71	108.8	49.83	99.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.86	103.9	46.74	93.7	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	45.54	91.1	46.43	92.9	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	50.99	101.4	48.85	97.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

637

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343L31

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.39	103.0	48.83	97.9	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	47.57	95.1			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	51.94	103.3	47.85	95.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: S343631Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	48.81	97.8			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	54.16	108.3	50.0	54.16	108.3	52.63	105.3	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	46.90	93.2			
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

639

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	53.03	106.1	54.28	108.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 9343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	52.90	105.8	50.0	51.00	102.0	51.40	102.8	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

641

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343431

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	53.90	107.6	53.30	106.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	52.3	104.6			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

643-

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 6343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.60	99.2	50.0	49.70	99.4	51.00	102.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.40	100.8			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

645

EXHIBIT D.5

BURN PIT D, FST-004D

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-1	FST004D-SL2-6	06-24-93
43675-2	FST004A-SL4-8	06-25-93
43675-3	FST004A-SL94-8	06-25-93
43675-4	FST004A-SL1-6	06-25-93
43675-5	FST004D-SL3-6	06-24-93

PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5
Volatiles by GC/MS (8240)					
Chloromethane, ug/kg dw	<11	<12	<12	<12	<11
Bromomethane, ug/kg dw	<11	<12	<12	<12	<11
Vinyl Chloride, ug/kg dw	<11	<12	<12	<12	<11
Chloroethane, ug/kg dw	<11	<12	<12	<12	<11
Methylene Chloride, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Acetone, ug/kg dw	110	<58	<59	<57	<57
Carbon Disulfide, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,1-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,1-Dichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Chloroform, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,2-Dichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
2-Butanone (MEK), ug/kg dw	<56	<58	<59	<57	<57
1,1,1-Trichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Carbon Tetrachloride, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Bromodichloromethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,2-Dichloropropane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Trans-1,3-Dichloropropene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-1	FST004D-SL2-6	06-24-93				
43675-2	FST004A-SL4-8	06-25-93				
43675-3	FST004A-SL94-8	06-25-93				
43675-4	FST004A-SL1-6	06-25-93				
43675-5	FST004D-SL3-6	06-24-93				
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Trichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Dibromochloromethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
1,1,2-Trichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Benzene, ug/kg dw	<5.6	28	12	<5.7	<5.7	
Cis-1,3-Dichloropropene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Bromoform, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
2-Hexanone, ug/kg dw	<56	<58	<59	<57	<57	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<56	<58	<59	<57	<57	
Tetrachloroethene, ug/kg dw	<5.6	<5.8	<5.9	6.1	<5.7	
Toluene, ug/kg dw	21	12	6.0	8.1	5.8	
Chlorobenzene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Ethylbenzene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Styrene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Xylenes, ug/kg dw	22	8.5	<5.9	6.1	<5.7	
Trans-1,2-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Cis-1,2-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
2-Chloroethylvinyl Ether, ug/kg dw	<56	<58	<59	<57	<57	
Vinyl Acetate, ug/kg dw	<11	<12	<12	<12	<11	
Surrogate - Toluene-d8	91 %	94 %	95 %	96 %	94 %	
Surrogate - 4-Bromofluorobenzene	98 %	94 %	95 %	90 %	96 %	
Surrogate - 1,2-Dichloroethane-d4	113 %	108 %	106 %	111 %	107 %	
Date Analyzed	07.02.93	07.02.93	07.02.93	07.03.93	07.03.93	

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

649

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES				DATE SAMPLED
43675-1	FST004D-SL2-6				06-24-93
43675-2	FST004A-SL4-8				06-25-93
43675-3	FST004A-SL94-8				06-25-93
43675-4	FST004A-SL1-6				06-25-93
43675-5	FST004D-SL3-6				06-24-93
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	4.4	11	4.6	8.0	6.2
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93
pH in Soil (9045)					
pH (9045), mg/kg	4.6	4.7	4.8	4.8	4.7
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93
Arsenic (7060)					
Arsenic (7060), mg/kg dw	<1.1	<1.1	<1.2	<1.1	1.2
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	07.01.93
Barium (6010)					
Barium (6010), mg/kg dw	5.9	6.4	5.5	5.7	4.8
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93
Cadmium (6010)					
Cadmium (6010), mg/kg dw	<0.56	<0.58	<0.59	<0.57	<0.57
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93
Chromium (6010)					
Chromium (6010), mg/kg dw	3.3	6.4	6.4	9.0	6.4
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93
Lead (7421)					
Lead (7421), mg/kg dw	3.7	12	7.4	9.4	11
Date Analyzed	07.13.93	07.14.93	07.13.93	07.14.93	07.14.93

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-1	FST004D-SL2-6					06-24-93
43675-2	FST004A-SL4-8					06-25-93
43675-3	FST004A-SL94-8					06-25-93
43675-4	FST004A-SL1-6					06-25-93
43675-5	FST004D-SL3-6					06-24-93
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Selenium (7740)						
Selenium (7740), mg/kg dw	<1.1	<1.2	<1.2	<5.7*F65	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Silver (6010)						
Silver (6010), mg/kg dw	<1.1	<1.2	<1.2	<1.1	<1.1	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Mercury						
Mercury (7471), mg/kg dw	0.016	0.016	0.017	0.059	0.063	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Percent Solids, %	89	86	85	87	88	

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-6	FST004D-SL92-6	06-24-93
43675-7	FST004A-SL2-4	06-25-93
43675-8	FST004A-SL3-4	06-25-93
43675-9	FST004B-SL1-8	06-25-93
43675-10	FST004D-SL1-4	06-24-93

PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10
Volatiles by GC/MS (8240)					
Chloromethane, ug/kg dw	<11	<11	<11	<13	<11
Bromomethane, ug/kg dw	<11	<11	<11	<13	<11
Vinyl Chloride, ug/kg dw	<11	<11	<11	<13	<11
Chloroethane, ug/kg dw	<11	<11	<11	<13	<11
Methylene Chloride, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
Acetone, ug/kg dw	58	63	<56	<66	<54
Carbon Disulfide, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
1,1-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
1,1-Dichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
Chloroform, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
1,2-Dichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
2-Butanone (MEK), ug/kg dw	<56	<53	<56	<66	<54
1,1,1-Trichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
Carbon Tetrachloride, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
Bromodichloromethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
1,2-Dichloropropane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4
Trans-1,3-Dichloropropene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Trichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Dibromochloromethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,1,2-Trichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Benzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	12	
Cis-1,3-Dichloropropene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Bromoform, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
2-Hexanone, ug/kg dw	<56	<53	<56	<66	<54	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<56	<53	<56	<66	<54	
Tetrachloroethene, ug/kg dw	<5.6	8.8	<5.6	8.9	<5.4	
Toluene, ug/kg dw	18	<5.3	<5.6	8.3	5.8	
Chlorobenzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Ethylbenzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Styrene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Xylenes, ug/kg dw	25	8.2	<5.6	<6.6	5.5	
Trans-1,2-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.3	
Cis-1,2-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.3	
Vinyl Acetate, ug/kg dw	<11	<11	<11	<12	<11	
2-Chloroethylvinyl Ether, ug/kg dw	<56	<53	<56	<66	<53	
Surrogate - Toluene-d8	88 %	98 %	92 %	97 %	100 %	
Surrogate - 4-Bromofluorobenzene	91 %	93 %	96 %	91 %	83 %	
Surrogate - 1,2-Dichloroethane-d4	112 %	103 %	99 %	101 %	106 %	
Date Analyzed	07.05.93	07.05.93	07.05.93	07.05.93	07.05.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

653

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-6	FST004D-SL92-6					06-24-93
43675-7	FST004A-SL2-4					06-25-93
43675-8	FST004A-SL3-4					06-25-93
43675-9	FST004B-SL1-8					06-25-93
43675-10	FST004D-SL1-4					06-24-93
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	4.0	8.4	5.9	2.6	4.2	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
pH in Soil (9045)						
pH (9045), mg/kg	5.2	5.1	5.3	5.1	5.1	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Arsenic (7060)						
Arsenic (7060), mg/kg dw	<1.1	<1.1	<1.1	1.4	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Barium (6010)						
Barium (6010), mg/kg dw	6.7	6.5	1.4	9.0	2.9	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Cadmium (6010)						
Cadmium (6010), mg/kg dw	<0.56	<0.53	<0.56	<0.66	<0.54	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Chromium (6010)						
Chromium (6010), mg/kg dw	3.0	2.5	<1.1	13	3.4	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Lead (7421)						
Lead (7421), mg/kg dw	4.4	4.0	1.5	7.3	2.7	
Date Analyzed	07.13.93	07.13.93	07.13.93	07.13.93	07.13.93	

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-6	FST004D-SL92-6					06-24-93
43675-7	FST004A-SL2-4					06-25-93
43675-8	FST004A-SL3-4					06-25-93
43675-9	FST004B-SL1-8					06-25-93
43675-10	FST004D-SL1-4					06-24-93
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Selenium (7740)						
Selenium (7740), mg/kg dw	<1.1	<1.1	<1.1	<6.5*F65	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Silver (6010)						
Silver (6010), mg/kg dw	<1.1	<1.1	<1.1	<1.3	<1.1	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Mercury						
Mercury (7471), mg/kg dw	0.016	0.018	0.017	0.013	0.016	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Percent Solids, %	89	94	89	76	92	

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER	43675-11	
Volatiles by GC/MS (8240)		
Chloromethane, ug/kg dw		<11
Bromomethane, ug/kg dw		<11
Vinyl Chloride, ug/kg dw		<11
Chloroethane, ug/kg dw		<11
Methylene Chloride, ug/kg dw		<5.7
Acetone, ug/kg dw		<5.7
Carbon Disulfide, ug/kg dw		<5.7
1,1-Dichloroethene, ug/kg dw		<5.7
1,1-Dichloroethane, ug/kg dw		<5.7
Chloroform, ug/kg dw		<5.7
1,2-Dichloroethane, ug/kg dw		<5.7
2-Butanone (MEK), ug/kg dw		<5.7
1,1,1-Trichloroethane, ug/kg dw		<5.7
Carbon Tetrachloride, ug/kg dw		<5.7
Bromodichloromethane, ug/kg dw		<5.7
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.7
1,2-Dichloropropane, ug/kg dw		<5.7
Trans-1,3-Dichloropropene, ug/kg dw		<5.7
Trichloroethene, ug/kg dw		<5.7
Dibromochloromethane, ug/kg dw		<5.7
1,1,2-Trichloroethane, ug/kg dw		<5.7
Benzene, ug/kg dw		<5.7
Cis-1,3-Dichloropropene, ug/kg dw		<5.7

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER	43675-11	
Bromoform, ug/kg dw	<5.7	
2-Hexanone, ug/kg dw	<57	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<57	
Tetrachloroethene, ug/kg dw	9.7	
Toluene, ug/kg dw	<5.7	
Chlorobenzene, ug/kg dw	<5.7	
Ethylbenzene, ug/kg dw	<5.7	
Styrene, ug/kg dw	<5.7	
Xylenes, ug/kg dw	<5.7	
Trans-1,2-Dichloroethene, ug/kg dw	<5.7	
Cis-1,2-Dichloroethene, ug/kg dw	<5.7	
Vinyl Acetate, ug/kg dw	<11	
2-Chloroethylvinyl Ether, ug/kg dw	<57	
Surrogate - Toluene-d8	97 %	
Surrogate - 4-Bromofluorobenzene	92 %	
Surrogate - 1,2-Dichloroethane-d4	105 %	
Date Analyzed	07.06.93	
Specific Conductance (120.1)		
Specific Conductance, umhos/cm	4.6	
Date Analyzed	06.30.93	
pH in Soil (9045)		
pH (9045), units	5.2	
Date Analyzed	06.28.93	
Arsenic (7060)		
Arsenic (7060), mg/kg dw	<1.1	
Date Analyzed	06.29.93	

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 11

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER	43675-11	
Barium (6010)		
Barium (6010), mg/kg dw	4.2	
Date Analyzed	06.30.93	
Cadmium (6010)		
Cadmium (6010), mg/kg dw	<0.56	
Date Analyzed	06.30.93	
Chromium (6010)		
Chromium (6010), mg/kg dw	3.7	
Date Analyzed	06.30.93	
Lead (7421)		
Lead (7421), mg/kg dw	2.5	
Date Analyzed	07.13.93	
Selenium (7740)		
Selenium (7740), mg/kg dw	<1.1	
Date Analyzed	06.29.93	
Silver (6010)		
Silver (6010), mg/kg dw	<1.1	
Date Analyzed	06.30.93	
Mercury		
Mercury (7471), mg/kg dw	0.017	
Date Analyzed	06.30.93	
Percent Solids, %	88	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 12

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
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	52	50	104 %
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	---	---	---
Bromodichloromethane, ug/kg dw	5.0	<5.0	---	---	---
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	53.3	50	107 %

659

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 13

LOG NO SAMPLE DESCRIPTION, QC REPORT FOR SOLID/SEMISOLID

 43675-12 Detection Limits Soil
 43675-13 Method Blank Result
 43675-14 Lab Control Standard (LCS) Result
 43675-15 LCS Expected Value
 43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
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	52.7	50	105 %
Cis-1,3-Dichloropropene, ug/kg dw	5.0	<5.0	---	---	---
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	62.9	50	126 %
Chlorobenzene, ug/kg dw	5.0	<5.0	57.4	50	115 %
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	---	92/92 %	112 %	---	---
Surrogate - 4-Bromofluorobenzene	---	97/98 %	121 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	102/105 %	100 %	---	---
Date Analyzed	---	7.02-05.93	07.02.93	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	4.98	4.80	104 %
Date Analyzed	---	06.29.93	06.29.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 14

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	94.5	98.2	96 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	85.6	92.4	93 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	91.8	96.7	95 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	5.75	5.00	115 %
Date Analyzed	---	07.14.93	07.14.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	5.08	4.94	103 %
Date Analyzed	---	06.29.93	06.29.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	87.4	94.0	93 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.20	1.40	86 %
Date Analyzed	---	06.30.93	06.30.93	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

661

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 15

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43675-12 Detection Limits Soil
 43675-13 Method Blank Result
 43675-14 Lab Control Standard (LCS) Result
 43675-15 LCS Expected Value
 43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
pH in Soil (9045)					
pH (9045), units	---	---	8.74	9.00	97 %
Date Analyzed	---	---	06.28.93	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	1.0	<1.0	1408	1354	102 %
Date Analyzed	---	06.30.93	06.30.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 16

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43675-17	LCS % Recovery Limits				
43675-18	Matrix Spike (MS) Result/Duplicate				
43675-19	MS Expected Value				
43675-20	MS % Recovery/Duplicate				
43675-21	MS % Recovery Limit				
PARAMETER	43675-17	43675-18	43675-19	43675-20	43675-21
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	46.6/45.7	56	83/82 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	55.2/59.4	56	99/106 %	43-140 %
Benzene, ug/kg dw	48-150 %	64.6/60.2	56	115/108 %	48-150 %
Toluene, ug/kg dw	51-141 %	80.8/79.7	56	144/142 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	66.7/67.1	56	119/120 %	54-138 %
Surrogate - Toluene-d8	---	107/107 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	85/87 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	107/106 %	---	---	---
Date Analyzed	---	07.05.93	---	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	1.11/1.40	6.53	17/21 %	75-125 %
Date Analyzed	---	06.29.93	---	---	---
Barium (6010)					
Barium (6010), mg/kg dw	70-130 %	258/260	263	98/99 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	70-130 %	5.78/6.10	6.58	88/93 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	70-130 %	24.1/46.3	26.3	92/176 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 17

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43675-17	LCS % Recovery Limits				
43675-18	Matrix Spike (MS) Result/Duplicate				
43675-19	MS Expected Value				
43675-20	MS % Recovery/Duplicate				
43675-21	MS % Recovery Limit				
PARAMETER	43675-17	43675-18	43675-19	43675-20	43675-21
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	3.78/2.20	5.87	64/38 %	75-125 %
Date Analyzed	---	07.14.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	75-125 %	*F73	---	---	---
Date Analyzed	---	06.29.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	5.50/5.47	6.58	84/83 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.055/.055	0.0580	95/95 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
pH in Soil (9045)					
pH (9045), units	90-110 %	---	---	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	90-110 %	---	---	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 18

LOG NO SAMPLE DESCRIPTION, QC REPORT FOR SOLID/SEMISOLID

43675-22 MS % RPD (Limit)

PARAMETER 43675-22

Volatiles by GC/MS (8240)

1,1-Dichloroethene	1.2 (<50) %
Trichloroethene	6.8 (<27) %
Benzene	6.3 (<27) %
Toluene	1.4 (<27) %
Chlorobenzene	0.84 (<33) %
Arsenic (7060)	
Arsenic (7060)	21 (<20) %
Barium (6010)	
Barium (6010)	1.0 (<30) %
Cadmium (6010)	
Cadmium (6010)	5.4 (<30) %
Chromium (6010)	
Chromium (6010)	63 (<30) %
Lead (7421)	
Lead (7421)	51 (<30) %
Selenium (7740)	
Selenium (7740)	---
Silver (6010)	
Silver (6010)	1.2 (<30) %
Mercury	
Mercury (7471)	0 (<30) %

665

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

PARAMETER 43675-23

Volatiles by GC/MS (8240)

Chloromethane, ug/kg dw	<10
Bromomethane, ug/kg dw	<10
Vinyl Chloride, ug/kg dw	<10
Chloroethane, ug/kg dw	<10
Methylene Chloride, ug/kg dw	<5.0
Acetone, ug/kg dw	<50
Carbon Disulfide, ug/kg dw	<5.0
1,1-Dichloroethene, ug/kg dw	<5.0
1,1-Dichloroethane, ug/kg dw	<5.0
Trans-1,2-Dichloroethylene, ug/kg dw	<5.0
Cis-1,2-Dichloroethene, ug/kg dw	<5.0
Chloroform, ug/kg dw	<5.0
1,2-Dichloroethane, ug/kg dw	<5.0
2-Butanone, (MEK), ug/kg dw	<50
1,1,1-Trichloroethane, ug/kg dw	<5.0
Carbon Tetrachloride, ug/kg dw	<5.0
Vinyl Acetate, ug/kg dw	<10
Bromodichloromethane, ug/kg dw	<5.0
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.0
1,2-Dichloropropane, ug/kg dw	<5.0
Trans-1,3-Dichloropropene, ug/kg dw	<5.0
Trichloroethene, ug/kg dw	<5.0
Dibromochloromethane, ug/kg dw	<5.0

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. -Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 20

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

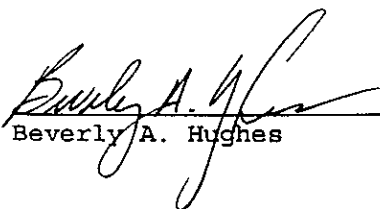
PARAMETER 43675-23

1,1,2-Trichloroethane, ug/kg dw	<5.0
Benzene, ug/kg dw	<5.0
Cis-1,3-Dichloropropene, ug/kg dw	<5.0
Bromoform, ug/kg dw	<5.0
2-Hexanone, ug/kg dw	<50
4-Methyl-2-pentanone (MIBK), ug/kg dw	<50
Tetrachloroethene, ug/kg dw	<5.0
Toluene, ug/kg dw	<5.0
Chlorobenzene, ug/kg dw	<5.0
Ethylbenzene, ug/kg dw	<5.0
Styrene, ug/kg dw	<5.0
Xylenes, ug/kg dw	<5.0
Surrogate - Toluene-d8	92 %
Surrogate - 4-Bromofluorobenzene	96 %
Surrogate - 1,2-Dichloroethane-d4	100 %
Date Analyzed	07.06.93

Methods: EPA SW-846

*F73 = Matrix spikes were not recovered due to matrix interference present in the sample.

*F65 = Elevated detection limits were reported due to sample matrix interference which required sample dilution prior to analysis.


Beverly A. Hughes

Final Page Of Report

667

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1014.00	101.4	999.9	1035.00	103.5			
Beryllium	987.0			987.0					
Cadmium	996.0	1003.00	100.7	996.0	1015.00	101.9			
Calcium	1005.0			1005.0					
Chromium	998.0	1019.00	102.1	998.0	1028.00	103.0			
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	1.74	102.4	1.7	1.73	101.8			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	999.50	100.0	1000.0	1007.00	100.7			
Sodium	999.9			999.9					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	45.76	91.7	49.9	46.72	93.6	50.94	102.1	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	50.33	100.7	50.0	49.98	100.0	51.02	102.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	47.10	93.6	50.3	45.30	90.1	50.83	101.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

669

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	52.07	104.3	49.22	98.6	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	52.12	104.2	50.56	101.1	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	52.59	104.6	48.63	96.7	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No. 843675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	48.92	98.0	54.65	109.5	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	51.25	102.5			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.28	98.0	52.59	104.0	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

671-

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									
Antimony									
Arsenic				49.9	51.89	104.0	52.40	105.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.87	99.7	50.0	51.13	102.3	50.0	100.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.41	98.2	52.67	104.7	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: SS43675Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	54.92	110.1			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.38	100.8			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.33	98.1			
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

673-

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	50.21	100.6	49.9	51.61	103.4	45.41	91.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	46.64	93.5	52.87	106.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

675

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									
Antimony									
Arsenic				49.9	51.19	102.6			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-1	FST004D-SL2-6	06-24-93
43675-2	FST004A-SL4-8	06-25-93
43675-3	FST004A-SL94-8	06-25-93
43675-4	FST004A-SL1-6	06-25-93
43675-5	FST004D-SL3-6	06-24-93

PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5
Volatiles by GC/MS (8240)					
Chloromethane, ug/kg dw	<11	<12	<12	<12	<11
Bromomethane, ug/kg dw	<11	<12	<12	<12	<11
Vinyl Chloride, ug/kg dw	<11	<12	<12	<12	<11
Chloroethane, ug/kg dw	<11	<12	<12	<12	<11
Methylene Chloride, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Acetone, ug/kg dw	110	<58	<59	<57	<57
Carbon Disulfide, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,1-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,1-Dichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Chloroform, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,2-Dichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
2-Butanone (MEK), ug/kg dw	<56	<58	<59	<57	<57
1,1,1-Trichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Carbon Tetrachloride, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Bromodichloromethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
1,2-Dichloropropane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7
Trans-1,3-Dichloropropene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-1	FST004D-SL2-6	06-24-93				
43675-2	FST004A-SL4-8	06-25-93				
43675-3	FST004A-SL94-8	06-25-93				
43675-4	FST004A-SL1-6	06-25-93				
43675-5	FST004D-SL3-6	06-24-93				
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Trichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Dibromochloromethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
1,1,2-Trichloroethane, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Benzene, ug/kg dw	<5.6	28	12	<5.7	<5.7	
Cis-1,3-Dichloropropene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Bromoform, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
2-Hexanone, ug/kg dw	<56	<58	<59	<57	<57	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<56	<58	<59	<57	<57	
Tetrachloroethene, ug/kg dw	<5.6	<5.8	<5.9	6.1	<5.7	
Toluene, ug/kg dw	21	12	6.0	8.1	5.8	
Chlorobenzene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Ethylbenzene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Styrene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Xylenes, ug/kg dw	22	8.5	<5.9	6.1	<5.7	
Trans-1,2-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
Cis-1,2-Dichloroethene, ug/kg dw	<5.6	<5.8	<5.9	<5.7	<5.7	
2-Chloroethylvinyl Ether, ug/kg dw	<56	<58	<59	<57	<57	
Vinyl Acetate, ug/kg dw	<11	<12	<12	<12	<11	
Surrogate - Toluene-d8	91 %	94 %	95 %	96 %	94 %	
Surrogate - 4-Bromofluorobenzene	98 %	94 %	95 %	90 %	96 %	
Surrogate - 1,2-Dichloroethane-d4	113 %	108 %	106 %	111 %	107 %	
Date Analyzed	07.02.93	07.02.93	07.02.93	07.03.93	07.03.93	

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

679

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-1	FST004D-SL2-6	06-24-93				
43675-2	FST004A-SL4-8	06-25-93				
43675-3	FST004A-SL94-8	06-25-93				
43675-4	FST004A-SL1-6	06-25-93				
43675-5	FST004D-SL3-6	06-24-93				
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	4.4	11	4.6	8.0	6.2	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
pH in Soil (9045)						
pH (9045), mg/kg	4.6	4.7	4.8	4.8	4.7	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Arsenic (7060)						
Arsenic (7060), mg/kg dw	<1.1	<1.1	<1.2	<1.1	1.2	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	07.01.93	
Barium (6010)						
Barium (6010), mg/kg dw	5.9	6.4	5.5	5.7	4.8	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Cadmium (6010)						
Cadmium (6010), mg/kg dw	<0.56	<0.58	<0.59	<0.57	<0.57	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Chromium (6010)						
Chromium (6010), mg/kg dw	3.3	6.4	6.4	9.0	6.4	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Lead (7421)						
Lead (7421), mg/kg dw	3.7	12	7.4	9.4	11	
Date Analyzed	07.13.93	07.14.93	07.13.93	07.14.93	07.14.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-1	FST004D-SL2-6					06-24-93
43675-2	FST004A-SL4-8					06-25-93
43675-3	FST004A-SL94-8					06-25-93
43675-4	FST004A-SL1-6					06-25-93
43675-5	FST004D-SL3-6					06-24-93
PARAMETER	43675-1	43675-2	43675-3	43675-4	43675-5	
Selenium (7740)						
Selenium (7740), mg/kg dw	<1.1	<1.2	<1.2	<5.7*F65	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Silver (6010)						
Silver (6010), mg/kg dw	<1.1	<1.2	<1.2	<1.1	<1.1	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Mercury						
Mercury (7471), mg/kg dw	0.016	0.016	0.017	0.059	0.063	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Percent Solids, %	89	86	85	87	88	

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

681

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER		43675-6	43675-7	43675-8	43675-9	43675-10
Volatiles by GC/MS (8240)						
Chloromethane, ug/kg dw		<11	<11	<11	<13	<11
Bromomethane, ug/kg dw		<11	<11	<11	<13	<11
Vinyl Chloride, ug/kg dw		<11	<11	<11	<13	<11
Chloroethane, ug/kg dw		<11	<11	<11	<13	<11
Methylene Chloride, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Acetone, ug/kg dw		58	63	<56	<66	<54
Carbon Disulfide, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,1-Dichloroethene, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,1-Dichloroethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Chloroform, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,2-Dichloroethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
2-Butanone (MEK), ug/kg dw		<56	<53	<56	<66	<54
1,1,1-Trichloroethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Carbon Tetrachloride, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Bromodichloromethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
1,2-Dichloropropane, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4
Trans-1,3-Dichloropropene, ug/kg dw		<5.6	<5.3	<5.6	<6.6	<5.4

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Trichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Dibromochloromethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
1,1,2-Trichloroethane, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Benzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	12	
Cis-1,3-Dichloropropene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Bromoform, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
2-Hexanone, ug/kg dw	<56	<53	<56	<66	<54	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<56	<53	<56	<66	<54	
Tetrachloroethene, ug/kg dw	<5.6	8.8	<5.6	8.9	<5.4	
Toluene, ug/kg dw	18	<5.3	<5.6	8.3	5.8	
Chlorobenzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Ethylbenzene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Styrene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.4	
Xylenes, ug/kg dw	25	8.2	<5.6	<6.6	5.5	
Trans-1,2-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.3	
Cis-1,2-Dichloroethene, ug/kg dw	<5.6	<5.3	<5.6	<6.6	<5.3	
Vinyl Acetate, ug/kg dw	<11	<11	<11	<12	<11	
2-Chloroethylvinyl Ether, ug/kg dw	<56	<53	<56	<66	<53	
Surrogate - Toluene-d8	88 %	98 %	92 %	97 %	100 %	
Surrogate - 4-Bromofluorobenzene	91 %	93 %	96 %	91 %	83 %	
Surrogate - 1,2-Dichloroethane-d4	112 %	103 %	99 %	101 %	106 %	
Date Analyzed	07.05.93	07.05.93	07.05.93	07.05.93	07.05.93	

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

683

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43675-6	FST004D-SL92-6	06-24-93				
43675-7	FST004A-SL2-4	06-25-93				
43675-8	FST004A-SL3-4	06-25-93				
43675-9	FST004B-SL1-8	06-25-93				
43675-10	FST004D-SL1-4	06-24-93				
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	4.0	8.4	5.9	2.6	4.2	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
pH in Soil (9045)						
pH (9045), mg/kg	5.2	5.1	5.3	5.1	5.1	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Arsenic (7060)						
Arsenic (7060), mg/kg dw	<1.1	<1.1	<1.1	1.4	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Barium (6010)						
Barium (6010), mg/kg dw	6.7	6.5	1.4	9.0	2.9	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Cadmium (6010)						
Cadmium (6010), mg/kg dw	<0.56	<0.53	<0.56	<0.66	<0.54	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Chromium (6010)						
Chromium (6010), mg/kg dw	3.0	2.5	<1.1	13	3.4	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Lead (7421)						
Lead (7421), mg/kg dw	4.4	4.0	1.5	7.3	2.7	
Date Analyzed	07.13.93	07.13.93	07.13.93	07.13.93	07.13.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43675-6	FST004D-SL92-6					06-24-93
43675-7	FST004A-SL2-4					06-25-93
43675-8	FST004A-SL3-4					06-25-93
43675-9	FST004B-SL1-8					06-25-93
43675-10	FST004D-SL1-4					06-24-93
PARAMETER	43675-6	43675-7	43675-8	43675-9	43675-10	
Selenium (7740)						
Selenium (7740), mg/kg dw	<1.1	<1.1	<1.1	<6.5*F65	<1.1	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.29.93	
Silver (6010)						
Silver (6010), mg/kg dw	<1.1	<1.1	<1.1	<1.3	<1.1	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Mercury						
Mercury (7471), mg/kg dw	0.016	0.018	0.017	0.013	0.016	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Percent Solids, %	89	94	89	76	92	

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER	43675-11	
Volatiles by GC/MS (8240)		
Chloromethane, ug/kg dw		<11
Bromomethane, ug/kg dw		<11
Vinyl Chloride, ug/kg dw		<11
Chloroethane, ug/kg dw		<11
Methylene Chloride, ug/kg dw		<5.7
Acetone, ug/kg dw		<5.7
Carbon Disulfide, ug/kg dw		<5.7
1,1-Dichloroethene, ug/kg dw		<5.7
1,1-Dichloroethane, ug/kg dw		<5.7
Chloroform, ug/kg dw		<5.7
1,2-Dichloroethane, ug/kg dw		<5.7
2-Butanone (MEK), ug/kg dw		<5.7
1,1,1-Trichloroethane, ug/kg dw		<5.7
Carbon Tetrachloride, ug/kg dw		<5.7
Bromodichloromethane, ug/kg dw		<5.7
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.7
1,2-Dichloropropane, ug/kg dw		<5.7
Trans-1,3-Dichloropropene, ug/kg dw		<5.7
Trichloroethene, ug/kg dw		<5.7
Dibromochloromethane, ug/kg dw		<5.7
1,1,2-Trichloroethane, ug/kg dw		<5.7
Benzene, ug/kg dw		<5.7
Cis-1,3-Dichloropropene, ug/kg dw		<5.7

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER	43675-11	
Bromoform, ug/kg dw		<5.7
2-Hexanone, ug/kg dw		<57
4-Methyl-2-pentanone (MIBK), ug/kg dw		<57
Tetrachloroethene, ug/kg dw		9.7
Toluene, ug/kg dw		<5.7
Chlorobenzene, ug/kg dw		<5.7
Ethylbenzene, ug/kg dw		<5.7
Styrene, ug/kg dw		<5.7
Xylenes, ug/kg dw		<5.7
Trans-1,2-Dichloroethene, ug/kg dw		<5.7
Cis-1,2-Dichloroethene, ug/kg dw		<5.7
Vinyl Acetate, ug/kg dw		<11
2-Chloroethylvinyl Ether, ug/kg dw		<57
Surrogate - Toluene-d8		97 %
Surrogate - 4-Bromofluorobenzene		92 %
Surrogate - 1,2-Dichloroethane-d4		105 %
Date Analyzed		07.06.93
Specific Conductance (120.1)		
Specific Conductance, umhos/cm		4.6
Date Analyzed		06.30.93
pH in Soil (9045)		
pH (9045), units		5.2
Date Analyzed		06.28.93
Arsenic (7060)		
Arsenic (7060), mg/kg dw		<1.1
Date Analyzed		06.29.93

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

687

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 11

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43675-11	FST004D-SL4-4	06-24-93
PARAMETER		43675-11
Barium (6010)		
Barium (6010), mg/kg dw		4.2
Date Analyzed		06.30.93
Cadmium (6010)		
Cadmium (6010), mg/kg dw		<0.56
Date Analyzed		06.30.93
Chromium (6010)		
Chromium (6010), mg/kg dw		3.7
Date Analyzed		06.30.93
Lead (7421)		
Lead (7421), mg/kg dw		2.5
Date Analyzed		07.13.93
Selenium (7740)		
Selenium (7740), mg/kg dw		<1.1
Date Analyzed		06.29.93
Silver (6010)		
Silver (6010), mg/kg dw		<1.1
Date Analyzed		06.30.93
Mercury		
Mercury (7471), mg/kg dw		0.017
Date Analyzed		06.30.93
Percent Solids, %		88

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 12

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
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	52	50	104 %
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	---	---	---
Bromodichloromethane, ug/kg dw	5.0	<5.0	---	---	---
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	53.3	50	107 %

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

689

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 13

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43675-12	Detection Limits Soil				
43675-13	Method Blank Result				
43675-14	Lab Control Standard (LCS) Result				
43675-15	LCS Expected Value				
43675-16	LCS % Recovery				
PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
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	52.7	50	105 %
Cis-1,3-Dichloropropene, ug/kg dw	5.0	<5.0	---	---	---
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	62.9	50	126 %
Chlorobenzene, ug/kg dw	5.0	<5.0	57.4	50	115 %
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	---	92/92 %	112 %	---	---
Surrogate - 4-Bromofluorobenzene	---	97/98 %	121 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	102/105 %	100 %	---	---
Date Analyzed	---	7.02-05.93	07.02.93	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	4.98	4.80	104 %
Date Analyzed	---	06.29.93	06.29.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 14

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	94.5	98.2	96 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	85.6	92.4	93 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	91.8	96.7	95 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	5.75	5.00	115 %
Date Analyzed	---	07.14.93	07.14.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	5.08	4.94	103 %
Date Analyzed	---	06.29.93	06.29.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	87.4	94.0	93 %
Date Analyzed	---	06.30.93	06.30.93	---	---
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.20	1.40	86 %
Date Analyzed	---	06.30.93	06.30.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

691

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 15

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-12 Detection Limits Soil
43675-13 Method Blank Result
43675-14 Lab Control Standard (LCS) Result
43675-15 LCS Expected Value
43675-16 LCS % Recovery

PARAMETER	43675-12	43675-13	43675-14	43675-15	43675-16
pH in Soil (9045)					
pH (9045), units	---	---	8.74	9.00	97 %
Date Analyzed	---	---	06.28.93	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	1.0	<1.0	1408	1354	102 %
Date Analyzed	---	06.30.93	06.30.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 16

LOG NO	SAMPLE DESCRIPTION, QC REPORT FOR SOLID/SEMISOLID				
43675-17	LCS % Recovery Limits				
43675-18	Matrix Spike (MS) Result/Duplicate				
43675-19	MS Expected Value				
43675-20	MS % Recovery/Duplicate				
43675-21	MS % Recovery Limit				
PARAMETER	43675-17	43675-18	43675-19	43675-20	43675-21
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	46.6/45.7	56	83/82 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	55.2/59.4	56	99/106 %	43-140 %
Benzene, ug/kg dw	48-150 %	64.6/60.2	56	115/108 %	48-150 %
Toluene, ug/kg dw	51-141 %	80.8/79.7	56	144/142 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	66.7/67.1	56	119/120 %	54-138 %
Surrogate - Toluene-d8	---	107/107 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	85/87 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	107/106 %	---	---	---
Date Analyzed	---	07.05.93	---	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	1.11/1.40	6.53	17/21 %	75-125 %
Date Analyzed	---	06.29.93	---	---	---
Barium (6010)					
Barium (6010), mg/kg dw	70-130 %	258/260	263	98/99 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	70-130 %	5.78/6.10	6.58	88/93 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	70-130 %	24.1/46.3	26.3	92/176 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---

693

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 17

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43675-17 LCS % Recovery Limits
 43675-18 Matrix Spike (MS) Result/Duplicate
 43675-19 MS Expected Value
 43675-20 MS % Recovery/Duplicate
 43675-21 MS % Recovery Limit

PARAMETER	43675-17	43675-18	43675-19	43675-20	43675-21
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	3.78/2.20	5.87	64/38 %	75-125 %
Date Analyzed	---	07.14.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	75-125 %	*F73	---	---	---
Date Analyzed	---	06.29.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	5.50/5.47	6.58	84/83 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.055/.055	0.0580	95/95 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
pH in Soil (9045)					
pH (9045), units	90-110 %	---	---	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	90-110 %	---	---	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 18

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-22 MS % RPD (Limit)

PARAMETER 43675-22

Volatiles by GC/MS (8240)

1,1-Dichloroethene	1.2 (<50) %
Trichloroethene	6.8 (<27) %
Benzene	6.3 (<27) %
Toluene	1.4 (<27) %
Chlorobenzene	0.84 (<33) %
Arsenic (7060)	
Arsenic (7060)	21 (<20) %
Barium (6010)	
Barium (6010)	1.0 (<30) %
Cadmium (6010)	
Cadmium (6010)	5.4 (<30) %
Chromium (6010)	
Chromium (6010)	63 (<30) %
Lead (7421)	
Lead (7421)	51 (<30) %
Selenium (7740)	
Selenium (7740)	---
Silver (6010)	
Silver (6010)	1.2 (<30) %
Mercury	
Mercury (7471)	0 (<30) %

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43675
 Rev. #2, 11.18.93
 Received: 26 JUN 93

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

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 20

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

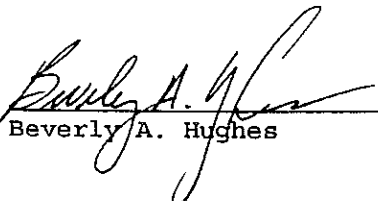
PARAMETER 43675-23

1,1,2-Trichloroethane, ug/kg dw	<5.0
Benzene, ug/kg dw	<5.0
Cis-1,3-Dichloropropene, ug/kg dw	<5.0
Bromoform, ug/kg dw	<5.0
2-Hexanone, ug/kg dw	<50
4-Methyl-2-pentanone (MIBK), ug/kg dw	<50
Tetrachloroethene, ug/kg dw	<5.0
Toluene, ug/kg dw	<5.0
Chlorobenzene, ug/kg dw	<5.0
Ethylbenzene, ug/kg dw	<5.0
Styrene, ug/kg dw	<5.0
Xylenes, ug/kg dw	<5.0
Surrogate - Toluene-d8	92 %
Surrogate - 4-Bromofluorobenzene	96 %
Surrogate - 1,2-Dichloroethane-d4	100 %
Date Analyzed	07.06.93

Methods: EPA SW-846

*F73 = Matrix spikes were not recovered due to matrix interference present in the sample.

*F65 = Elevated detection limits were reported due to sample matrix interference which required sample dilution prior to analysis.


 Beverly A. Hughes

Final Page Of Report

697

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1014.00	101.4	999.9	1035.00	103.5			
Beryllium	987.0			987.0					
Cadmium	996.0	1003.00	100.7	996.0	1015.00	101.9			
Calcium	1005.0			1005.0					
Chromium	998.0	1019.00	102.1	998.0	1028.00	103.0			
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	1.74	102.4	1.7	1.73	101.8			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	999.50	100.0	1000.0	1007.00	100.7			
Sodium	999.9			999.9					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343675Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	45.76	91.7	49.9	46.72	93.6	50.94	102.1	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	50.33	100.7	50.0	49.98	100.0	51.02	102.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	47.10	93.6	50.3	45.30	90.1	50.83	101.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

699

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	52.07	104.3	49.22	98.6	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	52.12	104.2	50.56	101.1	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	52.59	104.6	48.63	96.7	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No. 843675Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	48.92	98.0	54.65	109.5	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	51.25	102.5			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.28	98.0	52.59	104.0	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

701

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.89	104.0	52.40	105.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.87	99.7	50.0	51.13	102.3	50.0	100.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.41	98.2	52.67	104.7	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 343675Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	54.92	110.1			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.38	100.8			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.33	98.1			
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

703

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	50.21	100.6	49.9	51.61	103.4	45.41	91.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	46.64	93.5	52.87	106.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

705

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343675

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.19	102.6			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

707

EXHIBIT D.6

BURN PIT E, FST-004E

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

709

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 1

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43711-1	FST004B-SL2-8	06-28-93
43711-2	FST004B-SL3-8	06-28-93
43711-3	FST004B-SL4-4	06-26-93
43711-4	FST004E-SL1-6	06-26-93
43711-5	FST004E-SL3-8	06-28-93

PARAMETER	43711-1	43711-2	43711-3	43711-4	43711-5
Arsenic (7060)					
Arsenic (7060), mg/kg dw	<1.2	<1.1	<1.1	<1.2	<1.2
Date Analyzed	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Barium (6010)					
Barium (6010), mg/kg dw	8.0	3.7	9.8	27	8.5
Date Analyzed	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Cadmium (6010)					
Cadmium (6010), mg/kg dw	<0.58	<0.57	<0.54	<0.59	<0.58
Date Analyzed	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Chromium (6010)					
Chromium (6010), mg/kg dw	2.7	4.5	7.1	12	9.5
Date Analyzed	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Lead (7421)					
Lead (7421), mg/kg dw	2.2	2.7	4.2	5.9	5.2
Date Analyzed	07.12.93	07.12.93	07.12.93	07.12.93	07.12.93
Selenium (7740)					
Selenium (7740), mg/kg dw	<1.2	<1.1	<1.1	<2.4*F65	<2.3*F65
Date Analyzed	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93
Silver (6010)					
Silver (6010), mg/kg dw	<1.2	<1.1	<1.1	<1.2	<1.2
Date Analyzed	07.06.93	07.06.93	07.06.93	07.06.93	07.06.93

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43711-1	FST004B-SL2-8					06-28-93
43711-2	FST004B-SL3-8					06-28-93
43711-3	FST004B-SL4-4					06-26-93
43711-4	FST004E-SL1-6					06-26-93
43711-5	FST004E-SL3-8					06-28-93
PARAMETER	43711-1	43711-2	43711-3	43711-4	43711-5	
Mercury						
Mercury (7471), mg/kg dw	<0.012	<0.011	0.021	0.026	0.062	
Date Analyzed	07.02.93	07.02.93	07.02.93	07.02.93	07.02.93	
pH in Soil (9045)						
pH (9045), units	4.0	3.9	3.7	4.1	3.9	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	2.7	2.6	7.0	5.5	2.1	
Date Analyzed	07.09.93	07.09.93	07.09.93	07.09.93	07.09.93	

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				
43711-1	FST004B-SL2-8	06-28-93				
43711-2	FST004B-SL3-8	06-28-93				
43711-3	FST004B-SL4-4	06-26-93				
43711-4	FST004E-SL1-6	06-26-93				
43711-5	FST004E-SL3-8	06-28-93				
PARAMETER		43711-1	43711-2	43711-3	43711-4	43711-5
Volatiles by GC/MS (8240)						
Chloromethane, ug/kg dw		<12	<11	<11	<12	<12
Bromomethane, ug/kg dw		<12	<11	<11	<12	<12
Vinyl Chloride, ug/kg dw		<12	<11	<11	<12	<12
Chloroethane, ug/kg dw		<12	<11	<11	<12	<12
Methylene Chloride, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Acetone, ug/kg dw		<58	<57	110	<59	<58
Carbon Disulfide, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
1,1-Dichloroethene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
1,1-Dichloroethane, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Trans-1,2-Dichloroethylene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Cis-1,2-Dichloroethene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Chloroform, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
1,2-Dichloroethane, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
2-Butanone (MEK), ug/kg dw		<58	<57	<54	<59	<58
1,1,1-Trichloroethane, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Carbon Tetrachloride, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Vinyl Acetate, ug/kg dw		<12	<11	<11	<12	<12
Bromodichloromethane, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 4

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43711-1	FST004B-SL2-8	06-28-93				
43711-2	FST004B-SL3-8	06-28-93				
43711-3	FST004B-SL4-4	06-26-93				
43711-4	FST004E-SL1-6	06-26-93				
43711-5	FST004E-SL3-8	06-28-93				
PARAMETER		43711-1	43711-2	43711-3	43711-4	43711-5
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
1,2-Dichloropropane, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Trans-1,3-Dichloropropene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Trichloroethene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Dibromochloromethane, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
1,1,2-Trichloroethane, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Benzene, ug/kg dw		<5.8	<5.7	30	<5.9	<5.8
Cis-1,3-Dichloropropene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
2-Chloroethylvinyl Ether, ug/kg dw		<58	<57	<54	<59	<58
Bromoform, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
2-Hexanone, ug/kg dw		<58	<57	<54	<59	<58
4-Methyl-2-pentanone (MIBK), ug/kg dw		<58	<57	<54	<59	<58
Tetrachloroethene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Toluene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Chlorobenzene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Ethylbenzene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Styrene, ug/kg dw		<5.8	<5.7	<5.4	<5.9	<5.8
Xylenes, ug/kg dw		<5.8	<5.7	9.9	<5.9	<5.8
Surrogate - Toluene-d8		91 %	91 %	92 %	94 %	92 %
Surrogate - 4-Bromofluorobenzene		95 %	92 %	84 %	92 %	93 %
Surrogate - 1,2-Dichloroethane-d4		100 %	126 %	106 %	103 %	103 %
Date Analyzed		07.05.93	07.05.93	07.05.93	07.05.93	07.05.93

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 5

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43711-1	FST004B-SL2-8					06-28-93
43711-2	FST004B-SL3-8					06-28-93
43711-3	FST004B-SL4-4					06-26-93
43711-4	FST004E-SL1-6					06-26-93
43711-5	FST004E-SL3-8					06-28-93
PARAMETER	43711-1	43711-2	43711-3	43711-4	43711-5	
Percent Solids, %	86	88	93	85	86	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 6

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43711-6	Detection Limits Soil				
43711-7	Method Blank Result				
43711-8	Lab Control Standard (LCS) Result				
43711-9	LCS Expected Value				
43711-10	LCS % Recovery				
PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	5.20	4.80	108 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	97.2	98.2	99 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	91.4	92.4	99 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	102	96.7	105 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	4.84	5.00	97 %
Date Analyzed	---	07.12.93	07.12.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	4.74	4.94	96 %
Date Analyzed	---	07.06.93	07.06.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	99.5	94.0	106 %
Date Analyzed	---	07.06.93	07.06.93	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

715

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 7

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43711-6 Detection Limits Soil
 43711-7 Method Blank Result
 43711-8 Lab Control Standard (LCS) Result
 43711-9 LCS Expected Value
 43711-10 LCS % Recovery

PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.22	1.40	87 %
Date Analyzed	---	07.02.93	07.02.93	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	1.0	<1.0	1451	1436	101 %
Date Analyzed	---	07.09.93	07.09.93	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 8

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43711-6 Detection Limits Soil
 43711-7 Method Blank Result
 43711-8 Lab Control Standard (LCS) Result
 43711-9 LCS Expected Value
 43711-10 LCS % Recovery

PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
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	---	---	---
1,1-Dichloroethane, ug/kg dw	5.0	<5.0	52.0	50	104 %
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	---	---	---

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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 , QC REPORT FOR SOLID/SEMISOLID

43711-6 Detection Limits Soil
 43711-7 Method Blank Result
 43711-8 Lab Control Standard (LCS) Result
 43711-9 LCS Expected Value
 43711-10 LCS % Recovery

PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
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	53.3	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	52.7	50	105 %
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	62.9	50	126 %
Chlorobenzene, ug/kg dw	5.0	<5.0	57.4	50	115 %
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 %	112 %	---	---
Surrogate - 4-Bromofluorobenzene	---	98 %	121 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	105 %	100 %	---	---
Date Analyzed	---	07.05.93	07.05.93	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 10

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43711-6 Detection Limits Soil
 43711-7 Method Blank Result
 43711-8 Lab Control Standard (LCS) Result
 43711-9 LCS Expected Value
 43711-10 LCS % Recovery

PARAMETER	43711-6	43711-7	43711-8	43711-9	43711-10
pH in Soil (9045)					
pH (9045), units	---	---	9.00	9.00	100 %
Date Analyzed	---	---	06.30.93	---	---

719

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 11

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43711-11	LCS % Recovery Limit				
43711-12	Matrix Spike (MS) Result/Duplicate				
43711-13	MS Expected Value				
43711-14	MS % Recovery/Duplicate				
43711-15	MS % Recovery Limit				
PARAMETER	43711-11	43711-12	43711-13	43711-14	43711-15
Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	5.18/4.84	5.77	90/84 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Barium (6010)					
Barium (6010), mg/kg dw	70-130 %	214/215	231	93/93 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	70-130 %	4.74/4.83	5.78	82/84 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	75-125 %	22.6/23.8	23.1	98/103 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	6.06/5.85	5.78	105/101 %	75-125 %
Date Analyzed	---	07.12.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	70-130 %	2.47/2.08	5.82	42/36 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	5.36/5.64	5.78	93/98 %	75-125 %
Date Analyzed	---	07.06.93	---	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43711
Rev. #1, 11.05.93
Received: 30 JUN 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

Page 12

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID					
43711-11	LCS % Recovery Limit					
43711-12	Matrix Spike (MS) Result/Duplicate					
43711-13	MS Expected Value					
43711-14	MS % Recovery/Duplicate					
43711-15	MS % Recovery Limit					
PARAMETER		43711-11	43711-12	43711-13	43711-14	43711-15
Mercury						
Mercury (7471), mg/kg dw	70-130 %	0.0512/*	0.0578	89/88 %	75-125 %	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	90-110 %	---	---	---	---	---
Volatiles by GC/MS (8240)						
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 %	
1,1-Dichloroethene, ug/kg dw	36-161 %	45.6/44	53.8	85/82 %	36-161 %	
Surrogate - Toluene-d8	---	100/101 %	---	---	---	---
Surrogate - 4-Bromofluorobenzene	---	88/88 %	---	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	102/101 %	---	---	---	---
Date Analyzed	---	07.05.93	---	---	---	---
pH in Soil (9045)						
pH (9045), units	90-110 %	---	---	---	---	---

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

LOG NO: S3-43711
 Rev. #1, 11.05.93
 Received: 30 JUN 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

Page 13

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43711-16 MS % RPD (Limit)

PARAMETER	43711-16
Arsenic (7060)	
Arsenic (7060)	6.9 (<30) %
Barium (6010)	
Barium (6010)	0 (<30) %
Cadmium (6010)	
Cadmium (6010)	2.4 (<30) %
Chromium (6010)	
Chromium (6010)	5.0 (<30) %
Lead (7421)	
Lead (7421)	3.9 (<30) %
Selenium (7740)	
Selenium (7740)	15 (<30) %
Silver (6010)	
Silver (6010)	5.2 (<30) %
Mercury	
Mercury (7471)	1.1 (30) %
Volatiles by GC/MS (8240)	
1,1-Dichloroethene	3.6 (<50) %
Trichloroethene	0.87 (<27) %
Benzene	4.8 (<27) %
Toluene	1.7 (<27) %
Chlorobenzene	3.9 (<33) %

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: S343711Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M
	True	Found	%R(1)	True	Found	%R(1)	Found	
Aluminum	1001.1			1001.1				
Antimony	999.0			999.0				
Arsenic								
Barium	999.9	966.60	96.7	999.9	970.90	97.1		
Beryllium	987.0			987.0				
Cadmium	996.0	961.30	96.5	996.0	954.70	95.9		
Calcium	1005.0			1005.0				
Chromium	998.0	964.00	96.6	998.0	960.60	96.3		
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	1.60	94.1	1.7	1.57	92.4		
Nickel	1000.0			1000.0				
Potassium	10016.1			10016.1				
Selenium								
Silver	1000.0	957.10	95.7	1000.0	958.00	95.8		
Sodium	999.9			999.0				
Thallium								
Vanadium	993.0			993.0				
Zinc	1007.0			1007.0				
Cyanide								

723

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343711

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	53.81	92.7	49.9	52.28	104.8	50.50	101.2	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.38	98.8	50.0	49.06	98.1	49.02	98.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	49.52	101.6	50.3	50.44	100.2	49.44	98.3	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343711

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	53.35	106.9	45.90	92.0	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	49.15	98.3	49.29	98.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	51.14	101.7	51.81	103.0	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

725

Lab Name: Savannah Laboratories

SDG No.: 5343711

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	50.41	101.0	47.71	95.6	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	48.87	97.7	49.45	98.9	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	49.09	97.6	48.82	97.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: S343711Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	48.61	97.2	47.68	95.4	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	48.43	96.3	49.38	98.2	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

JUN 23 1993 727

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43768-1	FST004E-SL2-8	06-29-93
43768-2	FST004E-SL4-6	06-29-93
43768-3	FST004F-SL1-8	06-29-93
43768-4	FST004F-SL3-8	06-30-93
43768-5	FST004F-SL2-8	06-29-93

PARAMETER	43768-1	43768-2	43768-3	43768-4	43768-5
Volatiles by GC/MS (8240)					
Chloromethane, ug/kg dw	<13	<11	<11	<12	<11
Bromomethane, ug/kg dw	<13	<11	<11	<12	<11
Vinyl Chloride, ug/kg dw	<13	<11	<11	<12	<11
Chloroethane, ug/kg dw	<13	<11	<11	<12	<11
Methylene Chloride, ug/kg dw	<6.6	<5.6	6.0	7.4	<5.7
Acetone, ug/kg dw	<66	<56	<57	<61	<57
Carbon Disulfide, ug/kg dw	<14	<5.6	<5.7	<6.1	<5.7
1,1-Dichloroethene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
1,1-Dichloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Trans-1,2-Dichloroethylene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Cis-1,2-Dichloroethene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Chloroform, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
1,2-Dichloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
2-Butanone (MEK), ug/kg dw	<66	<56	<57	<61	<57
1,1,1-Trichloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Carbon Tetrachloride, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Vinyl Acetate, ug/kg dw	<13	<11	<11	<12	<11
Bromodichloromethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43768-1	FST004E-SL2-8	06-29-93				
43768-2	FST004E-SL4-6	06-29-93				
43768-3	FST004F-SL1-8	06-29-93				
43768-4	FST004F-SL3-8	06-30-93				
43768-5	FST004F-SL2-8	06-29-93				
PARAMETER	43768-1	43768-2	43768-3	43768-4	43768-5	
1,1,2,2-Tetrachloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
1,2-Dichloropropane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Trans-1,3-Dichloropropene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Trichloroethene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Dibromochloromethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
1,1,2-Trichloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Benzene, ug/kg dw	<6.6	7.9	<5.7	<6.1	<5.7	
Cis-1,3-Dichloropropene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
2-Chloroethylvinyl Ether, ug/kg dw	<66	<56	<57	<61	<57	
Bromoform, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
2-Hexanone, ug/kg dw	<66	<56	<57	<61	<57	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<66	<56	<57	<61	<57	
Tetrachloroethene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Toluene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Chlorobenzene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Ethylbenzene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Styrene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Xylenes, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Surrogate - Toluene-d8	106 †	89 †	105 †	107 †	92 †	
Surrogate - 4-Bromofluorobenzene	110 †	91 †	110 †	110 †	94 †	
Surrogate -	112 †	109 †	98 †	91 †	107 †	
1,2-Dichloroethane-d4						
Date Analyzed	07.07.93	07.07.93	07.07.93	07.07.93	07.07.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

729

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43768-1	FST004E-SL2-8	06-29-93				
43768-2	FST004E-SL4-6	06-29-93				
43768-3	FST004F-SL1-8	06-29-93				
43768-4	FST004F-SL3-8	06-30-93				
43768-5	FST004F-SL2-8	06-29-93				
PARAMETER		43768-1	43768-2	43768-3	43768-4	43768-5
Arsenic (7060)						
Arsenic (7060), mg/kg dw		<1.3	<1.1	<1.1	<1.2	<1.1
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Barium						
Barium (6010), mg/kg dw		14	11	6.2	17	17
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Cadmium						
Cadmium (6010), mg/kg dw		<0.66	<0.55	<0.57	<0.61	<0.57
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Chromium						
Chromium (6010), mg/kg dw		6.5	6.9	5.1	15	4.6
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Lead (7421)						
Lead (7421), mg/kg dw		2.6	4.8	16	7.7	8.3
Date Analyzed		07.12.93	07.12.93	07.12.93	07.12.93	07.12.93
Mercury						
Mercury (7471), mg/kg dw		0.039	0.043	<0.011	<0.012	0.023
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Selenium (7740)						
Selenium (7740), mg/kg dw		<6.6*F65	<1.1	<1.1	<6.1*F65	<5.7*F65
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES				DATE SAMPLED
43768-1	FST004E-SL2-8				06-29-93
43768-2	FST004E-SL4-6				06-29-93
43768-3	FST004F-SL1-8				06-29-93
43768-4	FST004F-SL3-8				06-30-93
43768-5	FST004F-SL2-8				06-29-93
PARAMETER	43768-1	43768-2	43768-3	43768-4	43768-5
Silver					
Silver (6010), mg/kg dw	<1.3	<1.1	<1.1	<1.2	<1.1
Date Analyzed	07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	3.1	2.3	2.9	6.8	4.2
Date Analyzed	07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
pH in Soil (9045)					
pH (9045), units	4.6	5.2	4.0	3.8	4.6
Date Analyzed	07.05.93	07.05.93	07.05.93	07.05.93	07.05.93
Percent Solids, %	76	90	87	82	87

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

731

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 8

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43768-7 Detection Limits
43768-8 Method Blank Result
43768-9 Lab Control Sample (LCS) Result
43768-10 LCS Expected Value
43768-11 LCS % Recovery

PARAMETER	43768-7	43768-8	43768-9	43768-10	43768-11

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	40.2	50	80 %
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	---	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 9

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43768-7 Detection Limits
43768-8 Method Blank Result
43768-9 Lab Control Sample (LCS) Result
43768-10 LCS Expected Value
43768-11 LCS % Recovery

PARAMETER	43768-7	43768-8	43768-9	43768-10	43768-11
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	51.0	50	102 %
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	51.5	50	103 %
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	52.7	50	105 %
Chlorobenzene, ug/kg dw	5.0	<5.0	53.7	50	107 %
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	---	92/104 %	97 %	---	---
Surrogate - 4-Bromofluorobenzene	---	96/113 %	106 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	98/91 %	94 %	---	---
Date Analyzed	---	07.6-7.93	07.07.93	---	---

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43768-7	Detection Limits				
43768-8	Method Blank Result				
43768-9	Lab Control Sample (LCS) Result				
43768-10	LCS Expected Value				
43768-11	LCS % Recovery				
PARAMETER	43768-7	43768-8	43768-9	43768-10	43768-11
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	4.74	4.80	99 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Barium					
Barium (6010), mg/kg dw	1.0	<1.0	93	98.2	95 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Cadmium					
Cadmium (6010), mg/kg dw	0.50	<0.50	76.7	92.4	83 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Chromium					
Chromium (6010), mg/kg dw	1.0	<1.0	85.4	96.7	88 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	4.97	5.0	99 %
Date Analyzed	---	07.12.93	07.12.93	---	---
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.33	1.40	95 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	4.41	4.94	89 %
Date Analyzed	---	07.09.93	07.09.93	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 11

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43768-7 Detection Limits
43768-8 Method Blank Result
43768-9 Lab Control Sample (LCS) Result
43768-10 LCS Expected Value
43768-11 LCS % Recovery

PARAMETER	43768-7	43768-8	43768-9	43768-10	43768-11
Silver					
Silver (6010), mg/kg dw	1.0	<1.0	77.9	94	83 %
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	---	---
pH in Soil (9045)					
pH (9045), units	---	---	9.0	9.0	100 %
Date Analyzed	---	---	07.05.93	---	---

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43768-12 LCS % Recovery Limits
 43768-13 Matrix Spike (MS) Result/Duplicate
 43768-14 MS Expected Value
 43768-15 MS % Recovery/Duplicate
 43768-16 MS % Recovery Limit

PARAMETER	43768-12	43768-13	43768-14	43768-15	43768-16
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	42.1/39.9	65.8	64/61 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	64.9/64.9	65.8	99/99 %	43-140 %
Benzene, ug/kg dw	48-150 %	54.4/53.4	65.8	83/81 %	48-150 %
Toluene, ug/kg dw	51-141 %	70/69.9	65.8	106/106 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	74.7/75.7	65.8	114/115 %	54-138 %
Surrogate - Toluene-d8	---	107/106 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	112/110 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	108/105 %	---	---	---
Date Analyzed	---	07.07.93	---	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	1.10/1.61	5.50	20/29 %	75-125 %
Date Analyzed	---	07.12.93	---	---	---
Barium					
Barium (6010), mg/kg dw	70-130 %	202/207	220	92/94 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Cadmium					
Cadmium (6010), mg/kg dw	70-130 %	4.32/4.44	5.51	78/81 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Chromium					
Chromium (6010), mg/kg dw	70-130 %	18.3/22.6	22	83/103 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 13

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43768-12	LCS % Recovery Limits				
43768-13	Matrix Spike (MS) Result/Duplicate				
43768-14	MS Expected Value				
43768-15	MS % Recovery/Duplicate				
43768-16	MS % Recovery Limit				
PARAMETER	43768-12	43768-13	43768-14	43768-15	43768-16
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	6.51/6.45	5.51	118/117 %	75-125 %
Date Analyzed	---	07.12.93	---	---	---
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.044/.050	0.0552	80/91 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	70-130 %	.558/.327	5.54	10/5.9 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Silver					
Silver (6010), mg/kg dw	70-130 %	4.09/4.06	5.51	74/74 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	90-110 %	---	---	---	---
pH in Soil (9045)					
pH (9045), mg/kg dw	90-110 %	---	---	---	---

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43768-17	MS % RPD (Limit)
PARAMETER	43768-17
Volatiles by GC/MS (8240)	
1,1-Dichloroethene	4.8 (<50) †
Trichloroethene	0 (<27) †
Benzene	2.4 (<27) †
Toluene	0 (<27) †
Chlorobenzene	0.87 (<33) †
Arsenic (7060)	
Arsenic (7060)	37 (<30) †
Barium	
Barium (6010)	2.2 (<30) †
Cadmium	
Cadmium (6010)	3.8 (<30) †
Chromium	
Chromium (6010)	22 (<30) †
Lead (7421)	
Lead (7421)	0.85 (<30) †
Mercury	
Mercury (7471)	13 (<30) †
Selenium (7740)	
Selenium (7740)	52 (<20) †
Silver	
Silver (6010)	0 (<30) †
Specific Conductance (120.1)	
Specific Conductance	---
pH in Soil (9045)	
pH (9045)	---

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343768Initial Calibration Source: SPEXContinuing Calibration Source: SPEXConcentration Units: $\mu\text{g/L}$

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1029.60	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	98.9			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	1046.00	104.6	1000.0	1053.00	105.3			
Sodium	999.9			999.0					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

739

2A
 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 534376B

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	46.75	93.7	46.34	92.9	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	48.84	97.7	50.05	100.1	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	48.01	95.4	46.05	91.6	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343768

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	50.53	101.3	49.9	51.75	103.7	45.19	90.6	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.38	98.8	50.0	49.06	98.1	49.32	98.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	49.65	98.7	50.3	50.98	101.4	46.07	91.6	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

741

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343768

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	52.1	104.4	49.9	50.29	100.8	46.88	93.9	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.02	100.0			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: S343768Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	52.19	104.6	50.86	101.9	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	49.74	99.5	50.29	100.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	53.49	106.3	49.99	99.4	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

743

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343768

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									
Antimony									
Arsenic				49.9	50.35	100.9			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

745

EXHIBIT D.7

BURN PIT F, FST-004F

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

747
 JUN 23 1993

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43768-1	FST004E-SL2-8	06-29-93
43768-2	FST004E-SL4-6	06-29-93
43768-3	FST004F-SL1-8	06-29-93
43768-4	FST004F-SL3-8	06-30-93
43768-5	FST004F-SL2-8	06-29-93

PARAMETER	43768-1	43768-2	43768-3	43768-4	43768-5
Volatiles by GC/MS (8240)					
Chloromethane, ug/kg dw	<13	<11	<11	<12	<11
Bromomethane, ug/kg dw	<13	<11	<11	<12	<11
Vinyl Chloride, ug/kg dw	<13	<11	<11	<12	<11
Chloroethane, ug/kg dw	<13	<11	<11	<12	<11
Methylene Chloride, ug/kg dw	<6.6	<5.6	6.0	7.4	<5.7
Acetone, ug/kg dw	<66	<56	<57	<61	<57
Carbon Disulfide, ug/kg dw	<14	<5.6	<5.7	<6.1	<5.7
1,1-Dichloroethene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
1,1-Dichloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Trans-1,2-Dichloroethylene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Cis-1,2-Dichloroethene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Chloroform, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
1,2-Dichloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
2-Butanone (MEK), ug/kg dw	<66	<56	<57	<61	<57
1,1,1-Trichloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Carbon Tetrachloride, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7
Vinyl Acetate, ug/kg dw	<13	<11	<11	<12	<11
Bromodichloromethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43768-1	FST004E-SL2-8	06-29-93				
43768-2	FST004E-SL4-6	06-29-93				
43768-3	FST004F-SL1-8	06-29-93				
43768-4	FST004F-SL3-8	06-30-93				
43768-5	FST004F-SL2-8	06-29-93				
PARAMETER	43768-1	43768-2	43768-3	43768-4	43768-5	
1,1,2,2-Tetrachloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
1,2-Dichloropropane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Trans-1,3-Dichloropropene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Trichloroethene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Dibromochloromethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
1,1,2-Trichloroethane, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Benzene, ug/kg dw	<6.6	7.9	<5.7	<6.1	<5.7	
Cis-1,3-Dichloropropene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
2-Chloroethylvinyl Ether, ug/kg dw	<66	<56	<57	<61	<57	
Bromoform, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
2-Hexanone, ug/kg dw	<66	<56	<57	<61	<57	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<66	<56	<57	<61	<57	
Tetrachloroethene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Toluene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Chlorobenzene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Ethylbenzene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Styrene, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Xylenes, ug/kg dw	<6.6	<5.6	<5.7	<6.1	<5.7	
Surrogate - Toluene-d8	106 %	89 %	105 %	107 %	92 %	
Surrogate - 4-Bromofluorobenzene	110 %	91 %	110 %	110 %	94 %	
Surrogate - 1,2-Dichloroethane-d4	112 %	109 %	98 %	91 %	107 %	
Date Analyzed	07.07.93	07.07.93	07.07.93	07.07.93	07.07.93	

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43768-1	FST004E-SL2-8	06-29-93				
43768-2	FST004E-SL4-6	06-29-93				
43768-3	FST004F-SL1-8	06-29-93				
43768-4	FST004F-SL3-8	06-30-93				
43768-5	FST004F-SL2-8	06-29-93				
PARAMETER		43768-1	43768-2	43768-3	43768-4	43768-5
Arsenic (7060)						
Arsenic (7060), mg/kg dw		<1.3	<1.1	<1.1	<1.2	<1.1
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Barium						
Barium (6010), mg/kg dw		14	11	6.2	17	17
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Cadmium						
Cadmium (6010), mg/kg dw		<0.66	<0.55	<0.57	<0.61	<0.57
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Chromium						
Chromium (6010), mg/kg dw		6.5	6.9	5.1	15	4.6
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Lead (7421)						
Lead (7421), mg/kg dw		2.6	4.8	16	7.7	8.3
Date Analyzed		07.12.93	07.12.93	07.12.93	07.12.93	07.12.93
Mercury						
Mercury (7471), mg/kg dw		0.039	0.043	<0.011	<0.012	0.023
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93
Selenium (7740)						
Selenium (7740), mg/kg dw		<6.6*F65	<1.1	<1.1	<6.1*F65	<5.7*F65
Date Analyzed		07.09.93	07.09.93	07.09.93	07.09.93	07.09.93

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES					DATE SAMPLED
43768-1	FST004E-SL2-8					06-29-93
43768-2	FST004E-SL4-6					06-29-93
43768-3	FST004F-SL1-8					06-29-93
43768-4	FST004F-SL3-8					06-30-93
43768-5	FST004F-SL2-8					06-29-93
PARAMETER	43768-1	43768-2	43768-3	43768-4	43768-5	
Silver						
Silver (6010), mg/kg dw	<1.3	<1.1	<1.1	<1.2	<1.1	
Date Analyzed	07.09.93	07.09.93	07.09.93	07.09.93	07.09.93	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	3.1	2.3	2.9	6.8	4.2	
Date Analyzed	07.09.93	07.09.93	07.09.93	07.09.93	07.09.93	
pH in Soil (9045)						
pH (9045), units	4.6	5.2	4.0	3.8	4.6	
Date Analyzed	07.05.93	07.05.93	07.05.93	07.05.93	07.05.93	
Percent Solids, %	76	90	87	82	87	

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

751

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43768-6	FST004F-SL4-4	06-30-93
PARAMETER		43768-6
Volatiles by GC/MS (8240)		
Chloromethane, ug/kg dw		<11
Bromomethane, ug/kg dw		<11
Vinyl Chloride, ug/kg dw		<11
Chloroethane, ug/kg dw		<11
Methylene Chloride, ug/kg dw		<5.5
Acetone, ug/kg dw		<55
Carbon Disulfide, ug/kg dw		<5.5
1,1-Dichloroethene, ug/kg dw		<5.5
1,1-Dichloroethane, ug/kg dw		<5.5
Trans-1,2-Dichloroethylene, ug/kg dw		<5.5
Cis-1,2-Dichloroethene, ug/kg dw		<5.5
Chloroform, ug/kg dw		<5.5
1,2-Dichloroethane, ug/kg dw		<5.5
2-Butanone (MEK), ug/kg dw		<55
1,1,1-Trichloroethane, ug/kg dw		<5.5
Carbon Tetrachloride, ug/kg dw		<5.5
Vinyl Acetate, ug/kg dw		<11
Bromodichloromethane, ug/kg dw		<5.5
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.5
1,2-Dichloropropane, ug/kg dw		<5.5
Trans-1,3-Dichloropropene, ug/kg dw		<5.5
Trichloroethene, ug/kg dw		<5.5
Dibromochloromethane, ug/kg dw		<5.5

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43768-6	FST004F-SLA-4	06-30-93
PARAMETER	43768-6	
1,1,2-Trichloroethane, ug/kg dw	<5.5	
Benzene, ug/kg dw	<5.5	
Cis-1,3-Dichloropropene, ug/kg dw	<5.5	
2-Chloroethylvinyl Ether, ug/kg dw	<5.5	
Bromoform, ug/kg dw	<5.5	
2-Hexanone, ug/kg dw	<5.5	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<5.5	
Tetrachloroethene, ug/kg dw	<5.5	
Toluene, ug/kg dw	<5.5	
Chlorobenzene, ug/kg dw	<5.5	
Ethylbenzene, ug/kg dw	<5.5	
Styrene, ug/kg dw	<5.5	
Xylenes, ug/kg dw	<5.5	
Surrogate - Toluene-d8	105 %	
Surrogate - 4-Bromofluorobenzene	107 %	
Surrogate - 1,2-Dichloroethane-d4	102 %	
Date Analyzed	07.07.93	
Arsenic (7060)		
Arsenic (7060), mg/kg dw	<1.1	
Date Analyzed	07.12.93	
Barium		
Barium (6010), mg/kg dw	18	
Date Analyzed	07.09.93	
Cadmium		
Cadmium (6010), mg/kg dw	<0.55	
Date Analyzed	07.09.93	

753

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43768-6	FST004F-SL4-4	06-30-93
PARAMETER	43768-6	
Chromium		
Chromium (6010), mg/kg dw	8.8	
Date Analyzed	07.09.93	
Lead (7421)		
Lead (7421), mg/kg dw	4.8	
Date Analyzed	07.12.93	
Mercury		
Mercury (7471), mg/kg dw	0.051	
Date Analyzed	07.09.93	
Selenium (7740)		
Selenium (7740), mg/kg dw	<1.1	
Date Analyzed	07.09.93	
Silver		
Silver (6010), mg/kg dw	<1.1	
Date Analyzed	07.09.93	
Specific Conductance (120.1)		
Specific Conductance, umhos/cm	4.2	
Date Analyzed	07.09.93	
pH in Soil (9045)		
pH (9045), units	6.5	
Date Analyzed	07.05.93	
Percent Solids, %	91	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 8

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43768-7 Detection Limits
43768-8 Method Blank Result
43768-9 Lab Control Sample (LCS) Result
43768-10 LCS Expected Value
43768-11 LCS % Recovery

PARAMETER	43768-7	43768-8	43768-9	43768-10	43768-11

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	40.2	50	80 %
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	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

755

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43768-7	Detection Limits				
43768-8	Method Blank Result				
43768-9	Lab Control Sample (LCS) Result				
43768-10	LCS Expected Value				
43768-11	LCS % Recovery				
PARAMETER	43768-7	43768-8	43768-9	43768-10	43768-11
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	51.0	50	102 %
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	51.5	50	103 %
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	52.7	50	105 %
Chlorobenzene, ug/kg dw	5.0	<5.0	53.7	50	107 %
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	---	92/104 %	97 %	---	---
Surrogate - 4-Bromofluorobenzene	---	96/113 %	106 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	98/91 %	94 %	---	---
Date Analyzed	---	07.6-7.93	07.07.93	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 10

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43768-7 Detection Limits
 43768-8 Method Blank Result
 43768-9 Lab Control Sample (LCS) Result
 43768-10 LCS Expected Value
 43768-11 LCS % Recovery

PARAMETER	43768-7	43768-8	43768-9	43768-10	43768-11
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	4.74	4.80	99 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Barium					
Barium (6010), mg/kg dw	1.0	<1.0	93	98.2	95 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Cadmium					
Cadmium (6010), mg/kg dw	0.50	<0.50	76.7	92.4	83 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Chromium					
Chromium (6010), mg/kg dw	1.0	<1.0	85.4	96.7	88 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	4.97	5.0	99 %
Date Analyzed	---	07.12.93	07.12.93	---	---
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.33	1.40	95 %
Date Analyzed	---	07.09.93	07.09.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	4.41	4.94	89 %
Date Analyzed	---	07.09.93	07.09.93	---	---

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43768-7 Detection Limits
 43768-8 Method Blank Result
 43768-9 Lab Control Sample (LCS) Result
 43768-10 LCS Expected Value
 43768-11 LCS % Recovery

PARAMETER	43768-7	43768-8	43768-9	43768-10	43768-11
Silver					
Silver (6010), mg/kg dw	1.0	<1.0	77.9	94	83 %
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	---	---
pH in Soil (9045)					
pH (9045), units	---	---	9.0	9.0	100 %
Date Analyzed	---	---	07.05.93	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 12

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43768-12	LCS % Recovery Limits				
43768-13	Matrix Spike (MS) Result/Duplicate				
43768-14	MS Expected Value				
43768-15	MS % Recovery/Duplicate				
43768-16	MS % Recovery Limit				
PARAMETER	43768-12	43768-13	43768-14	43768-15	43768-16
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	42.1/39.9	65.8	64/61 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	64.9/64.9	65.8	99/99 %	43-140 %
Benzene, ug/kg dw	48-150 %	54.4/53.4	65.8	83/81 %	48-150 %
Toluene, ug/kg dw	51-141 %	70/69.9	65.8	106/106 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	74.7/75.7	65.8	114/115 %	54-138 %
Surrogate - Toluene-d8	---	107/106 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	112/110 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	108/105 %	---	---	---
Date Analyzed	---	07.07.93	---	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	1.10/1.61	5.50	20/29 %	75-125 %
Date Analyzed	---	07.12.93	---	---	---
Barium					
Barium (6010), mg/kg dw	70-130 %	202/207	220	92/94 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Cadmium					
Cadmium (6010), mg/kg dw	70-130 %	4.32/4.44	5.51	78/81 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Chromium					
Chromium (6010), mg/kg dw	70-130 %	18.3/22.6	22	83/103 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

759

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 13

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43768-12	LCS % Recovery Limits				
43768-13	Matrix Spike (MS) Result/Duplicate				
43768-14	MS Expected Value				
43768-15	MS % Recovery/Duplicate				
43768-16	MS % Recovery Limit				
PARAMETER	43768-12	43768-13	43768-14	43768-15	43768-16
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	6.51/6.45	5.51	118/117 %	75-125 %
Date Analyzed	---	07.12.93	---	---	---
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.044/.050	0.0552	80/91 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	70-130 %	.558/.327	5.54	10/5.9 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Silver					
Silver (6010), mg/kg dw	70-130 %	4.09/4.06	5.51	74/74 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm 90-110 %		---	---	---	---
pH in Soil (9045)					
pH (9045), mg/kg dw	90-110 %	---	---	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43768

Received: 01 JUL 93

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

CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 14

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43768-17 MS & RPD (Limit)

PARAMETER 43768-17

Volatiles by GC/MS (8240)

1,1-Dichloroethene 4.8 (<50) †

Trichloroethene 0 (<27) †

Benzene 2.4 (<27) †

Toluene 0 (<27) †

Chlorobenzene 0.87 (<33) †

Arsenic (7060)

Arsenic (7060) 37 (<30) †

Barium

Barium (6010) 2.2 (<30) †

Cadmium

Cadmium (6010) 3.8 (<30) †

Chromium

Chromium (6010) 22 (<30) †

Lead (7421)

Lead (7421) 0.85 (<30) †

Mercury

Mercury (7471) 13 (<30) †

Selenium (7740)

Selenium (7740) 52 (<20) †

Silver

Silver (6010) 0 (<30) †

Specific Conductance (120.1)

Specific Conductance ---

pH in Soil (9045)

pH (9045) ---

761

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343768

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M
	True	Found	%R(1)	True	Found	%R(1)	Found	
Aluminum	1001.1			1001.1				
Antimony	999.0			999.0				
Arsenic								
Barium	999.9	1029.60	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	98.9		
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			999.9				
Thallium								
Vanadium	993.0			993.0				
Zinc	1007.0			1007.0				
Cyanide								

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343768Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	50.53	101.3	49.9	51.75	103.7	45.19	90.6	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.38	98.8	50.0	49.06	98.1	49.32	98.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	49.65	98.7	50.3	50.98	101.4	46.07	91.6	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

763

2A
 INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 534376B

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	46.75	93.7	46.34	92.9	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	48.84	97.7	50.05	100.1	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	48.01	95.4	46.05	91.6	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343768Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	57.19	104.6	50.86	101.9	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	49.74	99.5	50.29	100.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	53.49	106.3	49.99	99.4	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

765

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343768

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M
	True	Found	%R(1)	True	Found	%R(1)	Found	
Aluminum								
Antimony								
Arsenic	49.9	52.1	104.4	49.9	50.29	100.8	46.88	93.9
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead				50.0	50.02	100.0		
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								
Cyanide								

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343768Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	50.35	100.9			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

767

769

EXHIBIT D.8

OLD FIRE TRAINING AREA, FST-014

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43631-1	FST014-SL-1-2	06-22-93
43631-2	FST014-SL-4-4	06-22-93
43631-3	FST014-SL2-6	06-22-93
43631-4	FST014-SL3-2	06-22-93
43631-5	FST014-SL93-2	06-22-93

PARAMETER	43631-1	43631-2	43631-3	43631-4	43631-5
Volatiles by GC/MS (8240)					
Chloromethane, ug/kg dw	<10	<10	<12	<10	<10
Bromomethane, ug/kg dw	<10	<10	<12	<10	<10
Vinyl Chloride, ug/kg dw	<10	<10	<12	<10	<10
Chloroethane, ug/kg dw	<10	<10	<12	<10	<10
Methylene Chloride, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
Acetone, ug/kg dw	<50	<52	<60	<51	<51
Carbon Disulfide, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
1,1-Dichloroethene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
1,1-Dichloroethane, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
Trans-1,2-Dichloroethylene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
Cis-1,2-Dichloroethene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
Chloroform, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
1,2-Dichloroethane, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
2-Butanone (MEK), ug/kg dw	<50	<52	<60	<51	<51
1,1,1-Trichloroethane, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
Carbon Tetrachloride, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
Bromodichloromethane, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43631-1	FST014-SL-1-2	06-22-93				
43631-2	FST014-SL-4-4	06-22-93				
43631-3	FST014-SL2-6	06-22-93				
43631-4	FST014-SL3-2	06-22-93				
43631-5	FST014-SL93-2	06-22-93				
PARAMETER	43631-1	43631-2	43631-3	43631-4	43631-5	
1,2-Dichloropropane, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Trans-1,3-Dichloropropene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Trichloroethene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Dibromochloromethane, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
1,1,2-Trichloroethane, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Benzene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Cis-1,3-Dichloropropene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Bromoform, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
2-Hexanone, ug/kg dw	<50	<52	<60	<51	<51	
4-Methyl-2-pentanone (MIBK), ug/kg dw	<50	<52	<60	<51	<51	
Tetrachloroethene, ug/kg dw	9.0	<5.2	6.7	<5.1	<5.1	
Toluene, ug/kg dw	5.8	<5.2	6.1	<5.1	<5.1	
Chlorobenzene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Ethylbenzene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Styrene, ug/kg dw	<5.0	<5.2	<6.0	<5.1	<5.1	
Xylenes, ug/kg dw	<5.0	<5.2	6.2	<5.1	<5.1	
Surrogate - Toluene-d8	116 %	104 %	116 %	114 %	111 %	
Surrogate - 4-Bromofluorobenzene	96 %	110 %	96 %	104 %	109 %	
Surrogate - 1,2-Dichloroethane-d4	94 %	92 %	92 %	108 %	97 %	
Date Analyzed	07.01.93	07.01.93	07.01.93	07.01.93	07.01.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

773

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43631-1	FST014-SL-1-2	06-22-93				
43631-2	FST014-SL-4-4	06-22-93				
43631-3	FST014-SL2-6	06-22-93				
43631-4	FST014-SL3-2	06-22-93				
43631-5	FST014-SL93-2	06-22-93				
PARAMETER	43631-1	43631-2	43631-3	43631-4	43631-5	
Hydrocarbons (Modified 8015)						
Hydrocarbons as Gasoline, mg/kg dw	<0.25	<0.26	<0.30	<0.25	<0.26	
Date Analyzed	06.29.93	06.29.93	06.29.93	06.29.93	06.30.93	
Hydrocarbons (Modified 8015 - Ext.)						
Hydrocarbons as Kerosene, mg/kg dw	<10	<10	<24	<10	<10	
Hydrocarbons as Diesel Fuel, mg/kg dw	<10	<10	<24	<10	<10	
Hydrocarbons as Heavy Oils, mg/kg dw	15	<10	200	<10	<10	
Hydrocarbons as Mineral Spirits, mg/kg dw	<10	<10	<24	<10	<10	
Hydrocarbons as Varsol, mg/kg dw	<10	<10	<24	<10	<10	
Hydrocarbons as Fuel Oil, mg/kg dw	<10	<10	<24	<10	<10	
Date Extracted	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Date Analyzed	07.02.93	07.01.93	07.02.93	07.01.93	07.01.93	
Arsenic (7060)						
Arsenic (7060), mg/kg dw	<1.0	<1.0	<1.2	<1.0	<1.0	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Barium (6010)						
Barium (6010), mg/kg dw	7.9	1.7	2.8	6.4	6.2	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43631-1	FST014-SL-1-2	06-22-93				
43631-2	FST014-SL-4-4	06-22-93				
43631-3	FST014-SL2-6	06-22-93				
43631-4	FST014-SL3-2	06-22-93				
43631-5	FST014-SL93-2	06-22-93				
PARAMETER	43631-1	43631-2	43631-3	43631-4	43631-5	
Cadmium (6010)						
Cadmium (6010), mg/kg dw	<0.50	<0.52	<0.60	<0.50	<0.51	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Chromium (6010)						
Chromium (6010), mg/kg dw	2.2	1.6	2.7	2.2	2.1	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Lead (7421)						
Lead (7421), mg/kg dw	4.7	0.52	0.88	1.2	1.5	
Date Analyzed	06.30.93	06.30.93	07.02.93	07.02.93	06.29.93	
Mercury						
Mercury (7471), mg/kg dw	<0.010	<0.010	0.019	<0.010	<0.010	
Date Analyzed	06.28.93	06.29.93	06.29.93	06.29.93	06.29.93	
Selenium (7740)						
Selenium (7740), mg/kg dw	<1.0	<1.0	<1.2	<1.0	<1.0	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Silver (6010)						
Silver (6010), mg/kg dw	<1.0	<1.0	<1.2	<1.0	<1.0	
Date Analyzed	06.28.93	06.28.93	06.28.93	06.28.93	06.28.93	
Specific Conductance (120.1)						
Specific Conductance, umhos/cm	5.5	2.1	12	10	3.3	
Date Analyzed	06.30.93	06.30.93	06.30.93	06.30.93	06.30.93	

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED				
43631-1	FST014-SL-1-2	06-22-93				
43631-2	FST014-SL-4-4	06-22-93				
43631-3	FST014-SL2-6	06-22-93				
43631-4	FST014-SL3-2	06-22-93				
43631-5	FST014-SL93-2	06-22-93				
PARAMETER	43631-1	43631-2	43631-3	43631-4	43631-5	
pH in Soil (9045)						
pH (9045), units	7.0	5.9	5.3	7.3	7.1	
Date Analyzed	06.25.93	06.25.93	06.25.93	06.25.93	06.25.93	
Percent Solids, %	100	97	83	99	98	

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 10

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-10 Detection Limits
43631-11 Method Blank Result
43631-12 Lab Control Sample (LCS) Result
43631-13 LCS Expected Value
43631-14 LCS % Recovery

PARAMETER	43631-10	43631-11	43631-12	43631-13	43631-14

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	50.4	50	101 %
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	---	---	---
Bromodichloromethane, ug/kg dw	5.0	<5.0	---	---	---
1,1,2,2-Tetrachloroethane, ug/kg dw	5.0	<5.0	---	---	---

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 11

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43631-10 Detection Limits
 43631-11 Method Blank Result
 43631-12 Lab Control Sample (LCS) Result
 43631-13 LCS Expected Value
 43631-14 LCS % Recovery

PARAMETER	43631-10	43631-11	43631-12	43631-13	43631-14
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	49.9	50	100 %
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	46.6	50	93 %
Cis-1,3-Dichloropropene, ug/kg dw	5.0	<5.0	---	---	---
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	58.3	50	117 %
Chlorobenzene, ug/kg dw	5.0	<5.0	52.7	50	105 %
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	---	105 %	102 %	---	---
Surrogate - 4-Bromofluorobenzene	---	111 %	108 %	---	---
Surrogate - 1,2-Dichloroethane-d4	---	94 %	91 %	---	---
Date Analyzed	---	07.01.93	07.01.93	---	---

SL SAVANNAH LABORATORIES
 & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 12

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43631-10 Detection Limits
 43631-11 Method Blank Result
 43631-12 Lab Control Sample (LCS) Result
 43631-13 LCS Expected Value
 43631-14 LCS % Recovery

PARAMETER	43631-10	43631-11	43631-12	43631-13	43631-14
Hydrocarbons (Modified 8015)					
Hydrocarbons as Gasoline, mg/kg dw	0.25	<0.25	1.07	1.0	107 %
Date Analyzed	---	06.29.93	06.28.93	---	---
Hydrocarbons (Modified 8015 - Ext.)					
Hydrocarbons as Kerosene, mg/kg dw	10	<10	---	---	---
Hydrocarbons as Diesel Fuel, %	10	<10	19.8	33.3	59 %
Hydrocarbons as Heavy Oils, mg/kg dw	10	<10	---	---	---
Hydrocarbons as Mineral Spirits, mg/kg dw	10	<10	---	---	---
Hydrocarbons as Varsol, mg/kg dw	10	<10	---	---	---
Hydrocarbons as Fuel Oil, mg/kg dw	10	<10	---	---	---
Date Extracted	---	06.28.93	06.28.93	---	---
Date Analyzed	---	07.01.93	07.01.93	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	1.0	<1.0	5.12	4.80	107 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Barium (6010)					
Barium (6010), mg/kg dw	1.0	<1.0	1.02	1.00	102 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	0.50	<0.50	78.5	92.4	85 %
Date Analyzed	---	06.28.93	06.28.93	---	---

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 13

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43631-10 Detection Limits
 43631-11 Method Blank Result
 43631-12 Lab Control Sample (LCS) Result
 43631-13 LCS Expected Value
 43631-14 LCS % Recovery

PARAMETER	43631-10	43631-11	43631-12	43631-13	43631-14
Chromium (6010)					
Chromium (6010), mg/kg dw	1.0	<1.0	86.0	96.7	89 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Lead (7421)					
Lead (7421), mg/kg dw	0.50	<0.50	4.32	5.00	86 %
Date Analyzed	---	06.29.93	06.29.93	---	---
Mercury					
Mercury (7471), mg/kg dw	0.010	<0.010	1.20	1.40	86 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	1.0	<1.0	4.55	4.94	92 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Silver (6010)					
Silver (6010), mg/kg dw	1.0	<1.0	84.8	94.0	90 %
Date Analyzed	---	06.28.93	06.28.93	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	1.0	<1.0	1435	1408	102 %
Date Analyzed	---	06.30.93	06.30.93	---	---
pH in Soil (9045)					
pH (9045), units	---	---	8.89	9.00	99 %
Date Analyzed	---	---	06.25.93	---	---

Methods: EPA SW-846
 HRS Certification #'s:81291,87279,E81005,E87052

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 14

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43631-15	LCS % Recovery Limits				
43631-16	Matrix Spike (MS) Result/Duplicate				
43631-17	MS Expected Value				
43631-18	MS % Recovery/Duplicate				
43631-19	MS % Recovery Limit				
PARAMETER	43631-15	43631-16	43631-17	43631-18	43631-19
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	41.5/40.7	50	83/81 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	49.2/47.7	50	98/95 %	43-140 %
Benzene, ug/kg dw	48-150 %	57.5/53.6	50	115/107 %	48-150 %
Toluene, ug/kg dw	51-141 %	72.0/70.9	50	144/142 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	59.4/59.7	50	119/119 %	54-138 %
Surrogate - Toluene-d8	---	107/107 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	85/87 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	107/106 %	---	---	---
Date Analyzed	---	07.02.93	---	---	---
Hydrocarbons (Modified 8015)					
Hydrocarbons as Gasoline, mg/kg dw	40-140 %	0.54/0.52	1.0	54/52 %	40-140 %
Date Analyzed	---	06.28.93	---	---	---
Hydrocarbons (Modified 8015 - Ext.)					
Hydrocarbons as Diesel Fuel, mg/kg dw	40-140 %	19.6/36.2	33.3	59/109 %	40-140 %
Date Extracted	---	06.28.93	---	---	---
Date Analyzed	---	07.02.93	---	---	---
Arsenic (7060)					
Arsenic (7060), mg/kg dw	70-130 %	5.01/4.79	5.02	100/95 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---

781

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS Page 15

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43631-15	LCS % Recovery Limits				
43631-16	Matrix Spike (MS) Result/Duplicate				
43631-17	MS Expected Value				
43631-18	MS % Recovery/Duplicate				
43631-19	MS % Recovery Limit				
PARAMETER	43631-15	43631-16	43631-17	43631-18	43631-19
Barium (6010)					
Barium (6010), mg/kg dw	80-120 %	184/187	200	92/94 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Cadmium (6010)					
Cadmium (6010), mg/kg dw	70-130 %	3.46/3.50	5.00	69/70 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Chromium (6010)					
Chromium (6010), mg/kg dw	70-130 %	16.9/17.4	20.0	85/87 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Lead (7421)					
Lead (7421), mg/kg dw	70-130 %	3.96/4.54	5.03	79/90 %	75-125 %
Date Analyzed	---	06.30.93	---	---	---
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.042/.043	0.0503	83/85 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Selenium (7740)					
Selenium (7740), mg/kg dw	70-130 %	3.07/3.02	5.06	61/60 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---
Silver (6010)					
Silver (6010), mg/kg dw	70-130 %	4.23/4.20	5.00	85/84 %	75-125 %
Date Analyzed	---	06.28.93	---	---	---

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 16

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-15 LCS % Recovery Limits
43631-16 Matrix Spike (MS) Result/Duplicate
43631-17 MS Expected Value
43631-18 MS % Recovery/Duplicate
43631-19 MS % Recovery Limit

PARAMETER	43631-15	43631-16	43631-17	43631-18	43631-19
Specific Conductance (120.1)					
Specific Conductance	90-110 %	---	---	---	---
pH in Soil (9045)					
pH (9045)	90-110 %	---	---	---	---

Methods: EPA SW-846

HRS Certification #'s: 81291, 87279, E81005, E87052

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 17

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID
43631-20	MS % RPD (Limit)
PARAMETER	43631-20
Volatiles by GC/MS (8240)	
1,1-Dichloroethene	2.4 (<50) %
Trichloroethene	3.1 (<27) %
Benzene	7.2 (<27) %
Toluene	1.4 (<27) %
Chlorobenzene	0 (<33) %
Hydrocarbons (Modified 8015)	
Hydrocarbons as Gasoline	3.8 (<40) %
Hydrocarbons (Modified 8015 - Ext.)	
Hydrocarbons as Diesel Fuel	60 (<40) %
Arsenic (7060)	
Arsenic (7060)	5.1 (<30) %
Barium (6010)	
Barium (6010)	2.2 (<30) %
Cadmium (6010)	
Cadmium (6010)	1.4 (<30) %
Chromium (6010)	
Chromium (6010)	2.3 (<30) %
Lead (7421)	
Lead (7421)	13 (<30) %
Mercury	
Mercury (7471)	2.4 (<30) %
Selenium (7740)	
Selenium (7740)	1.7 (<30) %
Silver (6010)	
Silver (6010)	1.2 (<30) %

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 18

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-20 MS % RPD (Limit)

PARAMETER

43631-20

Methods: EPA SW-846
HRS Certification #'s: 81291, 87279, E81005, E87052

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

LOG NO: S3-43631
 Rev. #1, 11.05.93
 Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
 Sampled By: Client

REPORT OF RESULTS

Page 19

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

 43631-22 Method Blank Soil

PARAMETER 43631-22

Volatiles by GC/MS (8240)	
Chloromethane, ug/kg dw	<10
Bromomethane, ug/kg dw	<10
Vinyl Chloride, ug/kg dw	<10
Chloroethane, ug/kg dw	<10
Methylene Chloride, ug/kg dw	<5.0
Acetone, ug/kg dw	<50
Carbon Disulfide, ug/kg dw	<5.0
1,1-Dichloroethene, ug/kg dw	<5.0
1,1-Dichloroethane, ug/kg dw	<5.0
Trans-1,2-Dichloroethylene, ug/kg dw	<5.0
Cis-1,2-Dichloroethene, ug/kg dw	<5.0
Chloroform, ug/kg dw	<5.0
1,2-Dichloroethane, ug/kg dw	<5.0
2-Butanone (MEK), ug/kg dw	<50
1,1,1-Trichloroethane, ug/kg dw	<5.0
Carbon Tetrachloride, ug/kg dw	<5.0
Bromodichloromethane, ug/kg dw	<5.0
1,1,2,2-Tetrachloroethane, ug/kg dw	<5.0
1,2-Dichloropropane, ug/kg dw	<5.0
Trans-1,3-Dichloropropene, ug/kg dw	<5.0
Trichloroethene, ug/kg dw	<5.0
Dibromochloromethane, ug/kg dw	<5.0
1,1,2-Trichloroethane, ug/kg dw	<5.0

SL SAVANNAH LABORATORIES
& ENVIRONMENTAL SERVICES, INC.

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

LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

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

CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

Page 20


LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43631-22 Method Blank Soil

PARAMETER 43631-22

Benzene, ug/kg dw	<5.0
Cis-1,3-Dichloropropene, ug/kg dw	<5.0
Bromoform, ug/kg dw	<5.0
2-Hexanone, ug/kg dw	<50
4-Methyl-2-pentanone (MIBK), ug/kg dw	<50
Tetrachloroethene, ug/kg dw	<5.0
Toluene, ug/kg dw	<5.0
Chlorobenzene, ug/kg dw	<5.0
Ethylbenzene, ug/kg dw	<5.0
Styrene, ug/kg dw	<5.0
Xylenes, ug/kg dw	<5.0
Surrogate - Toluene-d8	92 %
Surrogate - 4-Bromofluorobenzene	97 %
Surrogate - 1,2-Dichloroethane-d4	101 %
Date Analyzed	07.02.93

Methods: EPA SW-846


Janette D. Long

Final Page Of Report

787

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum	1001.1			1001.1					
Antimony	999.0			999.0					
Arsenic									
Barium	999.9	1025.00	102.5	999.9	1008.00	100.8			
Beryllium	987.0			987.0					
Cadmium	996.0	988.00	99.2	996.0	986.70	99.1			
Calcium	1005.0			1005.0					
Chromium	998.0	996.90	99.9	998.0	982.50	98.4			
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	1.66	97.6	1.7	1.64	96.5			
Nickel	1000.0			1000.0					
Potassium	10016.1			10016.1					
Selenium									
Silver	1000.0	989.50	99.0	1000.0	980.30	98.0			
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.: 5343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	49.9	52.88	106.0	49.9	54.19	108.6	50.96	102.1	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.52	99.0	50.0	48.50	97.0	44.65	89.3	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	50.3	52.60	104.6	50.3	54.71	108.8	49.83	99.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

789

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343431

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.86	103.9	46.74	93.7	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	45.54	91.1	46.43	92.9	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	50.99	101.4	48.85	97.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				49.9	51.39	103.0	48.83	97.9	
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	47.57	95.1			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	51.94	103.3	47.85	95.1	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

791

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration				M	
	True	Found	%R(1)	True	Found	%R(1)	Found		%R(1)
Aluminum									
Antimony									
Arsenic				49.9	48.81	97.8			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	54.16	108.3	50.0	54.16	108.3	52.63	105.3	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium				50.3	46.90	93.2			
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343631Initial Calibration Source: SPEXContinuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	53.03	106.1	54.28	108.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

793

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 9343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	52.90	105.8	50.0	51.00	102.0	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.: 5343431

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	53.90	107.6	53.30	106.6	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

795

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 5343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	52.3	104.6			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 6343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	50.0	49.60	99.2	50.0	49.70	99.4	51.00	102.0	
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

797

Lab Name: Savannah Laboratories

SDG No.: S343631

Initial Calibration Source: SPEX

Continuing Calibration Source: SPEX

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.40	100.8			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

799

EXHIBIT E

**ABANDONED BORING/WELL RECORD FOR
MONITORING WELL CO-M1**



801

**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



803

Ft. Stewart, GA
Abandoned Boring/Well Record
January 24, 1994
Page 2 of 2

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.

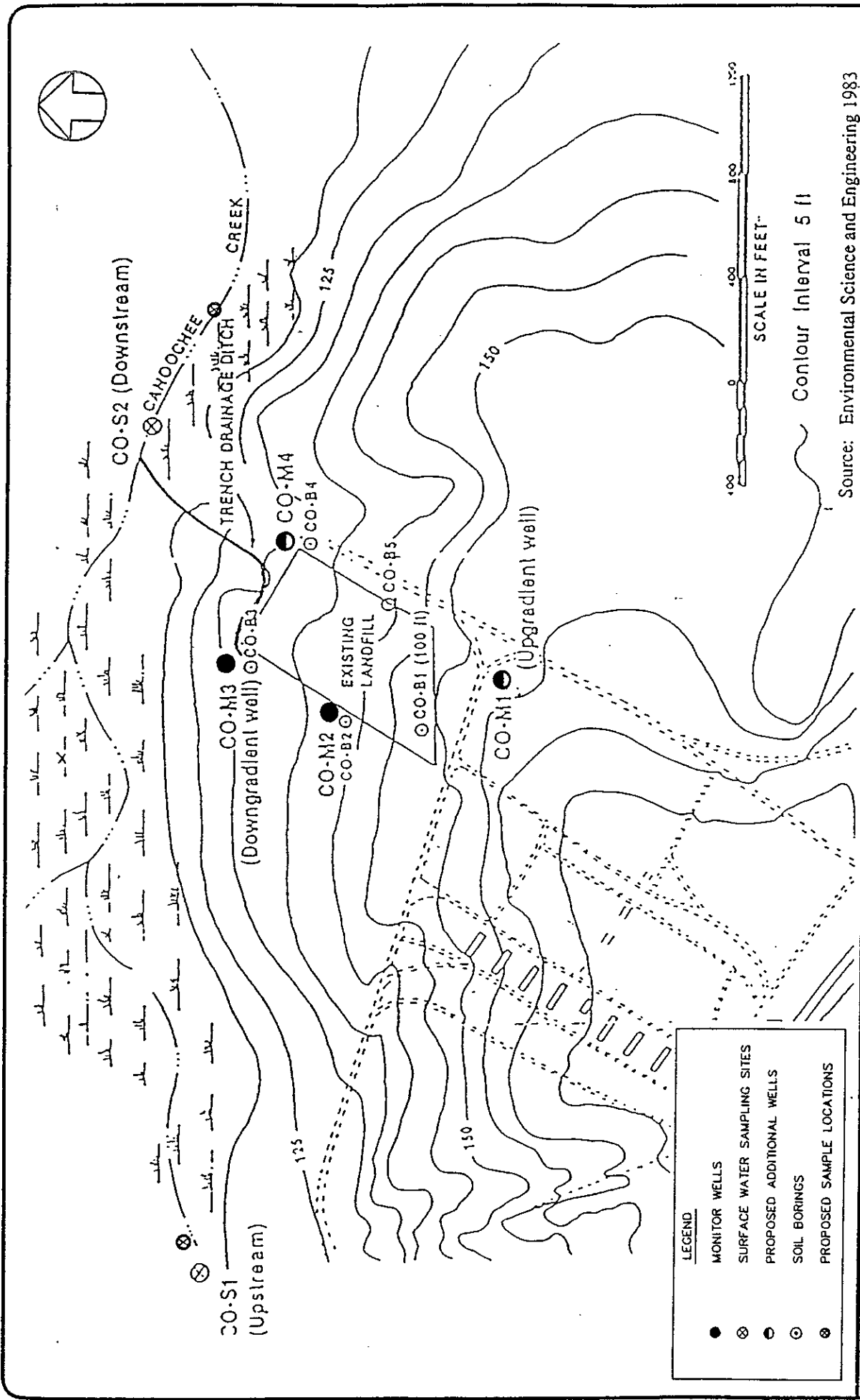


805

ATTACHMENT 1

F:\PROJ\TF764\WELLGCM.W51





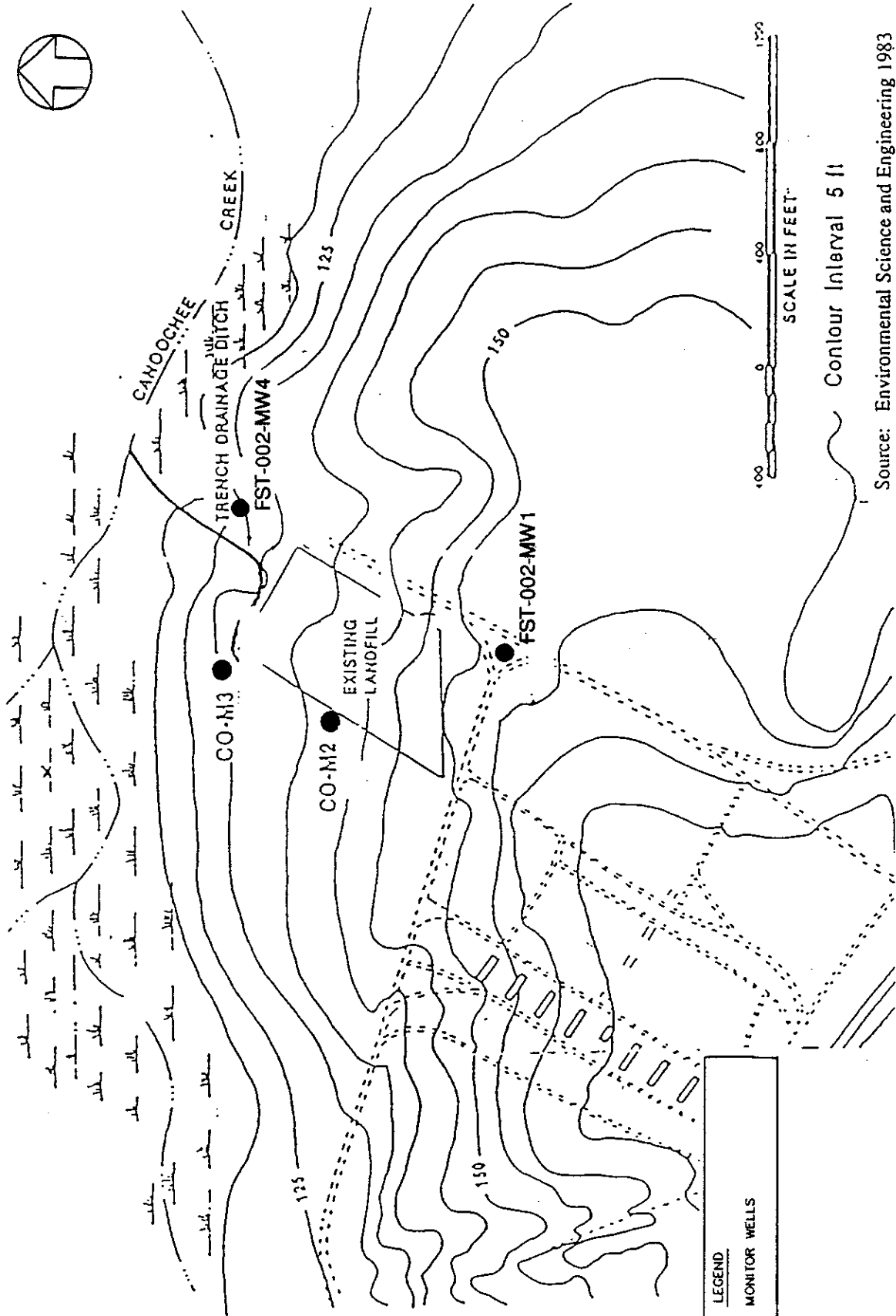
Source: Environmental Science and Engineering 1983
 U.S. ARMY ENGINEER DISTRICT, SAVANNAH
 CORPS OF ENGINEERS
 SAVANNAH, GEORGIA

GERAGHTY & MILLER, INC.
 Environmental Services
 Jacksonville, Florida

RCRA FACILITY INVESTIGATION

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

FIGURE
 4.7



Source: Environmental Science and Engineering 1983

GERAGHTY & MILLER, INC.
Environmental Services

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

800

ATTACHMENT 2

F:\PROJ\TF764\WELLGCM.W51



DRILLING LOG		DIVISION South Atlantic	INSTALLATION Fort Stewart, GA	SHEET-1 OF 2 SHEETS
1. PROJECT Fort Stewart RCRA Studies			10. SIZE AND TYPE OF BIT 9"	
2. LOCATION (Coordinates or Section) V754176.22 E608888.74			11. DATUM FOR ELEVATION SHOWN (TBM or MSL) MSL	
3. DRILLING AGENCY Paul N. Clawson			12. MANUFACTURER'S DESIGNATION OF DRILL SIMCO	
4. HOLE NO. (As shown on drawing title and file number) CO-M1			13. TOTAL NO. OF OVER-BURDEN SAMPLES TAKEN: 0	
5. NAME OF DRILLER Paul N. Clawson			14. TOTAL NUMBER CORE BOXES	
6. DIRECTION OF HOLE <input checked="" type="checkbox"/> VERTICAL <input type="checkbox"/> INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER 12.5 @ 24 hrs.	
7. THICKNESS OF OVERBURDEN			16. DATE HOLE STARTED: 2/11/80 COMPLETED: 2/13/80	
8. DEPTH DRILLED INTO ROCK 0'			17. ELEVATION TOP OF HOLE 151.27'	
9. TOTAL DEPTH OF HOLE 50'			18. TOTAL CORE RECOVERY FOR BORING 3	
			19. SIGNATURE OF INSPECTOR <i>Robert Anger</i>	

813

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			
	9.0		Light Grey - coarse slightly clayey sand			
	13.0		Purple - tough plastic clay. Below 15 ft. to 22 ft. with medium to coarse sand (10 to 30%)			
	24.0		White - sandy clay, sand very fine			
	26.0		White to rusty brown - sandy clay, sand very fine, makes up less than 30% of samples			
	30.0					

817

ATTACHMENT 3

F:\PROJ\TF764\WELLGCM.W51



DAILY LOG

FST-002-mw1

Well(s) _____ Project/No. Ft Stewart) TEF64.03 Page 23 of 27

Site Location Ft Stewart, GA, FST-002

Prepared By Kathy Thalman

7/1/93
Date/Time

Description of Activities

	clay has come up in auger & ^{plugged them} clay - removing clay plug
1500	Found extn well to bentonite (10)
1542	Drilling port holes for protective ports at FST-002-mw1 Selected interval 10-12' bl for lab analysis directly above ext with high t OVA 0.4 reading Collecting IDW soil sample
1630	Driller left to get gas & hose to abandon Est CO-mw1 - Did paper work
1800	Driller arrived back on site - beginning to abandon CO-mw1

Co-mw1 Abandoned Project/No. TF764.03 Page 24 of 27

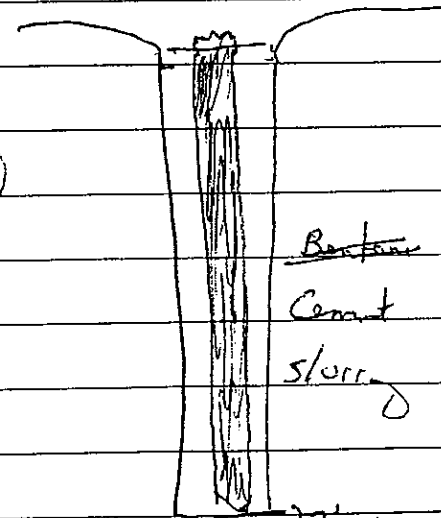
Site Location Ft Stewart - Camp Olm - CO-mw1

Prepared By Kathy Thalman

7/1/93
Date/Time

Description of Activities

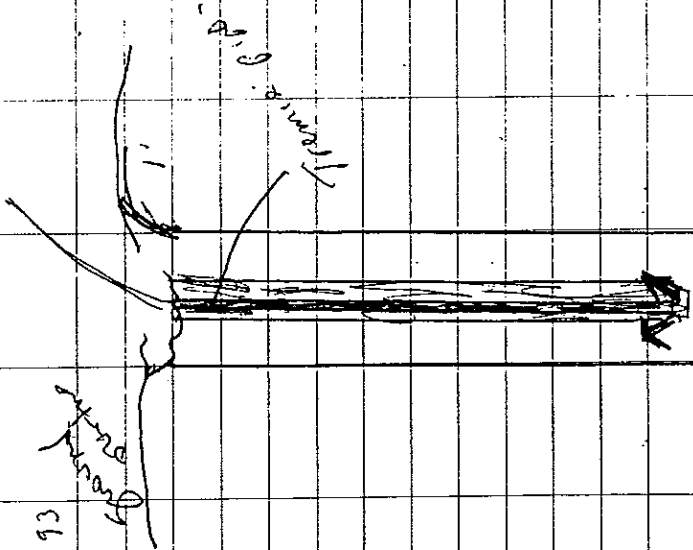
	cutting casing off approx 1 ft 66.
	0.65 gal/ft X 37 ft 24 galons
1815 0615	Waiting to see if it rains - Thunder & lightning - started rain
1830	Left site
1915	Arrived at Hotel.
<hr/>	
7/2/93	
0530	Left for Camp Olm
0633	Arrived at camp olm (EST-002)
	70's, fog, calm
	Mixing grout to abandon EST-002 CO-mw1
	Barrel 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

(36)

7/2/93



Told drillers to fill in hole with sand & soil

0700 Finished abandoned well - back ~ 30 yds from quarry

Drillers cleaning up rig pump - drilling good holes at FST-002 - MW 4

(37)

7/2/93

515 am 16 in diameter bore

0800 Left via FST-002

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

0910 Left to buy sit supplies

0930 Beginning to set up & develop FST-014 - MW 1

0950 Teri, Nicholson & Surry visited site with Garrett MW.

1000 Workers left site

Calibrating meters STD Reading

pH 4.0 4.05

7.0

SPC 1413 1350

447.1 480

823

7/1/93

(34)

1630 Drillis left to get

hose to grout & steel line
for rig to abandon CO-MWI
Doing paper work.

1800 Drillis ret'd - beginning to

set up to mix grout,
cutting casing (to approximately)
1 ft 6 in.

Will take 24 gallons of grout to fill well

0.65 gal/ft

837 ft

24 gallons

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

1830 Started to storm left early

1915 Arrived back at hotel

Am. foggy - cool

7/2/93

70° - calm (35)

Kathy Tholman
Kevin Semmens
Robert Holcomb

0530 Left Hotel for Camp Olin.

0633 Arrival at Camp Olin.
(EST-002)

Mixing grout to abandon
CO-MWI

Mixed 3 bags of Portland
cement
21 gallons of water
2-3/4 buckets water.

Grout pumped from bottom of
monitoring well to surface using
tremie pipe method.

Grout dug down the water in well -
pumped until grout set top of
monitoring well.

825

7/1/93

1038 Moved rig forward ~ 4' and collected additional 3' of lit. open for split & deep samples. finished sampling & collected IDW samples. Moved rig to FST-052 MW1.

1130 Drilling broke for lunch

1200 Began drilling FST-052-MW1

1400 Clay ^{lit} ~~set~~ of logging in auger - had to pull out 15' of auger & replace lead auger

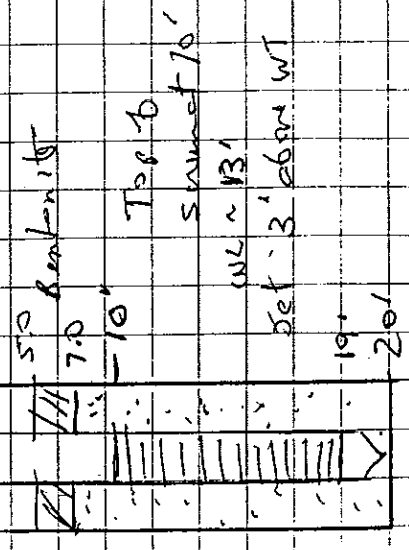
1500 Collected split auger to 70' beginning to set well

1515 Clay in auger again - plugging them - re-mud auger to remove plug.

7/1/93

KT
w/ split open

1510 Finished setting well 3'



used 4 bags of sand

1542 Drilling past hole for

protected pass at FST-052-MW1. Selected 0-12' interval for 106 analyses - directly above WT. ~~at some highest~~ OVA residues. Collecting IDW soil samples.