

PHASE I RCRA FACILITY INVESTIGATION
FORT STEWART, GEORGIA

QUALITY CONTROL SUMMARY REPORT
&
ANALYTICAL PACKAGE

January 1994

Prepared by

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Prepared for

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

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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-004F. 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.

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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	
			Samples	Dup	QA	Split	Samples	Dup	QA	Split	Soil Samples	Analyzed

CAMP OLIVER LANDFILL (FST 002)

Volatile Organic Compounds:

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-Chloroethyvinyl ether												
Bromoforn												
2-Hexanone												
4-Methyl-2-pentanone (MIBK)												
Tetrachloroethene												
Toluene												
Chlorobenzene												
Ethylbenzene												
Styrene												
Xylenes												

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	Samples	Dup	QA	Soil Samples Analyzed	
Metals:		250 ml P / 4 ° C	2	1	1	2	1	1		4
	Arsenic									
	Barium									
	Cadmium									
	Chromium									
	Lead									
	Mercury									
	Selenium									
Specific Conductance:		250 ml P / 4 ° C	2	--	--	2	1	1		4
pH		250 ml P / 4 ° C	2	--	--	2	1	1		4

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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)

Volatile Organic Compounds:

Chloromethane	8240	125ml amb. G/4 ° C	24	2	2	24	2	2	28
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									

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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
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

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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	
OLD FIRE TRAINING AREA (FST 014)									
Volatile Organic Compounds:-									
Chloromethane	8240	125ml amb. G/4 ° C	4	1	1	4	1	1	6
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									

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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	Samples	Dup	QA	Soil Samples Analyzed	
Metals:										
Arsenic	6010	250 ml P / 4 ° C	4	1	1	4	1	1	1	6
Barium	6010									
Cadmium	6010									
Chromium	6010									
Lead	7421									
Mercury	7471									
Selenium	7740									
Silver	6010									
Specific Conductance:										
	9050	250 ml P / 4 ° C	4	--	--	4	1	1	1	6
pH										
	9045	250 ml P / 4 ° C	4	--	--	4	1	1	1	6
Total Purgeable Hydrocarbons										
	8015	125ml amb. G/4 ° C	4	1	1	4	1	1	1	6
Total Extractable Hydrocarbons										
	8015	250 ml P / 4 ° C	4	1	1	4	1	1	1	6

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

PARAMETER	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		< 57	< 65	< 64
2-Butanone (MEK)		< 5.7	< 6.5	< 6.4
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
1,1,2,2-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		< 57	< 65	< 64
2-Chloroethylvinyl Ether		< 5.7	< 6.5	< 6.4
Bromoform		< 57	< 65	< 64
2-Hexanone		< 57	< 65	< 64
4-Methyl-2-pentanone (MIBK)		< 5.7	< 6.5	< 6.4
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

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

PARAMETER	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
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. Savannah I.D. Date Sampled % Solids	FST004A-SL1-6 43675-4 6/25/93 87	FST004A-SL2-4 43675-7 6/25/93 94	FST004A-SL3-4 43675-8 6/25/93 89	FST004A-SL4-8 43675-2 6/25/93 86	FST004A-SL94-8 43675-3 6/25/93 85
<u>VOLATILE ORGANIC COMPOUNDS (ug/Kg dw):</u>						
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	<
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	<

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
	Date Sampled	6/25/93	6/25/93	6/25/93	6/25/93	6/25/93
	% Solids	87	94	89	86	85
METALS (mg/Kg dw):						
Arsenic	<	1.1	R	<	1.1	R
Barium	<	5.7	6.5	1.4	6.4	5.5
Cadmium	<	0.57	<	0.56	<	0.58
Chromium	<	9.0	J	<	6.4	J
Lead	<	9.4	J	1.5	12	J
Mercury	<	0.059	0.018	0.017	0.016	0.017
Selenium	<	5.7	1.1	<	1.2	R
Silver	<	1.1	<	<	<	<
SPECIFIC CONDUCTANCE (umhos/cm)						
		8.0	8.4	5.9	11	4.6
pH		4.8	5.1	5.3	4.7	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.

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

PARAMETER	G&M I.D. Savannah I.D. Date Sampled % Solids	FST004B-SL1-8 43675-9 6/25/93 76	FST004B-SL2-8 43711-1 6/28/93 86	FST004B-SL3-8 43711-2 6/28/93 88	FST004B-SL4-4 43711-3 6/26/93 93
VOLATILE ORGANIC COMPOUNDS (ug/Kg dwl):					
Chloromethane	<	13	<	12	<
Bromomethane	<	13	<	12	<
Vinyl Chloride	<	13	<	12	<
Chloroethane	<	13	<	12	<
Methylene Chloride	<	6.6	<	5.8	<
Acetone	<	66	<	58	<
Carbon Disulfide	<	6.6	<	5.8	<
1,1-Dichloroethene	<	6.6	<	5.8	<
1,1-Dichloroethane	<	6.6	<	5.8	<
trans-1,2-Dichloroethylene	<	6.6	<	5.8	<
cis-1,2-Dichloroethene	<	6.6	<	5.8	<
Chloroform	<	6.6	<	5.8	<
1,2-Dichloroethane	<	6.6	<	5.8	<
2-Butanone (MEK)	<	66	<	58	<
1,1,1-Trichloroethane	<	6.6	<	5.8	<
Carbon Tetrachloride	<	6.6	<	5.8	<
Vinyl Acetate	<	12	<	12	<
Bromodichloromethane	<	6.6	<	5.8	<
1,1,2,2-Tetrachloroethane	<	6.6	<	5.8	<
1,2-Dichloropropane	<	6.6	<	5.8	<
trans-1,3-Dichloropropene	<	6.6	<	5.8	<
Trichloroethene	<	6.6	<	5.8	<
Dibromochloromethane	<	6.6	<	5.8	<
1,1,2-Trichloroethane	<	6.6	<	5.8	<
Benzene	<	6.6	<	5.8	<
cis-1,3-Dichloropropene	<	6.6	<	5.8	<
2-Chloroethylvinyl ether	<	66	<	58	<
Bromoform	<	6.6	<	5.8	<
2-Hexanone	<	66	<	58	<
4-Methyl-2-pentanone (MIBK)	<	66	<	58	<
Tetrachloroethene	<	8.9	<	5.8	<
Toluene	<	8.3	<	5.8	<
Chlorobenzene	<	6.6	<	5.8	<
Ethylbenzene	<	6.6	<	5.8	<
Styrene	<	6.6	<	5.8	<
Xylenes	<	6.6	<	5.8	<

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	
Date Sampled	6/25/93	6/28/93	6/28/93	6/26/93	
% Solids	76	86	88	93	
METALS (mg/Kg dw):					
Arsenic	1.4	J	<	<	<
Barium	9.0		8.0	3.7	9.8
Cadmium	<	0.66	<	0.57	<
Chromium	13	J	2.7	4.5	7.1
Lead	7.3	J	2.2	2.7	4.2
Mercury	0.013		<	0.011	0.021
Selenium	<	6.5	R	<	1.1
Silver	<	1.3	<	<	<
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.

UJ 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

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	< 12	< 11
Bromomethane		< 11	< 11	< 12	< 11
Vinyl Chloride		< 11	< 11	< 12	< 11
Chloroethane		< 11	< 11	< 12	< 11
Methylene Chloride		< 5.5	< 5.6	< 6.0	< 5.4
Acetone		< 55	< 56	< 60	< 54
Carbon Disulfide		< 5.5	< 5.6	< 6.0	< 5.4
1,1-Dichloroethene		< 5.5	< 5.6	< 6.0	< 5.4
1,1-Dichloroethane		< 5.5	< 5.6	< 6.0	< 5.4
trans-1,2-Dichloroethylene		< 5.5	< 5.6	< 6.0	< 5.4
cis-1,2-Dichloroethene		< 5.5	< 5.6	< 6.0	< 5.4
Chloroform		< 5.5	< 5.6	< 6.0	< 5.4
1,2-Dichloroethane		< 5.5	< 5.6	< 6.0	< 5.4
2-Butanone (MEK)		< 55	< 56	< 60	< 54
1,1,1-Trichloroethane		< 5.5	< 5.6	< 10	< 5.4
Carbon Tetrachloride		< 5.5	< 5.6	< 6.0	< 5.4
Vinyl Acetate		< 11	< 11	< 12	< 11
Bromodichloromethane		< 5.5	< 5.6	< 6.0	< 5.4
1,1,2,2-Tetrachloroethane		< 5.5	< 5.6	< 6.0	< 5.4
1,2-Dichloropropane		< 5.5	< 5.6	< 6.0	< 5.4
trans-1,3-Dichloropropene		< 5.5	< 5.6	< 6.0	< 5.4
Trichloroethene		< 5.5	< 5.6	< 6.0	< 5.4
Dibromochloromethane		< 5.5	< 5.6	< 6.0	< 5.4
1,1,2-Trichloroethane		< 5.5	< 5.6	< 6.0	< 5.4
Benzene		< 5.5	< 5.6	< 6.0	< 5.4
cis-1,3-Dichloropropene		< 5.5	< 5.6	< 6.0	< 5.4
2-Chloroethylvinyl ether		< 55	< 56	< 60	< 54
Bromoform		< 5.5	< 5.6	< 6.0	< 5.4
2-Hexanone		< 55	< 56	< 60	< 54
4-Methyl-2-pentanone (MIBK)		< 55	< 56	< 60	< 54
Tetrachloroethene		< 5.5	< 5.6	< 48	< 15
Toluene		< 5.5	< 5.6	< 14	< 5.4
Chlorobenzene		< 5.5	< 5.6	< 6.0	< 5.4
Ethylbenzene		< 5.5	< 5.6	< 6.0	< 5.4
Styrene		< 5.5	< 5.6	< 6.0	< 5.4
Xylenes		< 5.5	< 5.6	< 14	< 5.4

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

<u>PARAMETER</u>	<u>G&M I.D.</u> Savannah I.D.	<u>FST004C-SL1-4</u> 43631-6 6/23/93 91	<u>FST004C-SL-2-4</u> 43631-7 6/23/93 90	<u>FST004C-SL3-4</u> 43631-8 6/23/93 84	<u>FST004C-SL4-4</u> 43631-9 6/23/93 93
<u>METALS (mg/Kg dw):</u>					
Arsenic	<	1.1	<	1.1	<
Barium		1.3		1.5	
Cadmium	<	0.55	UJ	<	0.60
Chromium		1.5		1.5	
Lead		0.67		0.73	
Mercury	<	0.011	<	0.011	<
Selenium	<	1.1	UJ	<	1.1
Silver	<	1.1	<	1.1	<
<u>SPECIFIC CONDUCTANCE (umhos/cm)</u>		3.6	65	6.6	17
<u>pH</u>		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.

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	FST004D-SL1-4 43675-10 6/24/93	FST004D-SL2-6 43675-1 6/24/93	FST004D-SL92-6 43675-6 6/24/93	FST004D-SL3-6 43675-5 6/24/93	FST004D-SL4-4 43675-11 6/24/93
% Solids	92	89	89	88	88	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	57	<	56
Carbon Disulfide	<	5.6	<	5.6	<	5.6
1,1-Dichloroethane	<	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
1,1,2-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	<	5.6
Toluene	<	5.3	21	18	5.8	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	5.7	5.7	5.6

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

<u>PARAMETER</u>	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	R	<	1.1	R
Barium	6.5	5.9	6.7	4.8	1.4	1.4
Cadmium	<	0.53	<	0.56	<	0.56
Chromium	2.5	J	3.3	J	6.4	J
Lead	4.0	J	3.7	J	1.1	J
Mercury	0.018	0.016	0.016	0.063	0.017	0.017
Selenium	<	1.1	R	<	1.1	R
Silver	<	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

micrograms per kilogram dry weight.

ug/Kg dw

milligrams per kilogram dry weight.

mg/Kg dw

< 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.

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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-Chloroethylvinyl Ether	<	59	<	66	<
Bromoforn	<	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):

1/25/94 1:38 PM

... \QCSR\BP004E.XLS

GERAGHTY & MILLER, INC.

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

<u>PARAMETER</u>	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	<	1.2	<
Barium		27	14	8.5	11
Cadmium	<	0.59	<	0.58	<
Chromium		12	6.5	9.5	6.9
Lead		5.9	2.6	5.2	4.8
Mercury		0.026	0.039	0.062	0.043
Selenium	<	2.4	6.6	2.3	1.1
Silver	<	1.2	1.3	1.2	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.

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

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 dwl):					
Chloromethane	<	11	<	<	<
Bromomethane	<	11	<	<	<
Vinyl Chloride	<	11	<	<	<
Chloroethane	<	11	<	<	<
Methylene Chloride	<	6.0	<	7.4	<
Acetone	<	57	<	<	<
Carbon Disulfide	<	5.7	<	<	<
1,1-Dichloroethene	<	5.7	<	<	<
1,1-Dichloroethane	<	5.7	<	<	<
trans-1,2-Dichloroethylene	<	5.7	<	<	<
cis-1,2-Dichloroethene	<	5.7	<	<	<
Chloroform	<	5.7	<	<	<
1,2-Dichloroethane	<	5.7	<	<	<
2-Butanone (MEK)	<	57	<	<	<
1,1,1-Trichloroethane	<	5.7	<	<	<
Carbon Tetrachloride	<	5.7	<	<	<
Vinyl Acetate	<	11	<	<	<
Bromodichloromethane	<	5.7	<	<	<
1,1,2,2-Tetrachloroethane	<	5.7	<	<	<
1,2-Dichloropropane	<	5.7	<	<	<
trans-1,3-Dichloropropene	<	5.7	<	<	<
Trichloroethene	<	5.7	<	<	<
Dibromochloromethane	<	5.7	<	<	<
1,1,2-Trichloroethane	<	5.7	<	<	<
Benzene	<	5.7	<	<	<
cis-1,3-Dichloropropene	<	5.7	<	<	<
2-Chloroethylvinyl Ether	<	57	<	<	<
Bromoform	<	5.7	<	<	<
2-Hexanone	<	57	<	<	<
4-Methyl-2-pentanone (MIBK)	<	57	<	<	<

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	<	1.1
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	<	0.012	0.051
Selenium	<	1.1	R	<	1.1
Silver	<	1.1	UJ	<	1.1
SPECIFIC CONDUCTANCE (umhos/cm)					
		2.9	4.2	6.8	4.2
pH		4.0	4.6	3.8	6.5

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.

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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-SL-2-6 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 dw):						
Chloromethane	<	10	<	10	<	10
Bromomethane	<	10	<	10	<	10
Vinyl Chloride	<	10	<	10	<	10
Chloroethane	<	10	<	10	<	10
Methylene Chloride	<	5.0	<	5.2	<	5.1
Acetone	<	50	<	52	<	51
Carbon Disulfide	<	5.0	<	5.2	<	5.1
1,1-Dichloroethene	<	5.0	<	5.2	<	5.1
1,1-Dichloroethane	<	5.0	<	5.2	<	5.1
trans-1,2-Dichloroethylene	<	5.0	<	5.2	<	5.1
cis-1,2-Dichloroethene	<	5.0	<	5.2	<	5.1
Chloroform	<	5.0	<	5.2	<	5.1
1,2-Dichloroethane	<	5.0	<	5.2	<	5.1
2-Butanone (MEK)	<	50	<	52	<	51
1,1,1-Trichloroethane	<	5.0	<	5.2	<	5.1
Carbon Tetrachloride	<	5.0	<	5.2	<	5.1
Vinyl Acetate	<	10	<	10	<	10
Bromodichloromethane	<	5.0	<	5.2	<	5.1
1,1,2,2-Tetrachloroethane	<	5.0	<	5.2	<	5.1
1,2-Dichloropropane	<	5.0	<	5.2	<	5.1
trans-1,3-Dichloropropene	<	5.0	<	5.2	<	5.1
Trichloroethene	<	5.0	<	5.2	<	5.1
Dibromochloromethane	<	5.0	<	5.2	<	5.1
1,1,2-Trichloroethane	<	5.0	<	5.2	<	5.1
Benzene	<	5.0	<	5.2	<	5.1
cis-1,3-Dichloropropene	<	5.0	<	5.2	<	5.1
2-Chloroethylvinyl ether	<	50	<	52	<	50
Bromoform	<	5.0	<	5.2	<	5.1
2-Hexanone	<	50	<	52	<	51
4-Methyl-2-pentanone (MIBK)	<	50	<	52	<	51
Tetrachloroethene		9.0	<	5.2	<	5.1
Toluene		5.8	<	5.2	<	5.1
Chlorobenzene	<	5.0	<	5.2	<	5.1
Ethylbenzene	<	5.0	<	5.2	<	5.1
Styrene	<	5.0	<	5.2	<	5.1
Xylenes	<	5.0	<	5.2	<	5.1
HYDROCARBONS (mg/Kg dw):						
Hydrocarbons as Gasoline	<	0.25	<	0.26	<	0.25

HYDROCARBONS (mg/Kg dw):
 Hydrocarbons as Gasoline

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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	<	24	<	<
Hydrocarbons as Diesel	<	10	<	24	<	<
Hydrocarbons as Heavy Oil	15	<	10	200	<	<
Hydrocarbons as Mineral Spirits	<	10	<	24	<	<
Hydrocarbons as Varsol	<	10	<	24	<	<
Hydrocarbons as Fuel Oil	<	10	<	24	<	<
METALS (mg/Kg dw):						
Arsenic	<	1.0	<	1.2	<	<
Barium	7.9	1.7	<	2.8	6.4	6.2
Cadmium	<	0.50	0.52	0.60	0.50	0.51
Chromium	2.2	1.6	2.7	2.7	2.2	2.1
Lead	4.7	0.52	0.88	0.88	1.2	1.5
Mercury	<	0.010	<	0.019	<	<
Selenium	<	1.0	<	1.2	<	<
Silver	<	1.0	<	1.2	<	<
SPECIFIC CONDUCTANCE (umhos/cm)						
		5.5	2.1	12	10	3.3
		7.0	5.9	5.3	7.3	7.1
pH						

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 Oliver 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-SL4-8	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

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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
	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%)
	FST004B-SL3-8	Selenium	< 1.1	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 42 and 36% less than lower control limit (75%)
	FST004B-SL4-4	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%)
	FST004C-SL2-4	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%)
	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%)
	FST004C-SL4-4	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
	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
	FST004D-SL92-6 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

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%)
		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%)
		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%)
		Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 20 and 29% less than lower control limit (75%)
	FST004F-SL2-8	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%)
		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%)
	FST004F-SL3-8	Silver	< 1.2	mg/Kg	UJ	Matrix Spike/Matrix Spike Duplicate recovery of 74 and 74% less than lower control limit (75%)
		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-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%)
		Arsenic	< 1.1	mg/Kg	R	Matrix Spike/Matrix Spike Duplicate recovery of 20 and 29% less than lower control limit (75%)

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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%)

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.

mg/Kg

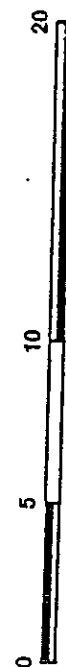
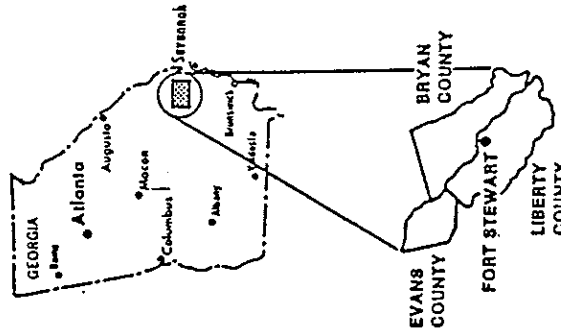
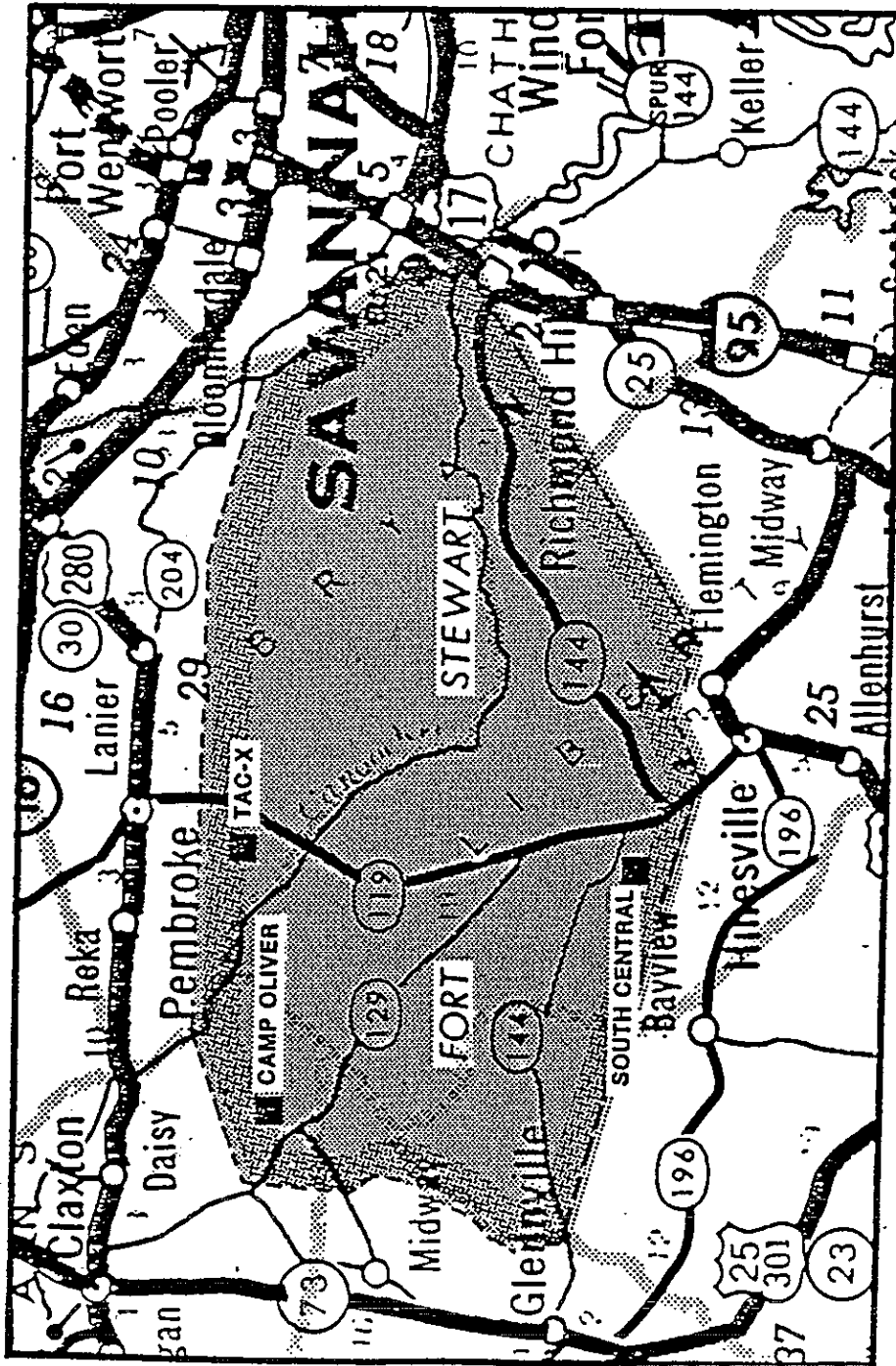
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FIGURES



SCALE IN MILES

SOURCE: E.S.E., 1982



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Environmental Services

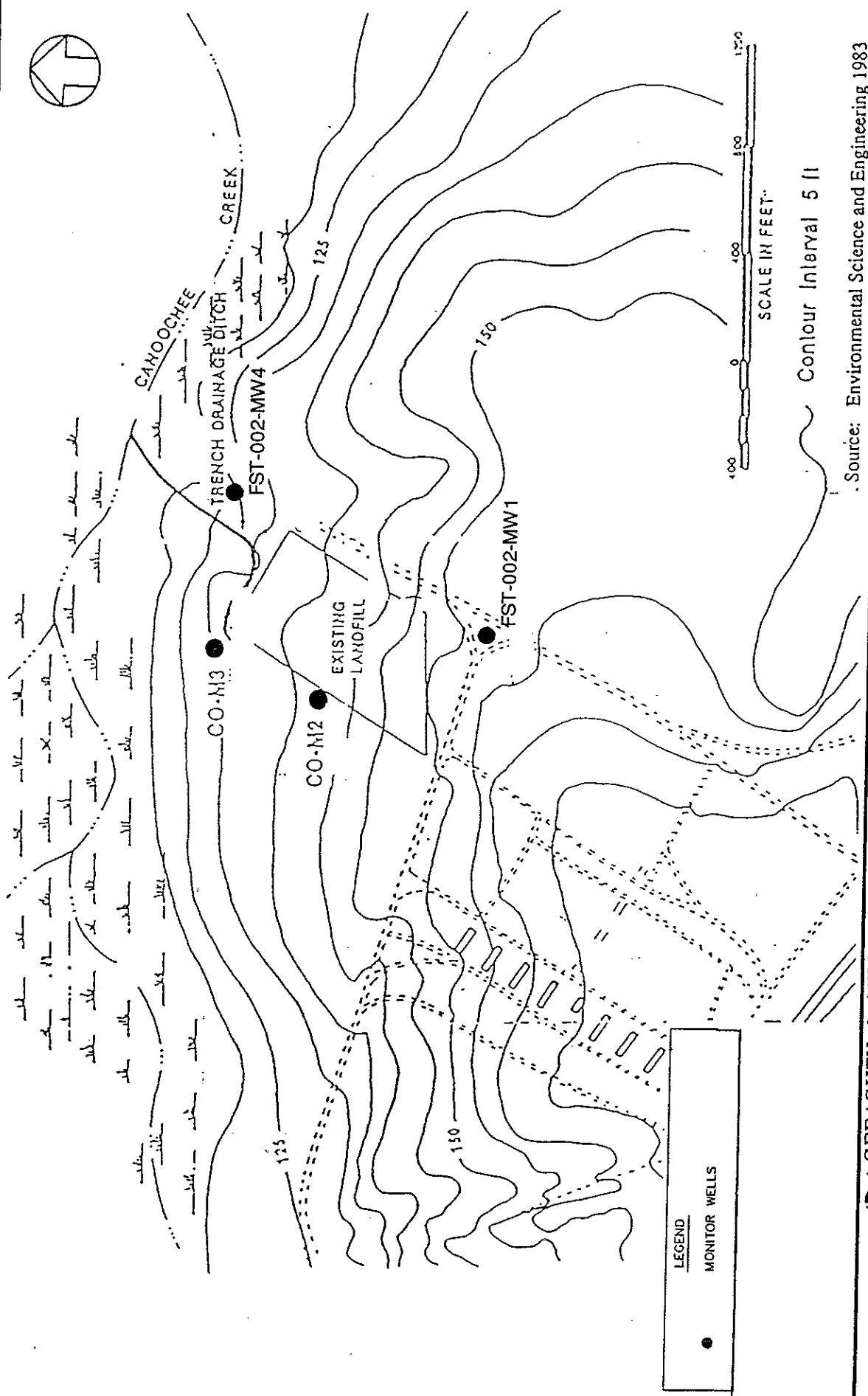
U.S. ARMY ENGINEER DISTRICT, SAVANNAH
CORPS OF ENGINEERS
SAVANNAH, GEORGIA

RCRA FACILITY INVESTIGATION
LOCATION MAP
FORT STEWART, GEORGIA

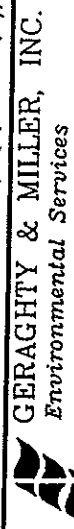
FIGURE

1

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Source: Environmental Science and Engineering 1983



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SAVANNAH, GEORGIA

RCRA FACILITY INVESTIGATION

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

FIGURE
2

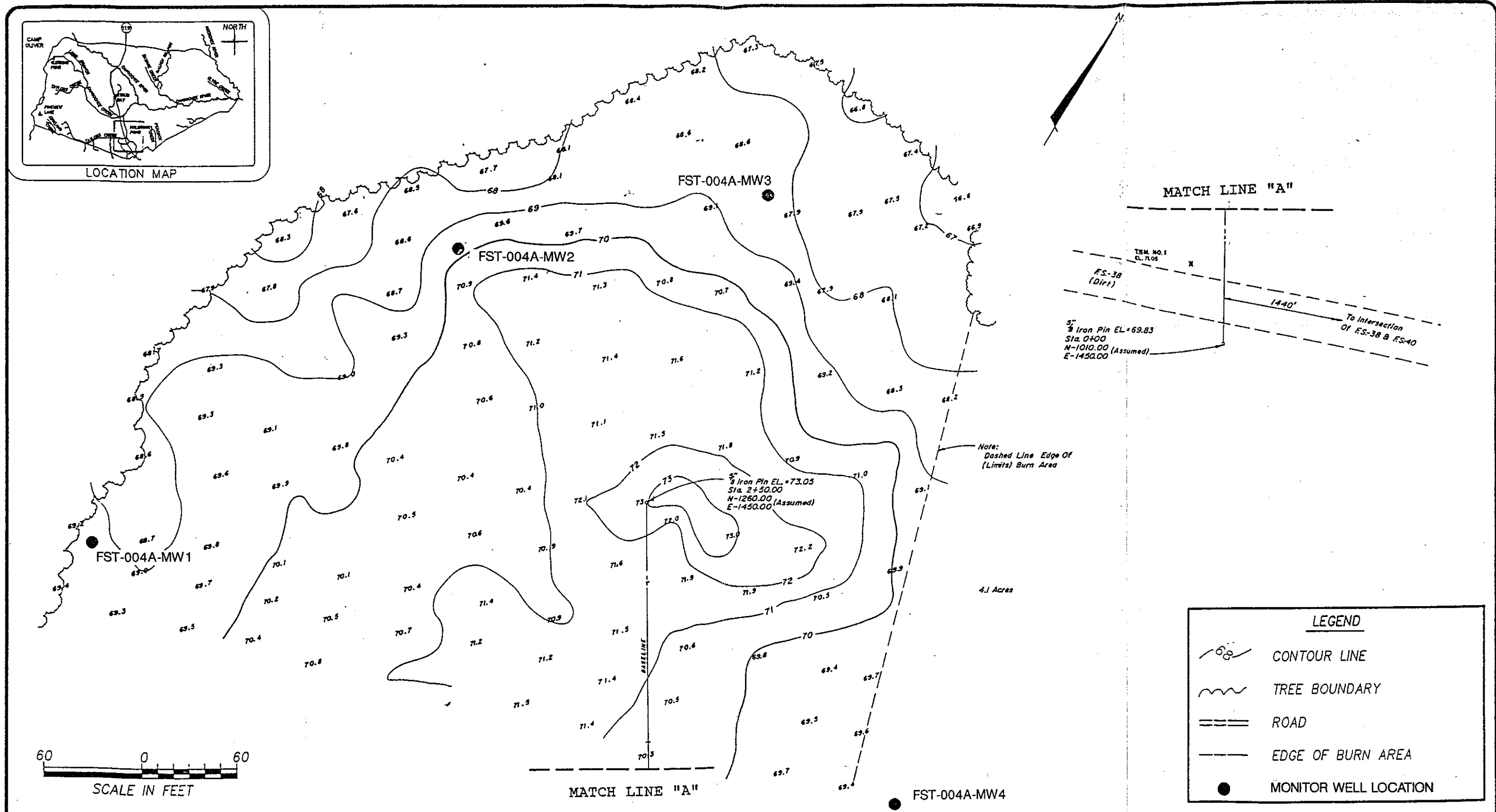
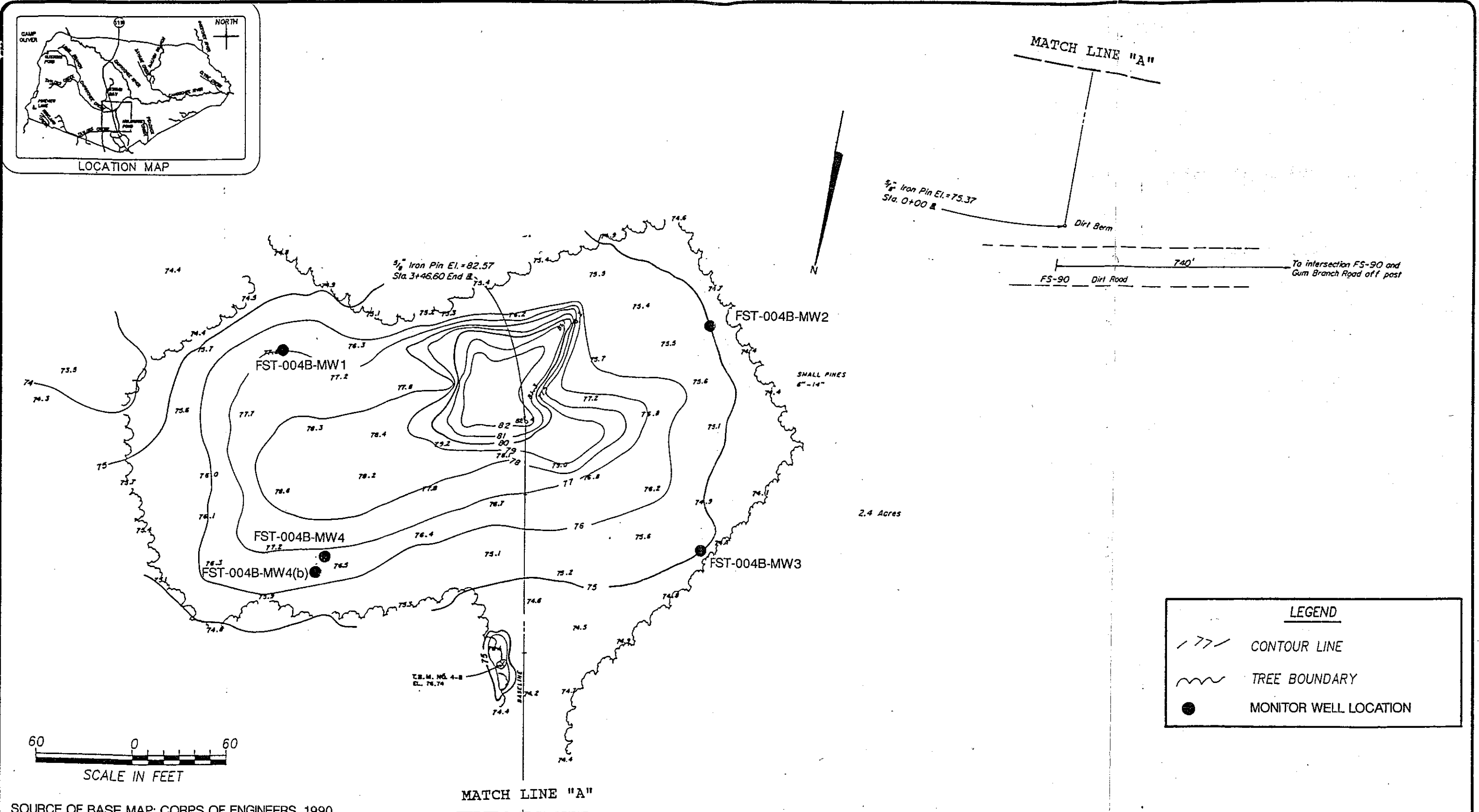


FIGURE
3

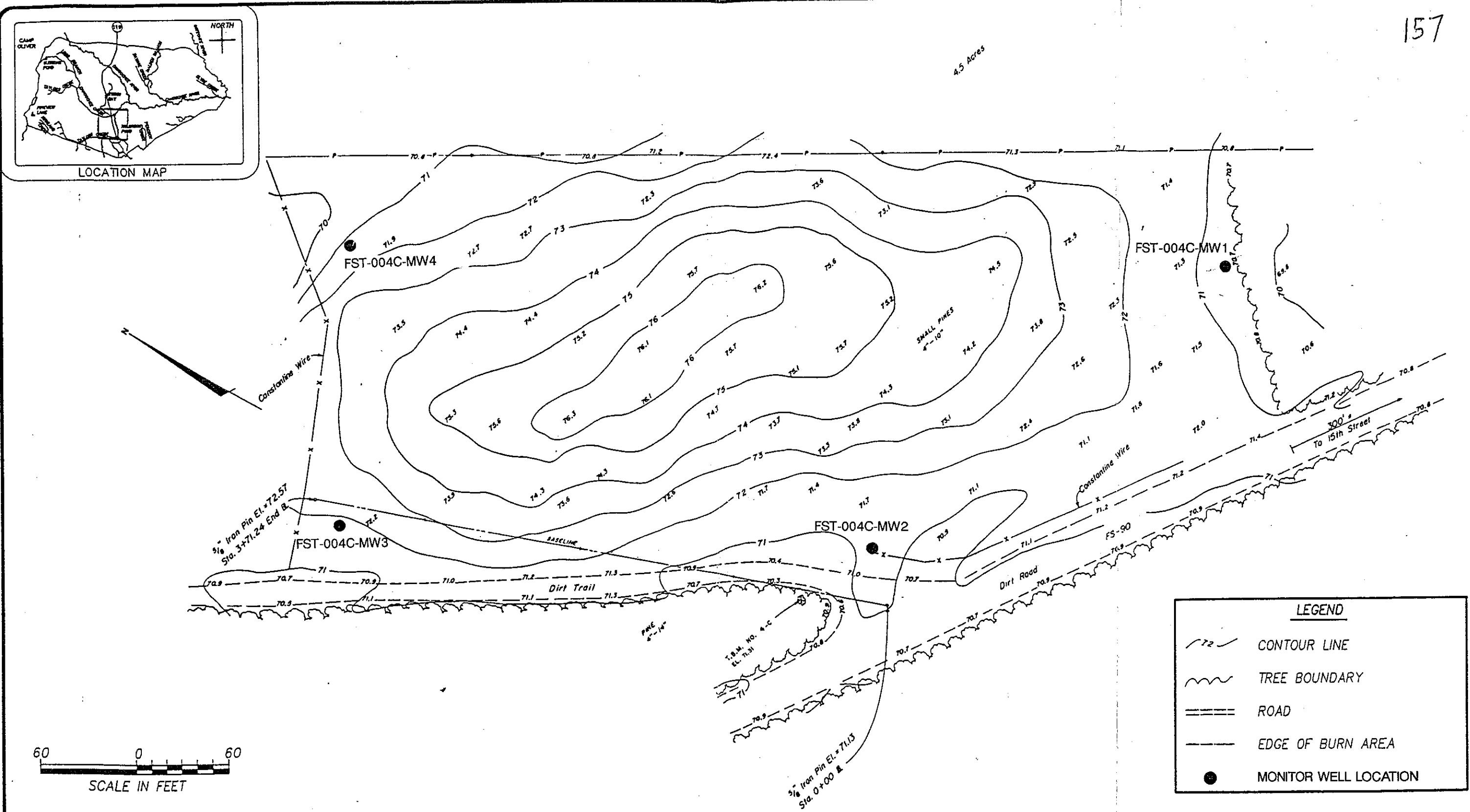


SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

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Jacksonville, Florida

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CORPS OF ENGINEERS
SAVANNAH, GEORGIA

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



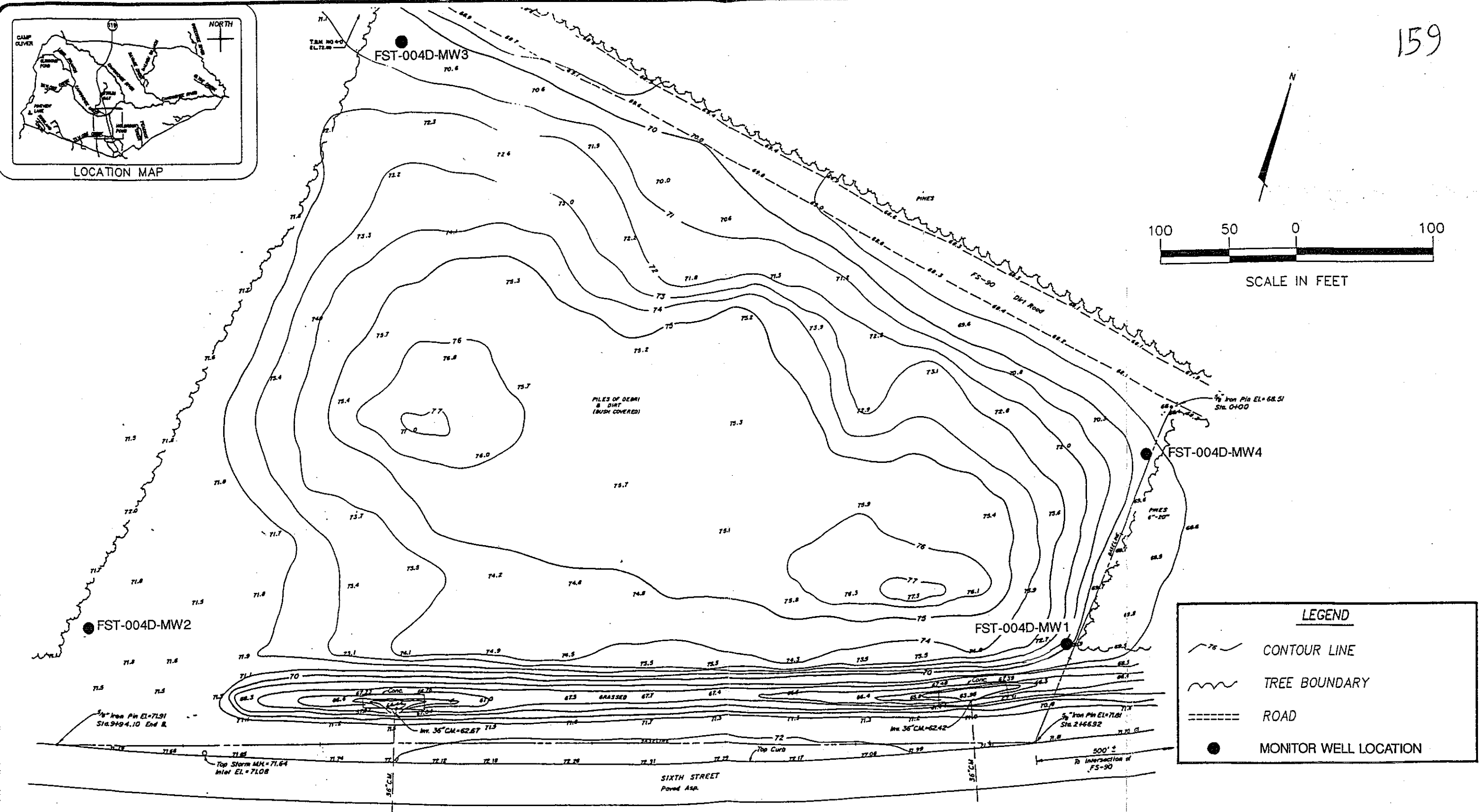
SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990



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SAVANNAH, GEORGIA

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



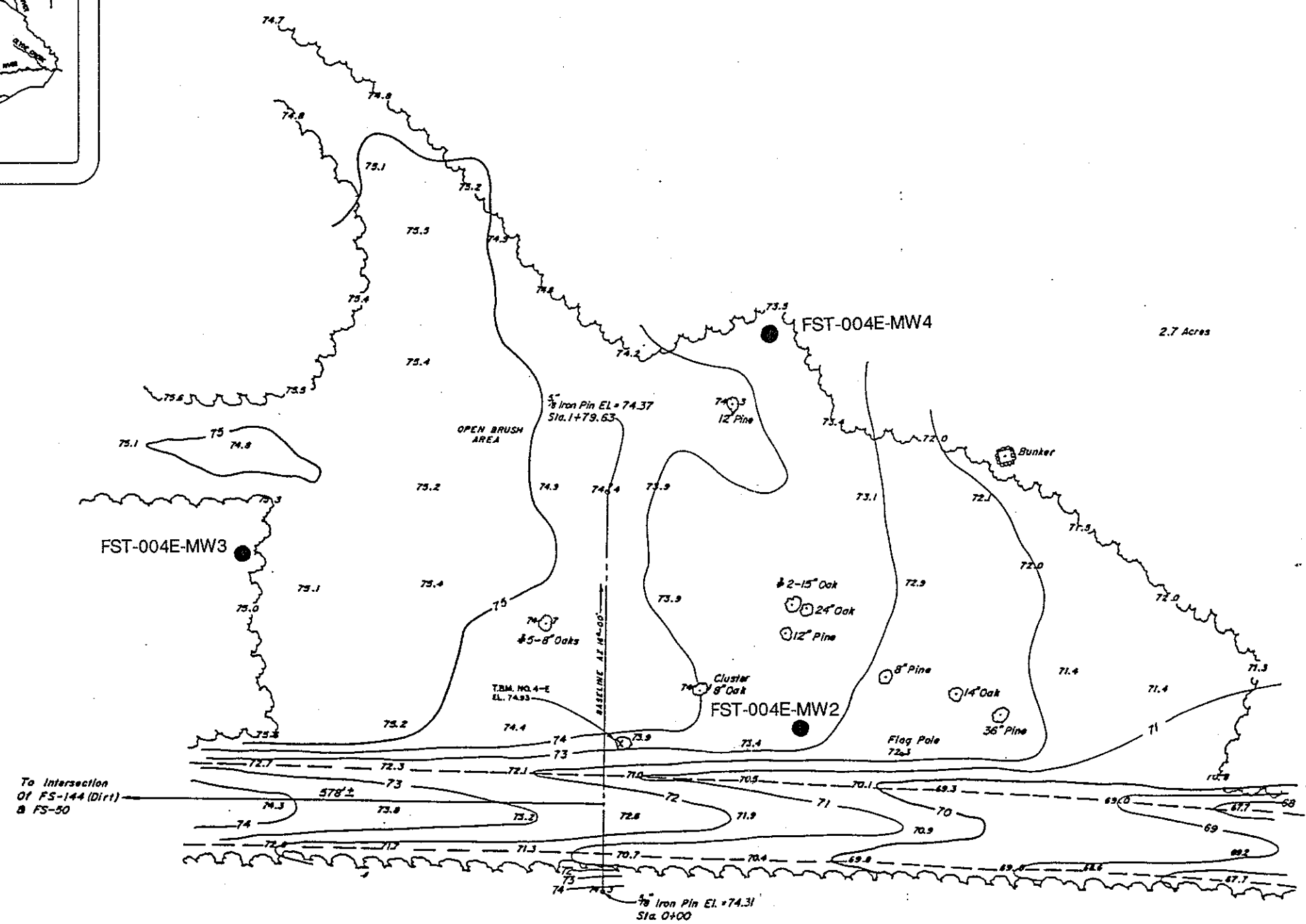
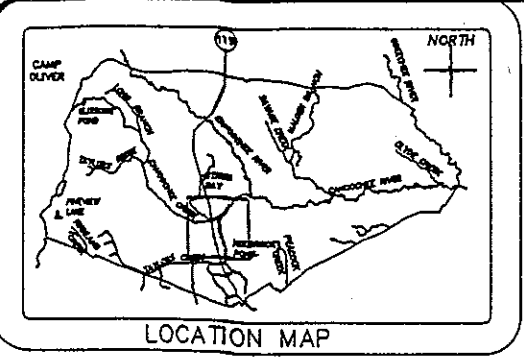
SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

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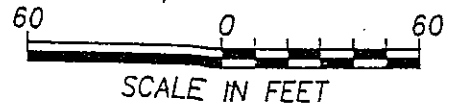
U.S. ARMY ENGINEER DISTRICT, SAVANNAH
CORPS OF ENGINEERS
SAVANNAH, GEORGIA

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

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

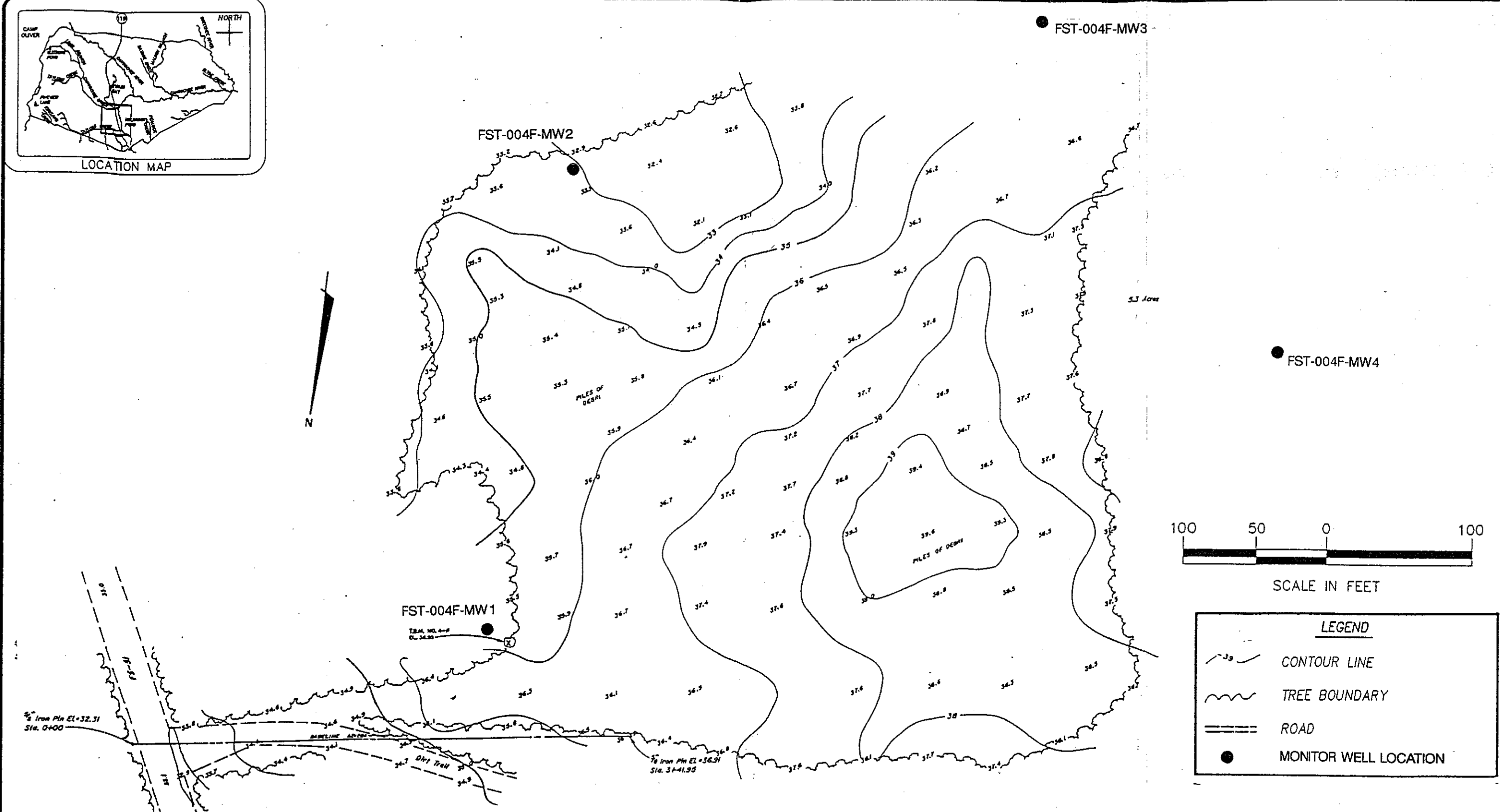


SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

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Environmental Services

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CORPS OF ENGINEERS
SAVANNAH, GEORGIA

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

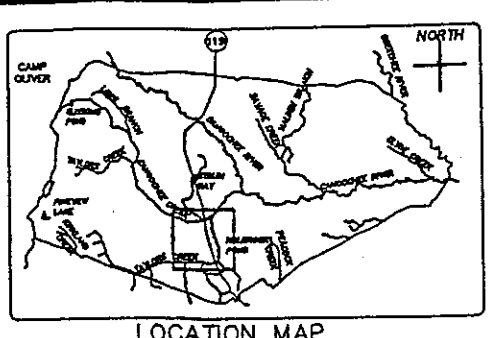


SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

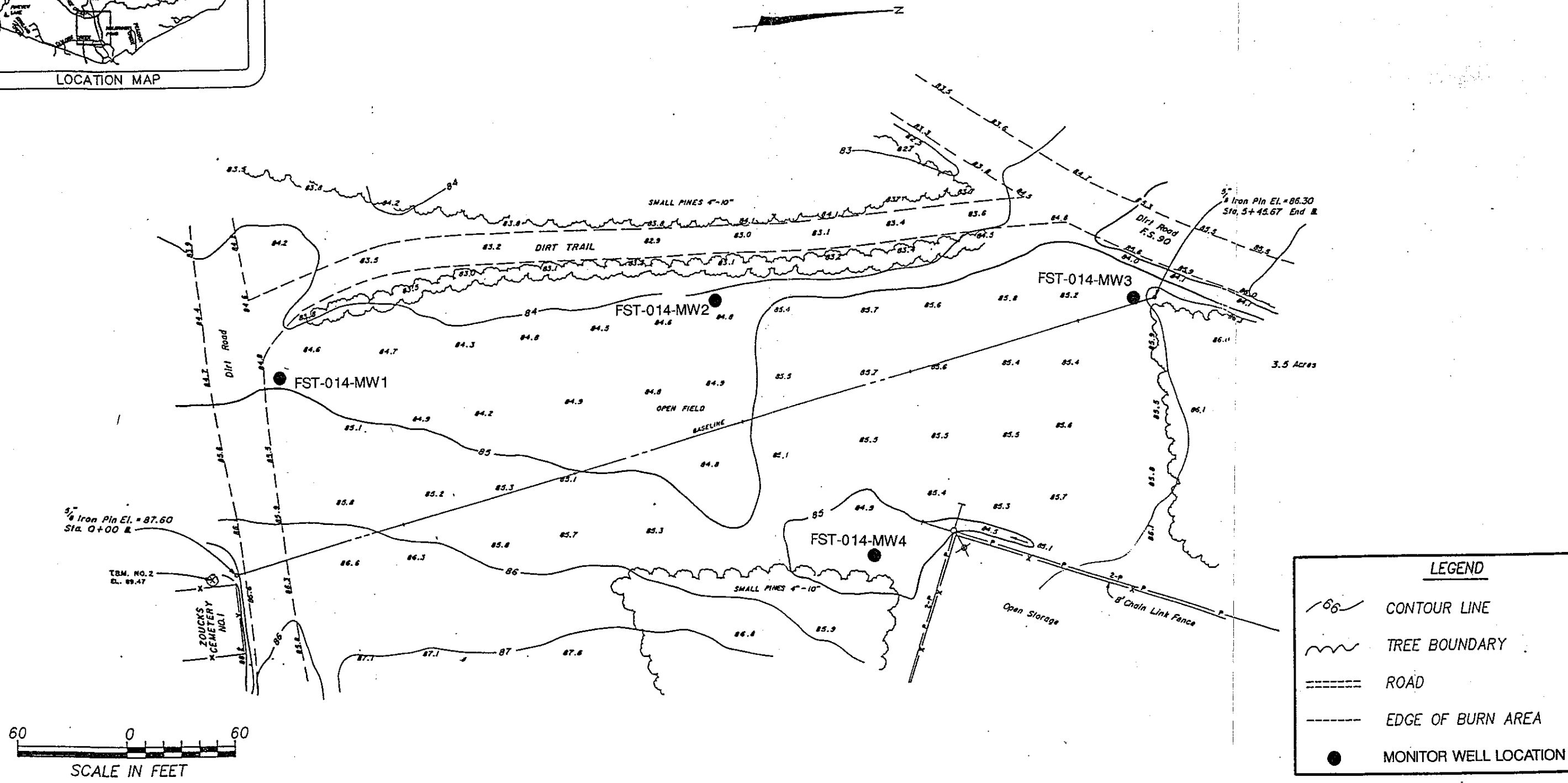
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RCRA FACILITY INVESTIGATION
BURN PIT F (FST-004F) TOPOGRAPHIC AND MONITOR WELL LOCATION MAP
FORT STEWART, GEORGIA



LOCATION MAP



SOURCE OF BASE MAP: CORPS OF ENGINEERS, 1990

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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

APPENDIX A
DATA VALIDATION CHECKLIST

FIELD DATA VALIDATION CHECKLIST

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DATA VALIDATION CHECKLIST
SECTION ONE

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

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/

PERFORMANCE		NOT	
REPORTED	ACCEPTABLE	REQUIRED	
NO	YES	NO	YES

	REPORTED	ACCEPTABLE	NOT
	NO	YES	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

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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 REQUIRED
NO	YES	NO	YES	

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

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 ^{9/} %R	☐	☒	☐	☒	☐
8. ICVS ^{9/} %R	☒	☐	☐	☒	☐

COMMENTS: See Attached: Cd, 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. 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

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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/}					

COMMENTS:

QA REPORTING LEVEL: II
REQUIREMENTS

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

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 CHROMATOGRAPH/MASS SPECTROMETER (8240)

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

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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 ^{6/} 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 ^{6/}					
8. RWS/RWS ^{6/} 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

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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

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:

FST014-SL3-2 / Dup FST014-SL93-2
Ba 6.4/6.2 } OK Cond 10/3.3 RPD=
Ca 2.2/2.1 } pH 7.3/7.1 - OK
Pb 1.2/1.5 }

ANALYTICAL DATA VALIDATION CHECKLIST

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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

CODE	SAMPLE ID	PARAMETERS
R CODE		
B CODE		
U CODE		
J CODE		
U/J CODE		

See Table 2-10

EXPLANATION:

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

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DATA VALIDATION CHECKLIST SECTION ONE

PROJECT NAME:	<u>Ft Stewart</u>
PROJECT NUMBER:	<u>TF 764.04</u>
SAMPLING DATE:	<u>9-25-93</u>
VALIDATION DATE:	<u>9/93</u>
SAMPLE IDENTIFICATION:	<u>EC-004A-SL2-6, SL3-6, SL92-6, SL1-4, SL4-4</u>
	<u>FST 004A-SL4-8, SL94-8, SL1-6, SL2-4, SL3-4, FST004B-SL1-8</u>
SAMPLING TEAM:	<u>Hallman, Mosen, Weiss</u>
ANALYZING LABORATORY:	<u>Savannah (GA) / 33-13675</u>
ANALYSES PERFORMED:	<u>8240, Sp. Cond, pH, RRA methods,</u>
SAMPLE MATRIX:	<u>Soil</u>
QA REPORTING LEVEL:	<u>II</u>

FIELD DATA PACKAGE DOCUMENTATION

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

FIELD SAMPLING LOGS: 1/	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: _____

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 REQUIRED
No	YES	No	YES	

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

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 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

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					

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 TWOINORGANIC ANALYSES
METALS AND CLASSICAL WET CHEMISTRY METHODSQA 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 Notes: As, Co, Pb, SeQA 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
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: <u>Ft Stewart</u>	PROJECT NUMBER: <u>TF 744.04</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

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

<u>Benzene</u>	<u>28/12</u>	<u>Cond</u>	<u>11/4.6</u>
<u>Toluene</u>	<u>12/6</u>	<u>Ba</u>	<u>4.4/5.5</u>
<u>Xylene</u>	<u>8.5/<5.9</u>	<u>Pb</u>	<u>12/7.4</u>

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

<u>Acc</u>	<u>110/58</u>	<u>pH</u>	<u>4.6/5.2</u>
<u>Tol</u>	<u>31/18</u>	<u>Ba</u>	<u>5.9/6.7</u>
<u>Xyl</u>	<u>22/25</u>		

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>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		

EXPLANATION:

VALIDATION PERFORMED BY: Kathryn Garrison

SIGNED: Kathryn Garrison

DATE: 9/93

FIELD DATA VALIDATION CHECKLIST

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DATA VALIDATION CHECKLIST
SECTION ONE

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

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/

REPORTED		PERFORMANCE ACCEPTABLE		NOT
NO	YES	NO	YES	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

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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	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/}	—	—	—	—	—

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

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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	☐	☒	☐	☒	☐
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 ^{9/} %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

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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/}					

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					

B. GAS CHROMATOGRAPH/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

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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;

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DATA EVALUATION SUMMARY

ALL QA REPORTING LEVELS (I, II, III)

SUMMARY OF CHECKLIST FINDINGS

REPORTED		PERFORMANCE ACCEPTABLE		NOT REQUIRED	
NO	YES	NO	YES	NO	YES

	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:

[illegible]

ANALYTICAL DATA VALIDATION CHECKLIST

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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</u> } <u>SL2-8</u> } B <u>SL4-4</u> } <u>SL8-6</u> } e <u>SL3-8</u> }	<u>Se</u> <u>MSDMSD-42/36</u> < 75 < 1.2 mg/kg <u>Se</u> < 1.1 <u>Se</u> < 1.1 <u>Se</u> < 2.4 <u>Se</u> < 2.3

EXPLANATION:

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

FIGURE 9

FIELD DATA VALIDATION CHECKLIST

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DATA VALIDATION CHECKLIST
SECTION ONE

PROJECT NAME:	<u>Pt. Stewart - Burn Pit E/F</u>
PROJECT NUMBER:	<u>TF 764.03</u>
SAMPLING DATE:	<u>6/29-30/93</u>
VALIDATION DATE:	<u>9/93</u>
SAMPLE IDENTIFICATION:	<u>FST004E-SL2-8, SL4-6, FST004F-SL1-8, SL3-8, SL2-8, SL4-8, FST004B-IDWSL, 004E-IDWSL</u>
SAMPLING TEAM:	<u>G. Weiss, M. Moser, K. Thulman</u>
ANALYZING LABORATORY:	<u>Savannah (GA) - S3-43768</u>
ANALYSES PERFORMED:	<u>8240, RRA Metals, Cond, pH</u>
SAMPLE MATRIX:	<u>Soil</u>
QA REPORTING LEVEL:	<u>II</u>

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/

REPORTED		PERFORMANCE ACCEPTABLE		NOT
NO	YES	NO	YES	REQUIRED

	REPORTED NO	REPORTED YES	PERFORMANCE ACCEPTABLE NO	PERFORMANCE 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

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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 REQUIRED
NO	YES	NO	YES	

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

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) 11/

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 ^{12/} %R		✓		✓	
8. ICVS ^{9/} %R	✓				

COMMENTS: pH 7/9, Cond 7/5

MS/MSD - As (20/29) Ag (74/74) RPD - As (36)
Se (10/5.9) Se (52)

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

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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/}					

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				

B. GAS CHROMATOGRAPH/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		✓		✓	
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

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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 (VO _C)					
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

ALL QA REPORTING LEVELS (I, II, III)

SUMMARY OF CHECKLIST FINDINGS

PERFORMANCE
REPORTED ACCEPTABLE NOT
NO YES NO YES REQUIRED

	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:

[illegible]

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:
SAMPLE ID PARAMETERS

R CODE	<u>All samples</u>	<u>As / Se</u>
B CODE		
U CODE		
J CODE	<u>See Table 2-10</u>	
U/J CODE		

EXPLANATION:

all As values < or ND
Se = < "

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

FIGURE 9

FIELD DATA VALIDATION CHECKLIST

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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. Thompson</u>
ANALYZING LABORATORY:	<u>Savannah (GA) - S3 - 43808</u>
ANALYSES PERFORMED:	<u>RCRA Metals, pH, Cond, 8240</u>
SAMPLE MATRIX:	<u>Soil</u>
QA REPORTING LEVEL:	<u>II</u>

FIELD DATA PACKAGE DOCUMENTATION

FIELD SAMPLING LOGS: 1/

REPORTED		PERFORMANCE ACCEPTABLE		NOT
NO	YES	NO	YES	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

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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 REQUIRED
NO	YES	NO	YES	

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

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/ RWS^{5/} = 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	☐	☒	☐	☒	☐
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

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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/}					

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					

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

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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

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ANALYTICAL DATA VALIDATION CHECKLIST
SECTION FOUR

DATA EVALUATION SUMMARY

PROJECT NAME: Ft Stewart PROJECT NUMBER: TF 964.04
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 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
Cu 7.9/14 Vinyl Acetate <13 vs <64? data entry error?
Pb 3.1/2.6

ANALYTICAL DATA VALIDATION CHECKLIST

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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

	<u>SAMPLE ID</u>	<u>PARAMETERS</u>
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.

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**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

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- 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



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EXHIBIT A
FIELD LOGS

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EXHIBIT A.1

DAILY LOGS

EXHIBIT A.1.1

GEOLOGIST MARK MOSER

DAILY LOG

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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 Explanometer.
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 b/s.
10:10	COMPLETED MW-3
10:40	Set up on MW-2
10:41	Toni Nickerson with Core & Eng. arrived last at 11:00
11:25	Drpt to water approx 4.0 ft will set bottom of well at 14.0 ft b/s.
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 Paul change EQ
2:30	Went to wash rack to see what is taking so long. Drills still drilling
3:30	Set up rig on FST 004B-MW1 START TO RAIN

DAILY LOG

FST-004B-MWI

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

4:00	STILL RAINING Hard with lightning in distance
4:45	Helper left, start to drill with out him / Ram very light
4:55	Helper arrived.
5:05	Light Ram collect 4-6 ft sample / 2-4 ft sample only recovered .8 ft.
6:12	Water at 10 ft.
6:25	Very coarse sand at 12 ft
6:40	Exposimeter battery died must replace
6:45	Over drill to 15 ft to set well 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 well / used 1 gallon distilled H ₂ O to free 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

DAILY LOG

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Well(s) FST004B-MW4 Project/No. TF76403

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 1st soil sample from 6-8ft interval. (directly above water table)
8:05	Drillers arrived
8:15	Duron (steam cleaner) not working, cleaned spurs (3) by hand
8:26	Checked calibration on FID SN# A51970 read 94ppm with Copper Matrix standard. Checked Explosimeter with CO ₂ and Methane. Shared results:
8:30	STARTED TO DRILL, H
8:50	STOPPED DRILLING, Hydraulic hose broken, here to fix.
12:40	Drillers back at site installing new hose
1:00	START TO DRILL / Gey Saw 4-6ft sample
1:10	4-6 ft sample only had .5ft recovery
1:18	H ₂ root with spurs at 6ft will drill to 7ft and take next sample at 7-9 ft.
1:30	Auger on root or stump here to move 5ft East will collect 1st sample at 6-8ft.
1:46	FID READINGS UP TO 10 ppm (Over action level)



FST-004 B-mw 4

Page 2 of 2

Prepared By M G Mason

Description of Activities

Date/Time

[illegible]

DAILY LOG

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FST-004B-MW-3

FST-004B-MW-2

Well(s) Project/No. TF 76403

Page of

Site Location FST 004B

Prepared By M G Moser

6/28/93

Date/Time

Description of Activities

6:00	Load truck
6:15	Left motel 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 move at MW-4 due to high OVA/FID readings.
8:00	Set up on MW-3, did tailgate safety meeting, check Explosimeter calibration SIU # H10222 CO ₂ OK
8:15	CO ₂ show elevele ready (46 ppm) gravel vib [Due to Exhaust]
8:18	Collect 0-2 ft spec
9:50	Completed bar 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	Moved to MW-2
10:45	Drillers take saw down rock, I went to Section FE to get H ₂ gas caly
12:20	Back at FST004B MW-2
12:45	Drillers arrived
1:00	Checked calibrator at FID read 95 ppm with 100 ppm methane

DAILY LOG

④ FST-004B-MW-2
FST-004B Well(s) MW-3 Project/No. TF 76403 Page 2 of 2

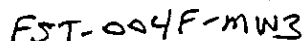
Site Location FST004B

Prepared By M G Mann

6/20/03
Date/Time

Description of Activities

1:00	STARTED on MW 2
1:45	Garrett and Levi (core) stopped by and took pictures
1:55	They left site
2:15	Better as OUA went out
2:00	START TO Install well
3:15	Well completed, had problems with sand bridge on casing
3:40	Left site back to motel to do paper work
4:40	Left motel to get drillers, will take rig to section F
5:00	At well rock
5:30	At FST004F
6:25	Back at motel
7:30	To Garrett's room to do paper work
8:30	OFF FOR DAY



Well(s) _____ Project/No. TF 76403

Page 1 of 1

Site Location Ft Stewart - FST-004E

Prepared By Mare

~~6/18/93~~ 6/30/93
Date/Time

Description of Activities

Date/Time	Description
6:00	Left for site / ex here
6:45	on site
7:09	Drillers arrived
8:00	check all on OVI / EXPROSIMETER
8:10	STARTED TO DRILL - FST004F-MW3
10:10	Well installed
11:00	Went to help install posts and posts to see true end range. Celly will install MW-4 at FST004F
	Install protective posts and posts at C, D, E, Trimmer.
7:00	Fm 156 for Don

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

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 casing need to be leveled.
	4D → Trash barrel on pellets
	4E → MW-2 No pellets
	MW-1 EMPTY Drum needs to be moved
	4F → pick up trash
	CUTT rings off
	Camp Oliver - Take concrete and put in weeds

DAILY LOG

#57-014-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

[illegible]

11/13/93



267

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 ~~shallow~~ ^{shallow} 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 sel per J. Peterson
12:30	Mue 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 Put 1st Reel / unable to set well to pump very well (.25 gpm)
~~16:15~~ 17:54	Unable to get consistent flow at MW-3 will finish on 7/14/93
19:40	OFF Base



**GERAGHTY
& MILLER, INC.**
Environmental Services

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

Site Location FT. STEWART GA ; FST-044C, FST-044B

Description of Activities

Southprint 89-1256

7-15-93



DAILY LOG

269

 (2) FST-004A-MW2, FST-004A-MW3
 FST-004A-MW1

Well(s) Project/No. TF764 03

Page 1 of 1

3. 004E-MW4

2ST-004E-MW2

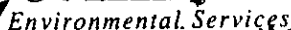
Site Location FT. Stewart GA. ; FST-004A, FST-004E

Prepared By M G Moser

Date/Time

Description of Activities

6:45	Load fuel tank 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	Moved 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



FST-004F-mw4, FST-004E-mw1

Well(s) _____ Project/No. TF 76403

Page 1 of 1

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

Prepared By M G Mason

G&M Form 02 6-86



EXHIBIT A.1.2

GEOLOGIST KATHERINE THALMAN

DAILY LOG

275

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 } Loxa arrived on site. Ricky Lewis }
	12862 OVA - 100 ppm methane - read 88 ppm
	1286C meth A 51856
	OVA - A51970 - 100 ppm methane ⁹² ¹⁹ 52 ppm
	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	Inventorying 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	Tool break - drill has having trouble with bit
1200	~~But~~ Began drilling again
1243	Break - wet at 7'
1324	Left to clean clamp - PVC - Pin Pedro Fieris

DAILY LOG

FST-014-m1 &
FST-014-mw4

Project/No. TF 764.03

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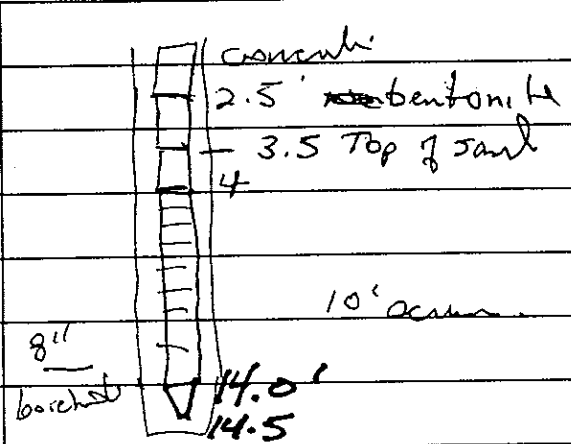
Site Location Ft. Stewart - FST-014

Prepared By Kathy Thelma

6/22/93

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.
2:40	Well completed - picked up extra - wait to lunch composed sample FST014-SL- ~~1~~ (KX) for lab had highest OVA reading of 3 ppm.
14:30	Toni Nichol called - We do not have to run Tyvek - if don't wait to. It's OK to use methanol to Decon with
15:30	Begin setting up at FST-014-mw-4 Drillers decommissioning equipment
16:11	Begin to collect 0-2 ft specimen.
17:10	Finish drilling - begin setting well - 6' of stick up
17:10	Adding sand - well screen set for 4-14' b.s.

DAILY LOG

FST-014-mw4

Well(s)

Project/No.

TF 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

	FST-014 - mw4
	3' sticky
	2.5' top of bentonite
	3' 7" top of sand
	4'
	Scum
	8" borehole
	14'
	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-004D-MW3
Well(s)

Project/No. TF764.03

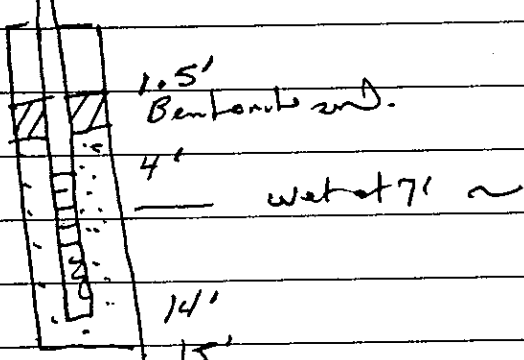
Page 6 of 8
KR

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 Condant - Health & Safety Tailgate.
	Lewis Weeks arrived on site to replace
	Daniel Nicolson
	Calibrated. A 51856 - 100 ppm methane /
	reading 100 ppm methane
	O2/LEL - GX-91 GasTech O2 OK /
	LEL OK
805	Began drilling - FST-004D-MW3
930	Finished drilling to 15'
	Water at 7' - setting well screen from 4'-14'
	overdrilled by 1' to 15'
0942	Began setting well. - 10' screen.
	
	Sand. 2.5 bags.
1	1/2 bag pellets

DAILY LOG

281

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

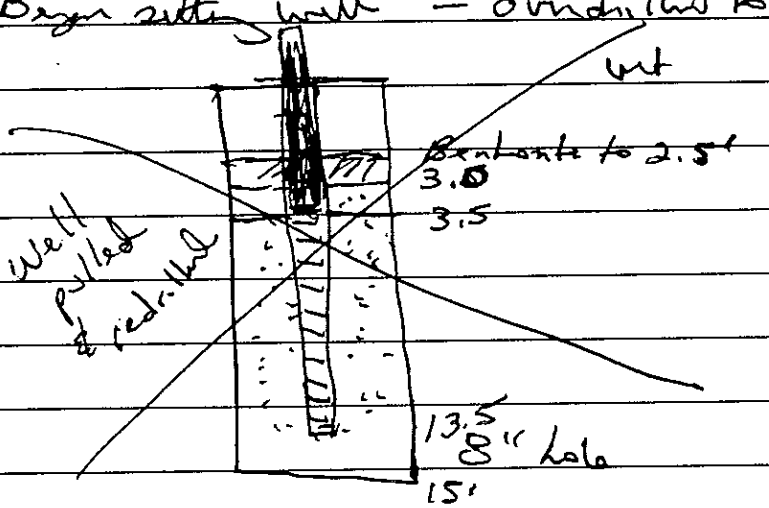
Page 27 of 37

Site Location FT STEWART - FST-0040

Prepared By Kathy Tholman
6/24/93

Date/Time

Description of Activities

1013	Finished with well clean up ^{to bentonite} (K)
1044	Ready left to Duro
1130	Broke for lunch - trouble shot OVA - Flow problems
1230	- Thundering - Drilling halted Daniel switch out drum.
~~1400~~ ^{+40/1353}	Driller 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 specimen from 0-2 ft bl.
	This will be dry & split sample
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-mw2
(EP) Well(s) ~ Project/No. TF264.03 Page 9 of 27

Site Location FT Stewart - FST-004D (EP)

Prepared By Kathy Thalmann

6/24/93

Date/Time

Description of Activities

		S FST - ~~000~~ 004D-SL2-6
		FST - 004D-SL2-6
		FST-004D-SL2-6 (Sp/16)
	1930	Left site
6/25/93	0615	Left Hotel, picked up lei & gear
~	0715	arrived at work site.
	0730	Driller mixing grout for Site FST-004D-
		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 " " " "
		LEL/02 methanol
845		Driller done grouting & installing surface casing
		deanning - went to get samples
		FST-004C - MW1
		6.9
		-2.8
		<u>4.1' bl.</u>
		FST-004D-MW2
		11.05
		-5.90
		<u>5.15' bl. ~</u>

DAILY LOG

6FST-004A-mw1

Well(s) _____ Project/No. TF 764103

Page 10 of 21

Site Location FT STEWART ~ FST-004A

Prepared By Kathy Thalmur

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 heel in & salt marsh
1105	Began drilling 0-2 FST-004A-mw1
1220	Broke for lunch - picked up supplies borehole at 8'
	Did test headgear for 0-8
1330	beginning to drill - 8-10 split spoon sample rods met at 6'
1352	Beginning to put milk 3'
	
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 land rig -
	Steam chamber would not work - Lewis tried to fix, it -
	could not - unwashed spoons using decon procedure
	in GAPP

DAILY LOG

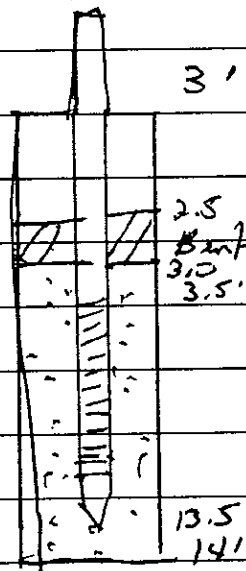
FST-004A MW4 Well(s) Project/No. TF764.03 Page 11 of 27

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

Prepared By Kathy Thelmer

6/25/93
Date/Time

Description of Activities

1	Lens taller to Xerox about fixing steam clean
1802	Beginning to drill FST-004A-MW4
1915	Beginning to set well - FST-004A-MW4 - wet at 8.5 - All hole logs reading well about 6-8 for log
	confining unit from 4 - 8.5
	setting well - top of screen 3.5 - gravel will probably come up to well in other areas well in area
	
2011	completed well to bentonite (KT) approx 5' moving forward to collect additional soil for the split - 6-8'
	collected soil sample at
	FST-004A-MW4 FST004A-SL4-8
	FST-004A-MW4 FST004A-SL94-8
	FST004A-SL4-8 Split
2038	Finished collecting split & dry metal / 50c 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 to pick up supplies
	745	Arrived at site FST-004E - packing 60 lbs for
		1st - Several
		Steam cleaner down - trying to find replacement
	915	Left site to take cooler back to hotel for picking up 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
		angles for Gus Pelt.
	1204	Calibrated OVA - AS1856 -
		100 ppm methane read 100 ppm methane -
		LEL/02 meter checked out -
	1206	Mobilizing to FST-004E
	1300	Arrived at Site FST-004E-MW1 - Set up (E)
	1321	Began 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' 3"
		Water at ~ 6.5-7' setting well screen from 3.5-13.0'

EST-004E-mw1

Well(s) _____ Project/No. 1764.03 / # 51 EWT-RF Page 13 of 21

Site Location

Ft. Stewart, GA - FST-004E (F)

Prepared By

Kathy Thelma

6/26/93

Description of Activities

G&M Form 02 6-86

DAILY LOG

FST-004E-MW3

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

Page 14 of 21

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

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's, humid, very slight wind
	~~mobilizing to FST-004E Kf~~
0718	Driller left to go to Hardware store, calibrating meters.
	OVA 128 AS1856 100ppm methane → 97ppm.
~~0728~~ 0728 KR	TEL/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 FST-004E-MW3
1055	16' rods - 7 = 9' 6' - 16'
	Center plug stuck in rods -
1120	Removed center plug -
1140	Break for lunch
	WT at 10' - measured with Tape 11' - 1 foot stick up = 10'
1236	WL 9.4 - 1' stick up = 8.4'

4 1/2
5 1/2
2 1/2
1 1/2

DAILY LOG

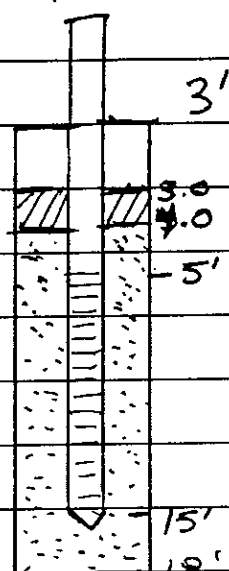
FST-004E - MW3
Well(s) _____ Project/No. ^{kt} ~~EFT~~ Ft Stewart / TF764.03 Page 15 of 27

Site Location Ft Stewart, GA - FST-004E

Prepared By Kelly Thelma

6/28/93
Date/Time

Description of Activities

	FST-004E-MW3 (GP)
	
	WL - H/Ld 9.4'
	- ~11~
	8.5~
	Rolls Silver Sand 20/30
	2 1/2 bags
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 -
	Pelllets to 3 ft bl. Completed to bench mark. (GP)
1445	Ricky Left to Dinner
	Top broken off of transfer case - Rig down
	Lewis removing piece which needs to be repaired
1530	Took Lewis to Washrack - He went to get
	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

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

Prepared By Kathy Thelmer

6/28/93
Date/Time

Description of Activities

0600	loading truck - picked up ice & supplies
0640	Arrived at washrack - 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 O ₂ A 100 ppm / 94 ppm
	Greeted & 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 3" of water in auger add 25 gal. water Beginning to set well
	auger 3' to remove heavy sand from auger
	Bent to 5'
	15'
	18'

DAILY LOG

291

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 Thelmer

6/29/93

Date/Time

Description of Activities

1030	putting sand pack in well - using water with sand to form slurry. ^{gallons} Water so used ~~28~~ 30 gallons total to slurry sand pack & put head in well.
1115	Finished FST-004E-MW4 to bentonite (R) Selected Interval from 4-6' for lab analysis. Sample FST004E-SLY-6
1130	Lft site - Drillers went to lunch & down - Garret lost Mark & I to the TAC-X site &
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 - ^{comp} Cable has jumps
1515	Line tangled on rig - trying to untangle - 76' worth reel.
1530	Lewis left to find Ricky
1721	Lewis ret'd to site could not find Ricky Lewis (Helen) - Trying to fix winch - fixed winch &
1745	Began drilling 6-8'
1820	Began setting well - WT at ~ 8' setting screen from 8' to 5-15' 6in. No hearing anymore when installed casing 2 1/2 bar pt Selected 6-8' interval for lab just above WT - all head-gage readings = 0

DAILY LOG

FST-004E-MWZ

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

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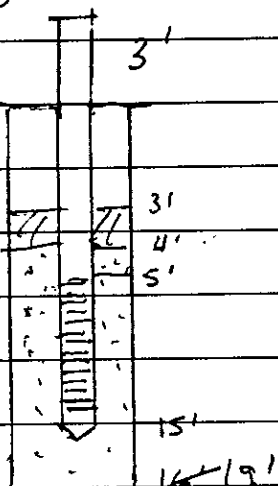
Site Location Flt Stewart, GA ; FST-004E ~~(P)~~

Prepared By Kathy Tholme

2/29/93

Date/Time

Description of Activities

18 ~~0832~~	Began adding sand pecks
	
	Sand bridged - pulled well casing out - redrilling
	and will slurry sand in.
	Overdrilled well to 19' because of heaving sand in
	area -
	took 2 1/2 bags of sand -
	bentonite pills.
	Slurried sand into well added 35 gallons
	of water to well.
1920 ~~09~~	Finished installing FST-004E-MWZ to bentonite ~~(P)~~
1940	Left site.
2000	Arrived back at hotel

DAILY LOG

293

FST-004F-MW4

Well(s)

Project/No.

TF764.03 / Ft Stewart

Page 19 of 27

Site Location

Ft Stewart GA. - FST-004F

Prepared By

Kathy Thelma

6/30/93

Date/Time

Description of Activities

0600	Loading truck
0615	Lift hatch, picked up 1st gear
0645	Arrived at Washroom - & left drillers gear
0710	Arrived at site FST-004F & dropped 1st calibration kit
0730	Arrived at site FST-004F - Lewis cleaning up & taking down rig mat.
0830	Lewis left site to clean up & 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 work log at FST-004F-MW2
	14.75 held
	6.00 stick up.
	8.75
	(P) Mark Mosier teamed up with Lewis to help install pads & foots -
	Kathy Thelma continued drilling at FST-004F
1030	Mobilized to FST-004F-MW4
	Setting 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} OK 3 bags of sand
1330	Drillers cleaned up & left site
	Selected sample from 0-2' interval for Lab
	had highest headgear 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 F5129 - road to Camp Oliveri -
1500	Returned to work area - drillers cleaning & ^{1/4} ~~loading~~ up -
	loading up - discussed schedule with Gennett
1540	Left for Camp Oliveri
1640	Arrived at Camp Oliveri - looking at well location

DAILY LOG

FST-002 - mw4

Well(s) 1 Project/No. Ft Stewart / TE76403

Page 21 of 27

Site Location Ft Stewart, GA FST-002

Prepared By Kathy Tholman

6/30/93
Date/Time

Description of Activities

	Set up rig at mw4, checked location of other wells
171507	Left site to go back to wash rack, looked for diller at FST-004
1807	Arrived back at hotel -
1824	Unloaded truck.
7/1/93	
0600	Loaded Truck - picked up supplies
0640	Arrived at wash racks diller yard - Left for camp
	Camp FST-002
0730	Arrived at Camp Oliver
	Lewis breaking up pads - showed pump pad location
	Colibroto OVA 451856 - checked oxygen & 2.5.6 meters, replaced battery
	Co-mw3 100 ppm methane / 94 ppm
	Measured WL in ~~FST-002~~ 7.7
	-2.8
	Held Health & Safety Tailgate ~ 4.9' 6L
0830	Began Sample 0-2 ft interval
	WL in for Co-mw1 ~ 13' according to X-ray
1000	Began installing FST-002mw4 -
	Settling screen from 4-14 lbs - (Unit at 5' in mw)
	Co-mw3
1030	Finished installing FST-002-mw4 to bentonite

DAILY LOG

FST-002-mw1

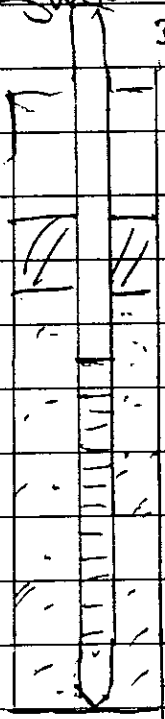
Well(s) _____ Project/No. Ft Stewart / TF764.03 Page 23 of 27

Site Location Ft Stewart, GA, FST-002

Prepared By Kathy Thelmer

7/1/93
Date/Time

Description of Activities

	clay has come up in auger & ~~clay~~ ^{poured then} - removing clay plug
1510	Finished extra pull to Bentonite <u>(10)</u> 3'
	
	5.0 Bentonite
	7.0
	10.0
	20.0
	Wet at 13' ext Screen from 10-20 used 4 bags of sand hydrated pellets
1542	Drilling post holes for protective posts at FST-002-mw1 Selected interval 10-12' bls for lab analysis directly above wt with high t OVA 0.4 reading Collecting IDW soil sample
1630	Driller left to get gas & hose to abandon Fst CO-mw1 - Did paper work
1800	Driller arrived back on site - beginning to abandon CO-mw1

DAILY LOG

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

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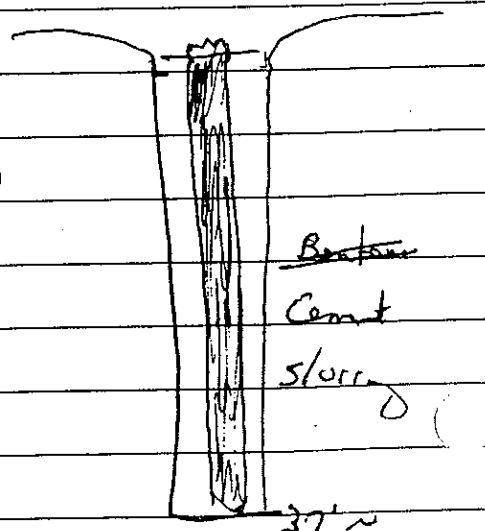
Site Location Ft Stewart - Camp Olm - CO-mw1

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	Lt Site
1915	Arrived at Hotel.
7/2/93	
0530	Lt for Camp Olm
0633	Arrived at camp olm (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

	Drill cleaning up - beginning to drill pilot hole at FST-002-mw4, signed off on drill bit		
0800	Left site FST-002		
0835	Arrived at FST-014 - gear Garrett turned on development equipment		
0910	Left to buy ice & supplies		
0930	Beginning to set up to develop FST-014-mw ³ / H		
0950	Toni Nicholson & surveyor visited site & Garrett used		
1000	Left site - visitors		
	Calibrating meters		
	pH	STD	Reading
		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'
	Stick up	3.00	= 9.25
	9.25	ft of 66	5.85 ft of water
			0.16 gal/ft
			0.9 gallons

DAILY LOG

FST-014 - MW3 &
FST-014 - MW2

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

Page 26 of 27

Site Location Ft Stewart, GA FST-014

Prepared By Kathy Thelma

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 screen 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 pumping FST-004 - MW2
1440	Began pumping well
1600	stopped to get another drum
1625	started pumping again
1643	completed development
	Took pictures of dev water, cleaned up
1700	Left site for hotel
1725	Arrived at hotel & unloaded back truck

EXHIBIT A.1.3

GEOLOGIST GARRETT WEISS

DAILY LOG

305

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

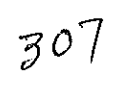
Description of Activities

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) Well(s) FW Stewart, GA / FST 014 and FST 004C
 Site Location FW Stewart, GA / FST 014 and FST 004C
 Prepared By Garrett Weiss

Date/Time	Description of Activities
0600	Pick up 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 / check OVA and explosimeter.
0800	Show Mr. Thulman drill sites at FST-004C
0825	Show Kirby Hodges (C.O.E) 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 decon



⑤

Prepared By G. Weiss

Description of Activities

Southprint 89-1256

DAILY LOG

FST004D-MW-1,
FST004D-MW-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

0615	Prepare soil samples for shipment.
0650	Pickup supplies
0710	At FST004D, 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.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-MW1.
1030	Spoke to P. Fiero - use 8100 Mod.
1100	Drilling begins on FST004D-MW1
1145	Borehole completed to 15'

DAILY LOG

FST004D MW-1,
 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 24 June 1993 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 O-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 work 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-2. 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 25 June 1993 Description of Activities

1230	Return to FST 004 A. B-57 finished with MW-2, mobilizing to work rack. Guspeck @ 8' on MW-1. Will collect split/duplicate samples from MW-4.
1300	Bring M. Moyer 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 work rack to get them - got lost on way back.
1700	Found helper - took him to FST004B. Observed drilling - no problems noted.
1800	At FST004A - Guspeck begins drilling FST004A - MW4.
2100	Well completed, leave site.

DAILY LOG

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

Site Location Ft Stewart, FST-0048, FST-014, H

Prepared By G. Weiss (157)

Date/Time 26 June 1993 Description of Activities

0730	Arrive @ FST0048 - 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 well 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 FT

Date/Time 28 June 1993 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)
1200	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. Weiss

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 - got well development equipment from K. Thulman. Do not have turbidity meter.
0710	Met Gurech crew on road side - ran out of gas.
0740	Arrive at FST004F. M. Maser waiting on crew to complete grouting wells at Area B.
0913	Leave FST004F - no problems noted.
0935	Spoke to P. Fiero (Proj. PO): 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 D. He'll check on turbidity meter
1124	FST004F - MW1 completed - no problems. Leave site to show M. Maser and K. Thulman location of wells @ FST 002 and 003.
1445	Sample 10W (soil) @ FST004B.
1520	Sampling complete
1550 to	Set well FST004E - MW2 - slow because helper is missing.
1950	

DAILY LOG

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

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

Prepared By G. Weiss

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	At work 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

FST-014-mw4

Well(s) _____ Project/No. TF 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.

FST-014-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 7/12/93 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. Petersohn. No word from Layne - I'll coordinate with them.
0847	Called G. Marotis (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. Petersohn. 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. Braggt 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. Moser 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. Moser has started pumping MW-2 & 3.

321

F5T 004C - MW2

Well(s) _____ Project/No. 7F764.03 Page 2 of 2

Site Location Ft Stewart, GA

Prepared By G. Weiss

Date/Time

7/13/93

Description of Activities:

[illegible]



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

Site Location FT. STEWART, GA. - FST-004C, FST-004B
KT

Prepared By G. Weiss

Date/Time

7/14/93

Description of Activities

0700	Re-ice 10WGW sampler, leave for base.
0715	Met with Layne Crow - got keys to drum warehouse and returned them to the DEH.
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 bung 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.

KT

Page 2 of 2

Prepared By G. Weiss

Description of Activities

[illegible]

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

7/15/93

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, 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

325

FST-004E-MW3

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

Site Location Flt Stewart, GA, F5T-004E (KT)

Prepared By G. Weiss

Date/Time

7/0/93

Description of Activities

[illegible]

DAILY LOG

FST-004F-MW3

Well(s) _____

Project/No. _____

TF 76403

Page _____

of _____

Site Location _____

FT. STEWART, GA. ; FST-004F (RT)

Prepared By _____

G. Weiss

Date/Time

7/16/93

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, iron 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 IDW sampling @ Area F
1350	Complete IDW sampling @ Area E
1430	Leave base

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

Prepared By G. Weiss

Date/Time	Description of Activities
7/17/93	

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.
1400	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.

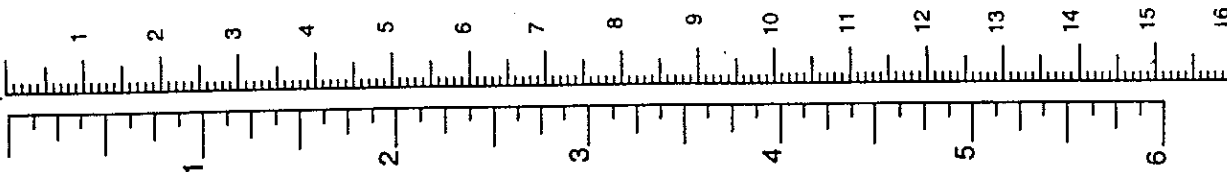
EXHIBIT A.2

LOG BOOKS

EXHIBIT A.2.1

GEOLOGIST MARK MOSER

INCH/CM



MEASUREMENT CONVERSIONS

IF YOU KNOW MULTIPLY TO FIND
LENGTH BY

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
feet	1.093	yards
kilometers	0.621	miles

WEIGHT

ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds

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

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

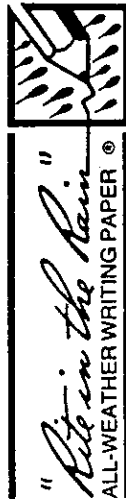
$$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$$

Inches	Decimals of foot	Millimeters
1/16	.0625	1.5875
1/8	.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"	.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

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.

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333

①

6-24-93

TF76403

FT. STEWART

8:00 AT OFFICE Prepare for trip

Gather paper work along the streets

Tried to call Cathy at Ft Stewart
to see if she needs additionalsupplies. Unable to get in touch
with her.

11:00 Look for site

6:00 Arrived in Ft Stewart located

Cathy on site. Went over
procedure and helped with her
will. Met Genna.

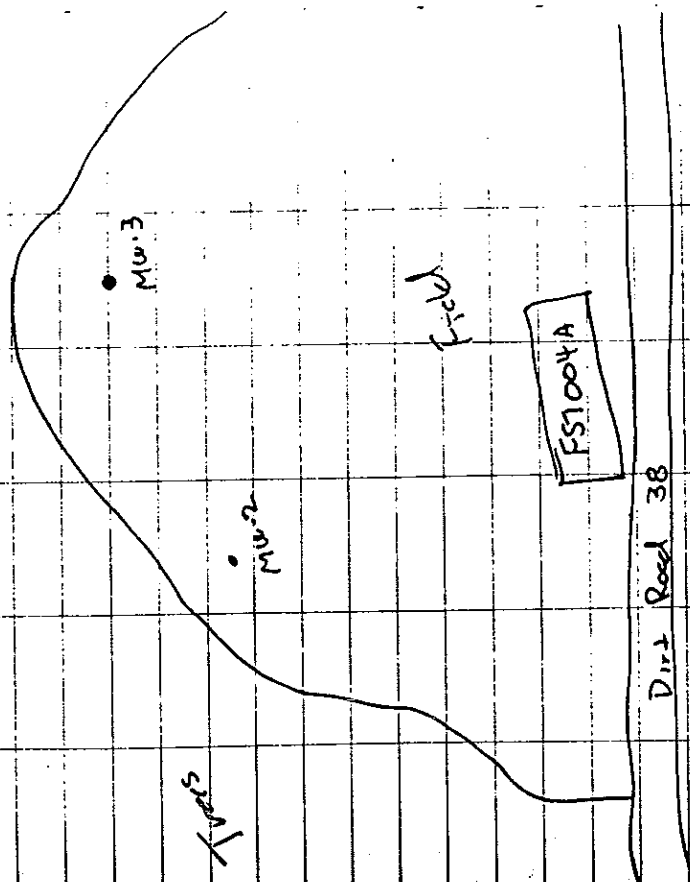
8:00 Back to motel for night

Traveled 360 miles

M/M

6-24-93

②



6-25-93

③

6:00 Met Early and Garrett at hotel went to store to get cc for samplers.
7:00 met Drill crews at wash rack and calibrated FID and O₂ meter.
8:00 Went to drill site # FST 004A-MW-1. Had tailgate safety meeting, started up FID Took back ground reading put in safety log book.
8:20 STARTED TO DRILL

10:40 SET UP ON Mlu-2, started over, experienced
bad results in OVA log book

10:41 Toni Nakagawa (near old Fm.) on site
11:00 Toni left site

11:00 Toni left site
11:25 Down to collect 8-10 ft sample
Water at approx 40 ft ^{14.0}
Will set bottom of well at ~~7.5~~ 14.0 ft bbs
top of screen at 3.5 ft

(4)

11:47 Took head space readings on all samples

12:10 START TO SET well (MW-B)

12:25 well set at 14.05ft

Pack up to move to next hole

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

2:30 Went to wash rock to get drillers

Drillers doing 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 Ran very light, collect 4-6 ft sample / 2.4 ft sample only recovered

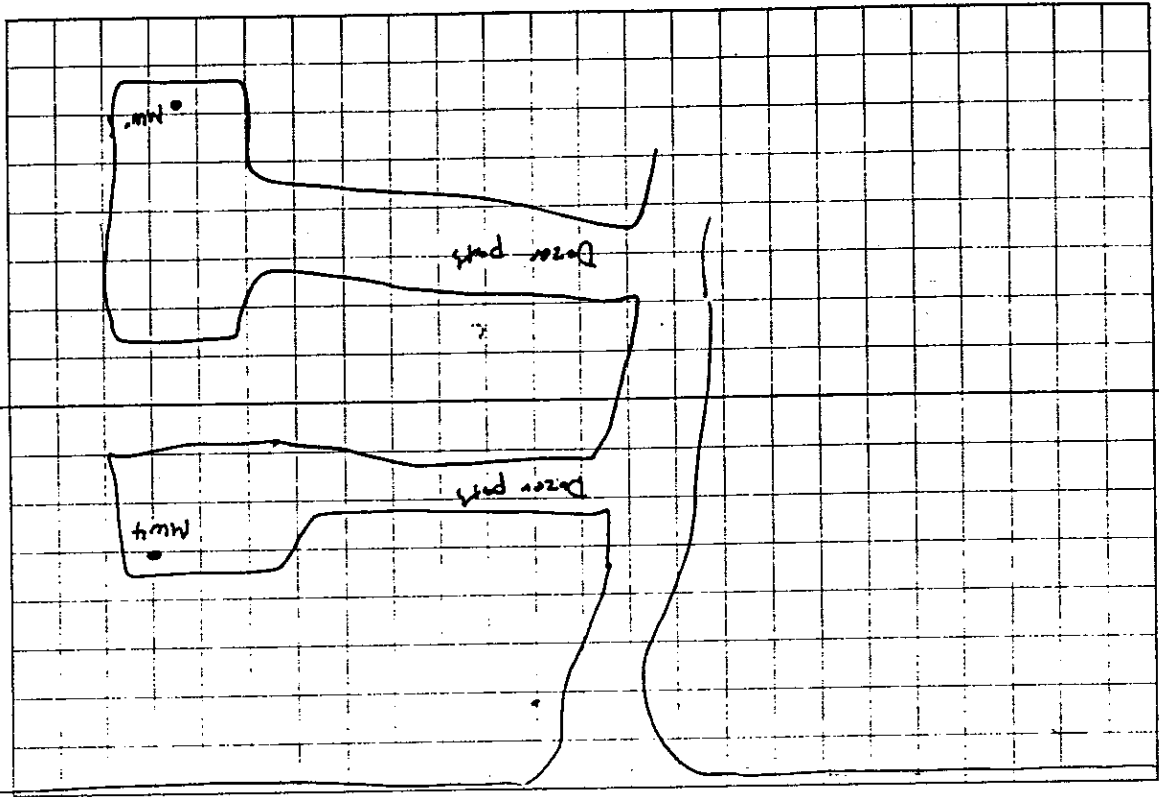
.8 ft NOT ENOUGH FOR SAMPLES

IS NEEDED

6:12 WATER AT 10 ft

Well set bottom at well at 18 ft with

(5)



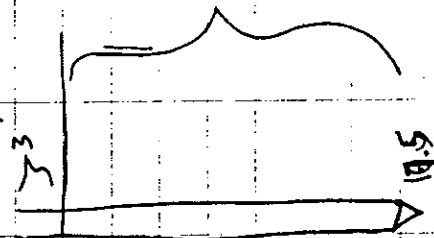
FST0048

Dirt road

⑥

2.5 ft of screen above water table
 6:25 Very coarse sand at 12 ft.
 6:40 Exploratory battery went dead.
 6:45 WATER in auger rose to 8 ft
 bls, decided to set bottom at
 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 Continuing to sand up well

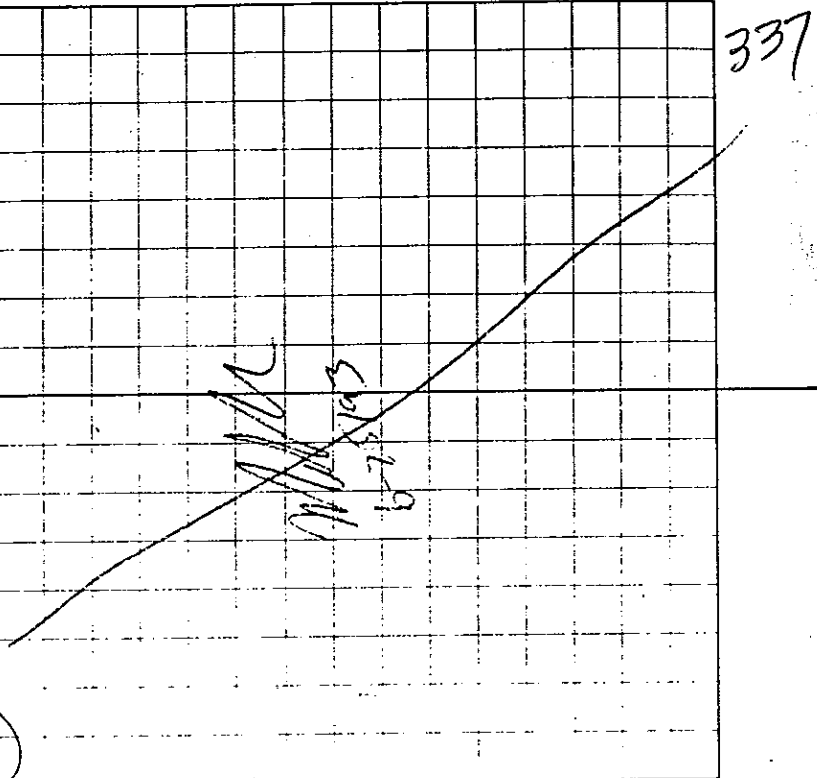
$$\begin{array}{r} 20 \\ - 3 \\ \hline 17.5 \end{array}$$



⑦

Pulled well up to set the bottom is at
 16.5 ft. Well has .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 to mud

⑧



337

(8)

6-26-93 T F 76403
 6:00 Left Motel went to get 1cc and DI Water
 6:00 AT Location FST004B-MW-4
 6:00 STARTED OVA WILL RUN Hand speed samples from MW-1
 7:15 OVA Results were % on soil
 Samples. Will collect soil sample FST004B-SL1-8 from 6-8 ft sample that was directly above water table.
 8:05 Drillers arrived
 7:05 Drilling machine not working cleaned 3 spurs by hand.
 8:26 Patti checked calibration at FID SN A51970 Read 94 ppm on Machine.
 Calibrated Explorer Hand function to CO₂ and Machine
 8:30 STARTED TO DRILL
 8:50 STOPPED DRILLING, Hydraulic Hose broken Have to Repair
 12:40 Drillers back on site installing new hydraulic base.

(9)

1:00 START TO DRILL / GOMY SUR
 4-6 ft Sample
 1:10 4-6 ft sample hole - 5 ft recovery
 1:15 Hit root with spoon at 6 ft will drill down to 7 ft and take next spurs 7-9
 1:30 Auger on root or stump here to move. (5 ft to the East) will collect 1st sample from 6-8 ft interval.
 1:46 FID reads up to 10 ppm
 USFg Filter. STOPPED DRILLING
 Will try to Seal GARRETT
 2:20 Found GARRETT, TOE READINGS
 removed by ho up to 1000 ppm around access cleared to step work
 Due to late time off day with shut access on Monday Drillers will do all equipment.
 3:30 went to see sites E and F to locate well locations
 5:00 END OF DAY
 7:45
 10:15 } paper work in Group.

Well materials

FST 004A - MW-3

108+ screen

6.5 riser

Sand 20-30 2.5 bags

bricks

9.5

(10)

6-28-93 TF76403

6:15 left motel to store for ice and

supplies

7:15 on site FST 004B MW-1 will

take readings from auger to see if

levels are still very high in

boring.

7:30 readings still 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

tailgate safety meeting.

checked calibration of Explanator

HC0222

CO₂ OK

8:15 CO₂ meter shows elevated levels

of CO₂ ground ref. Due to exhaust,

8:18 START to collect 1st split screen

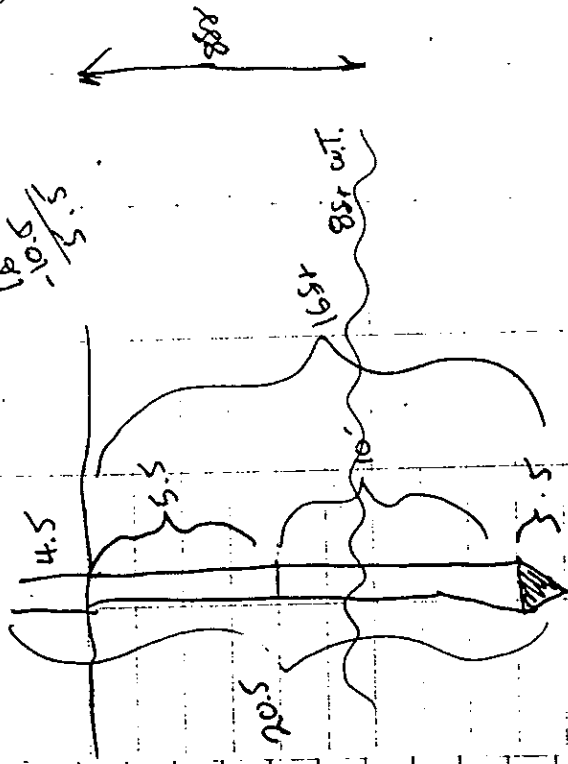
9:00 completed boring will install well

at 165 ft

[Handwritten signature]

339

(12)



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 spoons.

10:35 Move to FS7004B MW-2

10:45 Get Drillers unit to Dean, I want to Carlys vs to get H₂ 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 read 94ppm

STARTED on FS7004B - MW-2

1:45 Garrett and Lori (Pine) stopped by. Lori took pictures at 17' for 1-8-94. At 1:54

1:45 Battery on OVA unit DIED

2:00 START TO SAND well

3:15 Set 11' pump/bled bed problems with sand bridge in eyelet.

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

4:40 Went to Dean pool to get Drillers, well take them to next location FS7004F.

5:00 147 Dean pool. Lots for size

5:30 147 FS7004F. Drop of 8' VD

6:25 Back at motel

7:30 To Garrett's Room to go over

paper work

8:30 Complete

74

6-29-93

TF76403

25

6:00 Load truck to stage for ICE
7:00 AT PST004F Mw-1 / Driller greets well
8:37 Driller's arrival
8:40 Checked calibration on OVI
SN# AS1970 with 100gpm Meter 71gpm
Explosive #
SN# H1C0222

9:00 STARTED TO CORRECT 1st sample
0.28+

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

if water comes up in 9ft.

10:45 Dig at 16ft (and M-sample)
START TO DRILL TO 18ft will

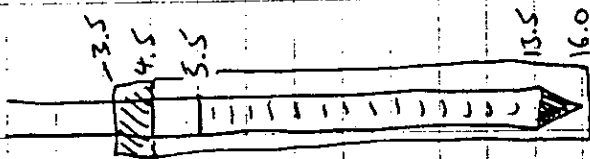
set well at 18ft bls.

11:07 Finally well at 16ft bls.

6/29/93
6/29/93

341

21



11:25 completed install MW-1 well
 go to F57002-003 Comp. draw
 and Fox Tank X to locate wells
 2:00 Bed. at F57004F-MW2 P

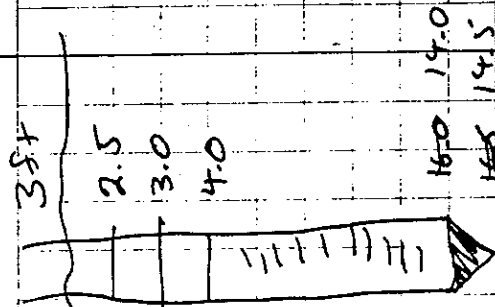
START TO DRILL

2:40 START TO DRILL

3:40 START TO SET well at 14.5 ft

~~with~~
 6/29/87

17



4:40 Well set More w/ to MW-3

~~with~~
 6/29/87

90.0

⑤

9

6/30/93

12

十一

51

12

321

2

575

~~SECRET~~

6/29/87

6:00 Let for cc and to size

6:30 AT size

Drillers earned

300 Check at, between or on PIP

A 51970 with woven mesh

92000

Explosives	4	HC0272

W-B	CO ₂	0%

200-200

8:10 STARTED R. P. 11 ESTOOF - MW 3

Well installed

The book is very interesting

Dr. J. H. J.

107 11 13 12 11 10 9 8 7 6 5 4 3 2 1

City will Supply Material - 4

Day 1000 Miles Son of a Bitch

C, D, A, B

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	52

700 gm back to N-20.

10

11

1706

1

243

(23)

7/1/53 T.F. 76403

6.00 10.50. red. shrike.

10.00. 10.00. 10.00. 10.00.

10.00. 10.00. 10.00. 10.00.

At E. 10.00. 10.00.

Broke out. 10.00. 10.00.

10.00. 10.00. 10.00. 10.00.

10.00. 10.00. 10.00.

9:31pm 10.00. 10.00.

7/1/53

5:30 met shrikes at 2000. 10.00.

Saw 10.00. 10.00.

B.

10:30

Time with. 10.00. 10.00.

10.00. 10.00. 10.00. 10.00.

10.00. 10.00. 10.00. 10.00.

10.00.

10.00. 10.00. 10.00.

C. P. 10.00.

3:30.

2000. 10.00. 10.00.

(21)

10.00. 10.00. 10.00.

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10.00. 10.00. 10.00.

10.00.

10.00.

22

53

11/1/73

Eq.
2 sets Core $\pm$ pH & Temp, solutions
2 MSOAPS
1 Camera, Mide
Q/A FORMS
Instr. luel keys, Delft kets
2. triska pumps, or (2" pump & Bot)
Disposable Tuber
26 x 20ft 600ft
Maps of sites with well #3
All FORMS
TOOLS
Card board for pictures and labels
Labels for water
CHEMIC WITH LARVE
TUBING 3/4" with check valve
2 boxes for discharge
Bong wrench
TABLE

345

7/9/73

W/8/73

(25)

ON

PUT DATE

PLACES

7/9/93

(24)

7/9/93

11/1/93

(26)

TF764.03 7/12/93

7:30 Late Jr. Hadline son / Met G. Weiss
8:00 AT. Hadline son to pick up pipe straps
and 1" pvc for drop tubes.
10:30 AT FSS 0014
11:18 Collect DTW TDW at FST 014 MW-1
15:30 Dehydration complete
16:05 Collect TDW for FST 014

W. H. H.

18:40 OFF BASE

347

7/13/93 TF76403

7:00 To site

8:00 Calibrate ph meter #L91002808
with Lot #2 0785 Exp 7/93
7:00 read ph 4.00 Lot #915709-24
Exp 12/93

Thom # 21424-1 (TAYLOR)
EST004D-MW-2
ph meter #1 with 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

10:15 Generator is we need to pump 3rd
done, don't have any w-s site

10:20 Tried to call Jeff R.

STAND BY

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

12:30	AT	EST004D-MW-4	
12:40	START	TO PUMP	
	DTW	TDW	
MW-4	7.18	17.0	
13:70	CALIBRATE METERS	SAME AS	
	Before except very cool meter		
	# 103 / 030235		
13:25	Surged well	50 gal	
	DRUMS AT	EST004D-MW-2	
		1 Soil	
		2 Dec H2O	
		on pellet	
	DRUMS AT	EST004D-MW-2	
		1 Soil	
		2 Dec H2O	
		on pellet	
		EST004D-MW-4	
		1 Soil	
		2 Dec H2O	
		on pellet	

(30)

FST004C-MW3

1 Soil

2 Der. H₂O

on Pollard

14:00 Flow RATE = 1 gpm

14:45 Set off pump completed well
 Turbidty 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-E₂ 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

suck

Lab Bar 19:40

(31)

7-14-93 7F764.03

7:00 Late for site

7:30 START TO PUMP FST004C-MW3

with Hand pump. This pump will
 pump slow enough to do well and
 not break section.

CALIBRATE METERS

p₂ # L91002808 with solution as

started before in this test

ph/or meter # GM #1

STANDARDS as above

p₂ # Q30239

FST004C MW4

static DW 9.27 TDW 17.20

pumping DTU - 16.80

8:30 Sec. Der. H₂O for sample + test results

9:00 Pumping very slow

10:30 set at Pump at FST004C MW3

To vacuum

10:57 STARTED PUMP AGAIN Flow approx

2.50 gpm

12:45 Check calibration on DW. Listed
 close. (EXCEPT COND. meter # Q30239
 Garrett has it now)

349

7-15-93 TF70403

6:45	Lead truck
7:15	Lead pipe down
8:00	AT FST 004A MW-2 (only 2nd)
	netter
	TDW 9:21 TDW 17.0
8:30	STARTED TO PUMP MW-2
	FST 004A - MW-3
	TDW 8:49 TDW 16.50
9:45	STARTED TO PUMP MW-3
	SEE DEV. Summary
10:00	Made TO MW-1
	TDW 9.13 TDW 16.80
	FST 004A - MW-4
	TDW 11.71 TDW 17.1
	STRONG GAS odor and steam
	UNABLE TO GET MW-4 TO PUMP
12:00	STARTED TO PUMP MW-1
12:30	check calibration of meters
	As before described

ph meter	491002808	read	7.35	on 7:00
pH meter	6M1	read	7.11	on 7:00
Cond meter	6M1	read	1210	on 1413
	pH 4		4.17	
	pH 4		4.03	
1:00	STOPPED DEV	FST 004D MW-3 after		
	4 hrs	Turbidity still over 100 NTU's		
13:30	collected TDW	FST 004C		
	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 572	17:10		
	Paper work	7:15 to 8:15		

(34)

13:15 Collect IDW AT FST004A ^{MGM} WGW
 pack up & go 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 17.94 IDW 16.7

16:36 STARTED TO PUMP MW 2

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

18:30 L&L Boxes

20:00 paper work

20:30

(35)

7-16-93

6:00 Left for site

FST004E

MW-1

7:00 DTW 12.85 IDW 16.5

7:15 Rinsed ph cond. tank & 03

stabil 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 BAILED / DID NOT

USE ph or cond meter because

at site product is a looks like

gasoline

351

(36)

Bails dry after approx .5 gal.

Takes

12:00 Unable to use qt or sand meter
due to too much amounts (shams) at
the product.

12:40 Complete Mch-4

14:30 Large size

W/PAW
7/10/07

(37)

7-17-93

6:00 Late for site (Comp @ 1:00) pick up supplies
7:45 Arrive camp O'ne
8:45 START TO PUMP Mch-4
9:50 START TO DECEASE Mch-1
12:00 MUST USE better to change
Mch-1 (very slow recovery)
1:30 Late size for Tack-X
2:20 Arrive Tack-X
Put Clinch GUSTOY TAPES on
Two southern wind wells, place
water leaks on other two
wells looked with dolphin leaks
at camp O'ne
5:00 OFF Base

[illegible]

353

39

112

Dr H2O

5012

FST 014

 M_{w+1} $yu+2$

MA-3

3	2	1
2	1	0
1	0	0

15T-004A

44

10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

100	100

[illegible]

1	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21

5

12/12	

2022

27th

Mr

F-5T004C

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466

[illegible]

5	5
1	5
7	

15	

47

A blank sheet of graph paper featuring a uniform grid of small squares. The grid consists of approximately 20 columns and 25 rows. A single horizontal line runs across the middle of the page, dividing it into two equal halves. The lines are thin and black, set against a white background. There are no markings, text, or drawings on the paper.

(ID)		Soil	Dens H ₂ O	PAT
FST004D				
	MW1	1	2	1
	MW2	1	2	
	MW3	1	2	
	MW4	1	2	
FST004E				
	MW1	1	1	1
	MW2	1	2	
	MW3	1	2	
	MW4	1	1	
FST004F				
	MW1	1	1	1
	MW2	1	1	
	MW3	1	1	
	MW4	1	1	
FST002				
	MW1	1	1	1
	MW4	1	1	
~~MW1 8/6/93~~				

EXHIBIT A.2.2

GEOLOGIST KATHERINE THALMAN

Gerrett 912 - 656-7666
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
feet	1.093	yards
meters	0.621	miles

WEIGHT

ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds

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

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

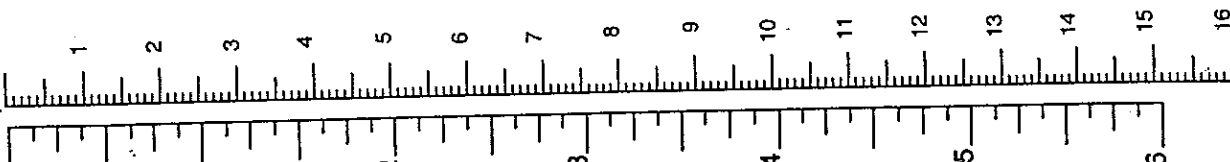
$$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$$

Decimals

Inches	Decimals	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"	.0833	25.400
2"	.1667	50.800
3"	.2500	76.200
4"	.3333	101.60
5"	.4167	127.00
6"	.5000	152.40
7"	.5833	177.80
8"	.6667	203.20
9"	.7500	228.60
10"	.8333	254.00
11"	.9167	279.40
1 foot	1.000	304.80

INCH/CM



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

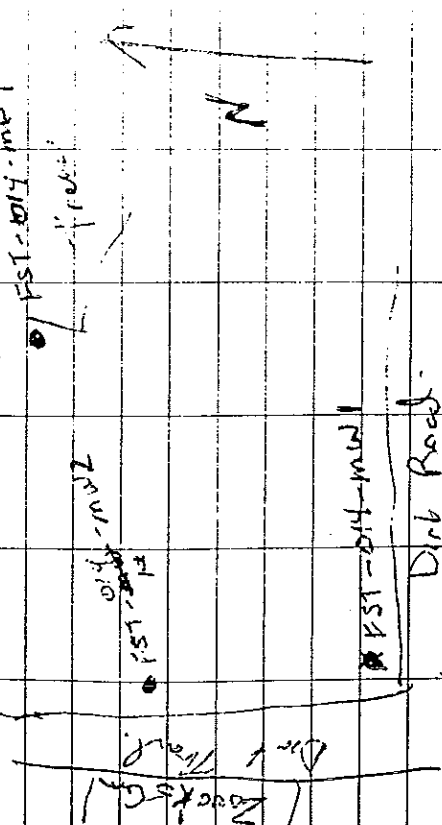
J. L. DARLING CORPORATION
TACOMA, WA 98421-3696 USA

957

6/22/93

(2)

1710 Finished collecting samples
 began with FST-014-mw1
 set well screen 4-14'
 water at 5.5 ft ~
 Top of gravel 0.5' above screen
 Top of bentonite at 2.5 ft. 4' 6"
 FST-014-mw2
 1750 Finished with well
 Drillers discussing auger & spacers
 FST-014-mw1
 FST-014-mw2
 FST-014-mw1
 Dink Road.



Sunny - 70°
 humid - No wind

(3)

6/23/93

Kathy Thelmer, David
 Nickles, Ricky Lewis
 6:30 Arrived on site -
 Drilling getting materials to
 front annular
 6:50 Putting predrilled casing on
 FST-014-mw1 - 3 ft stick
 up
 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-mw1
 0727 Finished putting predrilled
 casing on FST-014-mw2 with many reds
 C-116070 OVA 45/856 100 ft / 92 ft
 OVA 45/870 100 ft / 92 ft
 0740 Finished predrilled casing
 at FST-014-mw1
 FST-014-mw3.
 Deanned equipment - second day
 0850 Mobilized Rig to site
 FST-0040 -

359

(4)

6/23/93

Explosimeters GX-91 GASTECH

O₂ - read + checked

LEL% checked with 2.5% methane

0955 Bayou opening 0-2 ft
FST-004C - MW1

Setting Well

1119 Great at ~3'

set well from 14.3' -

saw cut from 4.3 - 14.3'

Sand to 3.5'

bentonite 3.5 - 2.5'

Did not set casing even wt - too shallow

1137 Finished setting well

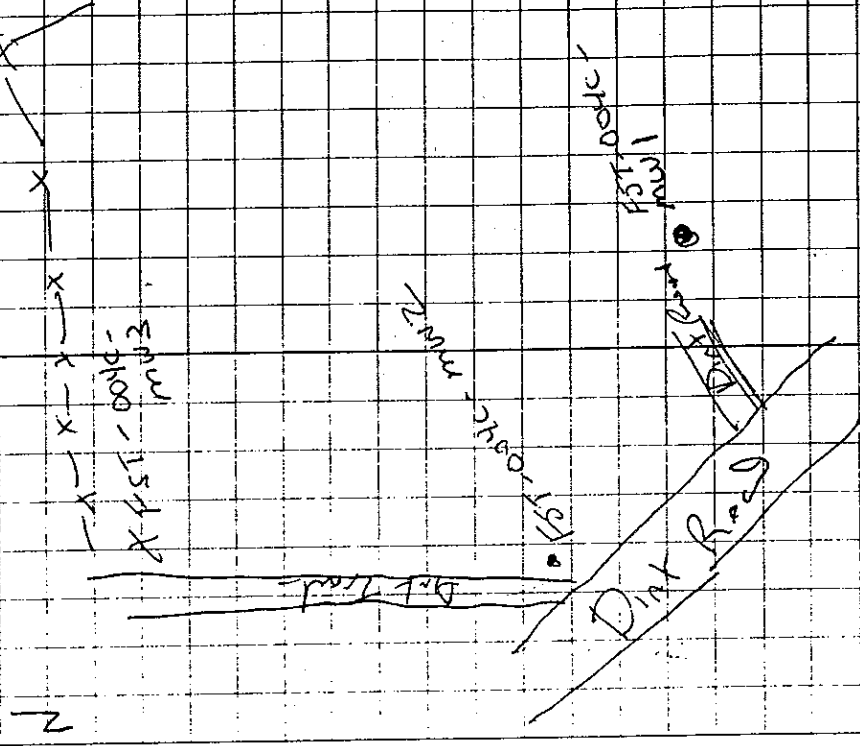
Selected interval - 0-
2-4 ft for lab analysis.FST-004C - SL-4
beddapan 34 - 11th
16 - filled

1210 Finished sampling at FST-004C - MW1

1315 mobilizing rig to site
FST-004C - MW2

(3)

6/23/93

- weather 90°a, high humidity -
Slight wind - Thinning

6/23/93

1529 Began split spoon sampling

FST-0046-MW2

1600 Finished sampling - 4' WD

WT at ~3' 6" 6' 0"

overdrilled 1' to 15'

Set well from 4-14' 6" 6" 6"

sand to 3.5'

beat out pellets 2.5'

Did NOT cross WT because of shallow depth.

1630 Cleaned up - left site to go to Denver
area - Tried to set up governor

Feed was picked up

1720 Lift site

1730 Arrived back at hotel.

~~6/23/93~~
~~6/23/93~~

②

FST-0040-MW3

-- 6/24/93

Forecast - humidity - 70's - No wind

Kathy Thelma

Donna Rivas

Rickie Lewis

Lewis Weeks

- replaced drillin

11:00

0740 Arrived on site - drillin and up
Health & Safety Tailgate
mech

0805 Began drilling FST-0040-MW3

0930 Finished soil sampling

0942 Began auger FST-0040-MW3
Setting down from 4-14'
Well at 7'

20% sand to 3.5 ft 6" 6"
benzene to 1.5 ft

putting probe into casing

1013 finished auger well
Selected 4-6 ft

361

6/24/93

Involved for lab analysis

EST 0040 - 513-6

1044 Left site to Devon

1130 Back for lunch - moved

Janna

1353-1445 down but waiting for

storm to pass -

EST-0040 - NWZ

1452 collecting first right again from

0-2 ft

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

1620 Begun with "wild" -

undrilled to 15 -

had trouble with heavy sands

lost cutting circulation at ~

12 ft 6 1/2 in. There were

for bridging in sand in the auger

1 bag of sand filled barrels to 5' 6 1/2 -

Had drillers pull out well &

redrill.

1900 Mark made arrangements in site.

pr Gd m, Scintill.

(8)

(9)

6/24/93

undrilled well to 19 ft - when

began sand pack installation

barrels open to 18.5' -

Installed sand pack from well casing

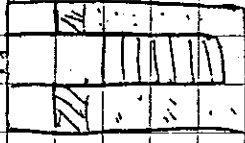
at 18.5' then pulled casing up to

13.5 -

Took 2.5 bag of sand to

Sand pump to 3 ft 6 1/2 -

11



8" bentonite

barrel to

13.5

18.5

1830 Completed well - moved rig to

5' away from well to collect

additional soil from 4-6' interval

water to 6 1/2 5-6 ft 6 1/2

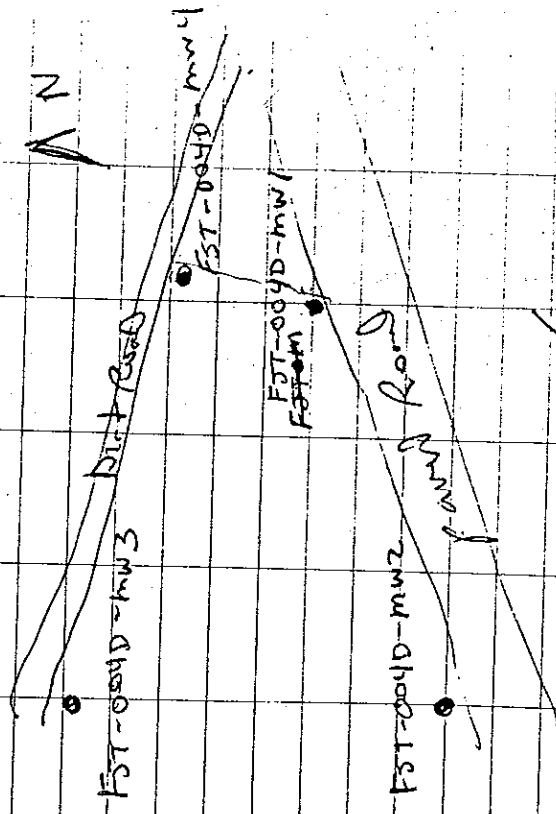
collected dry break slough

EST 0040 - 512-6

EST 0040 - 512-6

6/24/93

1930 Lpt atx.



~~6/25/93~~
~~1930~~

(10)

6/25/93

sunrise → cloudy, hot (90%) humid
light breeze
Fathy Thelma Staff Scientist/
Lester Weeks - driller
Rickery Lewis - helper
0715 Arrived at work site
0730 Driller mixed gravel for
Site FST-004D
7 yellow water to
3 bags water
4 bentonite
Collected water
AS1836 150 ppm methane → 94 ppm
AS1970 " " → 96 ppm
0845 - Finished grouting protection
Leaking - decreasing & drying up
Test water leak in
FST-004C - MW 1 - 411' 66"
FST-004D - MW 2 - 515' 66"
1015 Fielded decanning - mobilizing
to site FST-004A - MW 1
1100 Sethings 48 - Health & Safety
person
John Wickhamville

363

(11)

6/25/93

(12)

drill from 0-8'

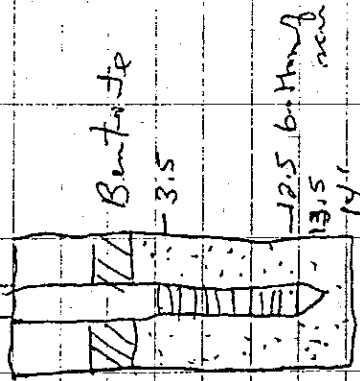
1230 Broke up for lunch

picked up supplies

1330 Began collecting 8-10'

of 1/2 spec - rods and
at 6' when all but set
screw - difficult to fix
WT table measures.

1352 Began to set well FST-004A-MW1



1445 Finished well install-hm

1515 Ricks Left to Desaminate
manifolds -

1545 Left FST-004A to find well to be set
rig. Stem check down - tried to run -
could not - hand down and exposed -

1802 Began drilling FST-004A-MW4 sampling 0-2'

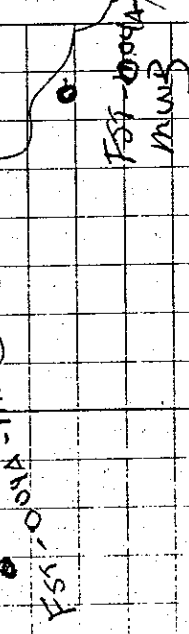
1915 Began to set well - wet at 8.5'

6/25/93

(13)

continuing unit from 4-8.5'

Setting will like other at FST-004A -
became water and will probably be observed



1352 Began to set well FST-004A-MW1

1445 Finished well install-hm

1515 Ricks Left to Desaminate

manifolds -

1545 Left FST-004A to find well to be set

rig. Stem check down - tried to run -

could not - hand down and exposed -

1802 Began drilling FST-004A-MW4 sampling 0-2'

1915 Began to set well - wet at 8.5'

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

2050 Left site

Kathy Malone

hilly, evening (80°) / 14

6/26/93

7:15 Left Hotel, picked up supplies

7:45 Arrived at site FST-0048

packing bottles & cleaning chamber

of evobach for soil samples.

Caveau will pick up & take to

Severnash Lab.

Finished packing samples

09:15 Left to take samples to Hotel &

pick up extra NAC bottles.

09:34 Left hotel going to site FST-004E

checked water temp control on

caveau to FST-004E

11:15 Ret'd to dorm area -

5th floor - chamber fixed that evening

11:00 - Decanning sample

Calibrating OVA - A51856

100 ppm → 200 ppm head

methane

LEL 102 OK.

6/26/93

12:00 Mobilizing to FST-004E

13:00 Arrived at site FST-004E

13:27 Beginning to collect 0-2' split

apron

14:15 Collect split again to 14:16L

beginning to set well hole 3'

by heaving sand in auger

coring 3' - water at

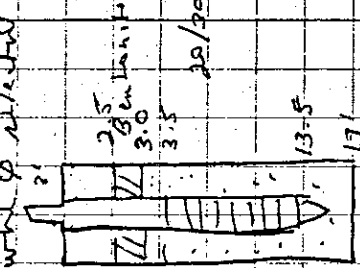
approx 6.5-7 ft 6.5' after well screen

at 3.5 - 13.5 ft for core WT.

14:50 Selected 4-6' interval for 1.6

analysis - all headspace readings

were selected interval close WT



15:30 Finished well - hydrod. backlogs

pellets

365

6/26/93

Describing of 160000 using QAPs
 down procedure. / used by Thomas /
 instead of 150000

1645 left 214

1710 arrived back at hotel

151-0046-mw3

151-0046-mw4

151-0046-mw1

151-0046-mw2

151-0046-mw3

151-0046-mw4

151-0046-mw5

151-0046-mw6

151-0046-mw7

151-0046-mw8

151-0046-mw9

151-0046-mw10

151-0046-mw11

151-0046-mw12

151-0046-mw13

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151-0046-mw243

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151-0046-mw245

151-0046-mw246

6/28/93

(18)

1120 Center plug was freed

1140 Breaking for lunch

Wet at 10' (M. ave. 11')

1 Foot stick (8)

1236 WL = 94-1' = 8.4'

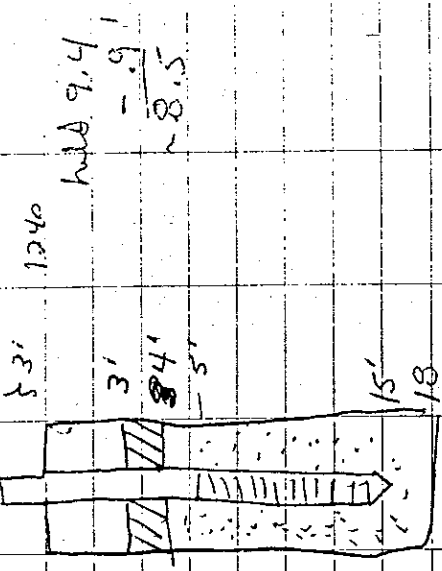
Selected 6-8' in hand

for lab analysis - ~~at~~ this sample had the highest head space reading -

above WT -

system wet at ~9' 66-

FST-004E-MW3



6/28/93

(19)

1248 Driller rode from lunch -

beginning to set FST-004E-MW3

~3' of heavy sand in auger -

overdrilled to 18'

1404 Crimped sand pack - bridged

at one time - pulled auger up &

was able to shake bridge free

1445 Ricky left to Dean -

Top broken off transfer case -

leaking oil - rig down - removed broken

1530 took Lewis to Washrock top

shop - Bear shop welded cover

back together

1600 left Washrock -

1624 Arrived back at rig - fixed rig -

& moved to FST-004E-MW2

1719 Left S.H. - Driller arrived to Dean

Dean's

Am Cloudy, 70%, humid, slight breeze (20)
 P.m. Sunny, 90%, humid, slight breeze.
 6/29/93

Lewis Weeks Gus Peck 1000

Kathy Thelma

Ricky Lewis

0600 Loading up truck at 14th

0615 Left to pick up supplies

0640 Arrived at Washrock area - June

Garrett Development equipment

0700 Left for EST-004E

0715 Stopped along Rt 144 -

Dial the truck ran out of gas -
 waiting for Lewis to return with gas.

Began calibrating OVA

100 ppm methane / read 94 ppm

LEL / O₂ OK

LEL alarm went off with

2.5% methane.

0750 Dr Lewis arrived with gas -

went to site EST-004E &

started monitoring well

EST-004E = MW1 and

EST-004E = MW3 and

(21)

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

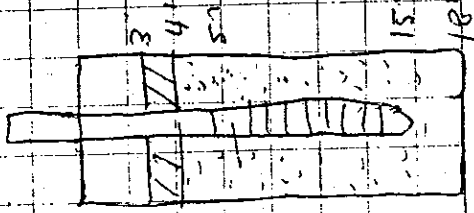
4' of heaving sands in auger -

put head of water (pot-66) into

well - approx 25 gallons

Beginning to set well

undrilled
 bore hole to 18'
 to remove heaving sand



22

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-mw-4

Selected 4-6' interval for

log analysis of VOCs, RCRA metals, & pH

(FST004E-SL4-6)

1130

Left site for lunch & drove Garret, Mark & Kathy out to TAC-X and Camp Oliver to locate wells -
Cathy Oliver & TAC-X had 4' well.

1415 Ret'd to site FST-004E - Ridge

Did not return with Lewis.
(Drillhead accident with truck on way to clean - bumped truck)

53

6/29/93

1445 Began drilling FST-004E-mw-2

1515 ^{1st} combo cable core 1/6" wash reel used to hammer screen -
Lewis trying to fix.

1530 Lewis left site to find Rivington
help drill with

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

1745 fixed window & began drilling & sampling
6-8' bbs.

hit water at approx 8' - sample
wet - saturated.

1820 Finished drilling to 16' bbs -
drying

Began setting well
WT at ~ 8' - nothing will return
from 5-15' bbs -
(31 above WT)

Selected 6-8' interval for

log analysis of VOCs, RCRA metals
& pH, SPC - at point above WT only
headings = 8m-0.1

309

(24)

6/29/93

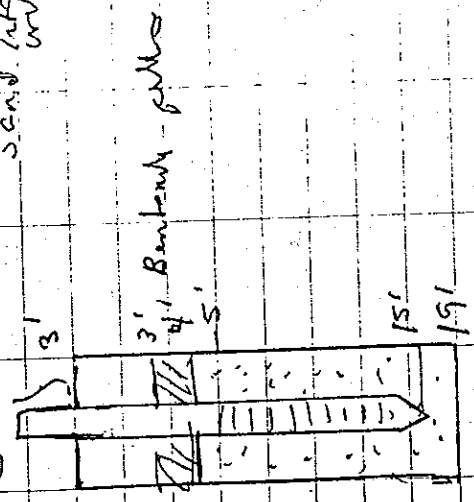
No heavy rain in auger when began installing well.

1832
0630

Began installing sand pack.

Sand bridge - pulled well casing out and reinstalled.

Overdrilled to 19' because of heavy sand in auger - 5' stirred sand into well.



Took 2.5 bags sand added ~ 35 gallons of water to well.

(35)

6/29/93 hydro 3 bantam filler
1920 Finished installing #1 FST-QSYE-MMZ
1940 Left site.
2000 arrived back at Hotel.

~~1920/6/29/93~~

6/30/93

0600	Left Began Loading truck
0615	Left Hotel

0615	Wt 17.7

06/15 Arrived at Washburn & Left
for 314 FST 204F - dropped off
Calig. ga

0730 Arrived at 516 FST-05VE -
cleaning up - Can't say 'g. Ford
Ricky Lewis ^{was} injured during 'Can
accident - went to hospital 6/29/93.
That is why we couldn't find him
GUSPECT 1000 Rg down -
MOBILE 8-57 Rg will finish last
4 calls.
0830 Lewis left site to drive ³⁰⁰⁻⁰⁰ VET to take
supplies back to Ruby so he could
return to Atlanta.

Took water level in FST-004E-mw1

14.75619

6.00	stock v

33

Checked out GA with abundant Reg.

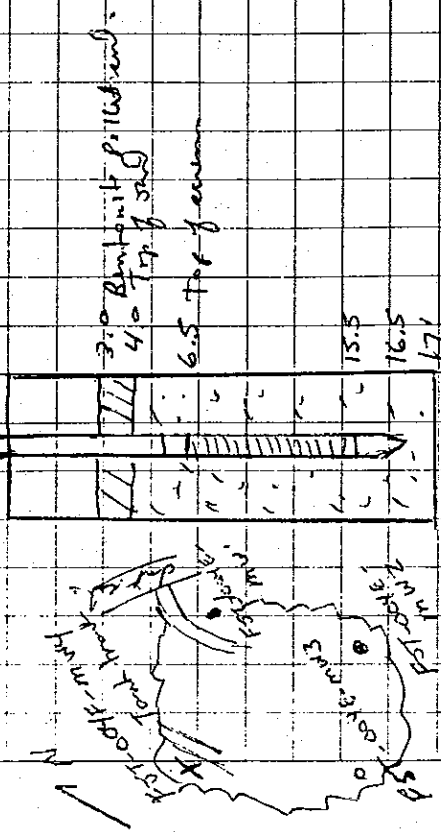
26

6/30/93

1030 Took on Mobile B-57 -
~~nothing~~ mobilized to
 Fort-004F-mny - setting.

11:00 Began drilling - 5 ft. + - from 0-2-1
1 ft. deep

1245 drilled to 1417 to cut well -
collected split span depth to 16"
Beginning to put wall.



Selected sample 0-2 returned for
histogram had highest QVA
reading 3/8 ppm

set water from	6.5-16.5.

371

6/30/93

1430 Finished collecting soil sample
d cleaning up - left site

Looked for F5129 for ^{route to} ~~for~~ ^{to}
Camp Oliver

1500 Ret'd to washrock - chiller
decanning & loading up to
mobilize to Camp Oliver F5T-002

1540 Left for Camp Oliver

1640 Arrived at Camp Oliver

Set rig up on F5T-002 - MWZ

1707 Left site to go back to
washrock -

0:

1807 Arrived back at Hotel.

1824 Finished unloading truck.

1900 - 1945 program work

6-7/1/93

(29)

F5T-002 - Camp Oliver

0600 loaded truck

0640 Left hotel -

0640 Arrived at washrock - chiller
gone - mobilized to F5T-002

0730 Arrived at Camp Oliver F5T-002

work

Kathy Thelma

Xavier Samuel

Robert Holcomb

Louis Weck

Arrived at site F5T-002 at 615

d started breaking up pads

Showered Louis back to

Co-MWZ d Co-MW1

Calibrating DWA 128

100 ppm methanol / read 94 ppm

Checked LEL meter / OK

Measured WL in Co-MW3 -

held 7.7'

stack up 2.8

~4.9 ft bl

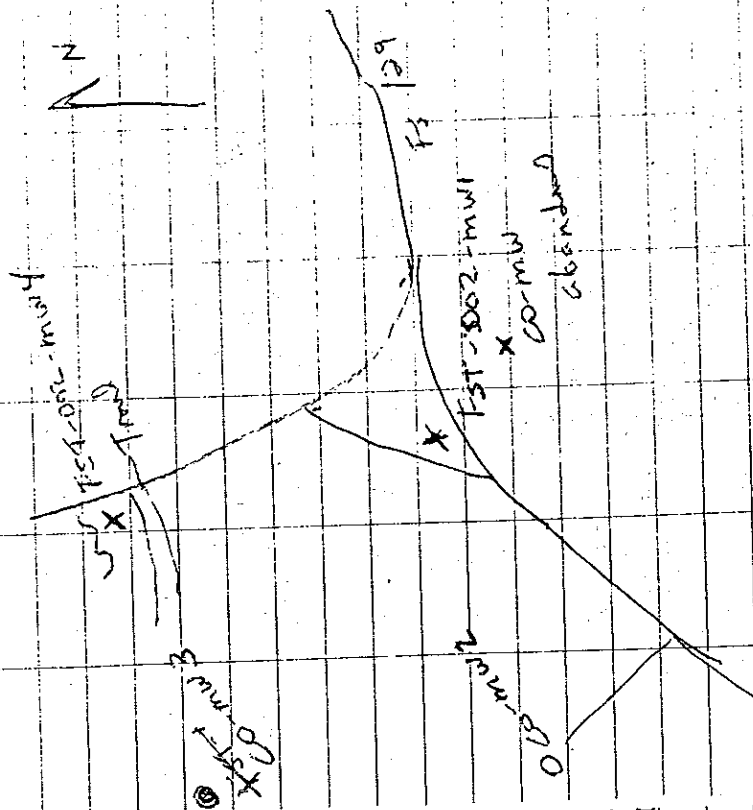
Robert Holcomb

Kathy Thelma

Xavier Samuel

71193

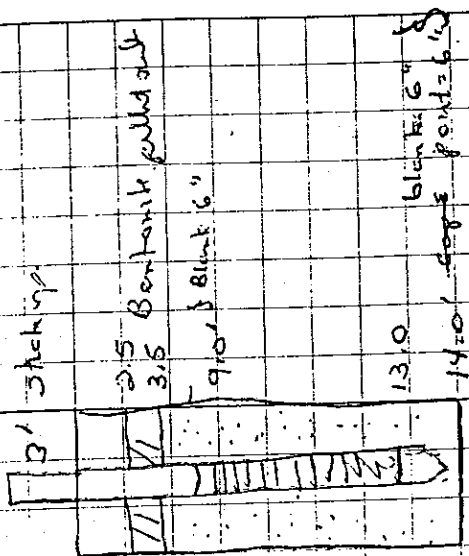
0830 - Begun sanding 0-2 ft at
FET-047 - mwt



1000 Finsch collected 9/11/02
began installing EST-002 - MW4
Wet at ~ 7' 1/2 CO - MW3 wet at
5'

7/1/93

1030 F110149 12512/11m F3T-002-MW4



Took 2.5 bags of sand
Selected 6-8 ft. sample for lab
(analysis of Vol% (d240) RGA mH₂O
Sp. / pH
Sample density about WT ~ 7
and had 0.2 ppm OVA reading
Collected 5 pl. of digluconate
this site

45T802-SL4-8

FS 002-200151
B-4675-3

EST 2002-56-8-475-20015-3
~~EST 2002-56-8-475-20015-3~~
 475-20015-3

373

7/1/73

1038 Moved rig forward ~4' and collected additional 3' split spoon for split & dump sampler finished sampling & collected IDW sample.
Moved rig to EST-002-MW1

1130 Drilline broke for lunch

1200 Began drilling EST-002-MW1

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

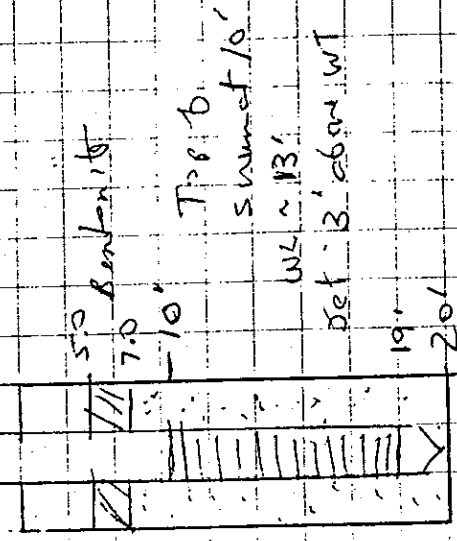
1500 Collected split spoon to 20' beginning to set well

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

7/1/73

WT
well open

1510 Finished setting well



used 4 bags of sand

1542 Drilling past hole for protection packs at EST-002-MW1
Selected 10-12' interval for 106 analyses - directly above WT
here highest OVA reading
Collecting IDW soil sample

(34)

7/1/93

1630 Drillis left to get
hose to grout & gear line
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 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 out

1915 Arrived back at hotel -

Am foggy - cool

7/2/93

(35)

70's - calm
Kathy Tholman
Kevin Samuels
Robert Holcomb

0530 Left Hotel for Camp Olm.

0633 Arrived at Camp Olm.
(FST-002)
mixing grout to abandon
co-mw1

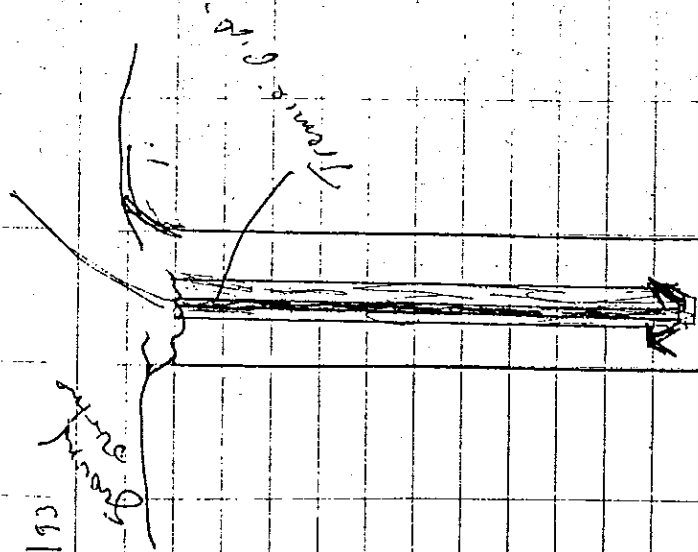
Mixed 3 bags of Portland
~ 21 gallons of water
2-3 1/2 barrels

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

375

7/2/93

(36)



Told drillers to fill in hole with sand & soil

0700 Finished abandoning well - hole 230 yds from point

Drillers cleaning up rig pump - drilling part below at FST-002-mw4

(37)

7/2/93

Signed 96 in drill bit bearings

0800 Left site FST-002

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

0910 Left to buy oil & supplies

0930 Beginning to set up to develop FST-014-mw1

0950 Tom Nickerson & supervisor visited site with Garrett Wm.

1000 V. King left site

Calibering machine STD Reading

pH 4.0 4.05

7.0 7.09

SPC 1413 1350

447.1 480

(32)

7/2/53

Turbidity meter

STO Reading
10 11.95
5 5.08

Measured WL

12.25 wt
- 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 Completed well development -
find NTU reading of 2.89 NTUs.
Evacuated 55 gallons of water/
approx 55 well volumes.

(39)

7/2/53

surged well with boiler after ~
15 gallons water removed -
also moved fifteen feet 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'

1.16 gal / ft
7.119 gallons per well volume

377

7/2/53

1400 Trying to pump F51-004-mw2
had difficult time getting
pump to pump

1440 Begin pumping well F51-014-mw2

1510 Surged well for ~5 min

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

Final NIV - 8.0 -

Took picture -

Removed ~75 gals of water

1710 Left site

1725 Arrived back at the 60

1900-2100 - Did back from +
prepared samples for
shipment

7/3/53

0745 loading & packing equipment
on truck

0830 Left hotel to go to Ft Stewart
F51-014 - Zevick company
drillers cleaning up last night
& checking to make
sure all wells have caps & locks
also putting protection posts at
F51-014

1000 Drillers finished up with

Zevick another arrow -

loaded equipment -

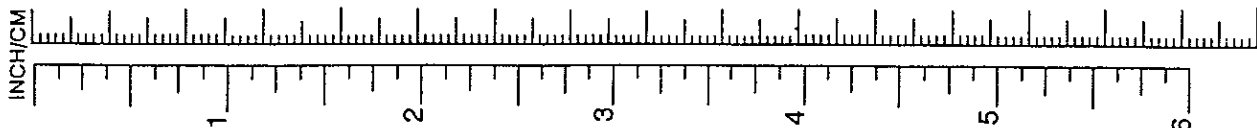
left to go up by truck

1200 Drillers left site.

[Handwritten signature]
7/13/53

EXHIBIT A.2.3

GEOLOGIST GARRETT WEISS



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
feet	1.093	yards
kilometers	0.621	miles
WEIGHT		
ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds
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		
°C = (°F - 32) x .555		
°F = (°C x 1.8) + 32		
INCHES TO FEET		
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
FEET TO INCHES		
1"	.0833	25.400
2"	.1667	50.800
3"	.2500	76.200
4"	.3333	101.60
5"	.4167	127.00
6"	.5000	152.40
7"	.5833	177.80
8"	.6667	203.20
9"	.7500	228.60
10"	.8333	254.00
11"	.9167	279.40
1 foot	1.000	304.80



7.N.
912-612-5675

Name Garrett Weiss
Georgity & Miller, Inc.
 Address 97 Midway Lane
Dark 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

Headspace measurements
(all unfiltered)

0-2 0.2

2-4 No recovery

4-6 0.2 - Sample for lab QWT

6-8 1.6

8-10 0.6

8-10 Blows - 2/4/6/8

Lith (in 10% recovery)

5 YR 2/2 Outcrop below

fine smt, some rootlets, saturated, SM

10-12 5/6/7/10

10-11 a/a

11-12 5 YR/2/2

medium to coarse

sand, saturated, SM

OVA - 0.4

12-14 4/3/2/14

5 YR 2/2 Sandy

gravel, angular, poorly sorted, SP

OVA - 0.8

1235- Borehole for FST 014-

MW-2 completed to

15' below surface

(core drilled by 11 to allow better filling)

~1310 - ~~Argon~~ tested, called

Pedro Fierro, GCM P.O.

A. Express concern regarding

typical heat

o. A. Heel IF IVC

Need to be cleaned

(yes)

1320 - Called T. Nicholson

(CofE) re heat - she

will re re disposal

w/tyrds

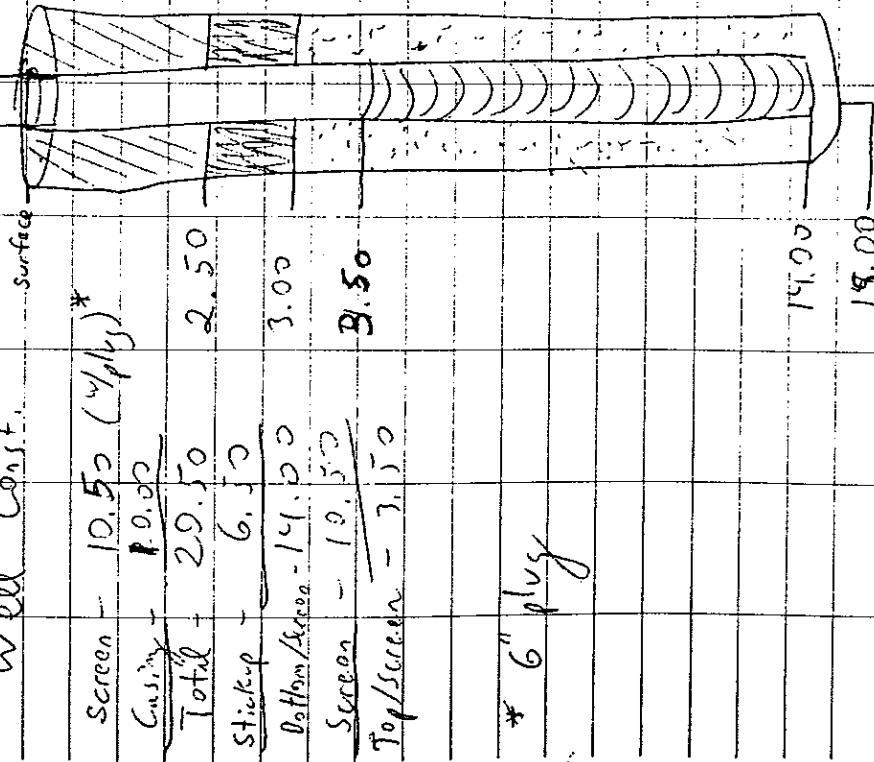
4

FST014- MW2

Well Const.

3.00

surface



Screen - 10.50 (w/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 1/2 to 2 to 3 bags (20/10 grade)

Bentonite - 1/2 buckets

Rig - 0-57

Driller - Xavier Samuels

5

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

Interval (ft)	Blow Counts	unf. OVA <u>estimated</u>
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	fine sand, dry	Mod. brown
2-3 1/2	aka		
3 1/2-4	10 YR 6/6	orange, white, yellowish fine, dry, fine sand, dry	
4-4 1/2	aka		
4 1/2-6	N9	white, well sorted	
	fine ind, damp @ 5'		

6-8	5 YR 2/2	Dusky fine to red sandy, wet.
8-9	aka (color), mottled red in wet	
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'	
17-35	Mw-3	set up to bottom & stop work due to lightning

1630 - Lane site.

FST017 MW-3

Screen - 10.50

Casing - 10.00

2.5

20.50

Stuck 5.40

Bottom Screen 15.10

Bottom Screen 10.50

Top Screen 4.60

3.0

2.5

3.5

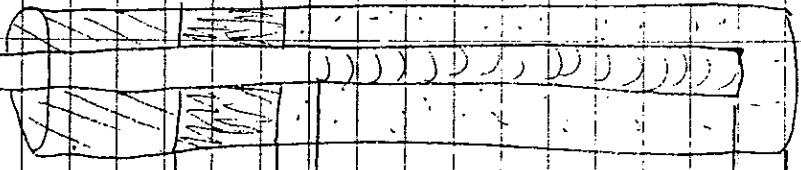
4.6

15.1

15.1

Sand - 2 1/2 bags

Bentonite - 1 1/2 bags



FST-004C-MW-3

Lithologic

0-2 5 YR 2/2 Dark brown

silty sand, numerous
rootlets, dry, slightly
fett. 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 - span blocked
by root. 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} clayey, silty, sand, numerous rootlets / wood fragments, saturated.
10-12	N4 med. Dk gray clayey silty medium grain sand subangular, some wood / no fragments, saturated.
12-14	wh
	Over drill to 15' to allow for bearing sand.
1110-	FST 004C MW-3 borehole Completed to 150 ft
	Borehole diameter - nominal 8"
1142-	MW-3 set up to batter

14

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

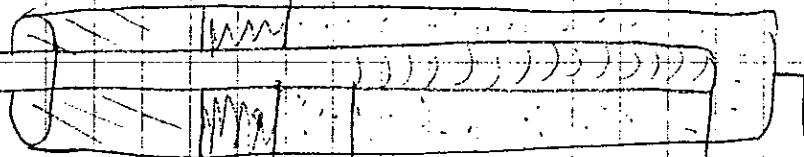
4.3

14.8

15.0

Sand - 2 1/2

Perforator - 1 1/2



15

1200 - Break for	Lunch		
1330 - 0-57	Set up	over	
FST 004C-MW-4			
1352 - Begin drilling			
MW-4			
Interval	Blow	Unfil.	Filtered
0-2	5/9/13/15	0.2	0.0
2-4	8/17/14/15	12.0	7.0
4-6	2/2/2/2	5.8	5.0
6-8	1/4/6/8	2.0	1.0
8-10	3/5/6/7	4.8	3.4
10-12	4/8/7/10	1.2	1.2
12-14	5/6/5/7	4.4	2.2

389

EST 004C MW-4
Lithologic

0-2' N2 dk gray, 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 imp

8-10' w/a

10-12' w/a

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

Borehole overdrilled to 15'

1457- Borehole for EST004C-
MW-4 completed to
11'

1530- MW-4 completed to
bentonite core rig
down

1620- @ down ped, both
rigs & tools, steam
cleaned

Corrosion Pickle
Smoke Stacks
New lift station

1720 - Core site

FST004C - MW4

3.0

Screen 10.50

Cas. 10.00

20.50 20.50

5.70 6.90

15.20 17.50

19.50 10.50

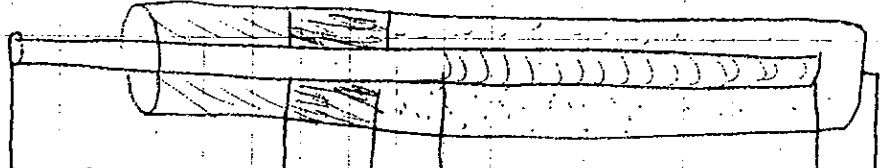
4.70 4.00

3.5

4.0

14.50

15.2



Base

Smel - 2 1/2

Bentonite - 1/2

18

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 - B-57 crew to

great holes @ FST004C

while I ship samples

Will bring pick up more

pallets for drums.

0800 - SAVA #13 - Field. Ex. Pick up

Call Fed. Ex. and courier to

Pick up soil samples, Left

Colours with Carson Smith.

0900 - Inform B-57 crew that

drums will need to be

switched.

19

391

Open-top done C sites

FST0041C ~~||||~~FST0041D ~~||||~~FST0041E ~~||||~~Stack yard 89 91 90 90

105

ordered - 38 open top

90 bungs

128

Need to

exchange 67 open top for bungs
pick up 23 more bungs105
38
67128
23
105Atlanta - 404-434-9666
Tampa - 813-961-1921

0910 - Called PC do Firo -

h'll check on TTH ext.

method A (P015 v 8100).

1000 - A-50 set up on FST0041D -

MW-1. Leave site to

coordinate effort to

switch drums.

1030 - checked w/ Pedro -

use 8100 mod for TTH

ext.

1110 - Bunting on OVA dead.

Will remove head space w/ KT's

OVA

1215 - Update to J. Peterson, is

water level is shallow place

seen across road

use as great if necessary.

Dg m d. 11. C 1100

ended at 1145

22

FST 0040-MW-1

ft	Blow	WFI	WFI	WFI	WFI
0-2	2/4/9/15	0.4*	0.4*		
2-4	9/14/17/17	0.6*			
4-6	7/8/9/11				
6-8	8/10/9/13				
8-10	9/14/17/15				
10-12	3/7/8/7				
12-14	5/10/17/17				

* QUA (som) are not
working

23

L. M. L. 10/10/10

0-1	5 R	4/2	Gravel red
	silty	fine sand	dry
	some	rocks	
1-2 1/2	N 8		Very light gray
	silty	fine sand	red
	dry		
1/2 2	color	3/4	Dark reddish
	brown		clayey fine
	sand	moist	
2-3	same as	0-1	6 ft
2-4	same as	1 1/2 - 2	
4-6	5 YR	2/2	Dusky brown
	very clayey		fine grained sand
	water	4'	loosely sorted
6-8	1 YR	3/2	Grayish brown
	coarse		gravelly sand
	(up to 6 mm)		clayey
	saturated		(poorly sorted)
	finely		quartz grains -
	subangular		
8-10	5 YR	6/1	light brick gray
	1.75		a/a

393

24

10-12 NR, very light gray, fine to coarse grained clayey sand (no gravel), poorly sorted, subangular, saturated.

12-14 10 YR 6/2 pale yellowish brown, gravelly coarse sand, about 40 fines

Over drilled to 12" - no samples collected.

$$\begin{array}{r} 22.5 \\ 6.3 \\ \hline 16.2 \\ 10.0 \\ \hline \end{array}$$

$$\begin{array}{r} 22.5 \\ 6.3 \\ \hline 16.2 \\ 10.0 \\ \hline \end{array}$$

$$\begin{array}{r} 20.1 \\ 6.3 \\ \hline 13.8 \\ 1.3 \\ \hline \end{array}$$

25

FST004D - MW-1

Screen 10.50

Casing 12.00

Total 22.50

Stick 6.50

Screen Bottom 14.00

Screen 10.50

Tip of stick 3.50

3.0

2.5

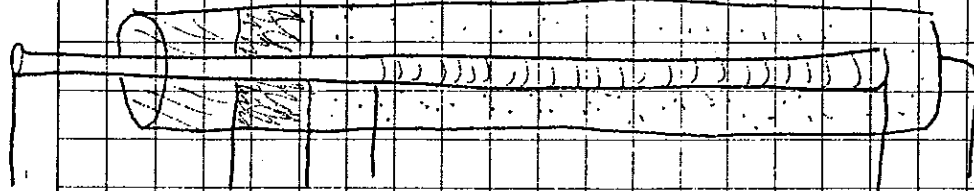
3.0

3.5

14.0

15.0

Range
Sand - 2
Depth - 1/2



26

1210- Attempt to repair OVA -
cell service for distance.

Took sample from 2-4' interval
from FST004D-MW1 (sample
above water table).

1300 - Wait for Hydroform to
clear, crew breaks for
lunch.

1410 Hydroform passed. Set up
on FST004D-MW1.

OVA not functioning.

1500 - Begin drilling.

1550 - Drilling complete to 15'

1625 - well completed to bentonite.

27

FST004D-MW4

Interval	Blows	Vol. Head	OVA	Fill
0-2	3/7/8/9	0.0	0.0	0.0
2-4	4/7/10/12	2.6	0.0	0.0
4-6	5/16/13/11	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	7/4/5/6	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		

395

28

4-4 1/2 - root

4 1/2 - 6 - N5 medium gray, fn

6-8 - N2 grayish black, medium

grnd 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, subangular

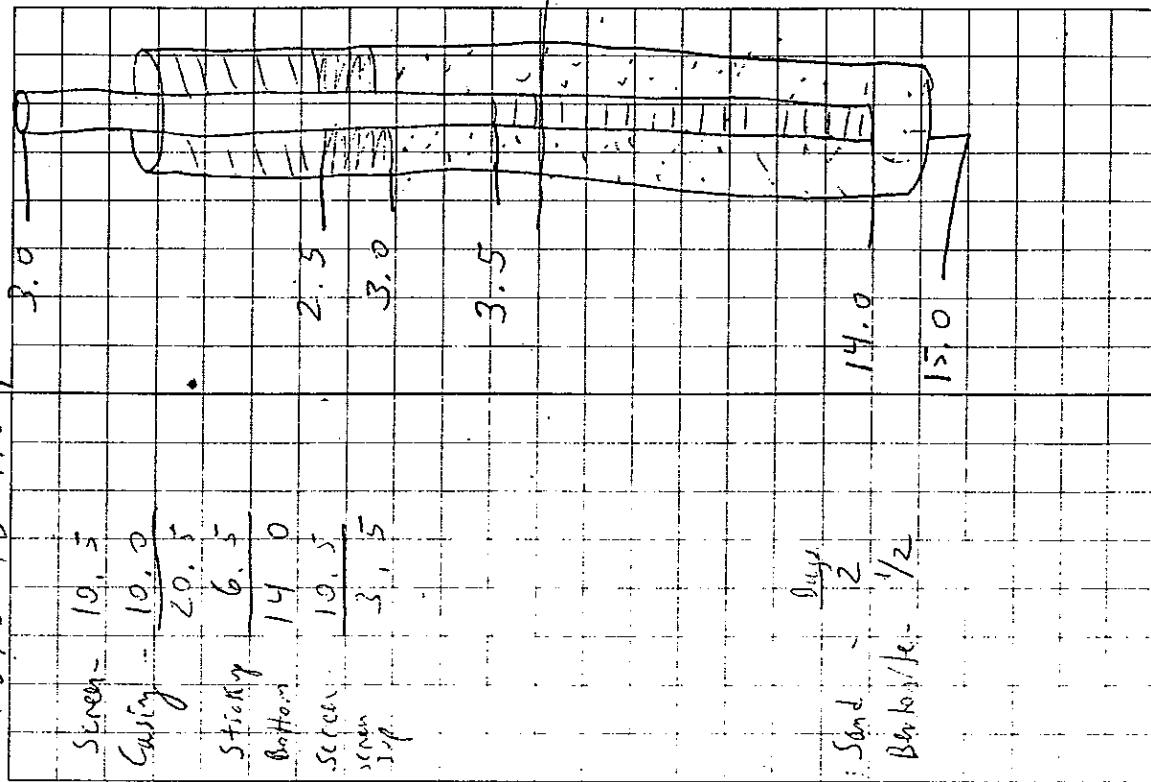
to angular.

10-12 a/w

12-14 a/w

29

FST004D-MW4



30

G. Weiss

25 June 1993

TF 76703

0700- At wash creek, repair/dredge
OVARs

To Do:

1. Call G. Martin and H/S does
(1 weaver - med), 1 on other
2. Call Range Control - E-mail
17 sites. Map - Trees *
3. Call T. Nicholson, make call
to time at Camp Oliver
4. Call Surveyor

* 767 8100

0800 - At ESTO04A - MW3

0823 - Begin drilling

31

ESTO04A - MW3

For hand	blows	OVA
0-2	3/17/6/7	Unfilled / Filled
2-4	3/7/9/11	
4-6	18/15/14/16	
6-8	5/7/9/10	
8-10	3	all
10-12	3	Peterpho
12-14		
M. mine prepared lith. description		
Surveyor		
July 12 - 352-0464		
At 11	for	probe
via elev.	/	bricks control.
T.C. to	handmade	RC.
parallel		
0900 - Call J. Peterpho - at		
to mine	MV-2	at 1000
to	weight	

397

32

0927 - FST004A - MW3
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.

33

FST 004A - MW3

Screen - 10.50

Casing - 12.00

Total 42.50

Stake - 6.50

Screen 14.00

Screen 10.50

Total 3.50

3.0

2.0

3.0

3.5

Buy

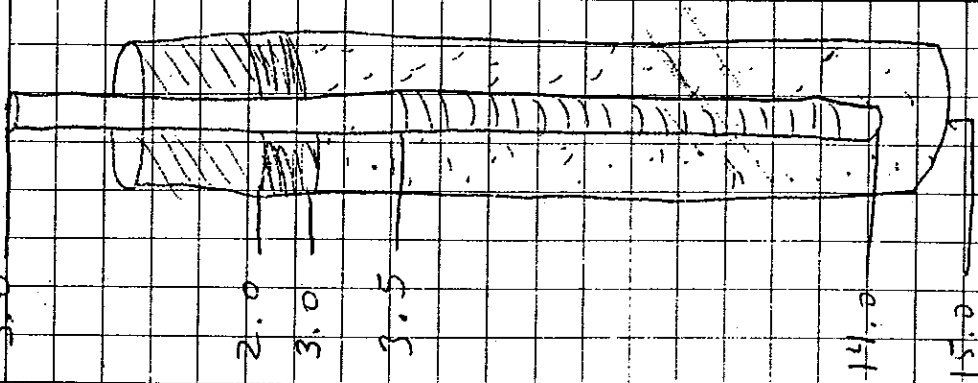
2

Sand

Black - 1/2

14.0

15.0



1125- Lease A site to make
arrangements for surveyor.

Packer Surveyors - Hinesville
912 876-3816

Landier Land Surveyors
912 381-366 fax-86-5404
biweekly - \$55
C/O - \$30

Schedule open late next week.
Tami Currier

J. Peterson with fax materials to
Landon

1230- Stop by 137004A- 1157
Completed MW-2, demising.
Geograph @ 8' on mid-l.
No problems - will collect

split/dupl. forms MW-1
1300 - show MW area. Area
B

1325- Block for Landon

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

To Do:

1. Call Currier for Sat.
picking up samples
2. Review Surveyor's bid
3. Prep sample cooler for
10W sampler *
4. Remind Currier to get
old drums on pallets
5. Prep fax timetable and
expense reports.

* Need

- ✓ Cooler ✓ Sample labels
- ✓ Ice ✓ Sample bags
- ✓ 20 x 100/1000/1000 ✓ Containers
- ✓ Gloves
- ✓ Surveyor fee
- ✓ 15/16 retort

1530 - Show crane where to

set up B-51 @
FST004B

1700 - ✓ check gr. line on steam cleaner.

Located Flare - got lost
with 3" pipe. Shaved
him where FST004B is.

Observed drilling @ FST0040 -
MW-1

1800 - AT FST007A MW-1. Begin
drilling.

2100 - mud completed lean side.

G. Willis

6/26/93

T/F 76403

0770 - @ FST004B - prep. soil
sample for pigment

0800 - steam cleaner down - credit
looking for replacement

1050 - checked w/ Range control -
OK. L. more to

4 tanks E & F today.

1170 - Return to work track -
prep materials for IDWSL
sampling.

1205 - Sample drums @
FST0141.

1240 - FST004D

1311

1316 - FST004C

1350 - Drum lid on MWV
does not fit.

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

1715 - @ FST004A to sample
drums.

1730 - Sampling completed
Shovel mark E & R
areas

1600 shovel M. MORA EDF siter,
check on Gupack @
FST004IE completed one
well.

1700 Shovel siter

28 June 1993

6. W/31
TF 76403

0625 - Pick up supplies

To Do

- ✓ 1. Call Courier - arrange for
Tup. pickup.
- ✓ 2. Conduct FST004B-MW4
safety levels (DVA)
- ✓ 3. meet T. Nickelson @ E
@ 0800
- ✓ 4. Ship MARD samples
- ✓ 5. Review well development
- ✓ 6. go to colt talk to TM
for surveyor bid.

0720 - @ FST004B-MW4,
Check averager ton with
DVA readings > 1000 with
filter at 2000 ft. Call
J. Petrosola - a sample hole
more to next well siter.

0745- stuck in tangle on
base caused by hoop
conducting IT on main
roads.

Called Sam las to
get carrier to pick up
samples tomorrow morning.

0930 - @ FST004E, meet
T Nicholson.

1017 - @ FST-003 Tag-X
MW-1 4" well w/ pub.
Needs prot. pipe / ports

4x 4" wells with pads.

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

~ 1300 - break for lunch.

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

1400 @ FST004E
Finishing MW-3
Transferred base on rig
broken, landing site shut
down.

1530 - Leave site

To Do:

✓ 1. Call JP - ✓ E boilers

✓ A. prot. casing ports ✓ 2x mob.

✓ 4. P.C. in dead FST-13. meter

2. Gas - Beeth, and

3. Get - a gloves (non Deloged)

✓ A. Spool - c. 7' 1/2" meter

✓ 4. Disc well port. ✓ 2x / JP

✓ 5. Buy 16' 1/2"

✓ 6. Gas can - stay area

✓ 7. Gloves

✓ 8. Spray bottles

✓ 9. Paper Towels

✓ 10. E.D.

Sw. Gas
Killing
Hole

1445- C FST0048 to sample
soil cutting IOW down

1520- Sampling complete.

1550- C FST0048, rig
stopped. Driller looking for
help.

~1700 - Driller returns without
help. Continue drilling.

1950 - well
site completed, leave

30 June 1993

G. Wells

T/F 76403

0605- Speak to Dr. Hers,
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? Dan 0930 -
found -
- ✓ 2. Call T. Nicholson re
Gupac Oliver - station/replace re
repair damaged well?
- ✓ 3. Brief J. Peterborough project -
check on turbidity meter
and surveyor.
- X 4. Begin well development
also turb. meter

0620 - C wash truck, crews loading materials.

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

0804 - sampling complete.

0822 - C FST 0041F

0830 - Call T. Nicholson

1. Asbestos/leptone well @ Camp Oliver.

2. will ✓ to see if 16 needed for development.

0844 - spoke to Don Kernal - we don't file 121/2201 for 2201. Recommended telling Lynne to do so.

0855 - J. Petersen called, work out schedule/ground plans. Call. Surgeon, coordination meeting with site for Friday.

Call Surgeon

1025 -	FST 0041F - MW3 completed.
	Call J. Petersen with proposed schedule.
1106 -	Leave FST 0041F to buy supplies and locate equipment (testidity meter and extra pump).
1135 -	K.A.P. supplies (gloves and pipe knurl).
1215 -	Call to find pump for development (found one) and buy wrench (unsuitable to locate).
	Called surgeon - left message to call on Friday.
1250 -	Return to FST 0041F - completing last well.

1350 - Begin sampling PST 004F
IDW

1435 Sampling completed.
Called Jeff Peterson

T-13 meter needs generator.

813-968-2278 } Ken DeLorge
813-269-3506 }

PG must be on site during development

1530 - Return to hotel to pick up
taxi from Ken DeLorge re
generator specs. Return to
site - set up @ camp Oliver.

1900 - 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

Unsure to locate M. Moss

Need to pay for development

A. Strick for surge slack
(11/2)

O. Glover

C. O. Wooten

~~D. Spray~~ bottles (2x)

0945 - M. Moss arrives @ Camp Oliver

1000 - Leave site M. Moss and

Lewis Week go to Tex-X

7th break pads

1100 - Arrive at Hotel. Turb

meter being washed and

PH/EC meter are in.

1137 Called Tom Price

- A. well blocked by truck
- B. Auger left on rock
- C. prod left on rock

1150. Pick up white generator.

1157. Call Rusty Thadmon
regarding Army's complaints
on wash rock.

1215- Pick up supplies, refuel
truck.

1225- Break for lunch
read Truck water manual.

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-	unland	equipment	for
	development	-	discovered
	fitting	for pump discharge	
	is missing	leave site	
	to buy	hole	
1352-	Return to	site	fitting
	on pump	slightly larger	
	than box	fitting	
1400-	Load	truck - leave to	
	find	hardness	stone
1425-	Return to	site	valued
	assemble, and	estimate	
	meter		
	Turbidity meter (La M. He Chem Mod 2000)		
	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	
	1.413	std =	1.41
	4.47	std =	0.48

F5T04 - NW 4			
Development			
Temp - 26°C			
Time	pH	S.C.	NTUs
1540	5.14	80 _{ms/cm}	Black (>200)
~ 5 gallons many fines, very turbid			
1550	5.48	70	94.4
~ 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 if well is not agitated, but becomes turbid (>200 NTUs) if surged or even if pump drop-line is moved vigorously.			
~ 45-70 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
55 gallons - End Development			
1740 - Well secured drum			
closed, equipment loaded, trail picked up. Leave			
F5T014			
1745 - V. 54 wash mat, again picked up and placed on sawhorse. but this time is still there.			
1750 - Leave base			

54

Leave Truck @ 1139? AIR TM

✓ Call Courier - Sgt. Pick

✓ ASK re extra drums

2 July 1993

G. Weiss

TF 76403

0720 - Arrive at staging area, pickup 3 drums deep off at base 1 thru 3 @ FST 014

0740 - Received call from H. Thalmann - finishing up assembling with @ Cam @ Oliver - will be here shortly (FST 014) Complete daily log

Developed equipment

✓ Generator

✓ Pump

✓ Scooping (lengthy)

✓ Shovel

✓ Rope

✓ All meter

✓ Sec. meter

✓ Stud meter

✓ Sample jacks

✓ Well Keys

✓ Benj. wrench (broad outer)

✓ Forms

✓ Camera

✓ Photo bulbs

✓ M. Scope

✓ Grease oil

55

0820 - Called Dave	143	made
arranged pickup	after	sample pickup
from	midway	
0900 - met T. Hoffman	T. Hoffman	I. Lurie
0924 - A. Smith	drums	
8 Stringer	with	rack row
1	leave	material in 8 area
	will not	able to get
	Jul 1 PUC	- not sent Bantam
Leave parts, guards		
1	Leave	keys (in 8 area)
	w/ Army	& Co F
0947 - Leave	1129	for site
hour	T. Hoffman	I. Lurie
1000 - FST 014	- no problem	
1009 - FST 004D	- MW 3 - no pellet	no lock
	Mule	sure all well
	lacked	
	Give X-ray	Detection
	re: with	rack

409

1012 - FST004C - MW3, drum

lid not on

FST004K - MW2 - no pallet

FST004C - MW4, lid

granted

Put level on empty tops

1032 - FST004B - MW4

Trash drum needs lid.

FST004B - MW2 / MW1

covers coated

Stake location of MW4

for MW2 coated only

1044 - FST004D

Trash barrel moved on

pallet.

1113 - FST004E - MW2

Not granted, no pallet

FST004E - MW4

Not granted

MW-1 grant down needs to

be removed.

1131 - FST004F - MW1

Prep up trash

MW-2

2" not cut, no cap (taped)

MW-3

" Pick up trash

MW-4

"

1225. Place concrete from pads

out - 17 mg

Make sure top of 4"

wells are above lip

of prot. casing.

~1770 Return from Camp Diva

Attempt to find cross.

58

1500 - Attempt to make down
everyway to 1139 but gone
home.

1600 - 5 wells @ FST041 OK

1770 - Return generator, leave
site.

59

3 July 1993

Gr. W. 1139
TKE 076903

0700 - Prep samples, load

0800 - trucks. Leave to
d. 1139 site check.

0820 - met with
will remain to finish job

Do today:

A. Finish FST041 - post.

B. locate all new wells
painting

C. Clean up Zoukri Cemetery
Area

Week after next:

A. Finish Camp Oliver - post.
posts (new wells located)

B. FST041E - post, painting

C. Touch up paint on
wells.

D. Set out bug drums
at each site.

E. Set out all drums and
pulls.

411

12 July 1993

G. Weiss

TF 76403

- 0730 - met w/n Mark - 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 surveyor - will start this morning.
- 0810 - call J. Peteroka - not in yet.

To Do:

- ✓ 1 Get open top drums moved
- ✓ 2 stake well location at FST004B for surveying
- ✓ 3 buy pump fittings
- ✓ 4 Develop FST014 MWL 1st for 4 hrs
- ✓ 5 Get forms from M. Moore - Development logs and QA forms

0845 - Called J. Peteroka - no word on required action for concrete pile @ FST 003. I'll call G. Mueller w/Layne.

0847 - Layne crew due on site by mid afternoon.

0910 - stake well location @ FST004B

1050 - C FST014-MWL for development

Interstruments:

pH - Martleson Model 88

S.C. - Martleson Model 103

turb. - ESO Model 800

Calibration - Temp - 30°C

pH	Std	Measurement
	7.00	= 7.00
	4.00	= 3.98
S.C.	447.1	= 0.46 (1000x actual)
	1,413	= 1.34
Turb	0	= 0.02
	10	= 8.46

62

1119- FST014 MW1

Static water level 11.11 btoe

1150- Begin development of FST014 MW1

1530- End development of "

Call J. Peterson

Setx, 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 status

preservative

1600- Spoke to M. Price - TEL met

Don't need preservatives

Begin sampling 1900 @

FST014.

1640- Sampling completed - leave

base

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13 July 1993

G. Weiss

TF-78903

0700- @ site, coordinate with
drillers to get drums
moved, bring more drums to
wells @ FST004D0845- Begin development of
FST004D - MW1

Calibrate instruments

	Std	Reading
pH	4.00	4.00
pH	7.00	7.09

S.C.	447.1	0.47
	1.413	1.30

Turb.	0	0.00
	10	8.10

14.91
8.47
6.27

413

See daily log for details.

FST004C-MW2 Re-develop

Time	Vol.	Temp	pH	S.C.	Yards.
1805	~25	27	5.48	130	>200
1820	~28	28	5.53	130	>200
1840	33	28	5.49	130	174
1900	45	29	5.54	140	53
1915	50	29	5.55	140	44
1930	55	29	5.52	140	34

Develop not complete

Flow rate - 0.25 gpm

1940- Leave base

14 July 1993

G. Weiss

TF76403

0700 - Reice 1PW 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.

 $1/4 - 74 = -142'$ $1" - 74 = -142'$ $29 - (4 + 1 + 2) = 22$

66

0840- @ FST004C, assist M. Moser
 rissing 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. bailer
 in well, allow to
 recharge before surging.

0945- bailed ~ 1.5 gallons - well dry
 again.

Calibrate instrument

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	by constant			
	bailing MW4.	Decon			
	5/16" dropline	by pumping			
	1 gallon DI water through				
	it, marked outside with				
	micro and mixed with				
	DI water.				
1102	@ FST004C-MW4, setup				
	for development.				
1111	Start development - detail on				
	log.				
1334	Development completed - well's				
	turbidity did not decrease.				
1405	Complete (New sampling.				
	M. Moser proceeds to				
	Area D. I break for				
	Lunch / restroom.				

415

1430 - Return to F50040 M.
Moser reports all bug drums
at this site have been
stolen

1530 - Return to F50040 with drums

1615 - Begin developing MW-1

1650 - ~~End~~ stop development unable
to sustain pumping and
thunderstorm is threatening.
1710 - Leave base

15 July 1991

G. Weiss

TF 76403

0700 - Prep maples (10W6W) for
shipment

0730 - Met Miller, will show
them Tac-X & C. Oliver
this morning

0750 - C F50040B, get lid
on trash drum, look
MW-3, pick up empty
bug drums. Finish
development of MW-1.

0815 - Calculate differences

$$pH - 4.00 = 4.00$$

$$7.99 = 7.05$$

$$S.C. 447.1 = 0.50$$

$$1413 = 1.32$$

$$Tuds 0 = 0.02$$

$$10 = 9.88$$

70

0826 - Begin (resume) development by drilling.

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. Major.

0945 - Left to show drillers Tac-X and Camp Oliver.

1213 - @ FST004A - MW4

M. Major reports gasoline odor not shown in MW-1, well was not locked.

71

FST004A - MW4

Time	Volume	Temp	pH	S.C.	Notes
1220	~10	26	4.84	60	72
	No odor or sheen				
1230 -	Pump out of gas - surge well by building ~3 gallons with 15% sulfur - 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 drums and dropline and to move materials for FST004B-MW4 near OEH Building				
~1515 -	@ FST004E				
1543 -	Begin developing MW-3				
1640 -	Completed MW-3, move to MW-2				

A17

72

1738 Outgoingt complete.
 1870- Leave base

73

16 July 1993

G. Weiss
 TF 76403

0758- @ Bid 1139 to speak with
 T. Frye regarding on-base
 disposal of waste concrete
 from TAC-X and to
 return key to storage
 area (3x well kept 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
 disposal.

0820 - Complete logs/timestamp -
 wait on Layne crew at
 washrock.

0900 met w/ Layne - they'll finish
 post/posts @ C. Oliver then
 arrange for concrete disposal.

74

0920 - hook up drop line / fittings
and pellets

1000 - @ 1700 psi

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

fuels 0.00 = 0.00

12.00 = 8.94

Initial water level 16.50' bto

1039 - Begin pumping

1042 - Pumped dry - < 2 gallons

1105 - Unable to sustain pumping -
pump overheating. Switched to
gravity

1120 - m. most repts free product
(gasoline?) in MW-3.

1300 - Development MW-3 completed

1311 - Complete 10W sampling.

75

1310 - Complete 10W sampling
@ E, place all drums
in pellets
1430 - Leave base

419

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) 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.):
OVA calibrated to 100 ppm methane - call measured Headspace for soil samples from 0-14 ft for FST-014-MW2 and FST-014-MW3. ^{KT} VOG (8240), TPH (pump-out & extractable), ^{KT} spec. TPH, RCRA metals
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 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 were NOT worn in the Afternoon.
Did not collect headspace to bottom of boring in FST-014-MW1 ^{FST-014-MW4} called to water table
- F. Quality-Control Activities Initiated: Calibrated OVA; checked LEL/O₂ meters.

Signature of Reporter:

Katherine J. Thaler
Geraghty & Miller, Inc.

Janet D. Berlin

Personnel on Site:

Kathy Tholman	GEM	Staff Scientist
Garrett Weiss	GEM	H&S Officer, Project Scientist
Dr Daniel Nicolas	Layer	Driller
Ricky Lewis	Layer	Helper
Xavier Samuel	Layer	Driller
Harvey Littlefield	Helper Layer	Driller Helper

Equipment

FOXBORO	OVA 128	# A51856
"	OVA 128	# A51970
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 rig - did not finish duplicate and split sampling at FST-014-mw3 because additional soil samples need to be collected from 0-2 ~~ft~~ ~~ft~~ ~~ft~~ B15. Will collect 6/23/93.

Monitoring Well Installation Deviation 10.5 ft sand placed 6m ~~at~~ ^{at} top of screen because of shallow water table ~~1.5 ft bentonite seal~~ ~~to~~ ~~the~~ 0.5 & 0.9 ft bentonite seal, FST-014-mw2 & FST-014-mw3, respectively.

Health & Safety Consideration - Extreme heat (had to take frequent breaks) - wore modified tent

DIA ^{in morning} - changed to Level D in afternoon after WACE Approval

Monitored OVA - ~~FST-014-mw1~~ FST-014-mw1 - 0 ppm reading

FST-014-mw2 - 0 ppm reading; FST-014-mw3 - 0 ppm reading;

FST-014-mw4 - 0 ppm reading - 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 - did not rain at site.

B. Work Performed: FST-004C - Burn Pit : ⁰⁶³⁰~~0600~~ - 1720

Installed 4 monitoring wells - FST-004C-MW1, FST-004C-MW2, FST-004C-MW3, FST-004C-MW4 and collected soil sample for lab. analysis

C. Sampling Performed (location/number, sample type, etc.):

Collected soil samples at 4 monitoring well locations at Site FST-004C

FST004C-SL1-4 (Soil) - 2-4 ft interval

FST004C-SL2-4 (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
100	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.):

None

F. Quality-Control Activities Initiated: Collected SPLIT - FST014-SL3-2-SPLIT

& Duplicate FST014-^{SL93}~~SL93~~-2; calibrated methane OVA & LEL/O₂

Signature of Reporter:

Kathleen J. Thalmann
Geraghty & Miller, Inc.
[Signature]

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
(EST-004D-MW1, EST-004D-MW2, EST-004D-MW3,
EST-004D-MW4) at EST-004D; 0615-0730
- C. Sampling Performed (location/number, sample type, etc.): Site EST-004D
headspace analysis; EST004D-SL1-4 (soil 2-4' ft 6L)
EST004D-SL2-6 (soil 4-6' ft 6L)
EST004D-SL3-6 (soil 4-6' ft 6L); EST004D-SL4-4 (soil 2-4' ft 6L)
[Soil Samples analyzed for VOLs, RCA 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 & commented
used probe from A51970 temporarily. - Mark ^{KT} was corrected.
problem
- F. Quality-Control Activities Initiated: Calibrated meters,
Collected duplicate & split EST004D-SL92-6 and
Split EST004D-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	Staff Scientist
Ganett Weiss	Geol	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	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°; 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-MW1 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, ROR, pH & 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 hoses 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 Malm

Geraghty & Miller, Inc.

John P. Miller

Personnel on Site

Kathy Thalman	Geom	- Staff Scientist
Garrett Weiss	Geom	H&S Officer, Project Scientist
Ricky Lewis	Layne	Helper
Lewis Weiss	Layne	Driller
Xavier Samuel	Layne	Driller
Harvey Littlefield	Layne	Driller
Toni Nicholson	visited site	

Equipment	2 Foxboro OVA5128	} A51856 A51970 HCO212 HCO222
	2 Gostee GX-91	
	Nissan Truck	
	GUSPECH	
	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^{mw} - collected soil sample to 4 ft 6 in;

FST-004E - installed monitoring well FST-004E-MW1,

0600 - 1700; Collected Investigator 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 & 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^{was} hit root &
had to move FST-004B - MW1 and began drilling again; at 1346

F. Quality-Control Activities Initiated: Calibrated meters,

Signature of Reporter: Kathy Thelma
Geraghty & Miller, Inc.

Janet R. Miller

Personnel on Site

Kathy Tholman	G & M	Geologist	/ Staff Scientist
Mark Mastrom	"	"	/ Scientist
Garrett Wale	"	"	/ H & S Project Scientist
Ricky Lewis	Layne	~~Helena~~ Helena	
Xavin Samuel	Layne	~~Helena~~ Driller	
Lewis Weir	Layne	Driller	
Harvey Littlefield	Layne	~~Driller~~ Helena	

$E_{\text{ZVP}}^{\text{print}}$

2 Foxboro OVA's
2 GasTech GX-91
Nissan Truck
GUSPECH 1000
Mobile B-57

五

ONA hit H₂S action level (between 0 and +1000) ^{for} both Aikens & unfitted ^{and was} ~~restrained~~ for > 5 mins. - Immediately stopped ~~breathing~~ drilling and monitored. Then had site evacuated & rig removed to Devon using methanol for decon instead of isopropanol

Proposed 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
<u>Headspace analysis; Calibrated OVA. 128</u>	A51970	100ppm	95 ppm
<u>LEL meter checked out O.K.</u>			
- E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):
- At FST-004B-MW4 — measured sustained OVA readings >1000 ppm in
average; ^{The} the breathing zone ^{way} bore hole abandoned and monitoring well was not
installed; Translucent cover broke off on Gus Pech 1000 Rig and was
repaired at Base shop; Heavy 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 ^{is} 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 B-57

centric plug and rods to become stuck in auger & took several minutes before we released. Sand pack was installed slowly ~~at 1 ft~~ 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.

Projected 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 / FST-004E-SL2-6 / soil
FST-004F-mw1 / ~~FST-004F~~ FST-004F-SL1-8 / soil
FST-004F-mw2 / FST-004F-SL2-8 / soil

D. Field Analyses Performed (including instrument checks, calibration, etc.):

Headspace; Calibrated OVAs: A51856 100 ppm / read 94 ppm
A51970 100 ppm / read 95 ppm

Checked LEL / O₂ meters with 2.5% methane - OK

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

Winch off reel - on GWS PECH 1000 - Ricky Lewis
left site;

F. Quality-Control Activities Initiated: Calibrated OVA & LEL

meters

Signature of Reporter: Kathy Thibault
Geraghty & Miller, Inc.

James P. Miller

Personnel On Site

Kathy Thalman	G & M	Geologist / Staff Scientist
Mark ~~Mosier~~ 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

Projected Work - Finish 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-70s; am - calm & variable, pm - breezy
5-10 mph, sunny
- B. Work Performed: Installed two monitoring wells at site
FST-004^{KT} - FST-004^{KT}-MUL3 and FST-004^{KT}-MUL4;
0600-0600; dug post hole at FST-004D, FST-004B;
FST-004 IDW soil at FST-004E & FST-004F
- C. Sampling Performed (location/number, sample type, etc.):
FST-004^{KT} / FST-004^{KT}-SL3-8 / soil
FST-004^F / FST-004^{KT}-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 meter.

Signature of Reporter: Kathy Thaler
Geraghty & Miller, Inc.

James O. 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

Date: July 1, 1993

439

A. Weather (temperature, wind speed and direction, precipitation, etc.):

hot (90°), humid, calm to gusty - Thunderstorm
late afternoon & early evening

B. Work Performed: Camp Oliver - installed ^{Kr} monitoring

well FST-~~014~~^{002 Kr}-MW4 & FST-~~014~~^{002 Kr}-MW1; collected Camp Oliver
FST-~~014~~⁰⁰² IDWV SOIL WASTE; Developed FST-014-MW4;

Existing ^{pad} was removed at TAR-X (FST-003) & Camp Oliver CO-MW1
CO-MW3, CO-MW

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

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

F. Quality-Control Activities Initiated: Calibrated meth

collected duplicate (FST002-SL4-8) and split

(FST002-SL4-8-split)

Signature of Reporter:

Kathleen L. Doherty
Geraghty & Miller, Inc.

G. Antti P. W. W.

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	^{1st} ~~Specific~~ Specific Conductivity	STD	Reading
		447	480
		1413	1410
	Turbidity	5	6.56
		10	15.40

Project work - Develop FST-014 wells, abandon EO-MW1
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, ~~no~~ 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
post & pad

C. Sampling Performed (location/number, sample type, etc.):

D. Field Analyses Performed (including instrument checks, calibration, etc.):

pH, SPC, Turbidity meter			
STD	Reading	STD	Reading
SPC	1413	1350	Turbidity
447	480	5	5.08
		pH	
		4.0	4.05
		7.0	7.00

E. Problems Encountered and Corrective Actions Taken (sampling problems, alternate methods/locations, etc.):

F. Quality-Control Activities Initiated: Cal/Grated meters

Signature of Reporter: Kathleen L. Thalm
Geraghty & Miller, Inc.

Garrett 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

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 cemetery, 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 H. 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 base 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 manufacturers specifications
Instruments used ph meter #L91002808 (GM), ph cond #1 (GM),
thermometer #21424-1 (GM), Turbidity meter #870902987 (GM), cond. #030239 (GM)
(HARCO)
turbidity meter # ~~800~~ *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 ~~mm~~ FST004 C-MW2 did not clear up Turb. 7100 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: *MM*

Geraghty & Miller, Inc.

Janet P. Wein

A-E Daily Quality Control Report
(A-E DQCR)
Fort Stewart, Georgia

Date: JULY 13, 1993

447

- A. Weather (temperature, wind speed and direction, precipitation, etc.):
Temp 4M 80's to a high of 103 from 12:00 to 16:00 then
falling 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 turbidity stabilized and/or turbidity ^{approx.} 10 NTU's.
- F. Quality-Control Activities Initiated: calibrate meters beginning of day, eng
for hours.

Signature of Reporter: Mark Miller

Geraghty & Miller, Inc.

James P. Miller

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, delivered drums to FST004B
(Drums were stolen)
- C. Sampling Performed (location/number, sample type, etc.):
Collected IDW at FST004C, FST004B for VOC's (240ml 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. Miller

Geraghty & Miller, Inc.

Janet D. Miller

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 ramp over 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, decon equipment

Signature of Reporter: [Signature]

Geraghty & Miller, Inc.

[Signature]

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 amercite at Tack-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 GAT 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 bile 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 locked or sealed
with chain at custody. 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.

David D. Miller

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 ^{8/3/93} 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 brown areas > 1/2 of very coarse sand & pebbles (tr), subrounded

Analyses Required

Container Description

8240 Vol	From Lab <u>X</u> or G&M
RCRA Metals	125 ml amber
SPC / pH	250 ml w/m plastic
9050/9045	100 ml w/m glass

Sample Monitoring (TIP, OVA, HNU, etc.) 0.4, Nat Filtered
0.4, Filtered
pen
RT

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 (KR)
Weather Sunny, hot (90's), calm, (no breeze) slight to.
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 & Odor —
1'-2'- 5YR 5/1 (yellowish gray)
Description (60-70%)
Claying silty sd, moist, sd (mod & fine with trace coarse)
firm, med sorted,

Analyses Required

Container Description

From Lab X or G&M —
VOCs (8240) 125 ml amber
RCRA Metals 250 ml w/m plastic
Spec / pH 9050 / 9045 100 ml w/m glass

Sample Monitoring (TIP, OVA, HNU, etc.) Non flamm 0.2 / Rtnnd / 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-341-6 Coded/Replicate No. -
Date 6/25/93 Time of Sampling: Begin 1145 End 1200
Weather Sunny, hot (90s) 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, will form soil

Analyses Required

Container Description

From Lab X or G&M -
VOC 8240 125 ml amber
RCRA metals 250 ml w/m plastic
SPC / pH (9050/9045) 100 ml w/m glass
Sample Monitoring (TIP, OVA, HNU, etc.) 0/0.1 ppm Non filtered / filtered

Remarks -
Sampler(s) K.T

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 76403 Page 1 of 1
Site Location FST-004A - MW2
Sample I.D. No. 8/3/13 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 SYR 4/4 Odor -
Description Well graded, slightly silty, sub-rounded, fine to coarse grained sand, rounded

Analyses Required

Container Description

<u>VOC's 8240</u>	From Lab ☒ or G&M ☐
<u>RCRA Metals</u>	<u>125 ml amber glass</u>
<u>pH / SC 9045 / 9050</u>	<u>250 ml plastic</u>
	<u>100 ml clear glass</u>

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 Dark brown SYR 2 1/2 Odor FID OVA Total 23p

Description SAND: poorly graded, sub-rounded, medium grained

Analyses Required

Container Description

	From Lab ☒ or G&M
<u>VOC's 8240</u>	<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 7/22/93
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 Baw
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

VOCs 8240
pH / Spc (9045/9050)
RCA A metals
Sample Monitoring (TIP OVA, HNU, etc.)
From Lab X or G&M
125 ml amber
100 ml w/m glass
250 ml w/m plastic
ppm non filtered
ppm filtered

Remarks also collected split for USACE

Sampler(s) Kathy Thelma

EXHIBIT B.3

BURN PIT B, FST-004B

SOIL/SEDIMENT SAMPLING LOG

471

Project No. TF764.03 Page 1 of 1
Site Location FST-004B - MW1
Sample I.D. No. 105 MW-1 FST004B-5L1-8 Coded/Replicate No. -
Date 6-25-93 Time of Sampling: Begin - End Collected 17:00
Weather Pty Cloudy M.D 80's
Site Description Scrub brush, drill location was cleared will dozen

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

VOC's	8240	From Lab ☒ or G&M ☐
RCRA	Metals	125 ml amber
pH/S.C	9045/9050	250 ml plastic
		100 ml glass

Sample Monitoring (TIP OVA, HNU, etc.) Filtered & unfiltered = 0 ppm FG
7-22-93

Remarks Sample collect from area of highest OVA/FID reading or
directly above water table.
Sampler(s) MG Moser



Site Description _____

Description. Very clayey slightly silty, sub-rounded med well graded fine to coarse sand.

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

	From Lab <u>✓</u> or G&M <u>_____</u>
<u>Voc's 8240</u>	<u>125ml amber</u>
<u>Metals</u>	<u>250ml plastic</u>
<u>pH 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-SL-4 Coded/Replicate No. 1

Date 6-26-93 Time of Sampling: Begin Call to ~ 840 End 7/22/93

Weather Sunny few clouds

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

VOC's	8240	From Lab ☒ or G&M ☐
RCRA Metals		125 ml amber
pH; spec. cond.	89045/9050	250 ml plastic
		100 ml glass

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 clonked 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^{mol} (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 Southeast 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

VOC 8240
RCRA metals
SPC & PH

From Lab X or G&M —
125 ml amber glass
250 ml plastic wide mouth
100 ml glass - wide mouth

Sample Monitoring (TIP, OVA, HNU, etc.)

34 not filtered / 16 filtered
ppm ppm

Remarks

Sampler(s) K-T

SOIL/SEDIMENT SAMPLING LOG

Project No. TF 764.03 Page 1 of 1
Site Location FT STEWART, Georgia - FST-004C ^{-mwr} (K) 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

VOC 8240	From Lab <u>X</u> or G&M <u>—</u>
RCRA metals	<u>125 ml amber</u>
SBC 9050 / pH 9045	<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 Thelma

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 ~~10'-12'~~^{GIV} 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

VOCs - 8240	From Lab ☒ or G&M ☐
pH / Spec. Cond. - 9045 / 9050	125 ml amber glass
RCRA metals	100 ml glass
	250 ml plastic

Sample Monitoring (TIP OVA, HNU, etc.) OVA: unfiltered - 70 ppm, 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-mw4 1st
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

VOCs - 8240	From Lab ☒ or G&M ☐
pH / Spec. Cond. - 9045 / 9050	125 ml amber glass
RCRA Metals	100 ml glass
	250 ml plastic

Sample Monitoring (TIP, OVA, HNU, etc.) OVA: Unfiltered 120, filtered 70 ppm
ppm

Remarks _____

Sampler(s) G. Weiss

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-mwl ~~RP~~
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 <u>✓</u> or G&M <u>—</u>
<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, ~~OVA~~ HNU, etc.) ~~OVA: Fi~~ ^{GW} None

Remarks —

Sampler(s) Garrett Wein

SOIL/SEDIMENT SAMPLING LOG

Project No. TF764.031 Page 1 of 1
Site Location Ft Stewart, GA FST-004D-mw2 FST004D-542-6-Spl.
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

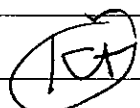
Analyses Required

Container Description

	From Lab ☒	or G&M ☐
<u>VOC 8240</u>	<u>125 ml amber</u>	
<u>RCRA metals</u>	<u>250 ml plastic w/m</u>	
<u>SPC / pH</u>	<u>9050 / 9045</u>	<u>100 ml glass</u>

Sample Monitoring (TIP OVA, HNU, etc.) Ø_{rpm} Mon Filtered
Ø_{rpm} Filtered

Remarks _____

Sampler(s) 

SOIL/SEDIMENT SAMPLING LOG

485

Project No. TF 764.03 / FT STEWART Page 1 of 1
Site Location FST - 004D - mm3, FT STEWART, GA
Sample I.D. No. FST004D-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' b.b. Moisture Content moist
Color 10YR 4/2 (dark yellowish brown) Odor none
Description Silty sand (med & fine (75%)) 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, 6OVA, HNU, etc.) Not Filtered / 0.7 ppm
Filtered 0.1 ppm

Remarks _____

Sampler(s) Kathy Thelma

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 RT Coded/Replicate No.
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 ☒ or G&M <u> </u>
<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, 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
Sample I.D. No. FST-004E-SL1-6 Coded/Replicate No. —
Date 6/26/93 Time of Sampling: Begin 1346 End 1350
Weather hot (90°), 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 med (60), fin (35), silt (15), tr. clay, moist, well sorted, ^{KT} loose, very friable

Analyses Required

Container Description

<u>VOL 8240</u>	From Lab <u>X</u> or G&M <u>—</u>
<u>Sfc / p/t 9050/9045</u>	<u>125 ml ambn</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 X ppm
filtered X 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 flagpole

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

From Lab X or G&M -

VOL (8240) 125
250 ml amber

PCRA Metals 250 w/m plastic

SPC / pH (9050/9045) 100 ml glass w/m

Sample Monitoring (TIF 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-JL3-8 ^(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

<u>VOC 8240</u>	<u>125 ml amber</u>
<u>RCRA metals</u>	<u>250 ml w/m plastic</u>
<u>spc / pH (9050/9045)</u>	<u>9050/100 ml w/m glass</u>

Sample Monitoring (TIP, OVA, HNU, etc.) Non filtered 100/ filtered 0 ppm

Remarks _____

Sampler(s) Kathy Thelma

SOIL/SEDIMENT SAMPLING LOG

Project No. TF76403 Page 1 of 1
Site Location FL Stewart - FST-004E ^{ED 8/3/93}
Sample I.D. No. FST004E-SL4-6 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

<u>VOCs 8240</u>	<u>From Lab ☒ or G&M</u>
<u>SPC / pH (9050/9045)</u>	<u>125 ml amber</u>
<u>RCRA metals</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 ☒ ppm
ppm

Remarks _____

Sampler(s) Kathy Thelma

EXHIBIT B.7**BURN PIT F, FST-004F**

SOIL/SEDIMENT SAMPLING LOG

495

Project No. TF 76403 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 10:30 End -
Weather Sunny slight breeze 91°
Site Description field with sparse pine trees

SAMPLING DATA

Collection Method 3" split spoon
Depth 6-8 ft 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

VOC's	8240	From Lab ☒ or G&M ☐
RCRA Metals		125 ml amber
pH, spec. Cond.		250 ml plastic
		250 ml glass

Sample Monitoring (TIP, OVA, HNU, etc.) Oppm unfiltered Oppm Filtered (FID)

Remarks -

Sampler(s) Moss

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 sandy gravel with 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

<u>VOC's 8240</u>	From Lab ☒ or G&M <u>-</u>
<u>RCRA Metals</u>	<u>125 ml amber</u>
<u>pH Spec. Cond.</u>	<u>250 ml plastic</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 9:00 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 6.8 ft, Fat clay with surf 6.8-8.0 ft

Analyses Required

Container Description

<u>VOCS 8240</u>	From Lab ☒ or G&M <u></u>
<u>RCRA metals</u>	<u>125 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. TF 764.03 Page 1 of 1
Site Location Ft Stewart - 3 FST-004F-MWY 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, str 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 (mod reddish brown)
Description 0-6" Silty sand; sand fine (50), 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

<u>VOCs (824A)</u>	From Lab <u>X</u> or G&M <u></u>
<u>RCRA metals</u>	<u>125 ml amber</u>
<u>SBC & pH (9050/9045)</u>	<u>250 ml w/m plastic</u>
	<u>100 ml w/m glass</u>

Sample Monitoring (TIF OVA, HNU, etc.) Not Filtered 14 ppm
Filtered 8 ppm

Remarks

Sampler(s) Kerry 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
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

VOL - 8240 #TPH (Purge)
TPH (extractable) - 8015 8100
RCRA metals
SPC & TPH

125 ml amber X or G&M
From Lab
500 ml glass
250 ml glass
05 100 ml glass
125

Sample Monitoring (TIP, OVA, HNU, etc.) 3 ppm. Not filled / 8 ppm filled

Remarks

Sampler(s) Kathy Thaddeus

SOIL/SEDIMENT SAMPLING LOG

501

Project No. TF 764.03 Page 1 of 1
Site Location Ft. Stewart, GA. FST-014 ^{KX 8/31/93}
Sample I.D. No. FST-014-SL2-6 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-mw3 ^{8/3/93}
Sample I.D. No. FST-014-SL3-2 Coded/Replicate No. FST-014-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

From Lab ☒ or G&M ☐
pH/Spec. Cond. - 9045/9050 100 ml glass
TPH (purge) / VOCs - 8015/8240 125 ml amber glass
TPH (ext.) - 8015 500 ml glass
RCRA Metals 250 ml plastic
Sample Monitoring (TIP, OVA, HNU, etc.) OVA - 4.6 (unfiltered) / 0.0 (filtered)
ppm ppm

Remarks _____

Sampler(s) G. W. W. W.

SOIL/SEDIMENT SAMPLING LOG

503

Project No. TE764.03 Page 1 of 1
Site Location FT. STEWART, FST-014-mw ^{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 <u>X</u> or G&M
<u>VOG 8240 / TPH (purgable 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 ELPH</u>	<u>100 ml glass</u>
Sample Monitoring (TIP, <u>OVA</u> , HNU, etc.) <u>0.2 ppm</u>	<u>1/2 filter filtered</u> <u>ppm</u>

Remarks _____

Sampler(s) Kathy Thalm

505

EXHIBIT C
CHAIN-OF-CUSTODY LOGS



Environmental Services

TF=76403

Project Number

Project Location	Project Name
FT STEWART GA.	FT STEWART GA.

Laboratory Savannah Lab.

Sampler(s) K. Thalman

Co. Weiss

CHAIN-OF-CUSTODY RECORD

Page-

[illegible][illegible]

Relinquished by: David L. Lin
Received by: L. Bonds

Organization:

Geraghty & Miller, Inc.
53-4363

Date 6-2-73 Time 1:00 pm
Date 6-24-73 Time 1:00 pm

Relinquished by: _____ Organization: _____
Received by: _____ Organization: _____

Date / / Time : :

Date / / Time : :

Received by: _____
 Organization: _____
 Special Instructions/Remarks: per phone conversation from Mr. Weiss - final report must
 be submitted by 8:00 AM on 6/24/93 JPK/KD

Delivery Method:

☐ In Person☐ Common Carrier

SPECIFY

☐ Lab location:

10

SPECIFY

Southprint 89-1951

507



Laboratory Task Order No. 00746

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number TF764.03

Project Location FT STEWART

Laboratory Saxen nch

Sampler(s)/Affiliation K. Thelmann / Gdm

Made Mason / Gdm
Garrett Wls / Gdm
Date/Time

SAMPLE IDENTITY		Code	Sampled	Lab ID	SAMPLE BOTTLE / CONTAINER DESCRIPTION										TOTAL
FST004D-SL2-6	S		6/24/93-1830		125 ml can	100 ml glass w/m	500 ml plastic w/m	500 ml plastic w/m							3
FST004A-SL4-8	S		6/25/93-1848												3
FST004A-SL4-8	S		6/25/93-1848												3
FST004A-SL1-6	S		6/25/93-1845												3
FST004D-SL3-6	S		6/24/93-0840												3
FST004D-SL2-6	S		6/24/93-1830												3
FST004A-SL2-4	S		6/25/93-1845												3
FST004A-SL3-4	S		6/25/93-0830												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: <u>Garrett D. Wein</u>	Organization: <u>Geraghty & Miller, Inc.</u>	Date: <u>6/26/93</u> Time: <u>a.m.</u>	Seal Intact? Yes No N/A
Received by:	Organization:	Date: / / Time:	
Relinquished by: <u>J. Bara</u>	Organization: <u>SAV LABS</u>	Date: / / Time: <u>148</u>	Seal Intact? Yes No N/A
Received by:	Organization:	Date: <u>6/26/93</u> Time: <u>11:00</u>	

Special Instructions/Remarks:

Delivery Method: ☐ In Person

☒ Common Carrier

☒ Lab Courier

☐ Other

SPECIFY



Project Number TF0764,003

Project Location FT. STEWART, GA.

Laboratory Savannah Lab.

K. Thalmann M. Moser,
Sampler(s)

G. Weiss

CHAIN-OF-CUSTODY RECORD

Page 1 of 1[illegible]

* Composite in laboratory

Relinquished by: <u>Ronald P. Whinn</u>	Organization: <u>Geary & McMillan, Inc</u>	Date <u>6/27/93</u>	Time <u>8:00</u>	Seal Intact? ☒ Yes ☐ No ☐ N/A
Received by: <u>G. Campbell</u>	Organization: <u>25711</u>	Date <u>6/29/93</u>	Time <u>5:00</u>	Seal Intact? ☒ Yes ☐ No ☐ N/A
Relinquished by: _____	Organization: _____	Date <u>1</u>	Time _____	Seal Intact? ☐ Yes ☐ No ☐ N/A
Relinquished by: _____	Organization: _____	Date <u>1</u>	Time _____	Seal Intact? ☐ Yes ☐ No ☐ N/A

Special Instructions/Remarks:

Material	Quantity	Unit Price	Total Price	Remarks
77193 PU				no matrix spike req'd for TCLP Metal per Duke Price 7/19/93 PU

Delivery Method:

☐ Common Carrier☒ Lab Courier ☐ Other

לשכת החדשנות

SPECIFY

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GERAGHTY
& MILLER, INC.
Environmental Services

Laboratory Task Order No. 07783

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number TF764.03

Project Location Ft Stewart, GA

Laboratory Sevenson

Sampler(s)/Affiliation Kathy Thelmer / Gdm
Samuel Wini / Gdm
Mark Mason / Gdm

SAMPLE IDENTITY Code Sampled Lab ID

SAMPLE IDENTITY	Code	Sampled	Lab ID	VOG 8240	RCA metab	250 ml w/m plastic	500 ml w/m plastic	100 ml w/m glass	TCLP VOG	TCLP RCA metab	250 ml w/m plastic	100 ml w/m glass	PH (9045)	100 ml w/m glass	TOTAL
EST004E-SL2-8	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004E-SL4-6	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004F-SL1-8	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004F-SL3-8	S	6/30/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004F-SL2-8	S	6/29/93		1	1	1	1	1	1	1	1	1	1	1	3
EST004F-SL4-4	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: <u>Kathleen J. Thompson</u>	Organization: <u>Geraghty & Miller, Inc.</u>	Date: <u>7/1/93</u> Time: <u>1200</u>	Seal Intact? <u>Yes</u> No <u>N/A</u>
Received by: <u>A. Campbell</u>	Organization: <u></u>	Date: <u>7/1/93</u> Time: <u>1200</u>	Seal Intact? <u>Yes</u> No <u>N/A</u>
Relinquished by: <u></u>	Organization: <u></u>	Date: <u>1/1/93</u> Time: <u></u>	Seal Intact? <u>Yes</u> No <u>N/A</u>
Received by: <u></u>	Organization: <u></u>	Date: <u>1/1/93</u> Time: <u></u>	Seal Intact? <u>Yes</u> No <u>N/A</u>

Special Instructions/Remarks:

4 samples in Lab for VOB
1 matrix spike for TCLP reg'd in Duke Pric 7/7/93 PW
Relinquished by: In Person ☐ Common Carrier ☐ Lab Courier ☒ Other ☐



CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Project Number IF764,03
Project Location Ft Stewart, GA
Laboratory Savannah
Sampler(s) Kathy Thelma/GSK

SAMPLE BOTTLE / CONTAINER DESCRIPTION

SAMPLE IDENTITY	Date Sampled	250 ml RGA Metal	250 ml w/m plate	135 ml VOA (8240)	135 ml embu	100 ml w/m plate	250 ml w/m plate	250 ml w/m plate	135 ml w/m plate	135 ml embu	500 ml w/m plate	100 ml w/m plate	TOTAL
FST002-IDWSL	7/1/93	1	2	1	1	1	1	1	1	1	1	1	4
FST002-SL1-12	7/1/93												3
FST002-SL4-8	7/1/93												3
FST002-SL94-8	7/1/93												3
FST004F-IDWSL	6/30/93	1	2	2	2	3	3	3	3	3	3	3	1
Total		1	2	2	2	3	3	3	3	3	3	3	14

Relinquished by: Kathleen D. Thelma Organization: Environmental Services Date: 7/13/93 Time: 12:45 Seal Intact? Yes No N/A
Received by: A. Campbell Organization: 43808 Date: 7/13/93 Time: 2:45 Seal Intact? Yes No N/A

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 req'd for TCLP Metal per Mike Price 7/1/93 RU

Delivery Method: ☐ In Person ☐ Common Carrier ☒ Lab Courier ☐ Other SPECIFY _____

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EXHIBIT D
LABORATORY TEST RESULTS

EXHIBIT D.1**CAMP OLIVER LANDFILL, FST-002**

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 93Ms. 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		
43808-1	FST002-SL1-12	07-01-93		
43808-2	FST002-SL4-8	07-01-93		
43808-3	FST002-SL94-8	07-01-93		
PARAMETER		43808-1	43808-2	43808-3
Arsenic (7060)				
Arsenic (7060), mg/kg dw		2.0	1.8	2.2
Date Analyzed		07.09.93	07.09.93	07.09.93
Barium (6010)				
Barium (6010), mg/kg dw		1.2	4.2	5.8
Date Analyzed		07.09.93	07.09.93	07.09.93
Cadmium (6010)				
Cadmium (6010), mg/kg dw		<0.57	<0.65	<0.64
Date Analyzed		07.09.93	07.09.93	07.09.93
Chromium (6010)				
Chromium (6010), mg/kg dw		9.5	7.9	14
Date Analyzed		07.09.93	07.09.93	07.09.93
Lead (7421)				
Lead (7421), mg/kg dw		1.4	3.1	2.6
Date Analyzed		07.16.93	07.16.93	07.16.93
Selenium (7740)				
Selenium (7740), mg/kg dw		<1.1	<1.3	<1.3
Date Analyzed		07.09.93	07.09.93	07.09.93
Silver (6010)				
Silver (6010), mg/kg dw		<1.1	<1.3	<1.3
Date Analyzed		07.09.93	07.09.93	07.09.93
Mercury				
Mercury (7471), mg/kg dw		<0.011	<0.013	<0.013
Date Analyzed		07.09.93	07.09.93	07.09.93

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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	

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LOG NO: S3-43808
Rev. #1, 11.05.93
Received: 03 JUL 93Ms. 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		
43808-1	FST002-SL1-12	07-01-93		
43808-2	FST002-SL4-8	07-01-93		
43808-3	FST002-SL94-8	07-01-93		
PARAMETER		43808-1	43808-2	43808-3
Volatiles by GC/MS (8240)				
Chloromethane, ug/kg dw		<11	<13	<13
Bromomethane, ug/kg dw		<11	<13	<13
Vinyl Chloride, ug/kg dw		<11	<13	<13
Chloroethane, ug/kg dw		<11	<13	<13
Methylene Chloride, ug/kg dw		<5.7	<6.5	<6.4
Acetone, ug/kg dw		<57	<65	<64
Carbon Disulfide, ug/kg dw		<5.7	<6.5	<6.4
1,1-Dichloroethene, ug/kg dw		<5.7	<6.5	<6.4
1,1-Dichloroethane, ug/kg dw		<5.7	<6.5	<6.4
Trans-1,2-Dichloroethylene, ug/kg dw		<5.7	<6.5	<6.4
Cis-1,2-Dichloroethene, ug/kg dw		<5.7	<6.5	<6.4
Chloroform, ug/kg dw		<5.7	<6.5	<6.4
1,2-Dichloroethane, ug/kg dw		<5.7	<6.5	<6.4
2-Butanone (MEK), ug/kg dw		<57	<65	<64
1,1,1-Trichloroethane, ug/kg dw		<5.7	<6.5	<6.4
Carbon Tetrachloride, ug/kg dw		<5.7	<6.5	<6.4
Vinyl Acetate, ug/kg dw		<11	<13	<13
Bromodichloromethane, ug/kg dw		<5.7	<6.5	<6.4
1,1,2,2-Tetrachloroethane, ug/kg dw		<5.7	<6.5	<6.4
1,2-Dichloropropane, ug/kg dw		<5.7	<6.5	<6.4
Trans-1,3-Dichloropropene, ug/kg dw		<5.7	<6.5	<6.4

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

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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

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

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LOG NO: S3-43808
Rev. #1, 11.05.93
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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	---	---

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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	---	---	---

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Received: 03 JUL 93

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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	---	---

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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	---	---

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REPORT OF RESULTS

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LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43808-9 LCS % Recovery Limit
43808-10 Matrix Spike (MS) Result/Duplicate
43808-11 MS Expected Value
43808-12 MS % Recovery/Duplicate
43808-13 MS % Recovery Limit

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

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REPORT OF RESULTS

Page 11

LOG NO	SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID				
43808-9	LCS % Recovery Limit				
43808-10	Matrix Spike (MS) Result/Duplicate				
43808-11	MS Expected Value				
43808-12	MS % Recovery/Duplicate				
43808-13	MS % Recovery Limit				
PARAMETER	43808-9	43808-10	43808-11	43808-12	43808-13
Mercury					
Mercury (7471), mg/kg dw	70-130 %	.057/.057	0.0567	101/101 %	75-125 %
Date Analyzed	---	07.09.93	---	---	---
Specific Conductance (120.1)					
Specific Conductance, umhos/cm	90-110 %	---	---	---	---
Volatiles by GC/MS (8240)					
1,1-Dichloroethene, ug/kg dw	36-161 %	45.6/44	53.8	85/82 %	36-161 %
Trichloroethene, ug/kg dw	43-140 %	62/62.5	53.8	115/116 %	43-140 %
Benzene, ug/kg dw	48-150 %	68.5/65.1	53.8	127/121 %	48-150 %
Toluene, ug/kg dw	51-141 %	63.3/64.5	53.8	118/120 %	51-141 %
Chlorobenzene, ug/kg dw	54-138 %	67.1/69.9	53.8	125/130 %	54-138 %
Surrogate - Toluene-d8	---	100/101 %	---	---	---
Surrogate - 4-Bromofluorobenzene	---	90/88 %	---	---	---
Surrogate - 1,2-Dichloroethane-d4	---	102/101 %	---	---	---
Date Analyzed	---	07.06.93	---	---	---
pH in Soil (9045)					
pH (9045), units	90-110 %	---	---	---	---

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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) %

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REPORT OF RESULTS

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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, %		

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REPORT OF RESULTS

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-16	FST002-IDWSL	07-01-93
PARAMETER	43808-16	
pH in Soil (9045)		
pH (9045), mg/kg	4.3	
Date Analyzed	07.06.93	
Metals in TCLP Extract (6010)		
Arsenic (TCLP), mg/l	<0.20	
Barium (TCLP), mg/l	<1.0	
Cadmium (TCLP), mg/l	<0.010	
Chromium (TCLP), mg/l	<0.050	
Lead (TCLP), mg/l	<0.20	
Selenium (TCLP), mg/l	<0.50	
Silver (TCLP), mg/l	<0.010	
TCLP (1311) Sec. 7.2 Extraction Date	07.06.93	
Date Analyzed	07.09.93	
Mercury (7470)		
Mercury (TCLP - 7470), mg/l	<0.020	
TCLP (1311) Sec. 7.2 Extraction Date	07.06.93	
Date Analyzed	07.09.93	

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REPORT OF RESULTS

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LOG NO	SAMPLE DESCRIPTION , SOLID OR SEMISOLID SAMPLES	DATE SAMPLED
43808-16	FST002-IDWSL	07-01-93
PARAMETER	43808-16	
Volatiles in ZHE TCLP Extract (8240)		
Benzene (TCLP), mg/l	<0.020	
Carbon tetrachloride (TCLP), mg/l	<0.020	
Chlorobenzene (TCLP), mg/l	<0.020	
Chloroform (TCLP), mg/l	<0.020	
1,2-Dichloroethane (TCLP), mg/l	<0.020	
1,1-Dichloroethylene (TCLP), mg/l	<0.020	
Methyl ethyl ketone (TCLP), mg/l	<0.20	
Tetrachloroethylene (TCLP), mg/l	<0.020	
Trichloroethylene (TCLP), mg/l	<0.020	
Vinyl chloride (TCLP), mg/l	<0.040	
Surrogate - Toluene-d8	104 %	
Surrogate - 4-Bromofluorobenzene	112 %	
Surrogate - 1,2-Dichloroethane-d4	100 %	
TCLP (1311) Sec. 7.2 Extraction Date	07.07.93	
Date Analyzed	07.10.93	
Percent Solids, %	89	

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REPORT OF RESULTS

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LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

43808-17 Extract Fluid Method Blank

PARAMETER

43808-17

Metals in TCLP Extract (6010)

Arsenic (TCLP), mg/l <0.20

Barium (TCLP), mg/l <1.0

Cadmium (TCLP), mg/l <0.010

Chromium (TCLP), mg/l <0.050

Lead (TCLP), mg/l <0.20

Selenium (TCLP), mg/l <0.50

Silver (TCLP), mg/l <0.010

TCLP (1311) Sec. 7.2 Extraction Date 07.06.93

Date Analyzed 07.09.93

Mercury (7470)

Mercury (TCLP - 7470), mg/l <0.020

TCLP (1311) Sec. 7.2 Extraction Date 07.06.93

Date Analyzed 07.09.93

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Sampled By: Client

REPORT OF RESULTS

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LOG NO SAMPLE DESCRIPTION , QC REPORT FOR LIQUID SAMPLES

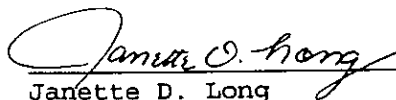
43808-17 Extract Fluid Method Blank

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

Final Page Of Report

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343808Initial 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	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									

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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									

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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									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
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									

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									
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									

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: S343808Initial 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	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									

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EXHIBIT D.2

BURN PIT A, FST-004A

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Tampa, FL 33618-2047

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
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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.

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LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

Ms. Kathy Thalman
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CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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	

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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

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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	

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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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

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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

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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)		<11
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

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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.

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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 93Ms. 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

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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	

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REPORT OF RESULTS

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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 %

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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	---	---

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REPORT OF RESULTS

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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	---	---

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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	---	---	06.28.93	---	---
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	---	---

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REPORT OF RESULTS

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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	---	---	---

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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 %	---	---	---	---

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REPORT OF RESULTS

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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) %

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REPORT OF RESULTS

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

PARAMETER

43675-23

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	

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REPORT OF RESULTS

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LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

PARAMETER

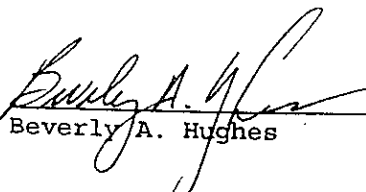
43675-23

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

Laboratory locations in Savannah, GA • Tallahassee, FL • Mobile, AL • Deerfield Beach, FL • Tampa, FL

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343675Initial 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									

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									

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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	49.78	98.0	52.59	104.6	
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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2A

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									

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	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									

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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									

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									

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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									

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EXHIBIT D.3

BURN PIT B, FST-004B

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 93Ms. 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.

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LOG NO: S3-43675

Rev. #2, 11.18.93

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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	

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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 93Ms. 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

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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

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REPORT OF RESULTS

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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

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Project: TF76404/TO#08746/Ft. Stewart
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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 %

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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	---	---

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Rev. #2, 11.18.93
Received: 26 JUN 93Ms. Kathy Thalman
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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	---	---

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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 93Ms. 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	---	---	---

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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 %	---	---	---	---

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Rev. #2, 11.18.93
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Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

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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) %

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REPORT OF RESULTS

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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

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Sampled By: Client

REPORT OF RESULTS

Page 20

LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

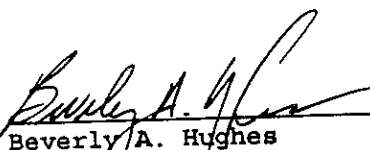
43675-23 Method Blank

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

Laboratory locations in Savannah, GA • Tallahassee, FL • Mobile, AL • Deerfield Beach, FL • Tampa, FL

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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									

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									

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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									

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2A

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	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									

2A

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									

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: S343675Initial 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									

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									

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2A

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	51.19	102.6			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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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	

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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

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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
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.

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Received: 30 JUN 93

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

REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---

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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	---	---	---

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REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---	---

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REPORT OF RESULTS

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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 %	---	---	---	---

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REPORT OF RESULTS

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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) %

2A

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	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			999.9					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

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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									

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2A

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				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									

EXHIBIT D.4**BURN PIT C, FST-004C**

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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LOG NO: S3-43631
Rev. #1, 11.05.93
Received: 24 JUN 93

Ms. Kathy Thalman
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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

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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	

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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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	

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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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	---	---	---

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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	---	---

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Project: TF76403/Ft. Stewart
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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	---	---

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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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	---	---	---

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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.

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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.

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Ms. Kathy Thalman
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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) %

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LOG NO: S3-43631
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Ms. Kathy Thalman
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Tampa, FL 33618-2047

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Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

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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

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CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

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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

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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
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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

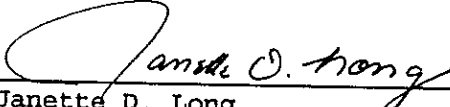
43631-22 Method Blank Soil

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	<5.0
4-Methyl-2-pentanone (MIBK), ug/kg dw	<5.0
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

Laboratory locations in Savannah, GA • Tallahassee, FL • Mobile, AL • Deerfield Beach, FL • Tampa, FL

2A

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									

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2A

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	49.9	52.88	106.0	49.9	54.19	108.4	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									

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: S343131

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									

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									

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2A

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									

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									

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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									

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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	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.: 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	50.40	100.8			
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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 93Ms. 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.

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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

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Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

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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

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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

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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

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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

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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

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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

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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

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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	

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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	

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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 %

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LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93

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Tampa, FL 33618-2047

CC: Mr. Mike Price

Project: TF76404/TO#08746/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---	---

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REPORT OF RESULTS

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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 %	---	---	---	---

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REPORT OF RESULTS

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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) %

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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

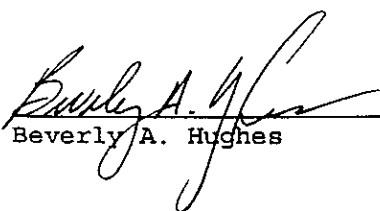
PARAMETER 43675-23

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

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 534367.5

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			999.0					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 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									

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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. B43675

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									

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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									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 8343675

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									

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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									

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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									

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Received: 26 JUN 93Ms. Kathy Thalman
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Project: TF76404/TO#08746/Ft. Stewart
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REPORT OF RESULTS

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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

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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

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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

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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

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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	

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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 -	112 %	103 %	99 %	101 %	106 %	
1,2-Dichloroethane-d4						
Date Analyzed	07.05.93	07.05.93	07.05.93	07.05.93	07.05.93	

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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

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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

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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

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Sampled By: Client

REPORT OF RESULTS

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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.

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LOG NO: S3-43675
Rev. #2, 11.18.93
Received: 26 JUN 93Ms. 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

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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	

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REPORT OF RESULTS

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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 %

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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	---	---

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REPORT OF RESULTS

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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	---	---

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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	---	---

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REPORT OF RESULTS

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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	---	---	---

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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 %	---	---	---	---

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REPORT OF RESULTS

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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) %

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REPORT OF RESULTS

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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

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LOG NO SAMPLE DESCRIPTION , QC REPORT FOR SOLID/SEMISOLID

43675-23 Method Blank

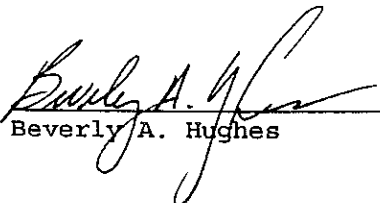
PARAMETER 43675-23

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

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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			999.0					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah Laboratories

SDG No.: 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									

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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									

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									

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	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									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

703

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									

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									

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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 93Ms. 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

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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

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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	
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	

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Rev. #1, 11.05.93
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Tampa, FL 33618-2047

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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

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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

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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.

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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	---	---

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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	---	---	---

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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	---	---

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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	---	---	---

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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 %	---	---	---	---

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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) %

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	
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								

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2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343711Initial 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	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									

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									

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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.

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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.

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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

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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

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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	---	---	---

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REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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	---	---	---

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REPORT OF RESULTS

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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 %	---	---	---	---

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REPORT OF RESULTS

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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)	---

2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: Savannah LaboratoriesSDG No.: 5343768Initial 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	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			999.9					
Thallium									
Vanadium	993.0			993.0					
Zinc	1007.0			1007.0					
Cyanide									

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2A
INITIAL AND CONTINUING CALIBRATION VERIFICATIONLab Name: Savannah LaboratoriesSDG No.: 534376BInitial 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	46.75	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									

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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									

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	52.19	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									

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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	50.35	100.9			
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

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EXHIBIT D.7

BURN PIT F, FST-004F

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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

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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		

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

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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

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LOG NO: S3-43768

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Project: TF764.04/LTO#09983/Ft. Stewart
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REPORT OF RESULTS

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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

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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

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LOG NO: S3-43768

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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	

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LOG NO: S3-43768

Received: 01 JUL 93

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CC: Mr. Mike Price

Project: TF764.04/LTO#09983/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

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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	

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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	---	---	---

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LOG NO: S3-43768

Received: 01 JUL 93

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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	---	---

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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	---	---

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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	---	---

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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	---	---	---

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LOG NO: S3-43768

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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	%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									

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									

763

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	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	52.19	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	%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									

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	50.35	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

SL SAVANNAH LABORATORIES & ENVIRONMENTAL SERVICES, INC.

771

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 93Ms. 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.

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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 93Ms. 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

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REPORT OF RESULTS

Page 4

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

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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.

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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	---	---	---

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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	---	---

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Rev. #1, 11.05.93
Received: 24 JUN 93

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CC: Mike Price/G&M

Project: TF76403/Ft. Stewart
Sampled By: Client

REPORT OF RESULTS

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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	---	---

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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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	40-140 %	19.6/36.2	33.3	59/109 %	40-140 %
Fuel, mg/kg dw	---	06.28.93	---	---	---
Date Extracted	---	07.02.93	---	---	---
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	---	---	---

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REPORT OF RESULTS

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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	---	---	---

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REPORT OF RESULTS

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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

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REPORT OF RESULTS

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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) %

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REPORT OF RESULTS

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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

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Project: TF76403/Ft. Stewart
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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

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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

Laboratory locations In Savannah, GA • Tallahassee, FL • Mobile, AL • Deerfield Beach, FL • Tampa, FL

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2A

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									

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									

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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	51.84	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									

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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									

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

793

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									

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

795

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).

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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.

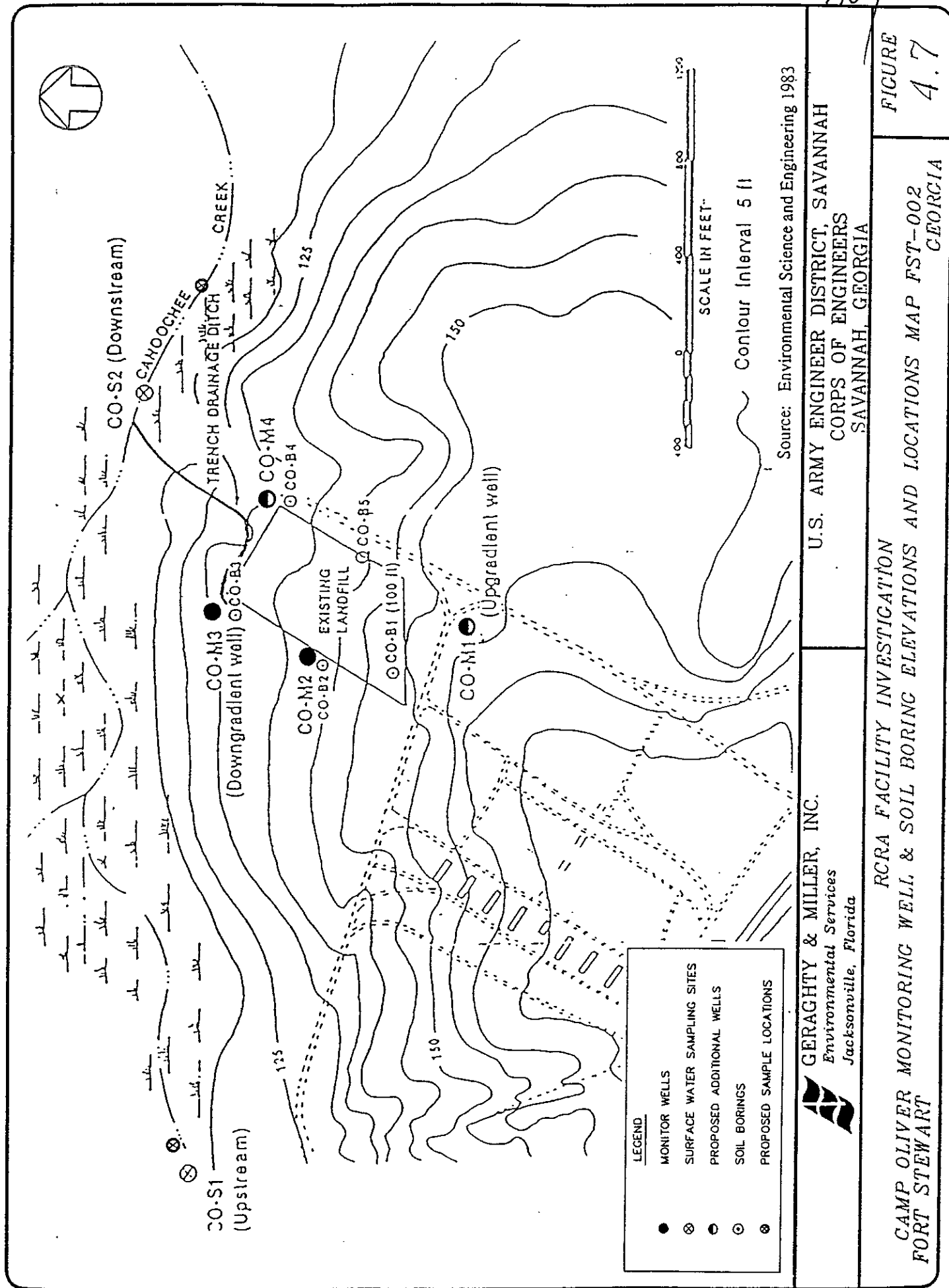


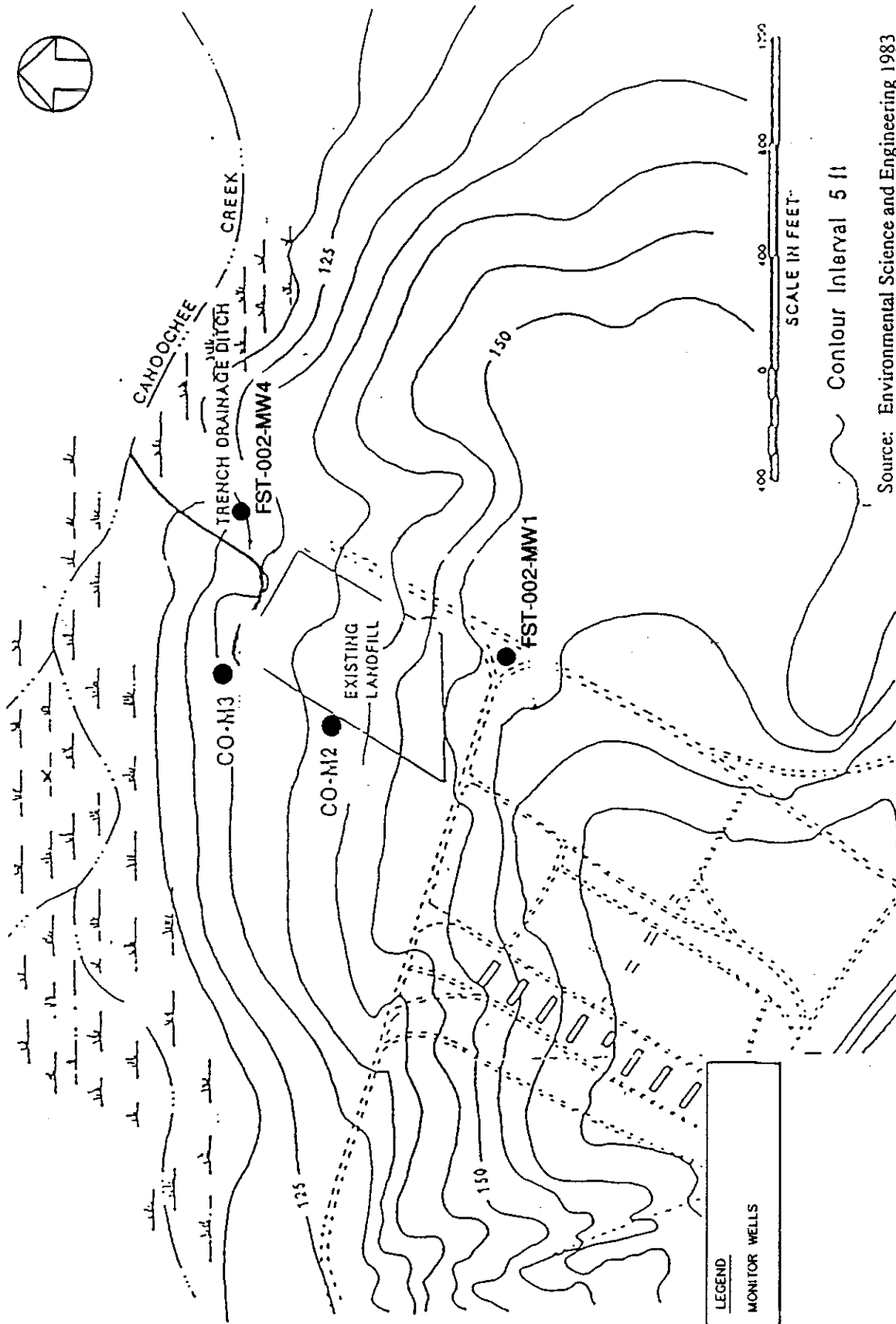
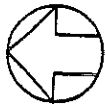
805

ATTACHMENT 1

F:\PROJ\TF764\WELLGCM.W51







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

ATTACHMENT 2

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DRILLING LOG		DIVISION South Atlantic	INSTALLATION Fort Stewart, GA		Hole No. CO-M1	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		DISTURBED 0	UNDISTURBED 0
5. NAME OF DRILLER Paul N. Clawson			14. TOTAL NUMBER CORE BOXES			
6. DIRECTION OF HOLE ☒ VERTICAL ☐ INCLINED _____ DEG. FROM VERT.			15. ELEVATION GROUND WATER 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 M. Jones</i>			

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'					
	10		Light Grey - coarse slightly clayey sand			
	13.0'					
	15		Purple - tough plastic clay. Below 15 ft. to 22 ft. with medium to coarse sand (10 to 30%)			
	20					
	24.0'					
	25		White - sandy clay, sand very fine			
	26.0'					
	30		White to rusty brown - sandy clay, sand very fine, makes up less than 30% of samples			
	30.0'					

815

ATTACHMENT 3

F:\PROJ\TF764\WELLGCM.W51



DAILY LOG

819

FST-002-mw1

Well(s) _____ Project/No. Ft Stewart) T E 764.03

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Site Location Ft Stewart, GA, FST-002

Prepared By Kathy Thelmer

7/1/93
Date/Time

Description of Activities

	clay has come up in auger & ^{plugging them} ~~clay~~ - removing clay plug
1500	Finish setting well to Bentonite (10')
	3'
	5.0 Bentonite
	7.0
	10.0
	20.0
	Wet at ^{upper} 23' ext Screen from 10-20 used 4 bags of sand hydraulic pullets
1542	Drilling port holes for protective ports at ~~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 Ext CO-mw1 - Did paper work
1800	Driller arrived back on site - beginning to abandon CO-mw1

DAILY LOG

821

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

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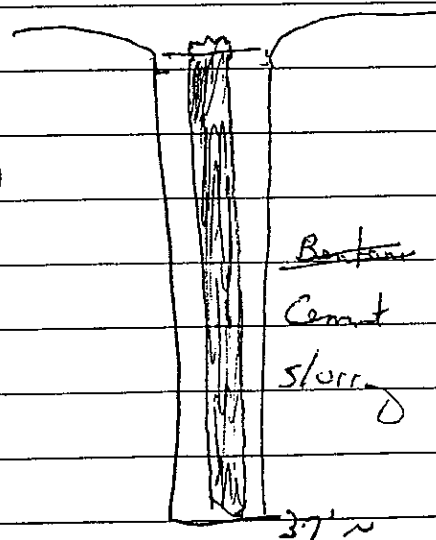
Site Location Ft Stewart - Camp Olm - CO-mw1

Prepared By Kathy Thalmann

7/1/93
Date/Time

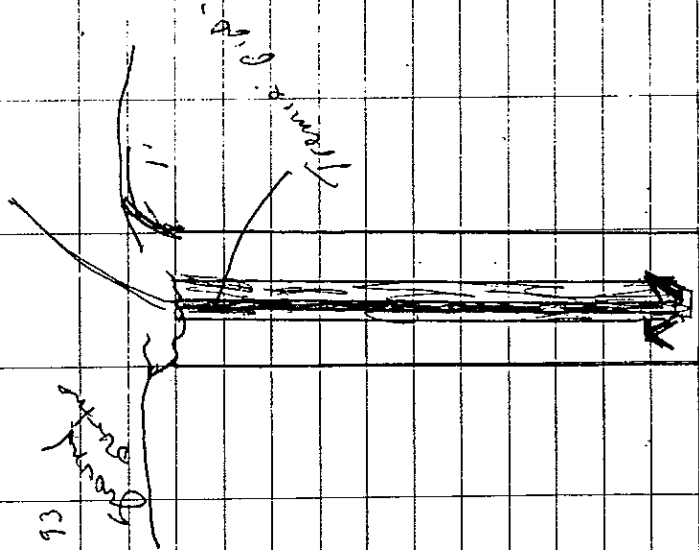
Description of Activities

	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 Olm
0633	Arrived at camp olm (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



36

7/2/93



Told drillers to fill in hole with sand & soil

0700 Finished abandoning well - back ~ 30 yds from quarry

Drill is cleaning up rig pump - drilling good hole at FST-002-MW4

37

7/2/93

51 gals 96 in drill hole

0800 Left with FST-002

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

0910 Left to buy ice & supplies

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

0950 Toni Nicholson & Surry - United with Garrett W. W.

1000 Visitors 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 Driller left to get

hose to govt & gear line
for rig to abandon co-mw1
Doing paper work.

1800 Driller ret'd - beginning to
set up to mix govt.

cutting casing off approximately
1 ft 6 in.

Will take 24 gallons of govt 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 Olm.

0633 Arrived at Camp Olm.
(EST-002)

Mixing govt to - abandon
co-mw1

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

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

Govt displaced in water in well -
pumped until govt at top of
monitoring well.

825

(32)

7/1/93

1030 Moved rig forward ~4' and collected additional 3' of lit open for split & deep samples finished sampling & collected IDW samples
Moved rig to FST-002 MW1

1130 Drill bit broke for lunch

1200 Began drilling FST-002 MW1

1400 Clay ^{lit} ~~so~~ of logging in auger - had to pull out 15' of auger & replace lead auger

1500 Collected split sample to 70' beginning to set well

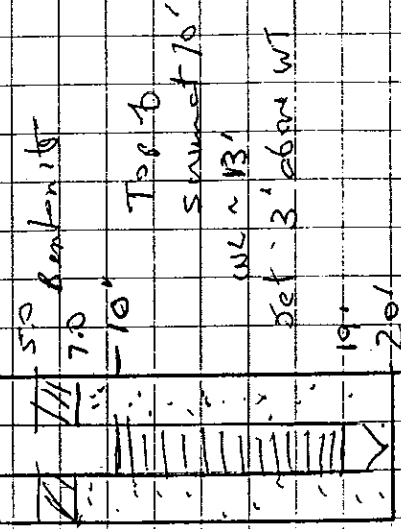
1515 Clay in auger again - plugging them - removed auger to remove plug

(33)

7/1/93

KT
well open

1510 Finished setting well 3'



used 4 bags of sand

1542 Drilling past hole for protected paste at FST-002 MW1
Selected 0-12' interval for log analysis - directly above WT
#1 - highest OVA reading
Collecting IDW soil samples

827