N00204.AR.005110
NAS PENSACOLA
5090.3a

SITE ASSESSMENT REPORT MARCH 2002 FOR SHERMAN FIELD FORMER FUEL FARM UST SITE 24 NAS PENSACOLA FL
03/01/2002
TETRA TECH INC

# Site Assessment Report
for
# SHERMAN FIELD
# FORMER FUEL FARM
# UST SITE 000024

## Naval Air Station
Pensacola, Florida

**Southern Division**
**Naval Facilities Engineering Command**
**Contract Number N62467-94-D-0888**
**Contract Task Order** [redacted]

March 2002

N0516.5.2.3

TETRA TECH NUS, INC.
1401 Oven Park Drive • Suite 102 • Tallahassee, FL 32312
(850) 385-9899 • FAX (850) 385-9860 • www.tetratech.com

TtNUS/TAL-02-0xx/0516-5.2

July 22, 2002

Project Number 0516

Tracie Vaught
Remedial Project Manager
Technical Review/Federal Facilities
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Reference: Clean Contract No. N62467-94-D-0888
Contract Task Order No. 0132

**Subject: Final Page Inserts for Site Assessment Report for Underground Storage Tank Site 000024, Former Sherman Field Fuel Farm, Naval Air Station Pensacola, Pensacola, Florida**

Dear Ms. Vaught:

TETRA TECH NUS is pleased to submit final page inserts for the Site Assessment Report for Underground Storage Tank Site 000024, Former Sherman Field Fuel Farm, Naval Air Station (NAS) Pensacola, Pensacola, Florida. Please remove the original pages and insert these replacement pages in the previously submitted final document. The inserts address the comments expressed in your letter dated June 24, 2002 (received July 9, 2002) and represent final completion of the Site Assessment. This document has been previously sealed be a Florida Professional Geologist and following receipt of Florida Department of Environmental Protection's approval a Remedial Action Plan will be completed.

If you have any questions, please call me at (850) 385-9899.

Sincerely yours,

Gerald Walker

Gerald Walker, P.G.
Project Manager

GAW/gaw

Enclosure

c: Byas Glover, SOUTHDIV
Greg Campbell, NAS Pensacola PWC
Debbie Wroblewski (Cover Letter Only)
Mark Perry/file
TtNUS File, Tallahassee
TtNUS library, Tallahassee

TETRA TECH NUS, INC.
1401 Oven Park Drive • Suite 102 • Tallahassee, FL 32312
(850) 385-9899 • FAX (850) 385-9860 • www.tetratech.com

TtNUS/TAL-02-014/0516-5.2

March 19, 2002

Project Number 0516

Tracie Vaught
Remedial Project Manager
Technical Review/Federal Facilities
Florida Department of Environmental Protection
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Reference: Clean Contract No. N62467-94-D-0888
Contract Task Order No. 0132

**Subject: Site Assessment Report for Underground Storage Tank Site 000024, Former Sherman Field Fuel Farm, Naval Air Station Pensacola, Pensacola, Florida**

Dear Ms. Vaught:

TETRA TECH NUS is pleased to submit for your review the Site Assessment Report for Underground Storage Tank Site 000024, Former Sherman Field Fuel Farm, Naval Air Station (NAS) Pensacola, Pensacola, Florida. This document has been sealed be a Florida Professional Geologist and following receipt of Florida Department of Environmental Protection's approval a Remedial Action Plan will be completed.

If you have any questions, please call me at (850) 385-9899.

Sincerely yours,

Gerald Walker

Gerald Walker, P.G.
Project Manager

GAW/gaw

Enclosure

c: Byas Glover, SOUTHDIV
Greg Campbell, NAS Pensacola PWC
Debbie Wroblewski (Cover Letter Only)
Mark Perry/file
TtNUS File, Tallahassee
TtNUS library, Tallahassee

Rev. 1
3/19/02

# Site Assessment Report
for
# SHERMAN FIELD
# FORMER FUEL FARM
# UST SITE 000024

## Naval Air Station
Pensacola, Florida

**Southern Division**
**Naval Facilities Engineering Command**
**Contract Number N62467-94-D-0888**
**Contract Task Order CTO-0132**

March 2002

**PROFESSIONAL CERTIFICATION**

**Site Assessment Report**
**Underground Storage Tank Site 000024**
**Former Sherman Field Fuel Farm**
**Naval Air Station Pensacola, Pensacola, Florida**

This Site Assessment Report was prepared under the direct supervision of the undersigned geologist using geologic and hydrogeologic principles standard to the profession at the time the report was prepared. If conditions are determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of additional information on the assessment described in this report. This report was developed specifically for the referenced site and should not be construed to apply to any other site.

Gerald A. Walker

Gerald A. Walker, P.G.
Florida License No. PG-0001180

3/19/02
Date

## TABLE OF CONTENTS

**SECTION** **PAGE**

**EXECUTIVE SUMMARY ..... ES-1**

**1.0 SITE DESCRIPTION AND BACKGROUND INFORMATION ..... 1-1**
1.1 SITE LOCATION AND CONDITIONS ..... 1-1
1.2 SITE HISTORY ..... 1-1

**2.0 SITE ASSESSMENT METHODOLOGY ..... 2-1**
2.1 QUALITY ASSURANCE ..... 2-1
2.2 SOIL ASSESSMENT PROGRAM ..... 2-1
2.2.1 Soil Lithologic Descriptions ..... 2-2
2.2.2 Soil Headspace Screening ..... 2-2
2.2.3 Soil Sampling for Laboratory Analysis ..... 2-2
2.3 MONITORING WELL INSTALLATION PROGRAM ..... 2-3
2.3.1 Monitoring Well Locations ..... 2-3
2.3.2 Shallow and Intermediate Monitoring Well Installation ..... 2-3
2.3.3 Deep Monitoring Well Installation ..... 2-4
2.3.4 Monitoring Well Development ..... 2-4
2.4 GROUNDWATER SAMPLING PROGRAM ..... 2-5
2.4.1 Monitoring Well Sampling ..... 2-5
2.4.2 Natural Attenuation Parameter Sampling ..... 2-6
2.5 AQUIFER CHARACTERIZATION ..... 2-6
2.5.1 Well TOC Survey ..... 2-6
2.5.2 Static Water Level Measurements ..... 2-6
2.5.3 Specific Capacity Tests ..... 2-7

**3.0 GEOLOGY AND HYDROGEOLOGY ..... 3-1**
3.1 SITE STRATIGRAPHY ..... 3-1
3.2 SITE HYDROGEOLOGY ..... 3-2
3.2.1 Free Product Thickness Measurements ..... 3-2
3.2.2 Static Water Level and Groundwater Elevations ..... 3-3
3.2.3 Groundwater Flow Direction ..... 3-3
3.2.4 Water Table Gradient ..... 3-4
3.2.5 Hydraulic Conductivity ..... 3-5
3.2.6 Groundwater Velocity ..... 3-7
3.3 POTABLE WATER SUPPLY WELL SURVEY ..... 3-8
3.4 SURFACE WATER ..... 3-8
3.4.1 Tidal Influence Study ..... 3-9

**4.0 SITE ASSESSMENT RESULTS ..... 4-1**
4.1 SOIL ASSESSMENT RESULTS ..... 4-1
4.1.1 DPT Headspace Screening ..... 4-1
4.1.2 Laboratory Soil Sample Analysis ..... 4-2
4.1.3 Estimated Mass of Contamintants in Soil ..... 4-3
4.2 GROUNDWATER ASSESSMENT RESULTS ..... 4-4
4.2.1 Monitoring Well Sampling ..... 4-4
4.3 NATURAL ATTENUATION SAMPLING ..... 4-5

**5.0 DISCUSSION ..... 5-1**
5.1 SOURCE OF HYDROCARBONS ..... 5-1
5.2 SITE CONDITIONS ..... 5-1
5.3 SOIL ASSESSMENT ..... 5-2
5.4 GROUNDWATER ASSESSMENT ..... 5-2

## TABLE OF CONTENTS (Continued)

**6.0 CONCLUSIONS AND RECOMMENDATION ..... 6-1**

**REFERENCES ..... R-1**

## TABLES

**NUMBER**

2-1 Well Construction Details
3-1 Groundwater Elevation Summary
3-2 Potable Well Inventory Data
4-1 Soil OVA Screening Results From DPT Investigation
4-2 Analytical Results For Subsurface Soil Samples
4-3 Analytical Results For Inorganic Analytes in Subsurface Soil Samples
4-4 Summary of Analytical Results for Groundwater Samples – November 2000
4-5 Summary of Analytical Results for Groundwater Samples – October/November 2001

## FIGURES

**NUMBER**

1-1 Regional Map
1-2 Topographical Map
1-3 Site Plan
2-1 Soil Sampling and DPT Borehole Locations
2-2 Monitoring Well and Cross Section Location Map
2-3 Typical Shallow and Intermediate Monitoring Well Construction Detail
2-4 Typical Stick-up Monitoring Well Detail
2-5 Typical Deep Monitoring Well Construction Detail
3-1 Hydrogeologic Cross Section
3-2 Free Product Thickness – July/September 2000
3-3 Free Product Thickness – January 2002
3-4 Groundwater Elevation Map – November 5, 2000
3-5 Groundwater Elevation Map – January 11, 2002
3-6 Supply Well Locations
4-1 Ova Screening Results
4-2 Soil Headspace Screening Results for Sample Immediately Above Watertable
4-3 Groundwater Analytical Results – November 2000 Benzene Concentrations
4-4 Groundwater Analytical Results – November 2000 Ethylbenzene Concentrations
4-5 Groundwater Analytical Results – November 2000 Total Xylene Concentrations
4-6 Groundwater Analytical Results Benzene Concentrations - Oct/Nov 2001 Data
4-7 Groundwater Analytical Results Ethylbenzene Concentrations - Oct/Nov 2001
4-8 Groundwater Analytical Results Total Xylene Concentrations - Oct/Nov 2001
4-9 Natural Attenuation Parameters

**APPENDICES**

**A FIELD DATA FORMS ..... A-1**
**B LABORATORY ANALYTICAL REPORTS ..... B-1**
**C SURVEY REPORT ..... C-1**
**D SPECIFIC CAPACITY TEST AND TIDAL DATA ..... D-1**
**E ESTIMATED MASS OF CONTAMINANT CALCULATIONS ..... E-1**

# EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has been authorized by Southern Division, Naval Facilities Engineering Command to prepare site assessment reports for petroleum impacted sites at the Naval Air Station, Pensacola, in Escambia County, Florida. This Site Assessment Report (SAR) has been prepared to evaluate soil and groundwater conditions at the former Sherman Field Fuel Farm Underground Storage Tank (UST) Site 00024 the former Sherman Field Fuel Farm.

## Site Assessment Activities

- Reviewed available Navy documents to identify potential sources and receptors for petroleum hydrocarbons in the vicinity: to evaluate public and private potable water wells, to locate utility line areas, to locate nearby surface water bodies, and to determine surface hydrology and drainage;
- Conducted an assessment of soil and groundwater in the vicinity of UST Site 000024 using direct push testing methods for soil sampling and monitoring well installation for groundwater sampling;
- Installed 31 permanent monitoring wells: 27 shallow wells to approximately 17 to 30 feet below land surface (bls), three intermediate wells to approximately 40 feet bls, and one deep well to approximately 75 feet bls;
- Collected groundwater samples from the monitoring wells for laboratory analysis of volatile organic aromatics, polynuclear aromatic hydrocarbons, ethylene dibromide (EDB), total recoverable petroleum hydrocarbons, and lead;
- Conducted sampling for natural attenuation parameters from selected monitoring wells to provide data to evaluate the potential for naturally occurring biodegradation of petroleum constituents at the site; and
- Implemented an aquifer characterization program to evaluate the movement of groundwater at the site.

## Conclusions

- Soils that are defined as “excessively contaminated” by 62-770 Florida Administrative Code (F.A.C.) are present in the vadose zone at the site,

- Free-product is present at the site,
- Concentrations of petroleum contaminants of concern in site groundwater exceed GCTLs specified in Chapters 62-770 and 62-777, F.A.C.,
- Geochemical evidence (natural attenuation parameters) suggest that biodegredation of petroleum hydrocarbons may be occurring at the site,
- Downgradient horizontal extent of the dissolved contamination is delineated, and
- Exposure pathways to human receptors via surface water or supply wells are not complete.

**Recommendations**

Based upon the hydrogeological and chemical data presented in this SAR and the requirements of Chapter 62-770 and 62-777, F.A.C., TtNUS recommends that a Remedial Action Plan (RAP) be completed and active remediation of the free product and soils be addressed. Following active remediation, natural attenuation of the onsite groundwater may be appropriate.

In addition, TtNUS recommends

- Free product removal at the site should be initiated immediately and continued until the active recovery system is installed,
- Monitoring wells installed prior to this SAR should either be abandoned in place or completed with concrete pads and steel manhole vaults for wellhead protection.

# 1.0 SITE DESCRIPTION AND BACKGROUND INFORMATION

Tetra Tech NUS, Inc. (TtNUS), under contract to the Department of Navy, Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), is submitting this Site Assessment Report (SAR) documenting the findings of the site assessment performed at Underground Storage Tank (UST) Site 000024 found at the Naval Air Station (NAS) located in Pensacola, Florida (Figure 1-1). This SAR was prepared on behalf of the Navy under contract No. N62467-94-D-0888 and summarizes environmental assessment activities conducted by TtNUS at UST Site 000024.

## 1.1 SITE LOCATION AND CONDITIONS

UST Site 000024 is the former Fuel Farm facility at Sherman Field, NAS Pensacola. NAS Pensacola is located in northwest Florida on the western side of Pensacola Bay, approximately 2 miles south of Pensacola, Florida, on Navy Boulevard. The site is located on the western perimeter of the base approximately 2,400 feet north of Radford Boulevard, as shown on the Fort Barrancas, Florida, US Geologic Survey Quadrangle Map (Figure 1-2). UST Site 000024 (Figure 1-3) consists of an approximately 3.5-acre, fenced area around the former fuel farm including four cut-and-cover storage tanks (Tank Nos. 1884, 1886, 1887, and 1888). The petroleum storage tank system was installed in approximately 1945 and used to store JP-4 Jet Fuel. The fuel storage tanks were abandoned in place in approximately 1995 after a new fuel facility was constructed adjacent to the south side of the original fuel farm. It is unknown how much of the underground distribution piping is still in place, but it is assumed to be present based on the presence of exposed lines at several locations.

## 1.2 SITE HISTORY

An equipment malfunction in 1983 resulted in the release of approximately 48,000 gallons of JP-4 Jet Fuel. Initial recovery efforts by NAS Pensacola personnel included the installation of four recovery ditches along the fence line in the northwestern corner resulting in the recovery of approximately 600-700 gallons of free product. However, recovery efforts were discontinued by direction of the NAS Pensacola Fire Marshall due to the proximity of open excavations containing free product to the active fuel farm area. Additional recovery efforts in August 1983 included the installation of a product/groundwater recovery well system from approximately 50 to 140 feet west-northwest of the fuel farm. The system proved unsatisfactory, apparently due to its location, and recovery operations were discontinued (E. C. Jordan, 1990).

# 2.0 SITE ASSESSMENT METHODOLOGY

Site assessment activities conducted at UST Site 000024 included a soil gas headspace investigation, subsurface soil sampling, monitoring well installation, groundwater sampling, and aquifer testing. A direct-push technology (DPT) investigation was conducted prior to monitoring well installation. Soil samples were collected during this investigation for headspace screening and laboratory analysis. Groundwater samples were collected from monitoring wells for laboratory analysis and evaluation of natural attenuation parameters. Data collected during the monitoring well elevation survey, static water level measurements, and specific capacity tests were used to evaluate aquifer properties at the site. The results of the site assessment are discussed in Sections 3.0 and 4.0.

## 2.1 QUALITY ASSURANCE

The site assessment investigation was conducted in accordance with the Standard Operating Procedures (SOP) prescribed by the FDEP Quality Assurance Section Document DER-001/92, and adopted by the TtNUS Comprehensive Quality Assurance Plan (CompQAP) Number 980038. Equipment used to advance the soil borings, install monitoring wells, and collect soil or groundwater samples was decontaminated prior to and following each use according to TtNUS' CompQAP. Groundwater generated during well development and sampling was containerized in properly labeled 55-gallon drums and staged for proper disposal pending analytical results. Organic vapor levels were measured during the field investigation using a flame ionization detector (FID). Prior to each day's activities, the FID was field calibrated with 100-parts per million (ppm) methane in air span gas, in accordance with the manufacturer directions.

Groundwater sampling activities were performed in accordance with the procedures prescribed in the FDEP Quality Assurance Section's SOPs for Laboratory Operations and Sample Collection Activities, (DER-001/92), adopted by TtNUS' CompQAP. Soil samples were collected in appropriate laboratory-cleaned containers obtained from Accura Analytical Laboratory. Groundwater samples were collected in pre-preserved containers also obtained from Accura Analytical Laboratory. As part of the groundwater sampling event, quality control samples (e.g. equipment blanks and trip blanks) were prepared and submitted to the laboratory as required by the approved CompQAP. Sampling activities were documented in a site-specific field logbook, and samples were transmitted under chain-of-custody protocols to the laboratory.

## 2.2 SOIL ASSESSMENT PROGRAM

The soil screening investigation was conducted at UST Site 000024 to evaluate the extent of petroleum impact on site soils previously detected during initial abatement activities. During the soil screening investigation, a total of 41 soil borings (NASPFF-SB-1 through NASPFF-SB-41) were advanced using DPT

methods (Figure 2-1). Soil samples from the borings were collected for headspace screening with a FID and laboratory analysis. During the DPT field investigation, each soil boring was advanced to the water table.

### 2.2.1 Soil Lithologic Descriptions

Soil borings for the preliminary assessment were advanced with a DPT rig utilizing soil core samplers. The soil core samplers were 4 feet long and were lined with disposable plastic sleeves. The soil borings were advanced continuously from ground surface to a depth ranging from approximately 12 to 28 feet at each soil boring location. The site geologist logged the soil properties, including texture, color and soil moisture, for each soil core and noted staining or odors. Soil boring logs are provided in Appendix A. Soil samples were also collected from the soil cores for headspace screening and for fixed based laboratory analysis.

### 2.2.2 Soil Headspace Screening

Soil samples were collected from each 4-foot interval of soil core for headspace screening in accordance with the procedures outlined in 62-770.200(8) F.A.C. From each 4-foot interval, two, 16-ounce glass jars were half-filled with soil, sealed with aluminum foil, and labeled. The soil samples were allowed to equilibrate to ambient air temperature. The FID response to total headspace organic vapors was measured by inserting the FID probe through the foil sample cover and recording the highest instrument reading. If a positive response was observed when screening the first sample jar, a filtered instrument reading was made from the second soil sample jar. A granular activated carbon (GAC) filter was attached to the instrument and a headspace organic vapor measurement was made from the second soil sample. The GAC filter adsorbs heavier organic vapors, such as petroleum hydrocarbons but allows lighter, naturally occurring organic vapors, such as methane, to be detected by the FID. The filtered concentration was subtracted from the total vapor concentration to determine the corrected FID response.

### 2.2.3 Soil Sampling for Laboratory Analysis

Eleven soil samples were collected from UST Site 000024 for laboratory analysis to correlate the results of the headspace screening with laboratory analyses and to delineate soil contamination above the water table. Analytical samples were collected from across the former Fuel Farm area to determine representative low, medium, and high FID responses and determine the shallowest zones of contaminated soil in the source area (Figure 2-1). A soil sample was submitted to a fixed-base laboratory from every boring location from either the vadose zone interval with highest FID response or the interval directly above water table. An additional sample was submitted from boring SB-12, which was located in the source area (Figure 2-1).

The soil samples were analyzed for VOCs using SW-846 Method 8260B, PAHs using SW-846 Method 8310, TRPH using FL-PRO, RCRA Metals using SW-846 Method 6010A, Total Organic Carbon using Corps of Engineers Method 81, and for Grain Size Analysis using ASTM E422-63 analytical and reporting protocols. The laboratory analytical report is included in Appendix B.

## 2.3 MONITORING WELL INSTALLATION PROGRAM

Following the DPT activities, 27 shallow, three intermediate, and one deep vertical extent monitoring wells were installed at the site. The monitoring wells were used for groundwater sampling and collecting data to evaluate aquifer properties.

### 2.3.1 Monitoring Well Locations

Screening data obtained during the DPT investigation, liquid levels from previously existing monitoring wells (including free product thickness measurements), and topography were evaluated to determine the optimum number and location of the wells. Monitoring well placements were selected to provide spatial coverage around the area of the release (Figure 2-2).

### 2.3.2 Shallow and Intermediate Monitoring Well Installation

Shallow and intermediate monitoring wells MW1-S through MW23-S were drilled in September 2000 with a truck-mounted drill rig utilizing a 4.25-inch inside diameter (ID) hollow stem augers (HSA) creating a nominal borehole diameter of approximately 8.25-inches. Each well was constructed of 2-inch inside diameter ID, flush-threaded, schedule 40 polyvinyl chloride (PVC) riser and 0.010-inch slot well screen with a 6-inch point cap. The shallow wells were installed from approximately 20 to 30 feet bls with a 10-foot screen section that bracketed the water table. The intermediate monitoring wells were installed to approximately 40 feet bls and constructed of 2-inch ID, flush-threaded, schedule 40 PVC riser and 5-feet of 0.010-inch slot well screen with a 6-inch point cap.

The annulus around each well was filled approximately 2 to 3 feet above the top of the screen with US Standard Sieve size 20/40 silica sand, followed by a 2-foot fine sand seal. The remainder of the annulus was grouted to the surface with portland cement. Each well was secured with a locking, watertight cap within a steel, 8-inch diameter steel manhole. The manhole was set in a 24-inch square concrete apron finished slightly above grade. A typical shallow and intermediate well installation is illustrated on Figure 2-3. Monitoring well construction details are summarized on Table 2-1, provided in Appendix A.

Monitoring wells MW24-S, MW24-I, MW25-S, MW26-S and MW27-S were installed later in October 2001 using a DPT drilling rig. These wells were installed to provide horizontal delineation of the downgradient edge of the groundwater plume. The shallow wells were installed to a depth of 23 feet, and the intermediate well was installed to a depth of 43 feet. The wells were constructed of 0.75-inch ID, flush-threaded, schedule 40 PVC riser, with 10 feet of 0.010-inch slot Geoprobe™ pre-packed well screen for the shallow wells and 5 feet of pre-packed screen for the intermediate well. The pre-packed screens contain a foam bridge and bentonite sleeve to provide a seal above the screen. The annulus around each well above the pre-pack section was then filled US Standard Sieve size 45/55 fine sand to within a foot of the land surface. The remainder of the annulus was grouted to the surface. Each well was secured with a locking, watertight cap within a 4-inch diameter steel protective casing that extends approximately 3 feet above ground surface. A typical well completion diagram for a well completed as a stick-up well is illustrated on Figure 2-4.

### 2.3.3 Deep Monitoring Well Installation

A deep monitoring well MW13-D or equivalent was installed within the main area of contamination to provide water quality data from deeper within the surficial aquifer. To prevent cross contamination from shallower zones, a surface casing was installed from the ground surface to a total depth of 43.5 feet. The surface-casing boring was drilled with a truck-mounted drill rig using mud-rotary methods producing a nominal 10-inch borehole. The 6-inch, Schedule 40 PVC surface casing was installed to 43.5 feet and grouted into place. The grout was allowed to cure for 24 hours before drilling was continued. The deep well boring was advanced through the surface casing to a total depth of approximately 75 feet using mud-rotary drilling techniques. The well was constructed of 2-inch ID, flush-threaded, schedule 40 PVC riser and 5 feet of 0.010-inch slot well screen with a 6-inch point cap.

The annulus around the well was filled to approximately 4.5 feet above the top of the screen with US Standard Sieve size 20/40 silica sand, followed by a 5-foot bentonite seal. The remainder of the annulus was grouted to the surface. The well was secured with a locking, watertight cap within a steel, 12-inch diameter steel manhole. The manhole is set within a 24-inch square concrete apron finished slightly above grade. A typical deep well installation is illustrated on Figure 2-5. Monitoring well construction details are summarized on Table 2-1, and the monitoring well completion diagrams are provided in Appendix A.

### 2.3.4 Monitoring Well Development

Each monitoring well was developed using a centrifugal pump. Groundwater physical parameters were monitored during development. The well was considered developed once three consecutive field readings of temperature, pH, specific conductivity stabilized within the required percentages, and turbidity had fallen

to less than 10 NTUs. The static water level was continually monitored to ensure there were no significant decreases. Flow rates were typically 1-gallon per minute (gpm), and lower in some wells. The deep monitoring well was purged until the water was relatively clear (NTUs in the 100s) and approximately 650 gallons had been removed. Potentially contaminated development water from the site was stored in labeled 55-gallon drums for later disposal pending analytical results.

## 2.4 GROUNDWATER SAMPLING PROGRAM

During site assessment activities, groundwater samples were collected from monitoring wells installed after the initial DPT screening investigation in July 2000. Groundwater samples collected from the monitoring wells were submitted to an offsite laboratory to be analyzed for petroleum constituents. Selected groundwater samples were analyzed for natural attenuation parameters in the field and at the offsite laboratory.

### 2.4.1 Monitoring Well Sampling

Groundwater samples were collected from newly installed site monitoring wells in November 2000 to evaluate groundwater quality in the shallow surficial aquifer in the vicinity of the USTs. The groundwater samples were collected using the low-flow quiescent purging and sampling method. New Teflon tubing was installed in each well for groundwater sampling. Approximately three well volumes were removed from each well using a peristaltic pump and Teflon tubing. Temperature, pH, specific conductance, dissolved oxygen concentration, salinity, and sample turbidity were monitored while the wells were purged. The field measurements and well purge volumes were recorded during well purging and at the time of sample collection. Groundwater sample log sheets are provided in Appendix A.

Groundwater samples were collected from each monitoring well to be analyzed for 1,2-Dibromoethane (ethylene dibromide or EDB) using SW-846 EPA Method 504.1, VOCs (EPA Method 8260B), PAHs (EPA Method 8270C), TRPH (FL-PRO) and Lead (EPA Method 3010A/6010B). The groundwater samples were placed on ice and transported to Accura Analytical Laboratory, Inc. in Norcross, Georgia for analysis. Groundwater laboratory analytical reports are presented in Appendix B.

A second round of groundwater sampling was performed in October and November 2001. During this event, groundwater samples were collected from selected monitoring wells to be analyzed for VOCs (EPA Method 8260B), PAHs (EPA Method 8270C), TRPH (FL-PRO) and lead (EPA Method 3010A/6010B). The groundwater samples were placed on ice and transported to Accura Analytical Laboratory, Inc. in Norcross, Georgia for analysis. The laboratory analytical reports can be found in Appendix B.

### 2.4.2 Natural Attenuation Parameter Sampling

During the November 2000 groundwater sampling event, additional field measurements and laboratory samples were collected from selected monitoring wells to provide data to evaluate the potential for naturally occurring biodegradation of petroleum constituents in groundwater at the site. Additional sampling and analysis were conducted for area wells MW1-S, MW2-S, MW3-S, MW4-S, MW9-S, MW11-S, MW12-S, MW14-S, MW16-S, and MW21-S. Field measurements were made for each of the wells for dissolved oxygen, and ferrous iron. Laboratory samples were submitted for methane, sulfide, nitrate, nitrite, and sulfate analysis. The field data for natural attenuation parameters is included in Appendix A and the laboratory data for natural attenuation parameters is included in Appendix B.

## 2.5 AQUIFER CHARACTERIZATION

Data were collected during the site investigation to evaluate the movement of groundwater at the site. Groundwater elevations were determined from static water level measurements and a well top-of-casing (TOC) elevation survey. Hydraulic conductivity and transmissivity values for the shallow surficial aquifer were calculated from flow rate and drawdown measurements made during specific capacity tests in selected monitoring wells at the site.

### 2.5.1 Well TOC Survey

A reference point was marked on the top of each monitoring well casing on the north side. The elevations of the reference points were surveyed by a registered Florida surveyor to the nearest 0.01-foot, relative to the elevation above Mean Sea Level, North American Vertical Datum of 1988 (NAVD 88). The survey data are included in Appendix C.

### 2.5.2 Static Water Level Measurements

Depth-to-groundwater measurements were made in site monitoring wells during four gauging events, on July 19, 2000, September 6 to 26, 2000, November 5, 2000, and January 11, 2002. Measurements were made from the reference points marked on the tops of well casings using an electronic water level indicator (interface probe where applicable). Static water level measurements were made to the nearest 0.01-foot. Groundwater elevations were calculated from the TOC survey elevations and the static water-level measurements. The groundwater elevations and flow directions are discussed in Sections 3.2.2 and 3.2.3 respectively.

### 2.5.3 Specific Capacity Tests

Specific capacity tests were conducted at one well and one intermediate monitoring well at the site. The wells MW5-S, and MW5-I (Figure 2-1) were selected because they were upgradient of the source area. A specific capacity test is a single-well pumping test that can be used to estimate hydraulic conductivity and transmissivity.

Prior to conducting the test, the monitoring wells were opened and allowed to equilibrate to ambient conditions. Once a well had stabilized, static water level and total well depth were recorded and used to calculate the height of the water column in the well. A pressure transducer and submersible pump were then installed in the well, and the water level was allowed to restabilize. The pressure transducer was connected to a data logger to record water levels in the well. At the beginning of the test, the submersible pump and data logger were started. To minimize well bore losses due to turbulent groundwater flow, the flow rate was maintained to limit the stabilized drawdown in the well to 10 percent of the static water column in the well. Flow rate during the test was measured with a watch and calibrated beaker. Drawdown in the well was measured periodically with a water level indicator and recorded continuously on the data logger. The pumping portion of the test continued until the flow rate and drawdown were stable for a 10-minute interval. Once the flow rate and drawdown were stable, the pump was stopped, and the data logger recorded the recovery of water level in the well back to the static level.

# 3.0 GEOLOGY AND HYDROGEOLOGY

Data collected during the site assessment were used to evaluate geologic and hydrogeologic conditions at the site that may influence the fate and transport of hydrocarbons released to the environment. Lithology and stratigraphy were described for the vadose zone and shallow surficial aquifer at the site. Aquifer properties evaluated as part of the site assessment included depth to groundwater and groundwater elevation, groundwater flow direction and gradient, hydraulic conductivity of the shallow water bearing zone, and groundwater flow velocity. Potable water supply and irrigation wells and surface water bodies in the vicinity of the site were investigated as potential groundwater exposure paths.

## 3.1 SITE STRATIGRAPHY

Interpretation of site lithology and stratigraphy was based on visual examination of soil cores collected from soil borings during the DPT investigation and drill cuttings observed during the monitoring well installation. Soil boring logs from the DPT investigation are included in Appendix A.

The typical lithology at the site is yellowish brown to light brown to white, silty fine to medium grained sand (Figure 3-1). This lithology was encountered across the site from ground surface to depths of approximately 38 feet at location MW5-I where an approximately 1-foot thick peat layer was encountered. Peat layers were also encountered in deep monitoring well MW13-D at depths of approximately 38 feet bls, and 65 feet bls. Since the USTs were installed upon a flat cut base and then covered, the material forming the mound of the former Fuel Farm is fill. Other than the peat layers, lithologies that would indicate potential confining layers were not encountered during the site assessment.

Regionally the surface lithology is consistent with correlation to the Pleistocene Terrace deposits and Citronelle Formation (Undifferentiated). This stratigraphic unit is described as sand with lenses of clay and gravel. The color is light-yellowish brown to reddish-brown, very fine to very coarse and poorly sorted. Logs and carbonaceous zones are present in places. Fossils are extremely rare except near the coast (Marsh, 1966). These formations together with the underlying Miocene Coarse Clastics make up the surficial sand and gravel aquifer. The Pensacola Clay Aquiclude, underlying the Miocene Coarse Clastics, would be the lower-confining unit for the area. The Clay is interpreted to be encountered approximately 400 to 600 feet below sea level in the vicinity of the Pensacola Naval Air Station (Marsh, 1966).

## 3.2 SITE HYDROGEOLOGY

Hydrogeologic data were collected during the site assessment to evaluate movement of groundwater in the shallow surficial aquifer at the site. Depth to groundwater and groundwater elevation were used to determine the groundwater flow direction and water table gradient at the site. Hydraulic conductivity and transmissivity for the shallow surficial aquifer were calculated from data collected during the specific capacity tests. Groundwater flow velocity at the site was estimated from the hydraulic conductivity and gradient data.

### 3.2.1 Free Product Thickness Measurements

Free product thickness measurements were recorded from site monitoring wells during three of the four gauging events, on July 19, 2000, September 6 to 26, 2000, November 5, 2000, and January 11, 2002. The initial measurement period in July 2000 and the latest event in January 2002 included all existing monitoring wells installed during previous investigations. The two events in September and November 2000 included only the monitoring wells installed as part of this SAR investigation. Free product measurements ranged from a visible sheen to 1.64 feet in thickness. Nine of the monitoring wells at the site contained measureable thickness of free product and two of the wells contained a visible sheen. Figure 3-2 presents the free product thickness measurements from the combined July and September 2000 measurement events, and Figure 3-3 presents the product thickness measurements from the January 2002 data.

A determination of free product contaminant mass was completed for the site based on the July and September 2000 data. The determination was completed using the formula:

$$\text{Total free product mass} = A * T * n * Cf * 49.12\ \text{lb/ft}^3$$

where:

T = Average observed thickness (feet) = 1.07 ft
A = Total area of plume (feet$^2$) = 109,900 ft$^2$
n = Porosity = 0.30
Cf = Correction factor for soil type (0.50 for sand)

Based on the above assumptions the free product contaminant mass was estimated at 866,425 lbs. The free product mass was also calculated using the January 2002 measurements of product thickness. The average thickness was 0.52 during the latest sampling event. Using the

same assumptions for the extent of the plume and the average porosity, the contaminant mass is estimated to be 421,066 lbs.

### 3.2.2 Static Water Level and Groundwater Elevations

Static water level (SWL) measurement data were recorded from site monitoring wells during four gauging events, on July 19, 2000, September 6 to 26, 2000, November 5, 2000, and January 11, 2002. Although SWL measurements were recorded in existing monitoring wells in July 2000, these measurements were not used to develop potentiometric surface maps because a number of casings were broken and using historic Top of Casing survey data was not recommended. SWL measurements from the September 2000 event were not used to develop potentiometric surface maps because the measurements were recorded in newly installed monitoring wells prior to surface pad and protective casing construction and would not represent accurate TOC information.

The SWL measurements recorded on November 5, 2000, indicate water levels in the shallow wells ranged from 7.51 feet below top of casing (BTOC) in MW11-S to 24.49 feet BTOC in MW4-S (Table 3-1). The SWL measurements in the intermediate wells MW5-I and MW14-I were 12.14 feet BTOC and 12.65 feet BTOC, respectively. The SWL measurement in the deep well, MW13-D, was 28.21 feet BTOC.

The SWL measurement data and the relative elevations from the well TOC survey were used to determine relative groundwater elevations at each well for the November 5, 2000, and the January 11, 2002, gauging events (Table 3-1). During gauging events, groundwater elevations were generally highest to northwest and decreased to the southeast side of the site (Figure 3-4).

The November 5, 2000 groundwater elevation data in shallow monitoring wells ranged from 18.16 feet in MW17-S to 21.21 feet in MW3-S (Table 3-1). The groundwater elevations in intermediate wells MW5-I and MW14-I were 19.51 and 19.62 feet, respectively and the groundwater elevation in deep well MW13-D was 16.80 feet. Three nested monitoring wells including MW5, MW13 and MW14 are present at the site for determination of the vertical hydraulic gradient. The vertical hydraulic gradient in monitoring well nest MW14 was stagnate, whereas the gradient in well nest MW5 was downward with a gradient of 0.024 ft/ft. The groundwater elevation in the deep well MW13-D was approximately 2.54 feet lower in elevation than the nearby shallow well MW3-S indicating a downward gradient of 0.043 ft/ft. The January 11, 2002 gauging results indicated similar results and gradients.

### 3.2.3 Groundwater Flow Direction

To evaluate the direction of groundwater flow at the site, the groundwater elevations were plotted on site maps for the November 5, 2000, and the January 11, 2002, gauging events (Figures 3-4 and 3-5). Groundwater elevation isocontours were drawn from the plotted data. The groundwater flow direction is predicted to be perpendicular to the elevation of the potentiometric surface isocontours. An interpretation of data from the site gauging events indicate that the mounded area surrounding the onsite fuel tanks effects the immediate groundwater flow. However, groundwater flow in the shallow surficial aquifer is generally to the south southeast, away from UST Site 000024 Area toward Big Lagoon, Sherman Cove, and Pensacola Bay (Figures 3-4 and 3-5).

### 3.2.4 Water Table Gradient

The average horizontal groundwater gradient across the site was calculated for the November 2000 gauging event from the groundwater elevations measured in shallow monitoring wells and the estimated groundwater flow direction.

The groundwater flow gradient was determined using the following equation:

$$I = \frac{h_1 - h_2}{d}$$

where:

I = the hydraulic gradient
$h_1$ = the water elevation at point 1, the highest value
$h_2$ = the water elevation at point 2, the lowest value
d = the horizontal distance between point 1 and point 2 parallel to the estimated direction of groundwater flow

The highest and lowest groundwater elevation values measured in shallow monitoring wells during each gauging event were used to determine the difference in groundwater elevation across the site. The horizontal distance between the high and low groundwater elevation points was measured parallel to the estimated groundwater flow direction.

On November 5, 2000, the groundwater elevation in MW3-S, 21.21 feet, was the highest value, and the groundwater elevation in MW17-S, 18.16 feet, was the lowest value. The horizontal distance parallel to groundwater flow was 580 feet. These data indicate an average hydraulic gradient of 0.00526 feet/foot.

### 3.2.5 Hydraulic Conductivity

Hydraulic conductivity values for the site were calculated from the specific capacity test data from monitoring wells MW5-S and MW5-I. Specific capacity test data are summarized below and contained in Appendix D.

During the specific capacity tests, flow rate and drawdown data were recorded until stable drawdown conditions were achieved. The flow and drawdown data from each test were input into two computer programs based on the Theiss equation (Bradbury and Rothschild, 1985; Kasenow and Pare, 1992). An estimated storage coefficient of 0.2 (Heath, 1983) and an estimated saturated thickness of 50 feet were assumed for the data analysis. Since MW5-S had a well screen that bracketed the water table, the static water column was used as the screen length.

The hydraulic conductivity values calculated from the specific capacity test data ranged from 64.3 to 223.8 feet per day. The conductivity values for MW5-I, 64.3 and 78.0 feet per day, were the lowest and the values for MW5-S were the highest, 198.8 and 223.8 feet per day. The hydraulic conductivity values calculated by the Kasenow and Pare program were lower than the values calculated by the Bradbury and Rothschild program. This may be due to the correction applied to partially penetrating pumping wells in the Kasenow and Pare program. The arithmetic mean of hydraulic conductivity values calculated for MW5-I was 71.2 feet per day. The arithmetic mean of hydraulic conductivity values calculated for MW5-S was 211.3 feet per day.

Site specific transmissivity values were calculated from the hydraulic conductivity by the computer programs using the following equation:

$$T=Kb_e$$

where:

T = transmissivity
K= hydraulic conductivity
$b_e$ = affected aquifer thickness

The shallow surficial aquifer was estimated to have a saturated thickness of 50 feet. The transmissivity values calculated for MW5-I were 3,215 and 3,899 square feet per day. The transmissivity values calculated for MW5-S were 9,994 and 11,190 square feet per day.

DETERMINATION OF AQUIFER PROPERTIES BASED ON ANALYSIS OF SPECIFIC CAPACITY TESTS

**WELL NUMBER MW5-I)**

Bradbury and Rothschild

SPECIFIC CAPACITY (GPM/FT) = 2.97619

TRANSMISSIVITY: (FT*FT/SEC) = 4.512603E-02
(FT*FT/DAY) = 3898.889
(GAL/DAY/FT) = 29165.64

USING A STORAGE COEFFICIENT = .2
NUMBER OF ITERATIONS = 3

HYDRAULIC CONDUCTIVITY: (FT/SEC) = 9.025206E-04
(FT/DAY) = 77.97778
(GAL/DAY/FT*FT) = 518.0468

Kasenow and Pare

Q = Pumping rate = gpm = 1.25
r = Radius of the pumping well = ft = 0.08
t = Time duration of pumping test = 45.00 min = 0.03125 days
t(o) = Time of zero drawdown = 0.00045484 min = 0.0000003159 days
Slope = ft = 0.01

T = Transmissivity = 23991.00 gpd/ft
= 3214.79 $ft^2$/day
= 297.49 $m^2$/day

Apparent storage coefficient = 0.330000
Aquifer thickness = b = ft = 50.00

Hydraulic conductivity = K = 479.82 gpd/sq ft
= 64.30 ft/day
= 19.68 m/day

Field drawdown = s = ft = 0.42
Corrected drawdown = s = ft = 0.07
Field specific capacity = Q/s = gpm/ft = 2.98
Corrected specific capacity = Q/s = gpm/ft = 18.17
Apparent limit of cone of depression at steady-rate = r (o) = ft = 26.11

DETERMINATION OF AQUIFER PROPERTIES BASED ON ANALYSIS OF SPECIFIC CAPACITY TESTS

**WELL NUMBER MW5-S)**

Bradbury and Rothschild

SPECIFIC CAPACITY (GPM/FT) = 11.36357

TRANSMISSIVITY: (FT*FT/SEC) = .1295109
(FT*FT/DAY) = 11189.74
(GAL/DAY/FT) = 83704.83
USING A STORAGE COEFFICIENT = .2
NUMBER OF ITERATIONS = 3

HYDRAULIC CONDUCTIVITY: (FT/SEC) = 2.590217E-03
(FT/DAY) = 223.7948
(GAL/DAY/FT*FT) = 486.785

Kasenow and Pare

Q = Pumping rate = gpm = 1.25
r = Radius of the pumping well = ft = 0.08
t = Time duration of pumping test = 40.00 min = 0.02778 days
t(o) = Time of zero drawdown = 0.00014714 min = 0.0000001022 days
Slope = ft = 0.00

T = Transmissivity = 74164.00 gpd/ft
= 9937.98 $ft^2$/day
= 919.63 $m^2$/day

Apparent storage coefficient = 0.330000
Aquifer thickness = b = ft = 50.00
Hydraulic conductivity = K = 1483.28 gpd/sq ft
= 198.76 ft/day
= 60.82 m/day

Field drawdown = s = ft = 0.11
Corrected drawdown = s = ft = 0.02
Field specific capacity = Q/s = gpm/ft = 11.36
Corrected specific capacity = Q/s = gpm/ft = 51.71
Apparent limit of cone of depression at steady-rate = r (o) = ft = 43.28

### 3.2.6 Groundwater Velocity

Potential movement of groundwater at the site may be described in terms of transportation by natural flow in the saturated zone while assuming groundwater flow follows Darcy's Law. Darcy's Law may be expressed as:

$$V = \frac{(K \times I)}{n}$$

where:

V = average seepage velocity
K = hydraulic conductivity
n = effective porosity
I = average hydraulic gradient

As discussed in Section 3.2.2, no significant difference was observed in the groundwater elevations in adjacent shallow and intermediate wells, therefore the hydraulic gradient for the intermediate zone was assumed to correspond with the gradient for the shallow zone in this area. Data from soil borings advanced during the DPT investigation indicate that silty fine sand and fine sand are the typical lithologies at the site. Review of standard literature suggests that a representative effective porosity for this lithology is approximately 30% (Heath, 1983).

Based on Darcy's Equation, the estimated groundwater seepage velocity for the shallow zone was calculated at 3.7 feet/day, using an average hydraulic conductivity of 211.3 feet/day, an average hydraulic gradient of 0.00526 feet/foot, and an effective porosity value of 30%.

The estimated groundwater seepage velocity for the intermediate zone was calculated at 1.25 feet/day, using an average hydraulic conductivity of 71.2 feet/day, an average hydraulic gradient of 0.00526 feet/foot, and an effective porosity value of 30%.

## 3.3 POTABLE WATER SUPPLY WELL SURVEY

Three water wells at NAS Pensacola provide an emergency backup potable water supply to the NAS. These wells have typically been used as fire fighting water supply sources. One of the potable water supply wells (designated as Well No. 3) has been abandoned. The remaining two potable supply wells located at NAS Pensacola, designated as Wells No. 1 and No. 2, are indicated on Figure 3-6. According to NAS personnel, these wells are not currently used for potable water supplies at NAS Pensacola but are available as reserve potable water supplies should the need arise. Potable well inventory data are presented in Table 3-2. Both wells at NAS Pensacola are screened in the main producing zone of the sand-and-gravel aquifer at depths ranging from 105 to 160 feet bls. The main source of water is located off the facility at Navy-owned well field located at the Naval Technical Training Center, Corry Station. The water from this well field is pumped from the sand-and-gravel aquifer.

## 3.4 SURFACE WATER

There are naturally occurring surface water bodies in the vicinity of the site. Garcon Swamp is located approximately 1000 feet northwest of the site. There are the headlands of an unnamed intermittent stream approximately 250 feet north-northwest of the site that drain northward to Bayou Grande. To the southeast approximately 350 feet is a marsh between the site and Sherman Cove and Big Lagoon at the western side of Pensacola Bay.

### 3.4.1 Tidal Influence Survey

**Data Collection**

To aid in determining the effects of tidal fluctuations upon the potentiometric surface at the site, tidal data, barometric pressure data and groundwater elevation data were collected and evaluated. Tidal data, including the occurrence and magnitude of high and low tides for Pensacola, was downloaded from a National Oceanic and Atmospheric Administration (NOAA) website. Hourly observations of barometric pressure data for NAS Pensacola and Pensacola Regional Airport were downloaded from National Weather Service (NWS) websites. Groundwater elevation data were collected at 15-minute intervals during the test from three shallow monitoring wells at the site. Observations were made in monitoring wells MW14-S, MW11-S, and MW9-S. These wells were selected to evaluate variations in tidal influence across the site due to proximity to the shoreline, with MW14-S being the closest well and MW9-S being the most distant well. The groundwater level in each well was measured with a pressure transducer and recorded using an electronic data logger.

**Data Evaluation**

Data for the test were evaluated for a 35-hour period, beginning at high tide at approximately 0200 on December 5, 2000 and ending at low tide at 1200 on December 6, 2000. This interval represents approximately 1-1/2 tidal cycles.

The first high tide of the test interval, which was selected as the beginning point for data evaluation, occurred at 0200 on December 5, 2000. This high tide also had the greatest magnitude for the test interval, 0.72 feet above Mean Lowest Low Water (MLLW). Low tide occurred approximately 11 hours later at 1300. The low tide magnitude was 0.26 feet above MLLW, a drop of 0.46 feet from the previous high tide. The next high tide occurred approximately 9 hours later at 2200. The magnitude of this high tide was 0.66 feet above MLLW, an increase of 0.4 feet from the previous low tide, but 0.06 feet less than the previous high tide. The next low tide occurred approximately 14 hours later at 1200 on December 6, 2000. The magnitude of this

low tide was 0.34 feet above MLLW, a decrease of 0.32 feet since the previous high tide, but 0.08 feet higher than the previous low tide. The intervals between high and low tides ranged from 9 to 14 hours during the test interval. The largest tidal fluctuation during the test was 0.46 feet and the smallest was 0.32 feet.

Barometric pressure data recorded at NAS Pensacola and Pensacola Regional Airport were evaluated for the test period. In general, the barometric pressures recorded for the two stations were the same. For intervals with records for both stations that were different, the data from NAS Pensacola was used. When data for an interval was not available from NAS Pensacola, data from the Regional Airport was used. Barometric pressures for the first 8 hours of the test evaluation ranged from 30.37 to 30.35 inches of mercury (In. Hg). Data for the next 7 hours of the test were not downloaded and are currently not available. During the remaining 20 hours of the test barometric pressures ranged from 30.27 to 30.2 In. Hg, showing an overall decrease of 0.07 In. Hg measured at 2000 on December 5, 2000, to the end of the test.

Groundwater elevation data was collected from three shallow monitoring wells during the test interval. Pressure transducers were installed in each of the monitoring wells, and electronic data loggers were used to collect water level data from the wells at 15-minute intervals. The water level measurements were referenced to the surveyed top-of-casing elevation for each monitoring well to determine the groundwater elevations. Evaluation of the data recorded for MW11-S indicates that the pressure transducer installed in that well was not functioning correctly and that the groundwater elevations recorded during the test for MW11-S are not correct and therefore not usable.

Groundwater elevations in MW9-S were approximately 1 foot higher than the groundwater elevations in MW14-S. The groundwater elevations measured in MW14-S ranged from 19.98 to 19.94 feet above mean sea level (MSL). The groundwater elevations measured in MW9-S ranged from 20.93 to 20.91 feet MSL. Lower groundwater elevations generally occurred at or before low tides and high groundwater elevations occurred at or after high tides.

**Conclusions**

Variations in tidal range, barometric pressure and groundwater elevation were evaluated to determine the factors influencing groundwater elevation in the monitoring wells during the test. The maximum tidal range between a high tide and a low tide during the test was 0.46 feet. Barometric pressure remained fairly steady during the first 8 hours of the test, varying approximately 0.02 In. Hg. From 8 to 14 hours of the test, the barometric pressure dropped approximately 0.10 In. Hg. and during the last 22 hours of the test, barometric pressure had

dropped approximately 0.07 In. Hg. Barometric pressure values showed an overall decrease during the course of the test. The groundwater elevation in MW14-S fluctuated 0.04 feet during the course of the test. This fluctuation is about 10% of the maximum tidal fluctuation that occurred during the test. The groundwater elevation in MW9-S fluctuated 0.02 feet during the course of the test. This fluctuation is about 5% of the maximum tidal fluctuation that occurred during the test.

The groundwater elevation changes observed in MW14-S, which is located closer to the shoreline, were approximately twice as great as the changes observed in MW9-S, which is located further from the shoreline. Groundwater elevation changes in both wells showed limited correlation with the timing of tidal fluctuations. The magnitude of groundwater elevation changes did not decrease as the magnitude of tidal fluctuations decreased. Changes in barometric pressure seemed to have little or no influence on groundwater elevations during this test.

Tidal fluctuations occurring in Big Lagoon and Pensacola Bay do not significantly impact the potentiometric surface in the vicinity of Site 000024.

# 4.0 SITE ASSESSMENT RESULTS

Soil samples were collected at the Sherman Field former Fuel Farm UST Site 000024 for headspace screening and/or laboratory analysis during the preliminary assessment. The headspace screening results were evaluated following the appropriate 62-770 F.A.C. guidelines. The results of laboratory soil analyses were compared to the soil cleanup target levels (SCTLs) and appropriate 62-777 F.A.C. requirements.

Groundwater samples were collected at UST Site 000024 during the preliminary assessment on November 5, 2000. A second round of groundwater samples was collected in October and November 2001 after the installation of five additional downgradient monitoring wells. The results of groundwater analyses were compared to the groundwater cleanup target levels (GCTLs) and appropriate 62-777 F.A.C. requirements.

Natural attenuation parameters were measured from selected wells during the groundwater sampling event in November 2000. The data from wells located inside the source area were compared to data collected from wells located outside of the source area.

## 4.1 SOIL ASSESSMENT RESULTS

During the preliminary assessment, 26 out of 41 DPT soil borings had sample intervals where the headspace screening response is greater than 50 ppm, indicating that excessively contaminated soil as defined by 62-770 F.A.C. is present at the site. The other 15 soil borings had headspace screening responses ranging from 0 to 6 ppm. Following the initial screening process, soil samples were collected from borings with low, medium, and high range responses and submitted to a laboratory for analysis. BTEX, PAH, and TRPH compounds were reported at concentrations exceeding SCTLs in samples ranging from low to high headspace readings. Generally the higher range screening had greater concentrations. Those screened generally below 1,200 ppm had little to no concentrations exceeding SCTLs, except for SB-12 (6-8' bls, OVA = 120 ppm) and SB-13 (14-16' bls, OVA = 690 ppm), which contained concentrations of benzene of 0.0106 and 0.0018 mg/kg, respectively.

### 4.1.1 DPT Headspace Screening

Preliminary assessment activities were conducted to determine the extent of the petroleum-impacted soil in the vadose zone. Soils exhibiting a headspace screening response of greater

than 50 ppm are considered “excessively contaminated” as defined by Chapter 62-770.200, F.A.C. for the Kerosene Analytical Group. The extent of excessively contaminated soil was assessed through soil headspace screening performed during the DPT investigation. A summary of soil OVA screening results are presented in Table 4-1. Soil boring locations and soil headspace readings for the 4 to 8 feet bls depth and the sample immediately above the water table are shown on Figures 4-1 and Figure 4-2, respectively. Soil headspace measurements for the 0 to 4 feet depth range are not shown on a figure because elevated readings were not recorded. Additional depth ranges are not shown on individual figures because of the topography of the soil mounds covering the cut and cover tanks, which limits correlation of the sample depth intervals.

### 4.1.2 Laboratory Soil Sample Analysis

Soil samples (SB-11, SB-12, SB-13, SB-14, SB-15, SB-16, SB-17, SB-18, SB-19, SB-27, and SB-28) were collected from inside and outside of the source area for laboratory analysis to correlate with the headspace screening results (Figure 4-1 and Figure 4-2). Laboratory analytical reports can be found in Appendix B and on Tables 4-2 and 4-3 which contains a summary of the soil analytical results. The analytical results are shown graphically on Figure 4-10.

The following paragraphs describe soil samples that exceed the SCTLs.

Benzene exceeded the SCTL for leachability to groundwater of 0.007 mg/kg in following soil samples: SB-12 (6-8 feet bls and 20-24 feet bls) had concentrations of 0.0106 mg/kg and 0.0115 mg/kg respectively, and SB-16 (22-26 feet bls) at an estimated concentration of 0.113 mg/kg (Table 4-2).

Ethylbenzene exceeded the SCTL for leachability to groundwater of 0.6 mg/kg in following soil samples: SB-11 (4-8 feet bls) had a concentration of 5.05 mg/kg, SB-16 (22-26 feet bls) and SB-28 (7-11 feet bls) had concentrations of 6.7 and 3.41 mg/kg, respectively.

Total xylene exceeded the SCTL for leachability to groundwater of 0.2 mg/kg in the following soil samples: SB-11 (4-8 feet bls) had a concentration of 12.3 mg/kg, SB-16 (22-26 feet bls) and SB-28 (7-11 feet bls) at concentrations of 13.3 and 30.5 mg/kg, respectively.

1-methylnaphthalene exceeded the SCTL for leachability to groundwater of 1.7 mg/kg in the following soil samples: SB-11 (4-8 feet bls), SB-16 (22-26 feet bls), and SB-28 (7-11 feet bls) at concentrations of 8.65, 2.32 and 3.27 mg/kg, respectively.

2-methylnaphthalene, and naphthalene were reported in the soil sample SB-11 (4-8 feet bls) at a concentrations of 9.28, and 2.85 mg/kg, respectively, which are above the respective leachability for groundwater SCTLs of 6.1, and 1.7 mg/kg (Table 4-2).

Total recoverable petroleum hydrocarbons (TRPH) exceeded the SCTL of 340 mg/kg for both DE1 and leachability to groundwater in the following soil samples: SB-11 (4-8 feet bls), SB-16 (22-26 feet bls) and SB-28 (7-11 feet bls) at concentrations of 2,530, 810 and 2,130 mg/kg, respectively.

### 4.1.3 Estimated Mass of Contaminants in Soil

Net soil vapor readings in excess of 50 ppm were used to define "excessively contaminated soil" in accordance with Rule 62-770.200(2), F.A.C. For the site area, the area of impacted soil was calculated by assuming a representative geometric shape (an ellipse), then calculating the area based on the equation:

$$\textbf{Area} = \pi(rA)(rB)$$

where:

r = the radius of the axis
A = the long axis of the ellipse
B = the short axis of the ellipse

The volume of the soil was calculated using the equation:

$$\textbf{Volume} = (\textbf{Area})(\textbf{Depth})$$

where:

Area = calculated area in square feet
Depth = average vertical extent of contaminated soil in feet

The mass of contaminants in vadose zone soil was calculated using the following equation:

$$\textbf{Mass} = \textbf{Volume ft}^3 \times \frac{1\ \text{yd}^3}{27\ \text{ft}^3} \times \frac{1.4\ \text{tons}}{1\ \text{yd}^3} \times 1016 \frac{\text{kg}}{\text{ton}} \times \frac{\text{mg}}{\text{kg}} \text{TRPH} \times \left(1.0 \times 10^{-6}\right) \frac{\text{kg}}{\text{mg}} \times 2.204623 \frac{\text{lb}}{\text{kg}}$$

where:

TRPH = arithmetic mean of Total Recoverable Petroleum Hydrocarbon concentrations.

The estimated mass of contaminants was calculated for two elliptical areas from 4 feet bls to the water table (Figure 4-1) and a larger area immediately above the water table (Figure 4-2). The estimated mass of contaminants for the three combined areas was calculated at 89,980 lbs.

Soil volume and contaminant mass calculations for each site are provided in Appendix E. The estimated mass does not include contamination dissolved in soil pore water.

## 4.2 GROUNDWATER ASSESSMENT RESULTS

During the site assessment in November 2000, a total of 26 groundwater samples were collected from monitoring wells installed within and surrounding the source area and were submitted to a fixed-base laboratory for analysis. The petroleum constituents benzene, ethylbenzene, xylene, 1-methylnaphthalene, 2-methylnaphthalene, naphthalene, and TRPH were reported at concentrations exceeding GCTLs in these samples. During the second groundwater sampling event in October and November 2001, a total of 22 groundwater samples were collected from selected wells, and submitted to an analytical laboratory. The same petroleum constituents detected during the previous sampling activity were also detected during the second sampling event.

### 4.2.1 Monitoring Well Sampling

During November 2000, groundwater samples were collected from 22 shallow monitoring wells, two intermediate monitoring wells, and one deep monitoring well installed at the site (Figure 2-2). Twenty-five groundwater samples were collected and analyzed for VOCs, PAHs, EDB, TRPH, and lead at an offsite laboratory (Table 4-4). During the second sampling event in October and November 2001, groundwater samples were collected from 17 shallow monitoring wells, three intermediate monitoring wells, and one deep monitoring well. The samples were analyzed for VOCs, PAHs, EDB, TRPH, and lead at an offsite laboratory (Table 4-5). The laboratory analytical reports for both sampling events can be found in Appendix B. Benzene, ethylbenzene, and total xylene were reported at concentrations exceeding GCTLs in groundwater samples collected from the monitoring wells. The PAH compounds 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene were reported at concentrations exceeding GCTLs in groundwater samples collected from the monitoring wells. TRPH was also reported at concentrations exceeding GCTLs in groundwater samples collected from the monitoring wells.

Benzene detections exceeding the GCTL of 1 µg/l were reported in eight of the November 2000 groundwater samples ranging from 39 to 590 µg/l (Figure 4-2, Table 4-4). The GCTLs for ethylbenzene and total xylene, 30 and 20 µg/l, respectively were exceeded in eight monitoring

wells in November 2000 (Figures 4-3 and 4-4). In the samples collected in October and November 2001, benzene was detected above the GCTL in four samples ranging from 5.7 to 670 ug/L (Figure 4-6, Table 4-5), and the GCTLs for ethylbenzene and total xylene were exceeded in six monitoring wells (Figures 4-7 and 4-8).

The PAH analytical results from November 2000 show that 1-methylnaphthalene, 2-methylnaphthalene, and naphthalene were detected at concentrations exceeding the GCTLs of 20 μg/l in eight of the groundwater samples at concentrations ranging from 21 to 200 μg/l (Table 4-4). Except for monitoring well MW5-S, exceedances for these compounds also occurred in the samples from wells with reported BTEX exceedances. Exceedances of the TRPH GCTL of 5,000 μg/l, also occurred in samples from wells where exceedances of BTEX were reported. The TRPH exceedances ranged from 5,600 to 28,000 μg/l. The October/November 2001 analytical results also show the above PAH compounds exceeding the GCTLs in six wells ranging from 20.5 to 190 ug/L and TRPH exceedances in five wells ranging from 1,680 to 10,700 ug/L (Table 4-5).

The November 2000 sampling data contained one exceedance of the methylene chloride GCTL of 5 μg/L in MW16-S at an estimated concentration of 13 μg/L and one exceedance of the chloroform GCTL of 5.7 μg/L in MW14-S at a concentration of 6.6 μg/L. Neither constituent exceeded the GCTLs in the samples collected in October/November 2001. The November 2000 data had five detections for lead, and the October/November 2001 data had six detections, none of which exceeded the GCTL of 15 μg/L. MTBE was detected in November 2000 in the deep monitoring well MW13-D at an estimated concentration of 5.1 μg/L, and in October 2001 at 4.6 ug/L, both of which are below the GCTL of 50 μg/L. There were no detections of 1, 2 dibromoethane (EDB) during either sampling event.

### 4.3 NATURAL ATTENUATION SAMPLING

Measurements of natural attenuation parameters were made during the November 2000 site assessment and are included in Table 4-3. Dissolved oxygen (DO) was measured in the field using a Horiba® Model U-10 during purging and sampling and in selected wells using HACH® titration kits. Ferrous iron was also measured in selected wells using HACH® titration kits. Nitrates, nitrites, and sulfates were analyzed at the laboratory for the selected wells. Results of the natural attenuation parameters were evaluated by comparing results from wells in source area (MW3-S, MW2-S, MW1-S, MW12-S, MW16-S) with the results from wells (MW4-S, MW9-S, MW11-S, MW14-S, and MW21-S) which are located outside of the source area. The natural attenuation parameter data are shown in Figure 4-9.

Relative decreases were noted in the DO, nitrate, and sulfate concentrations in the samples collected from inside the source area. DO ranged from <200 to 710 mg/L inside the source area and 2,600 to 7,000 mg/L outside the source area. Nitrate ranged from below detection limits (BDL) to 90 mg/L inside the source area versus 220 to 1,880 mg/L outside the source area. Sulfate ranged from BDL to 6,000 mg/L inside the source area versus 5,000 to 11,000 mg/L outside the source area.

Relative increases were noted in the methane concentrations in the samples collected from inside the source area. Methane ranged from BDL to 210 mg/L outside the source area versus 2,100 to 6,300 mg/L inside the source area.

Relative increases were noted in the ferrous iron concentrations in the samples collected from inside the source area. Ferrous iron ranged from <200 to 2,800 mg/L outside the source area versus 600 to 6,200 mg/L inside the source area.

Nitrite concentrations ranged from BDL to 80 mg/l and were similar in each of the wells sampled.

# 5.0 DISCUSSION

The significant findings from each phase of site assessment activities are discussed below.

## 5.1 SOURCE OF HYDROCARBONS

An equipment malfunction in 1983 resulted in the release of approximately 48,000 gallons of JP-4 Jet Fuel. Initial recovery of approximately 600-700 gallons of free product from open trenches was discontinued by direction of the Fire Marshal. A product recovery system installed in a location to the northwest upgradient side of the site proved unsuccessful, and its operation was discontinued.

## 5.2 SITE CONDITIONS

The site is underlain by silty sand and sandy units of the shallow surficial "sand-and-gravel" aquifer to a depth of approximately 500 feet where the top of the Pensacola Clay has been mapped (Marsh, 1966). Lithologies suggesting the presence of semi-confining layers were observed at the site in the form of approximately 1-foot thick layers of peat approximately 38 feet bls and again at approximately 65 feet bls. The depth to the water table in the surficial aquifer ranged from approximately 11.5 feet to 26 feet bls during July 2000, 7.5 feet to 28 feet bls during November 2000, and 9 to 28 feet bls during January 2002. Relative groundwater elevations were calculated from the static water levels and TOC elevation survey data. This data was used to calculate the groundwater flow direction and water table gradient at the time of the November 2000 and January 2002 gauging events. The groundwater flow at the site is predominately to the south-southeast. The average groundwater gradient determined for the site was calculated to be approximately 0.00526 feet/foot. The groundwater elevation in the intermediate well, MW5-I was approximately 0.4 to 0.5 foot lower than the groundwater elevation in the adjacent shallow well, MW5-S indicating a potential downward flow. There was essentially no difference in the elevations from the shallow and intermediate wells at the MW14-S and MW14-I locations. The groundwater elevation in deep well MW13-D was approximately 2.7 to 4.4 feet lower in elevation than nearby shallow well MW3-S, indicating a potential for downward flow. The peat layers observed at the site may act as a semi-confining unit. Hydraulic conductivity values for the site were determined from specific capacity tests and averaged 211.3 feet per day. The groundwater seepage velocity was calculated from gradient and hydraulic conductivity values and is estimated at 2.48 ft/day. No active potable water supply wells were identified within a 0.50-mile radius of

the site. A marsh approximately 350 feet southeast from the site is the nearest downgradient surface water body.

## 5.3 SOIL ASSESSMENT

During the site assessment investigation, soil borings were advanced to a depth of approximately 12 to 28 feet bls at 41 locations. The results of the assessment indicated that petroleum constituents were present in site soil from the tank location area at concentrations exceeding the requirements specified in 62-770 F.A.C. and 62-777 F.A.C. Based on the headspace screening results, surface soils at the site are unaffected. "Excessively contaminated soils" were present in the 4 to 8 feet bls range in the area surrounding Tank 1884 and east of Tank 1887 (Figure 4-1). "Excessively contaminated soil" in the vadose zone was present in the area around the tank mound and extending to the southeast and southwest (Figure 4-2). Analytical results from the laboratory indicated that benzene, ethylbenzene, total xylenes, 1,2-methylnaphthalene, naphthalene, and TRPH concentrations in six soil samples from the tank mound area exceeded the SCTLs.

## 5.4 GROUNDWATER ASSESSMENT

A single area of free product accumulation exists beneath the tank mound area and extends to the northwest and southeast (Figures 3-2 and 3-3). The southeastern extension of free product appears to continue to the south-southeast away from the tank mound toward the new asphalt road.

Based on the results of the groundwater assessment, concentrations of dissolved petroleum constituents appear to be moving slowly to the south-southeast at the site since the release in 1983. Locations with exceedances of the GCTLs detected during the groundwater assessment included most of the tank mound and associated flanks on the eastern and western sides. Analytical results from the laboratory indicated that benzene, ethylbenzene, total xylene, 1,2-methylnaphthalene, naphthalene, and TRPH concentrations in eight samples from the tank mound area exceeded the GCTLs. No GCTL exceedances were detected in the groundwater sample from the vertical extent well MW13-D.

Evaluation of the natural attenuation data indicates that natural attenuation may be occurring in the source area. Concentrations of dissolved oxygen, nitrate and sulfate, which act as substrates for biodegradation were reduced in groundwater samples from the source area when compared to groundwater samples outside of the source area. Concentrations of methane and ferrous iron (metabolic products of anaerobic biodegradation) were increased in the source area when compared to groundwater samples outside of the source area. The depletion in substrate

concentrations and the increase in metabolic byproducts suggests that anaerobic biodegradation of petroleum hydrocarbons is occurring in groundwater in the source area.

# 6.0 CONCLUSIONS AND RECOMMENDATION

The conclusions based on the data collected during the site assessment performed by TtNUS at the former Sherman Field Fuel Farm, UST Site 000024, are summarized as follows:

- Excessively contaminated soil, exceeding 62-770 F.A.C. and 62-777 F.A.C. SCTLs, is generally limited to the immediate vicinity of the UST tank mound,

- Free-product accumulations within existing site monitoring wells ranges from a sheen to over 1.5 feet in thickness,

- Concentrations of dissolved petroleum contaminants of concern in site groundwater exceed 62-770 F.A.C. and 62-777 F.A.C. GCTLs,

- Geochemical evidence (natural attenuation parameters) suggests that anaerobic biodegradation of petroleum hydrocarbons may be occurring at the site,

- The downgradient horizontal extent of the dissolved contamination has been delineated, and

- Exposure pathways to human receptors via surface water or supply wells are not complete.

Based upon the hydrogeological and chemical data presented in this SAR and the requirements of Chapter 62-770 and 62-777, F.A.C., TtNUS recommends, that a Remedial Action Plan (RAP) be completed and active remediation of the free product and soils be addressed. Following active remediation, monitoring of natural attenuation of the onsite groundwater may be appropriate.

In addition, TtNUS recommends

- Free product removal at the site should be initiated immediately and continued until an active recovery system is installed, and

- Monitoring wells installed prior to this SAR be either abandoned in place or completed with concrete pads and steel manhole vaults for wellhead protection.

# REFERENCES

Bradbury, K., and E. Rothschild, 1985, A computerized Technique for Estimating the Hydraulic Conductivity of Aquifers from Specific Capacity Data, Groundwater, Vol. 23, no. 1 pp. 240-246.

E. C. Jordan, 1990, final Pilot study Plan Forrest Sherman Field, Pensacola Naval Air Station, Pensacola, Florida, January 1990.

Heath, R., 1983, Basic Groundwater Hydrology, U.S.G.S. Water Supply Paper 2220, 84 pp.

Kasenow, M., and P. Pare, 1995. Using Specific Capacity to Estimate Transmissivity: Field and Computer Methods, Water Resources Publications, Highlands Ranch, CO, 56 pp.

Marsh, Owen T., 1966, Geology of Escambia and Santa Rosa Counties, Western Florida Panhandle, Florida Geological Survey Bulletin No. 46, pp.1-140.

**TABLE 2-1**

**MONITORING WELL CONSTRUCTION DETAILS**
**UST SITE 000024 ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| Well No. | Date Installed | Drilling Method | Top of Casing Elevation[(1)] | A/G Riser Length, If Applicable | Total Well Depth (Feet) | Screened Interval (FBLS) | Well Diameter (Inches) | Lithology Screened Ir |
|---|---|---|---|---|---|---|---|---|
| MW1-S | 9/9/2000 | HSA | 40.01 | NA | 24.65 | 14.5 - 24.5 | 2 | yellowish to white "beach" |
| MW2-S | 9/9/2000 | HSA | 43.95 | NA | 29.45 | 18.5 - 28.5 | 2 | yellowish to white "beach" |
| MW3-S | 9/9/2000 | HSA | 45.65 | NA | 29.45 | 19.0 - 29.0 | 2 | yellowish to white "beach" |
| MW4-S | 9/10/2000 | HSA | 44.88 | NA | 29.70 | 19.0 - 29.0 | 2 | yellowish to white "beach" |
| MW5-S | 9/8/2000 | HSA | 31.86 | NA | 18.60 | 7.5 - 17.5 | 2 | white "beach" silty fi |
| MW6-S | 9/10/2000 | HSA | 30.67 | NA | 18.00 | 7.5 - 17.5 | 2 | white "beach" silty fi |
| MW7-S | 9/8/2000 | HSA | 28.83 | NA | 16.70 | 6.2 - 16.2 | 2 | white "beach" silty fi |
| MW8-S | 9/9/2000 | HSA | 31.47 | NA | 18.27 | 7.5 - 17.5 | 2 | white "beach" silty fi |
| MW9-S | 9/6/2000 | HSA | 29.24 | NA | 16.65 | 6.0 - 16.0 | 2 | white "beach" silty fi |
| MW10-R | 9/6/2000 | HSA | 29.85 | NA | 18.50 | 8.0 - 18.0 | 2 | white "beach" silty fi |
| MW11-S | 9/6/2000 | HSA | 27.99 | NA | 16.50 | 6.0 - 16.0 | 2 | white "beach" silty fi |
| MW12-S | 9/9/2000 | HSA | 33.47 | NA | 19.70 | 9.2 - 19.2 | 2 | white "beach" silty fi |
| MW13-S | 9/9/2000 | HSA | 36.24 | NA | 18.80 | 8.3 - 18.3 | 2 | white "beach" silty fi |
| MW14-S | 9/8/2000 | HSA | 31.47 | NA | 18.25 | 7.5 - 17.5 | 2 | white "beach" silty fi |
| MW15-S | 9/9/2000 | HSA | 30.62 | NA | 18.20 | 7.5 - 17.5 | 2 | white "beach" silty fi |
| MW16-S | 9/9/2000 | HSA | 31.62 | NA | 18.10 | 7.5 - 17.5 | 2 | white "beach" silty fi |
| MW17-S | 9/9/2000 | HSA | 34.28 | NA | 19.40 | 8.9 - 18.9 | 2 | white "beach" silty fi |
| MW18-S | 9/11/2000 | HSA | 32.29 | NA | 19.55 | 9.0 - 19.0 | 2 | white "beach" silty fi |
| MW19-S | 9/11/2000 | HSA | 35.87 | NA | 19.20 | 9.0 - 19.0 | 2 | white "beach" silty fi |
| MW20-S | 9/11/2000 | HSA | 36.13 | NA | 19.40 | 9.0 - 19.0 | 2 | white "beach" silty fi |
| MW21-S | 9/9/2000 | HSA | 28.83 | NA | 18.15 | 7.5 - 17.5 | 2 | white "beach" silty fi |
| MW22-S | 9/13/2000 | HSA | 33.01 | NA | 20.35 | 9.85 - 19.85 | 2 | white "beach" silty fi |
| MW23-S | 9/14/2000 | HSA | 29.59 | NA | 15.30 | 4.5 - 14.5 | 2 | white "beach" silty fi |
| MW5-I | 9/11/2000 | HSA | 31.65 | NA | 39.30 | 34.0 - 39.0 | 2 | white "beach" fine-med Sa |

**TABLE 2-1**

**MONITORING WELL CONSTRUCTION DETAILS**
**UST SITE 000024 ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| Well No. | Date Installed | Drilling Method | Top of Casing Elevation[(1)] | A/G Riser Length, If Applicable | Total Well Depth (Feet) | Screened Interval (FBLS) | Well Diameter (Inches) | Lithology Screened Ir |
|---|---|---|---|---|---|---|---|---|
| MW14-I | 9/11/2000 | HSA | 32.27 | NA | 40.00 | 34.0 - 39.0 | 2 | white "beach" fine-med Sa |
| MW13-D | 9/13/2000 | MR | 45.01 | NA | 76.83 | 71.33 - 76.33 | 2 | brown silty Sand, dark gr |
| MW24-S | 10/26/2001 | DPT | 34.72 | 3.55 | 23.02 | 13.02-23.02 | 0.75 | No samples cc |
| MW24-I | 10/26/2001 | DPT | 34.65 | 3.50 | 43.16 | 38.16-43.16 | 0.75 | No samples cc |
| MW25-S | 10/26/2001 | DPT | 34.04 | 4.17 | 23.66 | 13.66-23.66 | 0.75 | No samples cc |
| MW26-S | 10/26/2001 | DPT | 31.14 | 3.97 | 23.49 | 13.49-23.49 | 0.75 | No samples cc |
| MW27-S | 10/26/2001 | DPT | 33.55 | 3.64 | 23.30 | 13.30-23.30 | 0.75 | No samples cc |

NOTES:

| | |
|---|---|
| (1) | Top of casing elevations referenced to Mean Sea Level, North American Vertical Datum of 1988 (NAVD 88) |
| A/G | Above ground |
| FBLS | Feet below land surface |
| S Suffix | suffix indicates shallow depth monitoring well |
| HSA | Hollow stem auger |
| NA | Not applicable |
| R Suffix | suffix indicates replacement monitoring well |
| I Suffix | suffix indicates intermediate depth monitoring well |
| D Suffix | Indicates deep monitoring well |
| MR | Mud rotary |
| DPT | Direct push technology |

**TABLE 3-1**

**GROUNDWATER ELEVATION SUMMARY**
**UST SITE 000024 ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

**November 5, 2000**

| Well ID | TOC Elevation (ft) | Depth of Well (ft) | Screened Interval (ft) | Depth to Water Level (ft) | Depth to Free Product (ft) | Free Product Thickness (ft) | Adj. Water Level Elevation (ft) |
|---|---|---|---|---|---|---|---|
| MW1-S | 40.01 | 24.65 | 14.5 - 24.5 | 20.45 | | | 19.56 |
| MW2-S | 43.95 | 29.45 | 18.5 - 28.5 | 24.10 | Sheen | | 19.85 |
| MW3-S | 45.65 | 29.45 | 19.0 - 29.0 | 24.44 | Sheen | | 21.21 |
| MW4-S | 44.88 | 29.70 | 19.0 - 29.0 | 24.49 | | | 20.39 |
| MW5-S | 31.86 | 18.60 | 7.5 - 17.5 | 11.83 | | | 20.03 |
| MW6-S | 30.67 | 18.00 | 7.5 - 17.5 | 11.33 | 11.30 | 0.03 | 19.55 |
| MW7-S | 28.83 | 16.70 | 6.2 - 16.2 | 7.95 | | | 20.88 |
| MW8-S | 31.47 | 18.27 | 7.5 - 17.5 | 12.36 | | | 19.11 |
| MW9-S | 29.24 | 16.65 | 6.0 - 16.0 | 8.66 | | | 20.58 |
| MW10-R | 29.85 | 18.50 | 8.0 - 18.0 | 9.30 | | | 20.55 |
| MW11-S | 27.99 | 16.50 | 6.0 - 16.0 | 7.51 | | | 20.48 |
| MW12-S | 33.47 | 19.70 | 9.2 - 19.2 | 14.45 | | | 19.02 |
| MW13-S | 36.24 | 18.80 | 8.3 - 18.3 | 16.92 | | | 19.32 |
| MW14-S | 31.47 | 18.25 | 7.5 - 17.5 | 11.83 | | | 19.64 |
| MW15-S | 30.62 | 18.20 | 7.5 - 17.5 | 11.2 | | | 19.42 |
| MW16-S | 31.62 | 18.10 | 7.5 - 17.5 | 12.64 | | | 18.98 |
| MW17-S | 34.28 | 19.40 | 8.9 - 18.9 | 16.12 | | | 18.16 |
| MW18-S | 32.29 | 19.55 | 9.0 - 19.0 | 13.59 | | | 18.70 |
| MW19-S | 35.87 | 19.20 | 9.0 - 19.0 | 16.85 | | | 19.02 |
| MW20-S | 36.13 | 19.40 | 9.0 - 19.0 | 17.16 | | | 18.97 |
| MW21-S | 28.83 | 18.15 | 7.5 - 17.5 | 9.25 | | | 19.58 |
| MW22-S | 33.01 | 20.35 | 9.85 - 19.85 | 14.47 | | | 18.54 |
| MW23-S | 29.59 | 15.30 | 4.5 - 14.5 | 9.54 | | | 20.05 |
| MW5-I | 31.65 | 39.30 | 34.0 - 39.0 | 12.14 | | | 19.51 |
| MW14-I | 32.27 | 40.00 | 34.0 - 39.0 | 12.65 | | | 19.62 |
| MW13-D | 45.01 | 76.83 | 71.33 - 76.33 | 28.21 | | | 16.80 |

NOTES: TOC (Top Of Casing) elevations surveyed 11/7-9/00 using North American Vertical Datum of 1988 (NAVD 88) datum.
Assumes Specfic Gravity of 0.7 for free product.

**TABLE 3-1**

**GROUNDWATER ELEVATION SUMMARY**
**UST SITE 000024 ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

**September 6 to September 26, 2000 Data - Prior to Development**

| Well ID | TOC Elevation (ft) | Depth of Well (ft) | Screened Interval (ft) | Depth to Water Level (ft) | Depth to Free Product (ft) | Free Product Thickness (ft) | Adj. Water Level Elevation (ft) |
|---|---|---|---|---|---|---|---|
| MW1-S | 40.01 | 24.65 | 14.5 - 24.5 | 20.28* | | | NA |
| MW2-S | 43.95 | 29.45 | 18.5 - 28.5 | 24.02 | Sheen | | 19.93 |
| MW3-S | 45.65 | 29.45 | 19.0 - 29.0 | 25.29* | Sheen | | NA |
| MW4-S | 44.88 | 29.70 | 19.0 - 29.0 | 24.14* | | | NA |
| MW5-S | 31.86 | 18.60 | 7.5 - 17.5 | 11.53* | | | NA |
| MW6-S | 30.67 | 18.00 | 7.5 - 17.5 | 12.61* | Sheen | | NA |
| MW7-S | 28.83 | 16.70 | 6.2 - 16.2 | 9.50* | | | NA |
| MW8-S | 31.47 | 18.27 | 7.5 - 17.5 | 13.77* | | | NA |
| MW9-S | 29.24 | 16.65 | 6.0 - 16.0 | 10.31* | | | NA |
| MW10-R | 29.85 | 18.50 | 8.0 - 18.0 | 11.08* | | | NA |
| MW11-S | 27.99 | 16.50 | 6.0 - 16.0 | 8.60* | | | NA |
| MW12-S | 33.47 | 19.70 | 9.2 - 19.2 | 13.47 | | | 20.00 |
| MW13-S | 36.24 | 18.80 | 8.3 - 18.3 | 17.61* | | | NA |
| MW14-S | 31.47 | 18.25 | 7.5 - 17.5 | 13.38* | | | NA |
| MW15-S | 30.62 | 18.20 | 7.5 - 17.5 | 12.47* | | | NA |
| MW16-S | 31.62 | 18.10 | 7.5 - 17.5 | 13.95* | | | NA |
| MW17-S | 34.28 | 19.40 | 8.9 - 18.9 | 16.38* | | | NA |
| MW18-S | 32.29 | 19.55 | 9.0 - 19.0 | 16.85 | | | 15.44 |
| MW19-S | 35.87 | 19.20 | 9.0 - 19.0 | 16.19 | | | 19.68 |
| MW20-S | 36.13 | 19.40 | 9.0 - 19.0 | 12.65 | | | 23.48 |
| MW21-S | 28.83 | 18.15 | 7.5 - 17.5 | 10.59* | | | NA |
| MW22-S | 33.01 | 20.35 | 9.85 - 19.85 | 13.62* | | | NA |
| MW23-S | 29.59 | 15.30 | 4.5 - 14.5 | 8.46 | | | 21.13 |
| MW5-I | 31.65 | 39.30 | 34.0 - 39.0 | 11.02 | | | 20.63 |
| MW14-I | 32.27 | 40.00 | 34.0 - 39.0 | 11.7 | | | 20.57 |
| MW13-D | 45.01 | 76.83 | 71.33 - 76.33 | 18.31 | | | 26.70 |

NOTES: TOC (Top Of Casing) elevations surveyed 11/7-9/00 using North American Vertical Datum of 1988 (NAVD 88) datum.

* = Measurment prior to casing cut to final TOC elevation.

NA = Data not available

**TABLE 3-1**

**GROUNDWATER ELEVATION SUMMARY**
**UST SITE 000024 ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

**January 11, 2002 Data**

| Well ID | TOC Elevation (ft) | Depth of Well (ft) | Screened Interval (ft) | Depth to Water Level (ft) | Depth to Free Product (ft) | Free Product Thickness (ft) | Adj. Water Level Elevation (ft) |
|---|---|---|---|---|---|---|---|
| MW1-S | 40.01 | 24.65 | 14.5 - 24.5 | 22.05 | sheen | | 17.96 |
| MW2-S | 43.95 | 29.45 | 18.5 - 28.5 | 25.18 | | | 18.77 |
| MW3-S | 45.65 | 29.45 | 19.0 - 29.0 | 28.30 | 26.94 | 1.36 | 18.30 |
| MW4-S | 44.88 | 29.70 | 19.0 - 29.0 | 26.37 | | | 18.51 |
| MW5-S | 31.86 | 18.60 | 7.5 - 17.5 | 13.39 | | | 18.47 |
| MW6-S | 30.67 | 18.00 | 7.5 - 17.5 | 13.85 | 12.65 | 1.20 | 17.66 |
| MW7-S | 28.83 | 16.70 | 6.2 - 16.2 | 10.48 | | | 18.35 |
| MW8-S | 31.47 | 18.27 | 7.5 - 17.5 | 13.82 | | | 17.65 |
| MW9-S | 29.24 | 16.65 | 6.0 - 16.0 | 10.55 | | | 18.69 |
| MW10-R | 29.85 | 18.50 | 8.0 - 18.0 | NM | | | NM |
| MW11-S | 27.99 | 16.50 | 6.0 - 16.0 | 9.29 | | | 18.70 |
| MW12-S | 33.47 | 19.70 | 9.2 - 19.2 | 15.90 | | | 17.57 |
| MW13-S | 36.24 | 18.80 | 8.3 - 18.3 | 18.20 | | | 18.04 |
| MW14-S | 31.47 | 18.25 | 7.5 - 17.5 | 13.38 | | | 18.09 |
| MW15-S | 30.62 | 18.20 | 7.5 - 17.5 | 12.81 | | | 17.81 |
| MW16-S | 31.62 | 18.10 | 7.5 - 17.5 | 14.15 | | | 17.47 |
| MW17-S | 34.28 | 19.40 | 8.9 - 18.9 | 17.00 | | | 17.28 |
| MW18-S | 32.29 | 19.55 | 9.0 - 19.0 | 14.93 | | | 17.36 |
| MW19-S | 35.87 | 19.20 | 9.0 - 19.0 | 18.30 | | | 17.57 |
| MW20-S | 36.13 | 19.40 | 9.0 - 19.0 | 18.58 | | | 17.55 |
| MW21-S | 28.83 | 18.15 | 7.5 - 17.5 | 10.92 | | | 17.91 |
| MW22-S | 33.01 | 20.35 | 9.85 - 19.85 | 15.78 | | | 17.23 |
| MW23-S | 29.59 | 15.30 | 4.5 - 14.5 | 11.36 | | | 18.23 |
| MW5-I | 31.65 | 39.30 | 34.0 - 39.0 | 13.60 | | | 18.05 |
| MW14-I | 32.27 | 40.00 | 34.0 - 39.0 | 14.18 | | | 18.09 |
| MW13-D | 45.01 | 76.83 | 71.33 - 76.33 | 28.50 | | | 16.51 |
| MW24-S | 34.72 | 23.02 | 13.02-23.02 | 17.75 | | | 16.97 |
| MW24-I | 34.65 | 43.16 | 38.16-43.16 | 17.95 | | | 16.70 |
| MW25-S | 34.04 | 23.66 | 13.66-23.66 | 17.14 | | | 16.90 |
| MW26-S | 31.14 | 23.49 | 13.49-23.49 | 16.82 | | | 14.32 |
| MW27-S | 33.55 | 23.30 | 13.30-23.30 | 16.52 | | | 17.03 |
| MW-4 | 31.21 | NA | NA | 12.58 | 12.56 | 0.02 | 18.64 |
| MW-7 | 33.99 | NA | NA | 15.54 | | | 18.45 |
| MW-9 | 30.03 | NA | NA | 11.16 | | | 18.87 |
| MW-11 | 31.10 | NA | NA | dry | | | dry |
| MW-12 | 32.37 | NA | NA | 14.47 | 13.54 | 0.93 | 18.55 |
| MW-16 | 37.43 | NA | NA | 18.94 | 18.84 | 0.10 | 18.56 |
| MW-18 | 43.77 | NA | NA | 25.35 | 25.05 | 0.30 | 18.63 |
| MW-19 | 35.38 | NA | NA | 16.92 | | | 18.46 |
| MW-24 | 30.75 | NA | NA | 11.74 | sheen | | 19.01 |
| MW-25 | 31.21 | NA | NA | 26.19 | 26.00 | 0.19 | 5.15 |
| MW-30 | 33.88 | NA | NA | 15.28 | 15.14 | 0.14 | 18.70 |
| MW-31 | 32.69 | NA | NA | 15.03 | | | 17.66 |
| OW-4 | 30.05 | 10.40 | NA | Dry | | | dry |

NOTES: NM = Not Measured NA = Data not available

TOC (Top Of Casing) elevations surveyed 11/7-9/00 using North American Vertical Datum of 1988 (NAVD 88) datum.

**TABLE 3-2**

**POTABLE WELL INVENTORY DATA**
**UST 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| WELL ID/LOCAL NAME | LOCATION | TOTAL DEPTH (ft) bls | SCREENED INTERVAL (ft) bls | DIAMETER CASING/SCREEN (inches) |
|---|---|---|---|---|
| 302116087170201/No. 1 | Sec. 1, T3S, R30W Duncan and Taylor Roads | 174 | 105-160 | 24/12 |
| 302124087163601/No. 2 | Sec. 1, T3S, R30W Murray and Farrar Roads | 178 | 110-160 | 24/12 |
| NOTE: bls = below land surface | | | | |

**TABLE 4-1**

**SOIL OVA SCREENING RESULTS FROM DPT INVESTIGATION**
**UST SITE - UST000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| SAMPLE | | | | OVA SCREENING RESULTS | | | |
|---|---|---|---|---|---|---|---|
| LOCATION NO. | DATE COLLECTED | DEPTH TO WATER (ft) | SAMPLE INTERVAL (fbls) | TOTAL READING (ppm) | CARBON FILTERED (ppm) | NET READING (ppm) | COMMENTS |
| SB-1 | 7/19/2000 | | 4-8 | 0 | 0 | 0 | All soil borings hand-augered the first four |
| | 7/19/2000 | 11 | 8-12 | 0 | 0 | 0 | feet for potential utilities. |
| SB-2 | 7/19/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/19/2000 | | 9-11 | 3000 | 0 | 3000 | |
| | 7/19/2000 | 12 | 11-13 | 5000 | 0 | 5000 | |
| SB-3 | 7/19/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/19/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/19/2000 | | 8-12 | 8 | 0 | 8 | |
| | 7/19/2000 | 13 | 12-14 | >5000 | 0 | >5000 | |
| | 7/19/2000 | | 14-16 | 3500 | 0 | 3500 | |
| SB-4 | 7/19/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/19/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/19/2000 | 11.5 | 8-12 | 25 | 0 | 25 | |
| | 7/19/2000 | | 12-16 | 25 | 0 | 25 | |
| SB-5 | 7/19/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/19/2000 | | 6-10 | 0 | 0 | 0 | |
| | 7/19/2000 | 12 | 10-14 | 0 | 0 | 0 | |
| SB-6 | 7/20/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/20/2000 | | 6-10 | 0 | 0 | 0 | |
| | 7/20/2000 | 12 | 10-14 | 0 | 0 | 0 | |
| SB-7 | 7/20/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/20/2000 | | 6-10 | 0 | 0 | 0 | |
| | 7/20/2000 | 12 | 10-14 | 0 | 0 | 0 | |
| SB-8 | 7/20/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/20/2000 | | 6-10 | 0 | 0 | 0 | |
| | 7/20/2000 | 12 | 10-14 | 0 | 0 | 0 | |
| SB-9 | 7/20/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/20/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/20/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/20/2000 | | 12-16 | 0 | 0 | 0 | |
| | 7/20/2000 | | 16-20 | 0 | 0 | 0 | |
| | 7/20/2000 | | 20-24 | 0 | 0 | 0 | |
| | 7/20/2000 | 26 | 24-28 | 0 | 0 | 0 | |
| SB-10 | 7/20/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/20/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/20/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/20/2000 | | 12-16 | 35 | 0 | 35 | |
| | 7/20/2000 | | 16-20 | 350 | 0 | 350 | |
| | 7/20/2000 | | 20-24 | >5000 | 0 | >5000 | |
| | 7/20/2000 | 26 | 24-27 | >5000 | 0 | >5000 | |

**TABLE 4-1**

**SOIL OVA SCREENING RESULTS FROM DPT INVESTIGATION**
**UST SITE - UST000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| SAMPLE | | | | OVA SCREENING RESULTS | | | |
|---|---|---|---|---|---|---|---|
| LOCATION NO. | DATE COLLECTED | DEPTH TO WATER (ft) | SAMPLE INTERVAL (fbls) | TOTAL READING (ppm) | CARBON FILTERED (ppm) | NET READING (ppm) | COMMENTS |
| SB-11 | 7/21/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/21/2000 | | 4-8 | >5000 | 250 | >5000 | Analytical Sample |
| | 7/21/2000 | | 8-12 | 4800 | 4800 | 0 | Sewerage odor |
| | 7/21/2000 | | 12-16 | 4500 | 4400 | 100 | |
| | 7/21/2000 | | 18-22 | >5000 | 220 | >5000 | Refusal-Offset |
| | 7/21/2000 | 25 | 22-26 | >5000 | 0.1 | >5000 | |
| SB-12 | 7/21/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/21/2000 | | 4-8 | 240 | 120 | 120 | Analytical Sample |
| | 7/21/2000 | | 8-12 | 30 | 0 | 30 | |
| | 7/21/2000 | | 12-16 | 120 | 0 | 120 | |
| | 7/21/2000 | | 16-20 | 600 | 15 | 585 | |
| | 7/21/2000 | | 20-24 | >5000 | 50 | >5000 | Analytical Sample |
| | 7/21/2000 | 26.5 | 24-28 | >5000 | 80 | >5000 | |
| SB-13 | 7/22/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/22/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/22/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/22/2000 | | 12-16 | 1100 | 600 | 500 | Analytical Sample |
| | 7/22/2000 | | 14-18 | 900 | 210 | 690 | Difficult Penetration |
| | 7/22/2000 | | 17-21 | 240 | 120 | 120 | |
| | 7/22/2000 | | 21-24 | >5000 | 5 | >5000 | |
| | 7/22/2000 | 26.5 | 24-27.5 | >5000 | 50 | >5000 | |
| SB-14 | 7/22/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/22/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/22/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/22/2000 | | 12-16 | 0 | 0 | 0 | |
| | 7/22/2000 | | 16-20 | 0 | 15 | 0 | |
| | 7/22/2000 | | 20-24 | 2 | 0 | 2 | |
| | 7/22/2000 | 27 | 24-28 | 35 | 0 | 35 | Analytical Sample + TOC |
| SB-15 | 7/22/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/22/2000 | | 5-9 | 0 | 0 | 0 | |
| | 7/22/2000 | 11.5 | 9-13 | 0 | 0 | 0 | Analytical Sample + TOC |
| SB-16 | 7/23/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/23/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/23/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/23/2000 | | 12-16 | 50 | 10 | 40 | |
| | 7/23/2000 | | 16-20 | >5000 | 0 | >5000 | |
| | 7/23/2000 | | 20-24 | >5000 | 0 | >5000 | Analytical Sample 22-26 |
| | 7/23/2000 | 26 | 24-28 | >5000 | 0 | >5000 | |

**TABLE 4-1**

**SOIL OVA SCREENING RESULTS FROM DPT INVESTIGATION**
**UST SITE - UST000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| SAMPLE | | | | OVA SCREENING RESULTS | | | |
|---|---|---|---|---|---|---|---|
| LOCATION NO. | DATE COLLECTED | DEPTH TO WATER (ft) | SAMPLE INTERVAL (fbls) | TOTAL READING (ppm) | CARBON FILTERED (ppm) | NET READING (ppm) | COMMENTS |
| SB-17 | 7/23/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/23/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/23/2000 | | 8-12 | 1000 | 130 | 870 | Analytical Sample 10-12 |
| | 7/23/2000 | | 12-16 | 1000 | 125 | 875 | |
| | 7/23/2000 | | 16-20 | >5000 | 28 | >5000 | |
| | 7/23/2000 | | 20-24 | >5000 | 40 | >5000 | |
| | 7/23/2000 | 26 | 24-27 | >5000 | 40 | >5000 | |
| SB-18 | 7/23/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/23/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/23/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/23/2000 | | 12-16 | 8 | 8 | 0 | |
| | 7/23/2000 | | 16-20 | 13 | 0 | 13 | |
| | 7/23/2000 | | 20-24 | 12 | 2 | 10 | |
| | 7/23/2000 | 26 | 24-28 | 1200 | 7 | 1193 | Analytical Sample 24-27 |
| SB-19 | 7/24/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/24/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/24/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/24/2000 | | 12-16 | 0 | 0 | 0 | |
| | 7/24/2000 | | 16-20 | 0 | 0 | 0 | |
| | 7/24/2000 | | 20-24 | 36 | 0 | 36 | Analytical Sample |
| | 7/24/2000 | 26 | 24-28 | 15 | 5 | 10 | |
| SB-20 | 7/24/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/24/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/24/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/24/2000 | 15.5 | 12-16 | 3500 | 0 | 3500 | |
| SB-21 | 7/24/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/24/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/24/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/24/2000 | 15.5 | 12-16 | 0 | 0 | 0 | |
| SB-22 | 7/24/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/24/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/24/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/24/2000 | 15 | 12-16 | 0 | 0 | 0 | |
| SB-23 | 7/24/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/24/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/24/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/24/2000 | 15 | 12-16 | 0 | 0 | 0 | |
| SB-24 | 7/24/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/24/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/24/2000 | 11.5 | 8-12 | >5000 | 0 | >5000 | |
| | 7/24/2000 | | 12-16 | >5000 | 0 | >5000 | |

**TABLE 4-1**

**SOIL OVA SCREENING RESULTS FROM DPT INVESTIGATION**
**UST SITE - UST000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| SAMPLE | | | | OVA SCREENING RESULTS | | | |
|---|---|---|---|---|---|---|---|
| LOCATION NO. | DATE COLLECTED | DEPTH TO WATER (ft) | SAMPLE INTERVAL (fbls) | TOTAL READING (ppm) | CARBON FILTERED (ppm) | NET READING (ppm) | COMMENTS |
| SB-25 | 7/24/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/24/2000 | | 4-8 | 20 | 0 | 20 | |
| | 7/24/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/24/2000 | 15 | 12-16 | >5000 | 0 | >5000 | |
| SB-26 | 7/25/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/25/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/25/2000 | 11.5 | 8-12 | 100 | 0 | 100 | |
| SB-27 | 7/25/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/25/2000 | | 4-8 | 310 | 0 | 310 | Analytical Sample |
| | 7/25/2000 | 11.5 | 8-12 | >5000 | 10 | >5000 | |
| SB-28 | 7/25/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/25/2000 | | 4-8 | 1300 | 0 | 1300 | Analytical Sample 7-11 |
| | 7/25/2000 | 11.0 | 8-12 | >5000 | 5 | >5000 | |
| SB-29 | 7/25/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/25/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/25/2000 | 11.5 | 8-12 | 12 | 6 | 6 | |
| SB-30 | 7/25/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/25/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/25/2000 | 11.0 | 8-12 | >5000 | 0 | >5000 | |
| SB-31 | 7/25/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/25/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/25/2000 | 12 | 8-12 | 4200 | 0 | 4200 | |
| SB-32 | 7/25/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/25/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/25/2000 | 12 | 8-12 | 3000 | 0 | 3000 | |
| SB-33 | 7/25/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/25/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/25/2000 | 11.5 | 8-12 | 0 | 0 | 0 | |
| SB-34 | 7/26/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/26/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/26/2000 | 10.5 | 8-12 | 0 | 0 | 0 | |
| SB-35 | 7/26/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/26/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/26/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/26/2000 | | 12-16 | 0 | 0 | 0 | |
| | 7/26/2000 | 19 | 16-20 | 12 | 0 | 12 | |
| SB-36 | 7/26/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/26/2000 | | 4-8 | 0 | 0 | 0 | |
| | 7/26/2000 | | 8-12 | 0 | 0 | 0 | |
| | 7/26/2000 | 13 | 12-13 | 0 | 0 | 0 | |

**TABLE 4-1**

**SOIL OVA SCREENING RESULTS FROM DPT INVESTIGATION**
**UST SITE - UST000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| SAMPLE | | | | OVA SCREENING RESULTS | | | |
|---|---|---|---|---|---|---|---|
| LOCATION NO. | DATE COLLECTED | DEPTH TO WATER (ft) | SAMPLE INTERVAL (fbls) | TOTAL READING (ppm) | CARBON FILTERED (ppm) | NET READING (ppm) | COMMENTS |
| SB-37 | 7/26/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/26/2000 | | 4-8 | 170 | 10 | 160 | |
| | 7/26/2000 | | 8-12 | 215 | 135 | 80 | Groundwater not encountered. |
| | 7/26/2000 | | 12-16 | 1800 | 310 | 1490 | Difficulty retrieving sampler |
| | 7/26/2000 | NE | 16-20 | 1350 | 365 | 985 | Terminated above water table |
| SB-38 | 7/26/2000 | | 7-8 | 13 | 0 | 13 | Hand Auger inside fence. |
| | 7/26/2000 | 10.5 | 9-10 | 4100 | 0 | 4100 | |
| SB-39 | 7/26/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/26/2000 | | 7-8 | 100 | 0 | 100 | Hand Auger inside fence. |
| | 7/26/2000 | | 9-10 | 2000 | 0 | 2000 | |
| | 7/26/2000 | 11.5 | 11-12 | >5000 | 0 | >5000 | |
| SB-40 | 7/26/2000 | | 0-4 | 0 | 0 | 0 | |
| | 7/26/2000 | | 7-8 | 1400 | 0 | 1400 | Hand Auger inside fence. |
| | 7/26/2000 | 11.5 | 10.5-11.5 | >5000 | 0 | >5000 | |
| SB-41 | 7/26/2000 | | 0-4 | 0 | 0 | 0 | Hand Auger inside fence. |
| | 7/26/2000 | | 7-8 | 180 | 0 | 180 | |
| | 7/26/2000 | | 9-10 | 4400 | 0 | 4400 | |
| | 7/26/2000 | 10.5 | 10.5-11.5 | 4400 | 0 | 4400 | |

Notes:
fbls = feet below land surface
ppm = parts per million
NS = not sampled
Shade = headspace sample collected at water table.

**TABLE 4-2**

**ANALYTICAL RESULTS FOR SUBSURFACE SOIL SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**



| Sample No. | | NASPFFSB-11 | NASPFFSB-12 | NASPFFSB-12 | NASPFFSB-13 | NASPFFSB-14 |
|---|---|---|---|---|---|---|
| Sample Location | | SB-11 | SB-12 | SB-12 | SB-13 | SB-14 |
| Collect Date | | 8/3/2000 | 8/2/2000 | 8/2/2000 | 8/3/2000 | 8/3/2000 |
| Sample Depth (bls) | | 4-8' | 6-8' | 20-24' | 14-16' | 24-27' |
| | DE1[1]/DE2[2]/LE[3] (mg/kg) | | | | | |
| **Volatile[4] (mg/kg)** | | | | | | |
| Benzene | 1.1/1.6/0**.007** | -- | **0.0106** | **0.0115** | 0.0018[J] | -- |
| Ethylbenzene | 1100/8400/**0.6** | **5.05** | 0.0087 | 0.0146 | 0.0177 | -- |
| Total Xylenes | 5900/40000/**0.2** | **12.3** | -- | 0.0119[J] | 0.0144[J] | -- |
| **Polycyclic Aromatic Hydrocarbons[5] (mg/kg)** | | | | | | |
| 1-Methylnaphthalene | 68/470/**2.2** | **8.65** | **--** | **--** | **--** | **--** |
| 2-Methylnaphthalene | 80/560/**6.1** | **9.28** | **--** | **--** | **--** | **--** |
| Naphthalene | 40/270/**1.7** | **2.85** | **--** | **--** | **--** | **--** |
| **Total Petroleum Hydrocarbons[6] (mg/kg)** | **340**/2500/**340** | **2,530** | 9.79 | 10.4 | 14.7 | -- |

[1] DE1= Direct Exposure limit for residential area from Chapter 62-777, F.A.C.

[2] DE2= Direct Exposure limit for industrial area from Chapter 62-777, F.A.C.

[3] LE= Leachability for groundwater limit from Chapter 62-777, F.A.C.

[4] SW-846 8260B, [5] SW-846 8310, [6] FL-PRO

[J] Indicates the presence of a chemical at an estimated concentration.

**Bold** indicates an exceedance of regulatory limits.

**Table 4-2**

**ANALYTICAL RESULTS FOR SUBSURFACE SOIL SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**



| Sample No. | | NASPFFDUP-1 | NASPFFSB-15 | NASPFFSB-16 | NASPFFSB-17 | NASPFFSB-18 |
|---|---|---|---|---|---|---|
| Sample Location | | SB-14 | SB-15 | SB-16 | SB-17 | SB-18 |
| Collect Date | | 8/3/2000 | 8/3/2000 | 8/3/2000 | 8/2/2000 | 8/2/2000 |
| Sample Depth (bls) | | | 8-12' | 22-26' | 10-12' | 24-27' |
| | DE1[1]/DE2[2]/LE[3] (mg/kg) | | | | | |
| **Volatile[4] (mg/kg)** | | | | | | |
| Benzene | 1.1/1.6/**0.007** | -- | -- | **0.113[J]** | -- | -- |
| Ethylbenzene | 1100/8400/**0.6** | -- | -- | **6.7** | -- | -- |
| Total Xylenes | 5900/40000/**0.2** | -- | -- | **13.3** | **--** | **--** |
| **Polycyclic Aromatic Hydrocarbons[5] (mg/kg)** | | | | | | |
| 1-Methylnaphthalene | 68/470/**2.2** | -- | **--** | **2.32** | -- | -- |
| 2-Methylnaphthalene | 80/560/6.1 | -- | **--** | 2.7 | -- | -- |
| Naphthalene | 40/270/1.7 | -- | **--** | 0.566 | -- | -- |
| **Total Petroleum Hydrocarbons[6] (mg/kg)** | **340**/2500/**340** | -- | **--** | **810** | **--** | **--** |

[1] DE1= Direct Exposure limit for residential area from Chapter 62-777, F.A.C.

[2] DE2= Direct Exposure limit for industrial area from Chapter 62-777, F.A.C.

[3] LE= Leachability for groundwater limit from Chapter 62-777, F.A.C.

[4] SW-846 8260B, [5] SW-846 8310, [6] FL-PRO

[J] Indicates the presence of a chemical at an estimated concentration.

**Bold** indicates an exceedance of regulatory limits.

**Table 4-2**

**ANALYTICAL RESULTS FOR SUBSURFACE SOIL SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**



| Sample No. | | NASPFFSB-19 | NASPFFSB-27 | NASPFFSB-28 |
|---|---|---|---|---|
| Sample Location | | SB-19 | SB-27 | SB-28 |
| Collect Date | | 8/2/2000 | 8/2/2000 | 8/2/2000 |
| Sample Depth (bls) | | 20-24' | 6-8' | 7-11' |
| | DE1[1]/DE2[2]/LE[3] (mg/kg) | | | |
| **Volatile[4] (mg/kg)** | | | | |
| Benzene | 1.1/1.6/0.007 | -- | -- | -- |
| Ethylbenzene | 1100/8400/0.6 | -- | -- | **3.41** |
| Total Xylenes | 5900/40000/0.2 | **--** | **--** | **30.5** |
| **Polycyclic Aromatic Hydrocarbons[5] (mg/kg)** | | | | |
| 1-Methylnaphthalene | 68/470/2.2 | **--** | **--** | **3.27** |
| 2-Methylnaphthalene | 80/560/6.1 | **--** | -- | 4.05 |
| Naphthalene | 40/270/1.7 | **--** | **--** | 1.38 |
| **Total Petroleum Hydrocarbons[6] (mg/kg)** | 340/2500/340 | 9.97 | **--** | **2,130** |

[1] DE1= Direct Exposure limit for residential area from Chapter 62-777, F.A.C.

[2] DE2= Direct Exposure limit for industrial area from Chapter 62-777, F.A.C.

[3] LE= Leachability for groundwater limit from Chapter 62-777, F.A.C.

[4] SW-846 8260B, [5] SW-846 8310, [6] FL-PRO

[J] Indicates the presence of a chemical at an estimated concentration.

**Bold** indicates an exceedance of regulatory limits.

**TABLE 4-3**

**ANALYTICAL RESULTS FOR INORGANIC ANALYTES IN SUBSURFACE SOIL SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| Sample No. | NASPFFSB-12 | NASPFFSB-14 | NASPFFSB-15 | NASPFFSB-16 |
|---|---|---|---|---|
| Sample Location | Soil boring 12 | Soil boring 14 | Soil boring 15 | Soil boring 16 |
| Collect Date | 8/2/2000 | 8/3/2000 | 8/3/2000 | 8/3/2000 |
| Sample Depth (bls) | 20-24' | 24-27' | 8-12' | 22-26' |
| DE1[1]/DE2[2]/LE[3] (mg/kg) | | | | |
| **Metals[4] (mg/kg)** | | | | |
| Barium | 5.7 | NA | NA | -- |
| Chromium | 4.3 | NA | NA | -- |
| Lead | 1.1 | NA | NA | -- |
| Mercury | 0.05 | NA | NA | 0.01 |
| Selenium | 0.29 | NA | NA | -- |
| Silver | 0.15 | NA | NA | -- |
| **Miscellaneous (mg/kg)** | | | | |
| Total Organic Carbon | NA | -- | -- | NA |
| Total Organic Halides | NA | -- | -- | NA |

[1] DE1= Direct Exposure limit for residential area from Chapter 62-777, F.A.C.
[2] DE2= Direct Exposure limit for industrial area from Chapter 62-777, F.A.C.
[3] LE= Leachability for groundwater limit from Chapter 62-777, F.A.C.

[J] Indicates the presence of a chemical at an estimated concentration.

**TABLE 4-4**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**
**PAGE 1 OF 6**

| Sample No. | | NASPFF MW1-S | NASPFF MW2-S | NASPFF MW3-S | NASPFF MW4-S | NASPFF MW5-I |
|---|---|---|---|---|---|---|
| Sample Location | | MW1-S | MW2-S | MW3-S | MW4-S | MW5-I |
| Collect Date | | 11/7/2000 | 11/7/2000 | 11/9/2000 | 11/9/2000 | 11/7/2000 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | 17[J] | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | 3.6[J] | -- | -- | -- |
| Benzene | 1 | **530** | **55** | **280** | -- | -- |
| Chloroform | 5.7 | -- | -- | -- | 0.63[J] | -- |
| Chloromethane | 2.7 | -- | -- | -- | -- | -- |
| Ethylbenzene | 30 | **1,300** | **1,100** | **1,700** | 1.2 | -- |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | -- | -- |
| Toluene | 40 | -- | 10 | 16[J] | -- | -- |
| Xylenes, total | 20 | **430** | **3,100** | **4,100** | 0.88[J] | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | **54** | **50** | **64** | -- | -- |
| 2-Methylnaphthalene | 20 | **68** | **63** | **79** | -- | -- |
| Acenaphthene | 20 | 0.8[J] | 2.2 | 0.59[J] | -- | -- |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | -- | -- | -- | -- | -- |
| Fluorene | 280 | 1.1 | 2 | 1.4 | -- | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | -- |
| Naphthalene | 20 | **130** | **110** | **200** | -- | -- |
| Phenanthrene | 210 | 0.78[J] | 2 | -- | -- | -- |
| Pyrene | 210 | -- | -- | -- | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | **5,600[J]** | **7,900[J]** | **28,000** | -- | -- |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | 6,300 | 2,500 | 2,100 | 210 | NA |
| Oxygen* | NA | 290 | 710 | <200 | 2,600 | 270 |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | -- | -- | -- | -- | -- |
| Ferrous Iron* | NA | 6,100 | 5,600 | 6200 | 800 | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | 90 | 10 | -- | 860 | NA |
| Nitrite | 1,000 | -- | -- | 80 | 20 | NA |
| Sulfate | 250,000 | -- | 1,000 | -- | 5,000 | NA |

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.

[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1

[J] indicates the presence of a chemical at an estimated concentration.

* = Field Measurement -- = not detected NA = not applicable

**Bold** indicates an exceedance of limits.

**TABLE 4-4**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**


| Sample No. | | NASPFF MW5-S | NASPFF MW7-S | NASPFF MW8-S | NASPFF MW9-S | NASPFF MW10-R |
|---|---|---|---|---|---|---|
| Sample Location | | MW5-S | MW7-S | MW8-S | MW9-S | MW10-R |
| Collect Date | | 11/6/2000 | 11/6/2000 | 11/6/2000 | 11/15/2000 | 11/6/2000 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | -- | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- |
| Benzene | 1 | -- | -- | **39** | -- | -- |
| Chloroform | 5.7 | 2.9 | 1.8 | -- | 0.81[J] | 0.65[J] |
| Chloromethane | 2.7 | -- | -- | -- | 0.56[J] | -- |
| Ethylbenzene | 30 | -- | -- | **100** | -- | -- |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | 0.58[J] | -- |
| Toluene | 40 | -- | -- | -- | -- | -- |
| Xylenes, total | 20 | 0.78[J] | -- | **520** | -- | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | **30[J]** | -- | 16 | -- | -- |
| 2-Methylnaphthalene | 20 | **48[J]** | -- | **21** | -- | -- |
| Acenaphthene | 20 | -- | -- | -- | -- | -- |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | -- | -- | -- | -- | -- |
| Fluorene | 280 | -- | -- | -- | -- | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | -- |
| Naphthalene | 20 | **110[J]** | -- | **30** | -- | -- |
| Phenanthrene | 210 | -- | -- | -- | -- | -- |
| Pyrene | 210 | -- | -- | -- | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | -- | -- | 4,600 | -- | -- |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | NA | NA | NA | -- | NA |
| Oxygen* | NA | 3,800 | 2,450 | 300 | 3,700 | 3,220 |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | -- | -- | -- | -- | 7.2[J] |
| Ferrous Iron* | NA | NA | NA | NA | <200 | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | NA | NA | NA | 330 | NA |
| Nitrite | 1,000 | NA | NA | NA | -- | NA |
| Sulfate | 250,000 | NA | NA | NA | 7,000 | NA |

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.

[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1

[J] indicates the presence of a chemical at an estimated concentration.

* = Field Measurement -- = not detected NA = not applicable

**Bold** indicates an exceedance of limits.

**TABLE 4-4**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**
**PAGE 3 OF 6**

| Sample No. | | NASPFF MW11-S | NASPFF MW12-S | NASPFFDUP-3 | NASPFF MW13-D | NASPFF MW13-S |
|---|---|---|---|---|---|---|
| Sample Location | | MW11-S | MW12-S | Duplicate of MW12-S | MW13-D | MW13-S |
| Collect Date | | 11/15/2000 | 11/16/2000 | 11/16/2000 | 11/9/2000 | 11/7/2000 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | | -- | 2 | -- |
| 1,2-Dichloroethane | 3 | -- | | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | | -- | -- | -- |
| Benzene | 1 | -- | **590** | **560** | 0.89[J] | -- |
| Chloroform | 5.7 | -- | | -- | -- | 2.2 |
| Chloromethane | 2.7 | -- | | -- | -- | -- |
| Ethylbenzene | 30 | -- | **550** | **550** | -- | -- |
| Methyl tert-Butyl Ether | 50 | -- | | -- | 5.1[J] | -- |
| Methylene Chloride | 5 | 0.81[J] | | -- | -- | -- |
| Toluene | 40 | -- | 11 | 11 | -- | -- |
| Xylenes, total | 20 | -- | **320** | **320** | -- | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | -- | **52** | **53** | -- | -- |
| 2-Methylnaphthalene | 20 | -- | **65** | **67** | -- | -- |
| Acenaphthene | 20 | -- | 1.4 | 1.2 | -- | -- |
| Anthracene | 2,100 | -- | 0.64[J] | 0.59[J] | | |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | -- | 1.7 | 1.7 | | |
| Fluorene | 280 | -- | 1.5 | 1.3 | -- | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | -- |
| Naphthalene | 20 | -- | **130** | **130** | -- | -- |
| Phenanthrene | 210 | -- | 2.6 | 2.5 | -- | -- |
| Pyrene | 210 | -- | 0.97[J] | 0.94[J] | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | -- | 4,000 | 3,800 | -- | -- |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | 41 | 4,400 | 4,800 | NA | NA |
| Oxygen* | NA | 3,200 | <200 | NA | 1,030 | 1,180 |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | -- | -- | -- | -- | -- |
| Ferrous Iron* | NA | 2,800 | 6,200 | NA | NA | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | 220 | 450 | 430 | NA | NA |
| Nitrite | 1,000 | -- | 20[J] | 10[J] | NA | NA |
| Sulfate | 250,000 | 8,000 | 6,000 | 6,000 | NA | NA |

D=Duplicate Samples

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.

[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1

[J] indicates the presence of a chemical at an estimated concentration.

* = Field Measurement -- = not detected NA = not applicable

**Bold** indicates an exceedance of limits.

Sample Location

**TABLE 4-4**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**
**PAGE 4 OF 6**

| Sample No. | | NASPFF MW14-I | NASPFF MW14-S | NASPFF MW15-S | NASPFF DUP-2 | NASPFF MW16-S |
|---|---|---|---|---|---|---|
| Sample Location | | MW14-I | MW14-S | MW15-S | Duplicate of MW15-S | MW16-S |
| Collect Date | | 11/16/2000 | 11/16/2000 | 11/7/2000 | 11/7/2000 | 11/8/2000 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | -- | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- |
| Benzene | 1 | -- | -- | -- | -- | **32** |
| Chloroform | 5.7 | 0.78[J] | 6.6 | -- | -- | -- |
| Chloromethane | 2.7 | -- | -- | -- | -- | -- |
| Ethylbenzene | 30 | -- | -- | -- | -- | **330** |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | -- | 13[J] |
| Toluene | 40 | -- | -- | -- | -- | 17 |
| Xylenes, total | 20 | -- | -- | -- | -- | **2,300** |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | -- | -- | -- | -- | **29** |
| 2-Methylnaphthalene | 20 | -- | -- | -- | -- | **37** |
| Acenaphthene | 20 | -- | -- | -- | -- | 0.44[J] |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | 0.44[J] |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | **0.27[J]** |
| Fluoranthene | 280 | -- | -- | -- | -- | -- |
| Fluorene | 280 | -- | -- | -- | -- | 0.42[J] |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | **0.28[J]** |
| Naphthalene | 20 | -- | -- | -- | -- | **75** |
| Phenanthrene | 210 | -- | -- | -- | -- | -- |
| Pyrene | 210 | -- | -- | -- | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | -- | -- | -- | -- | **9,600** |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | NA | -- | NA | NA | 2,900 |
| Oxygen* | NA | 1,640 | 7,000 | 3,130 | NA | <200 |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | -- | -- | -- | -- | 11 |
| Ferrous Iron* | NA | NA | <200 | NA | NA | 600 |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | NA | 380 | NA | NA | 40 |
| Nitrite | 1,000 | NA | -- | NA | NA | -- |
| Sulfate | 250,000 | NA | 9,000 | NA | NA | 4,000 |

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.

[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1

[J] indicates the presence of a chemical at an estimated concentration.

* = Field Measurement -- = not detected NA = not applicable

**Bold** indicates an exceedance of limits.

Sample Depth (bls)

**TABLE 4-4**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**


| Sample No. | | NASPFF MW17-S | NASPFF MW18-S | NASPFF MW19-S | NASPFF MW20-S | NASPFF MW21-S |
|---|---|---|---|---|---|---|
| Sample Location | | MW17-S | MW18-S | MW19-S | MW20-S | MW21-S |
| Collect Date | | 11/6/2000 | 11/5/2000 | 11/5/2000 | 11/5/2000 | 11/15/2000 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | -- | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- |
| Benzene | 1 | -- | -- | -- | -- | -- |
| Chloroform | 5.7 | 2.4 | -- | 0.93[J] | -- | -- |
| Chloromethane | 2.7 | -- | -- | -- | -- | -- |
| Ethylbenzene | 30 | -- | 3.1 | -- | -- | -- |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | -- | 0.68[J] |
| Toluene | 40 | -- | 0.54[J] | -- | 1.6 | -- |
| Xylenes, total | 20 | 1.7[J] | 7.7 | -- | -- | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | -- | 4.5 | -- | -- | -- |
| 2-Methylnaphthalene | 20 | -- | 3.3 | -- | -- | -- |
| Acenaphthene | 20 | -- | -- | -- | -- | -- |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | -- | -- | -- | -- | -- |
| Fluorene | 280 | -- | -- | -- | -- | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | -- |
| Naphthalene | 20 | -- | 5.7 | -- | -- | -- |
| Phenanthrene | 210 | -- | -- | -- | -- | -- |
| Pyrene | 210 | -- | -- | -- | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | -- | -- | -- | -- | -- |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | NA | NA | NA | NA | -- |
| Oxygen* | NA | 2,760 | 4,840 | 5,440 | 4,370 | 4,400 |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | 4.7[J] | -- | -- | -- | -- |
| Ferrous Iron* | NA | NA | NA | NA | NA | <200 |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | NA | NA | NA | NA | 1,880 |
| Nitrite | 1,000 | NA | NA | NA | NA | -- |
| Sulfate | 250,000 | NA | NA | NA | NA | 11,000 |

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.

[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1

[J] indicates the presence of a chemical at an estimated concentration.

* = Field Measurement -- = not detected NA = not applicable

**Bold** indicates an exceedance of limits.

Sample Depth (bls)

**TABLE 4-4**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**
**PAGE 6 OF 6**

| Sample No. | | NASPFF MW22-S | NASPFF MW DUP-1 | NASPFF MW23-S | NASPFF EQB-1 | NASPFF EQB-2 |
|---|---|---|---|---|---|---|
| Sample Location | | MW22-S | Duplicate of MW22-S | MW23-S | N/A | N/A |
| Collect Date | | 11/6/2000 | 11/6/2000 | 11/6/2000 | 11/7/2000 | |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | 3.8 | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- |
| Benzene | 1 | **110** | **120** | -- | -- | -- |
| Chloroform | 5.7 | -- | -- | 0.74[J] | -- | -- |
| Chloromethane | 2.7 | 0.65[J] | 0.64[J] | -- | -- | -- |
| Ethylbenzene | 30 | **420** | **450** | -- | -- | -- |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | -- | -- |
| Toluene | 40 | 2.8 | 2.8 | -- | -- | -- |
| Xylenes, total | 20 | **2,900** | **3,100** | -- | -- | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | -- | **37** | -- | -- | -- |
| 2-Methylnaphthalene | 20 | -- | **45** | -- | -- | -- |
| Acenaphthene | 20 | -- | -- | -- | -- | -- |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | -- | -- | -- | -- | -- |
| Fluorene | 280 | -- | -- | -- | -- | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | -- |
| Naphthalene | 20 | -- | **120** | -- | -- | -- |
| Phenanthrene | 210 | -- | -- | -- | -- | -- |
| Pyrene | 210 | -- | -- | -- | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | **23,000** | **22,000** | -- | -- | -- |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | NA | NA | NA | NA | NA |
| Oxygen* | NA | 300 | NA | 5,670 | NA | NA |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | 6.7[J] | 6.4[J] | -- | -- | -- |
| Ferrous Iron* | NA | NA | NA | NA | NA | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | NA | NA | NA | NA | NA |
| Nitrite | 1,000 | NA | NA | NA | NA | NA |
| Sulfate | 250,000 | NA | NA | NA | NA | NA |

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.

[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1

[J] indicates the presence of a chemical at an estimated concentration.

* = Field Measurement -- = not detected NA = not applicable

**Bold** indicates an exceedance of limits.

Sample Depth (bls)

**TABLE 4-5**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**


| Sample No. | | NASPFF MW1-S | NASPFF MW3-S | NASPFF MW4-S | NASPFF MW7-S | NASPFF MW8-S |
|---|---|---|---|---|---|---|
| Sample Location | | MW1-S | MW3-S | MW4-S | MW7-S | MW8-S |
| Collect Date | | 10/28/2001 | 11/8/2001 | 10/28/2001 | 10/27/2001 | 10/27/2001 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- |
| 1,1-Dichloroethene | 7 | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | 14 | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- |
| Trichoroethene | 3 | -- | -- | -- | -- | -- |
| Benzene | 1 | **670** | **260[J]** | -- | -- | **55** |
| Chloroform | 5.7 | -- | -- | 1.3 | 1.8 | -- |
| Chloromethane | 2.7 | -- | -- | -- | -- | -- |
| Ethylbenzene | 30 | **1,300** | **1800[J]** | -- | -- | **200** |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | -- | -- |
| Toluene | 40 | 1.1 | 10 | -- | -- | **64** |
| Xylenes, total | 20 | **92** | **4810[J]** | -- | -- | **1,051** |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | **59.4** | **66.9** | -- | -- | **20.5** |
| 2-Methylnaphthalene | 20 | **93.1** | **95.4** | -- | -- | **37.7** |
| Acenaphthene | 20 | -- | -- | -- | -- | -- |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | 0.263 | -- | -- | -- | -- |
| Fluorene | 280 | -- | -- | -- | -- | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | -- |
| Naphthalene | 20 | **183** | **190** | -- | -- | **72.9** |
| Phenanthrene | 210 | 1.08 | -- | -- | -- | -- |
| Pyrene | 210 | 0.15 | -- | -- | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | **9,240** | -- | **1,680** | 956 | **8,020** |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | NA | NA | NA | NA | NA |
| Oxygen* | NA | NA | NA | NA | NA | NA |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | 1.6[J] | -- | -- | -- | 2.60[J] |
| Ferrous Iron* | NA | NA | NA | NA | NA | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | NA | NA | NA | NA | NA |
| Nitrite | 1,000 | NA | NA | NA | NA | NA |
| Sulfate | 250,000 | NA | NA | NA | NA | NA |

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.
[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1
[J] indicates the presence of a chemical at an estimated concentration.
[A] indicates lab blank contamination.
* = Field Measurement -- = not detected NA = not applicable
**Bold** indicates an exceedance of limits.

**TABLE 4-5**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**
**PAGE 2 OF 5**

| Sample No. | | NASPFF MW11-S | NASPFF MW13-D | NASPFF MW13-S | NASPFF MW14-I | NASPFF MW14-S |
|---|---|---|---|---|---|---|
| Sample Location | | MW11-S | MW13-D | MW13-S | MW14-I | MW14-S |
| Collect Date | | 10/27/2001 | 10/24/2001 | 10/28/2001 | 11/8/2001 | 11/8/2001 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | 2 | -- | -- | -- |
| 1,1-Dichloroethene | 7 | -- | 0.510[J] | -- | -- | -- |
| 1,2-Dichloroethane | 3 | -- | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- |
| Trichoroethene | 3 | -- | -- | -- | -- | -- |
| Benzene | 1 | -- | 0.68[J] | **5.7** | -- | -- |
| Chloroform | 5.7 | -- | -- | -- | 1.9 | 5.4 |
| Chloromethane | 2.7 | -- | -- | -- | -- | -- |
| Ethylbenzene | 30 | -- | -- | **54** | -- | -- |
| Methyl tert-Butyl Ether | 50 | -- | 4.60 | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | -- | -- |
| Toluene | 40 | -- | -- | -- | -- | -- |
| Xylenes, total | 20 | -- | -- | **440** | 0.89[J] | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | -- | -- | 19.7 | -- | -- |
| 2-Methylnaphthalene | 20 | -- | -- | **20.8** | -- | -- |
| Acenaphthene | 20 | -- | -- | -- | -- | -- |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | -- | | | -- | -- |
| Fluorene | 280 | -- | -- | -- | -- | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | -- |
| Naphthalene | 20 | 0.189 | -- | **43.4** | -- | -- |
| Phenanthrene | 210 | -- | -- | -- | -- | -- |
| Pyrene | 210 | -- | -- | 1.08 | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | 900 | -- | **13,600** | -- | -- |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | NA | NA | NA | NA | NA |
| Oxygen* | NA | NA | NA | NA | NA | NA |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | 1.70[J] | 1.5[J] | 1.6[J] | -- | -- |
| Ferrous Iron* | NA | NA | NA | NA | NA | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | NA | NA | NA | NA | NA |
| Nitrite | 1,000 | NA | NA | NA | NA | NA |
| Sulfate | 250,000 | NA | NA | NA | NA | NA |

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.
[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1
[J] indicates the presence of a chemical at an estimated concentration.
[A] indicates lab blank contamination.
* = Field Measurement -- = not detected NA = not applicable
**Bold** indicates an exceedance of limits.

**TABLE 4-5**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**


| Sample No. | | NASPFF MW14-SD | NASPFF MW17-S | NASPFF MW18-S | NASPFF MW19-S | NASPFF MW21-S |
|---|---|---|---|---|---|---|
| Sample Location | | Duplicate of MW14-S | MW17-S | MW18-S | MW19-S | MW21-S |
| Collect Date | | 11/8/2001 | 10/28/2001 | 11/8/2001 | 11/8/2001 | 10/27/2001 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- |
| 1,1-Dichloroethene | 7 | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | -- | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- |
| Trichoroethene | 3 | -- | -- | -- | 1.8 | -- |
| Benzene | 1 | -- | -- | -- | -- | -- |
| Chloroform | 5.7 | 5.7 | 1.3 | -- | -- | -- |
| Chloromethane | 2.7 | -- | -- | -- | -- | -- |
| Ethylbenzene | 30 | -- | -- | **72[J]** | 3.8 | -- |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | -- | -- |
| Toluene | 40 | -- | -- | 30 | 0.61[J] | -- |
| Xylenes, total | 20 | -- | 1.3 | **235[J]** | **43** | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | -- | -- | 14.9 | 8.83 | -- |
| 2-Methylnaphthalene | 20 | -- | -- | 18.5 | 10.1 | -- |
| Acenaphthene | 20 | -- | -- | -- | -- | -- |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | -- | -- | -- | -- | -- |
| Fluorene | 280 | -- | -- | 0.45 | 0.516 | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | 9.87 | -- |
| Naphthalene | 20 | -- | -- | **30.1** | -- | -- |
| Phenanthrene | 210 | -- | -- | -- | -- | -- |
| Pyrene | 210 | -- | -- | -- | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | -- | 758 | 3,750 | 2,310 | 943 |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | NA | NA | NA | NA | NA |
| Oxygen* | NA | NA | NA | NA | NA | NA |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | -- | -- | -- | -- | -- |
| Ferrous Iron* | NA | NA | NA | NA | NA | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | NA | NA | NA | NA | NA |
| Nitrite | 1,000 | NA | NA | NA | NA | NA |
| Sulfate | 250,000 | NA | NA | NA | NA | NA |

[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.
[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1
[J] indicates the presence of a chemical at an estimated concentration.
[A] indicates lab blank contamination.
* = Field Measurement -- = not detected NA = not applicable
**Bold** indicates an exceedance of limits.

**TABLE 4-5**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**


| Sample No. | | NASPFF MW23-S | NASPFF MW23-SD | NASPFF MW24-I | NASPFF MW24-S | NASPFF MW25-S |
|---|---|---|---|---|---|---|
| Sample Location | | MW23-S | Duplicate of MW23-S | MW24-I | MW-24-S | MW25-S |
| Collect Date | | 10/27/2001 | 10/27/2001 | 11/8/2001 | 11/8/2001 | 11/8/2001 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | |
| **Volatile [2] (ug/L)** | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- |
| 1,1-Dichloroethene | 7 | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | -- | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- |
| Trichoroethene | 3 | -- | -- | -- | -- | -- |
| Benzene | 1 | -- | -- | -- | 110[J] | -- |
| Chloroform | 5.7 | 1.5 | 1.5 | -- | -- | 0.79[J] |
| Chloromethane | 2.7 | -- | -- | -- | -- | -- |
| Ethylbenzene | 30 | -- | -- | 0.96[J] | **290[J]** | -- |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | -- | -- | -- |
| Toluene | 40 | -- | -- | -- | 1.4 | -- |
| Xylenes, total | 20 | -- | -- | 3 | **98** | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | |
| 1-Methylnaphthalene | 20 | -- | -- | -- | **29.8** | -- |
| 2-Methylnaphthalene | 20 | -- | -- | -- | **48.5** | -- |
| Acenaphthene | 20 | -- | -- | -- | -- | -- |
| Anthracene | 2,100 | -- | -- | -- | -- | -- |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | -- | -- |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | -- | -- |
| Fluoranthene | 280 | -- | -- | -- | -- | -- |
| Fluorene | 280 | -- | -- | -- | -- | -- |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | -- | -- |
| Naphthalene | 20 | -- | -- | -- | **101** | -- |
| Phenanthrene | 210 | -- | -- | -- | -- | -- |
| Pyrene | 210 | -- | -- | -- | -- | -- |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | 1,170[J] | 2,272[J] | -- | **10,700** | -- |
| **Dissolved Gases [5] (ug/L)** | | | | | | |
| Methane | NA | NA | NA | NA | NA | NA |
| Oxygen* | NA | NA | NA | NA | NA | NA |
| **Metals [6] (ug/L)** | | | | | | |
| Lead | 15 | -- | -- | -- | 2.6[J] | -- |
| Ferrous Iron* | NA | NA | NA | NA | NA | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | |
| Nitrate | 10,000 | NA | NA | NA | NA | NA |
| Nitrite | 1,000 | NA | NA | NA | NA | NA |
| Sulfate | 250,000 | NA | NA | NA | NA | NA |

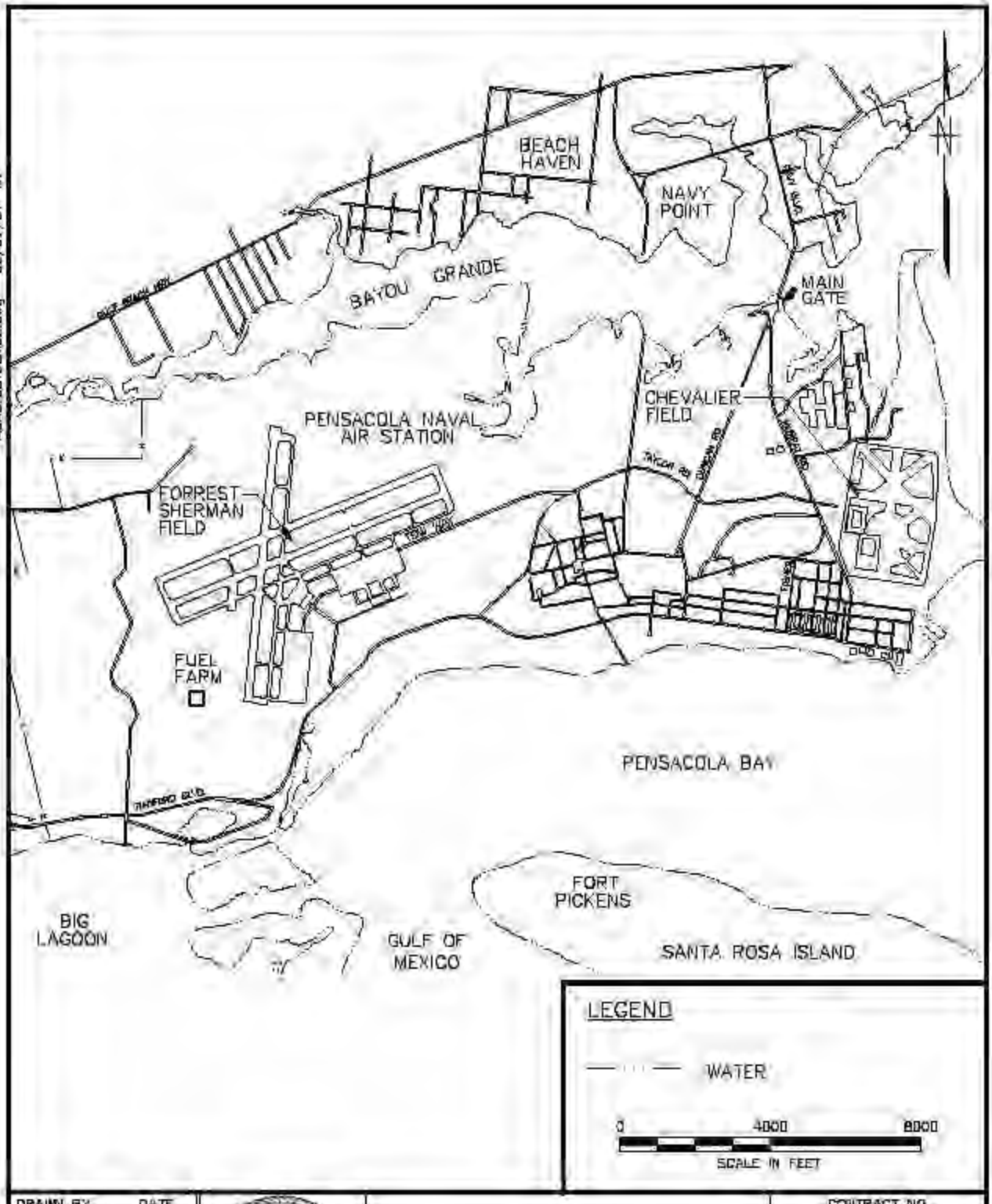
[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.
[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1
[J] indicates the presence of a chemical at an estimated concentration.
[A] indicates lab blank contamination.
* = Field Measurement -- = not detected NA = not applicable
**Bold** indicates an exceedance of limits.

**TABLE 4-5**

**SUMMARY ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES**
**UST SITE 000024 SITE ASSESSMENT REPORT**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**


| Sample No. | | NASPFF MW26-S | NASPFF MW27-S | NASPFF RB-1 | NASPFF TB102701 | NASPFF RB-2 | NASPFF TB110801 |
|---|---|---|---|---|---|---|---|
| Sample Location | | MW26-S | MW27-S | N/A | N/A | N/A | N/A |
| Collect Date | | 11/8/2001 | 11/8/2001 | 10/27/2001 | 10/27/2001 | 11/8/2001 | 11/8/2001 |
| | Groundwater Clean-up Criteria [1] (ug/L) | | | | | | |
| **Volatile [2] (ug/L)** | | | | | | | |
| 1,1-Dichloroethane | 70 | -- | -- | -- | -- | -- | -- |
| 1,1-Dichloroethene | 7 | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloroethane | 3 | -- | -- | -- | -- | -- | -- |
| 1,2-Dichloropropane | 5 | -- | -- | -- | -- | -- | -- |
| Trichoroethene | 3 | -- | -- | -- | -- | -- | -- |
| Benzene | 1 | -- | -- | -- | -- | -- | -- |
| Chloroform | 5.7 | 0.52[J] | -- | -- | -- | -- | -- |
| Chloromethane | 2.7 | -- | -- | -- | -- | -- | -- |
| Ethylbenzene | 30 | 1.2 | -- | -- | -- | -- | -- |
| Methyl tert-Butyl Ether | 50 | -- | -- | -- | -- | -- | -- |
| Methylene Chloride | 5 | -- | -- | 0.960[J] | 1.3 | 1.1 | 3.6 |
| Toluene | 40 | -- | -- | -- | -- | -- | -- |
| Xylenes, total | 20 | 1.1 | -- | -- | -- | -- | -- |
| **Polycyclic Aromatic Hydrocarbons [3] (ug/L)** | | | | | | | |
| 1-Methylnaphthalene | 20 | -- | -- | -- | NA | -- | NA |
| 2-Methylnaphthalene | 20 | 0.169 | -- | -- | NA | -- | NA |
| Acenaphthene | 20 | -- | -- | -- | NA | -- | NA |
| Anthracene | 2,100 | -- | -- | -- | NA | -- | NA |
| Benzo(g,h,i)perylene | 210 | -- | -- | -- | NA | -- | NA |
| Dibenzo(a,h)anthracene | 0.2 | -- | -- | -- | NA | -- | NA |
| Fluoranthene | 280 | -- | -- | -- | NA | -- | NA |
| Fluorene | 280 | -- | -- | -- | NA | -- | NA |
| Indeno(1,2,3-c,d)pyrene | 0.2 | -- | -- | -- | NA | -- | NA |
| Naphthalene | 20 | 0.354 | -- | -- | NA | -- | NA |
| Phenanthrene | 210 | -- | -- | -- | NA | -- | NA |
| Pyrene | 210 | -- | -- | -- | NA | -- | NA |
| **Total Petroleum Hydrocarbons [4] (ug/L)** | 5,000 | 992 | -- | 993 | NA | -- | NA |
| **Dissolved Gases [5] (ug/L)** | | | | | | | |
| Methane | NA | NA | NA | NA | NA | NA | NA |
| Oxygen* | NA | NA | NA | NA | NA | NA | NA |
| **Metals [6] (ug/L)** | | | | | | | |
| Lead | 15 | -- | -- | -- | NA | -- | NA |
| Ferrous Iron* | NA | NA | NA | NA | NA | NA | NA |
| **Inorganic Parameters [7] (ug/L)** | | | | | | | |
| Nitrate | 10,000 | NA | NA | NA | NA | NA | NA |
| Nitrite | 1,000 | NA | NA | NA | NA | NA | NA |
| Sulfate | 250,000 | NA | NA | NA | NA | NA | NA |

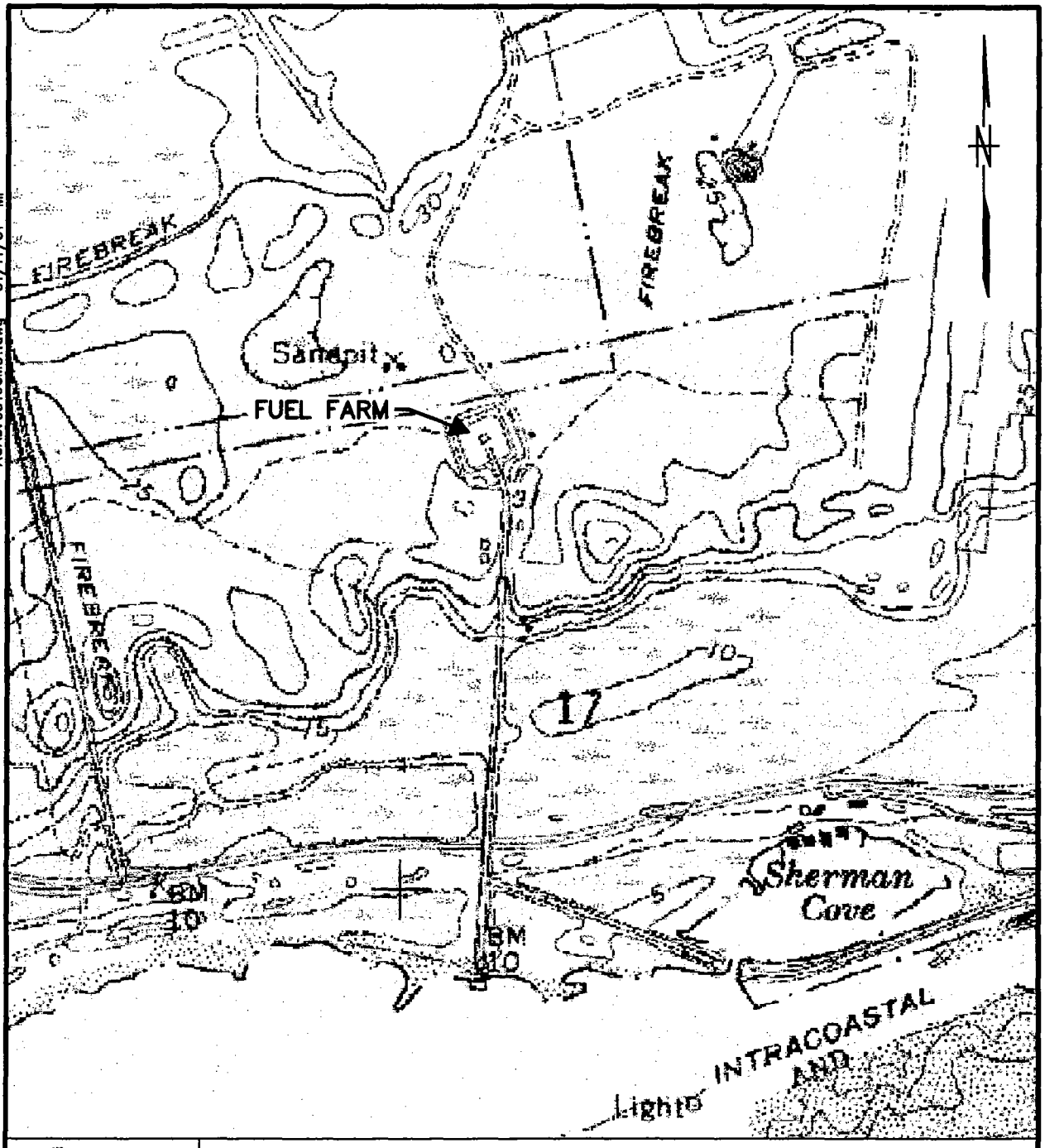
[1] Groundwater Clean-up Criteria as provided in Chapter 62-777,F.A.C.
[2] SW-846 8021B and EPA 504.1, [3] SW-846 8310, [4] FDEP FL-PRO, [5] RSK-175M, [6] SW-846 6010B, [7] EPA 300/376.1
[J] indicates the presence of a chemical at an estimated concentration.
[A] indicates lab blank contamination.
* = Field Measurement -- = not detected NA = not applicable
**Bold** indicates an exceedance of limits.




AGAD:0516DWD2.dwg 02/07/01 MF

| | | | |
|---|---|---|---|
| DRAWN BY: MF DATE: 1/11/01 | | REGIONAL MAP<br>SHERMAN FIELD FUEL FARM<br>NAS PENSACOLA<br>PENSACOLA, FLORIDA | CONTRACT NO. 0516 |
| CHECKED BY: DATE: | | | APPROVED BY: DATE: |
| COST/SCHED-AREA: | | | APPROVED BY: DATE: |
| SCALE: AS NOTED | | | DRAWING NO.: FIGURE 1-1 REV.: 0 |

FORM CADD NO. SDIV_AV.DWG - REV 0 - 1/20/98




ACAD: 0516CM01.dwg 01/11/01 MF

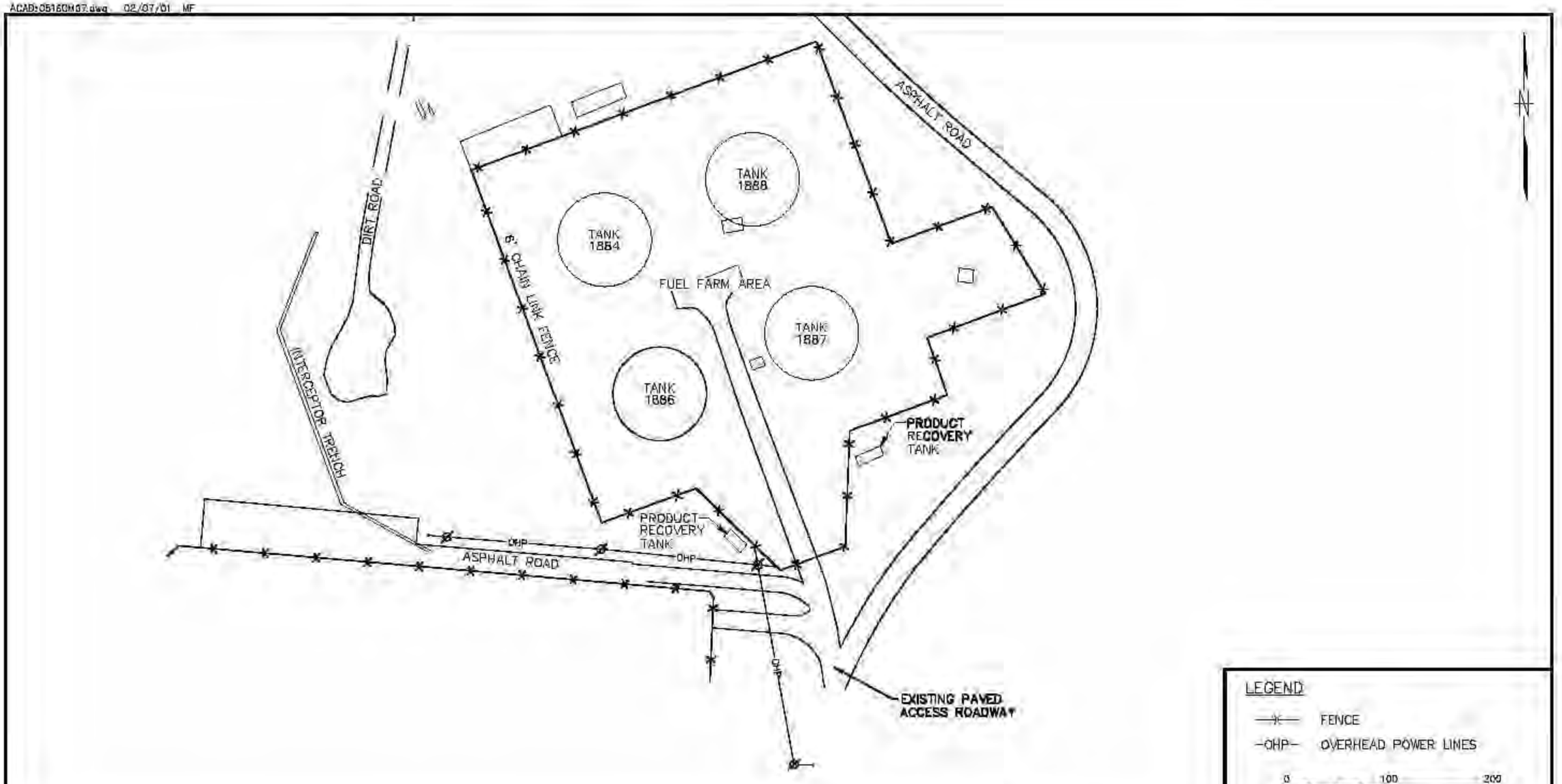
SOURCE: USGS QUADRANGLE MAP, FORT BARRANCAS, FLA. 1970. PHOTOREVISED 1987. MINOR REVISION 1992.

0 2000 4000
SCALE IN FEET

| | | | |
|---|---|---|---|
| DRAWN BY MF | DATE 1/11/91 | TOPOGRAPHICAL MAP<br>SHERMAN FIELD FUEL FARM<br>NAS PENSACOLA<br>PENSACOLA, FLORIDA | CONTRACT NO. 0516 |
| CHECKED BY | DATE | | APPROVED BY DATE |
| COST/SCHED–AREA | | | APPROVED BY DATE |
| SCALE AS NOTED | | | DRAWING NO. FIGURE 1–2 REV. 0 |

FORM CADD NO. SDIV_AV.DWG – REV 0 – 1/20/98

ACAD:0516OM07.dwg 02/07/01 MF




| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

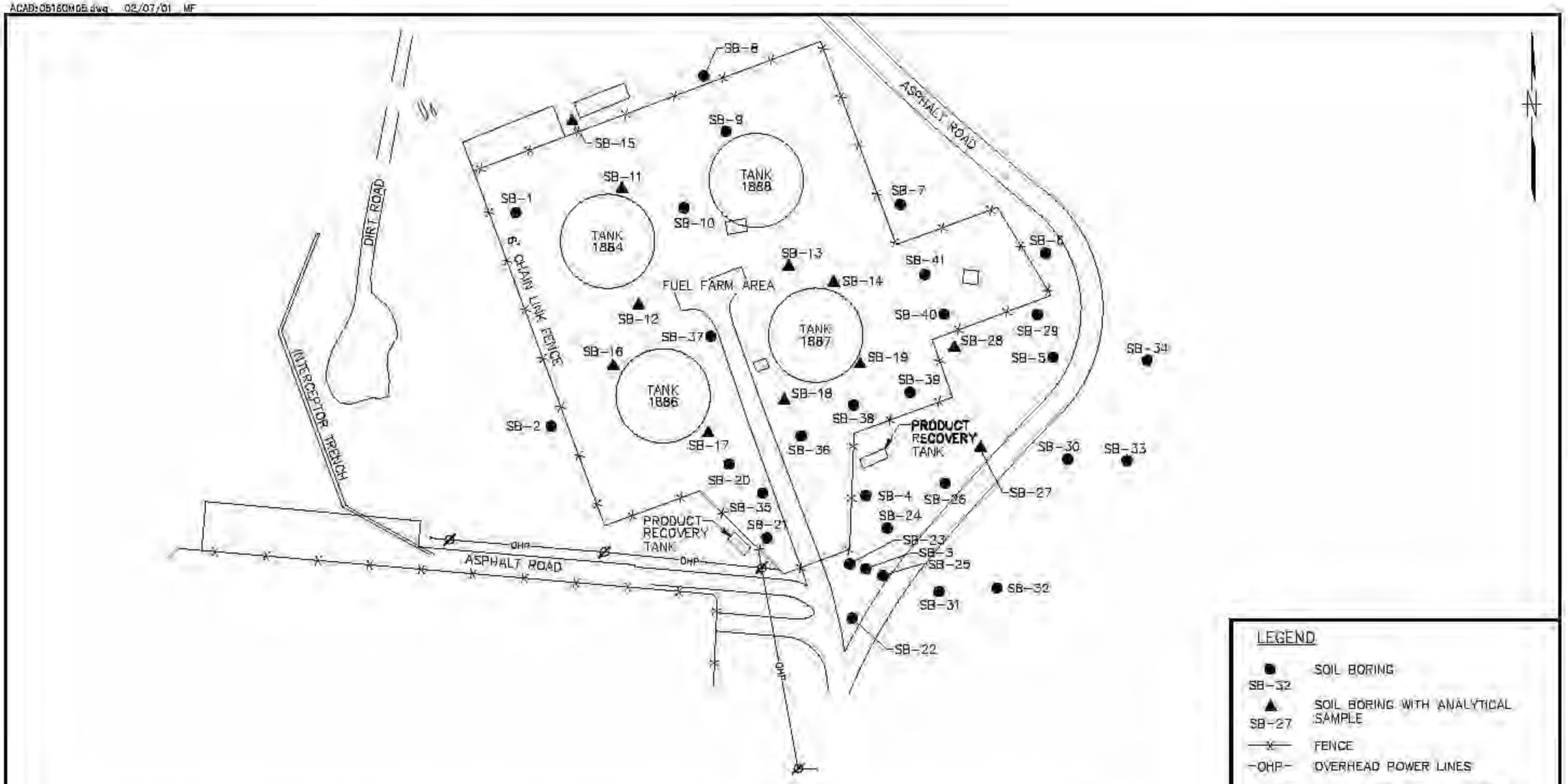
DRAWN BY MF DATE 1/11/01
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SITE PLAN
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 1-3 REV. 0

FORM CADD NO. CDIV_BHDWG - REV 0 - 1/20/98

ACAD: 0516GM05.dwg 02/07/01 MF




LEGEND

- ● SB-32 — SOIL BORING
- ▲ SB-27 — SOIL BORING WITH ANALYTICAL SAMPLE
- —x— FENCE
- -OHP- OVERHEAD POWER LINES

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

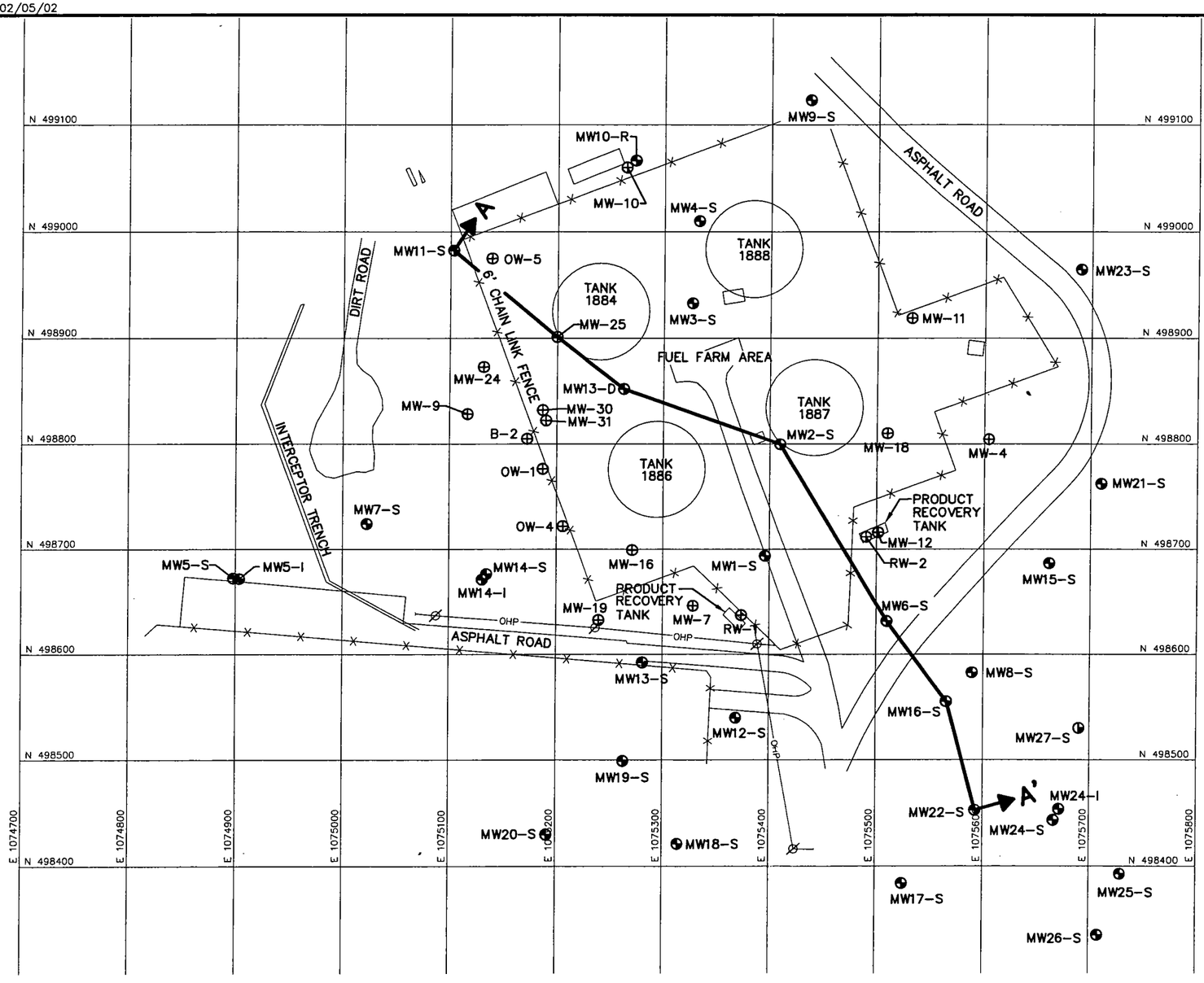
DRAWN BY MF DATE 1/9/01
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SOIL SAMPLING AND DPT BOREHOLE LOCATIONS
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 2-1
REV. 0

FORM CADD NO. SOIV_BH.DWG - REV. 0 - 1/20/98

ACAD: Figure 2-2.dwg 02/05/02




## LEGEND

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| MW-8S | NEW MONITORING WELL |
| —X— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| | CROSS SECTION LOCATION |

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

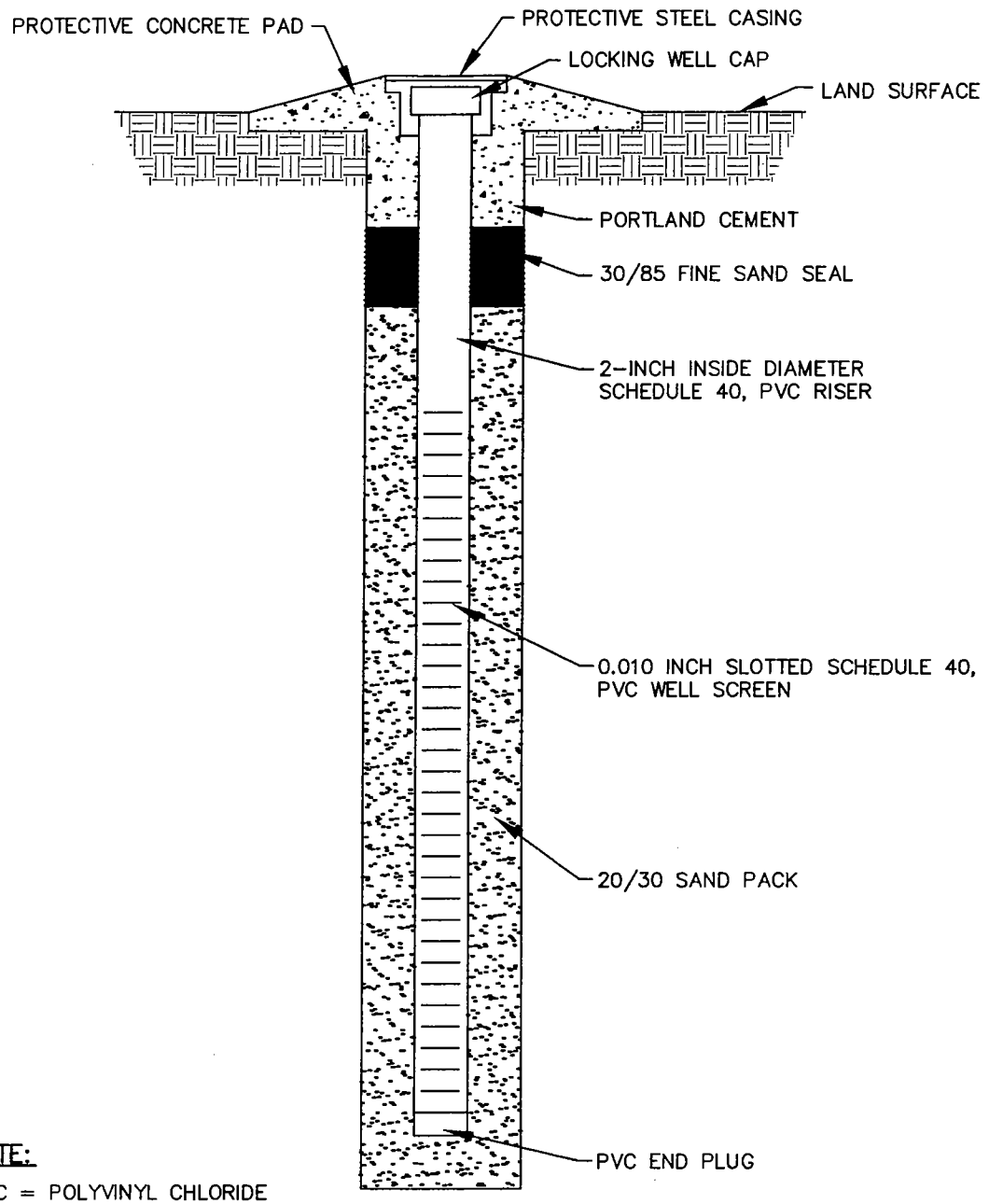
DEPARTMENT OF THE NAVY ★ SOUTHERN DIV FACILITIES ENGINEERING COMMAND ★

MONITORING WELL AND CROSS SECTION LOCATION MAP
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 2-2
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: 0516CD01.dwg 01/11/01 MF



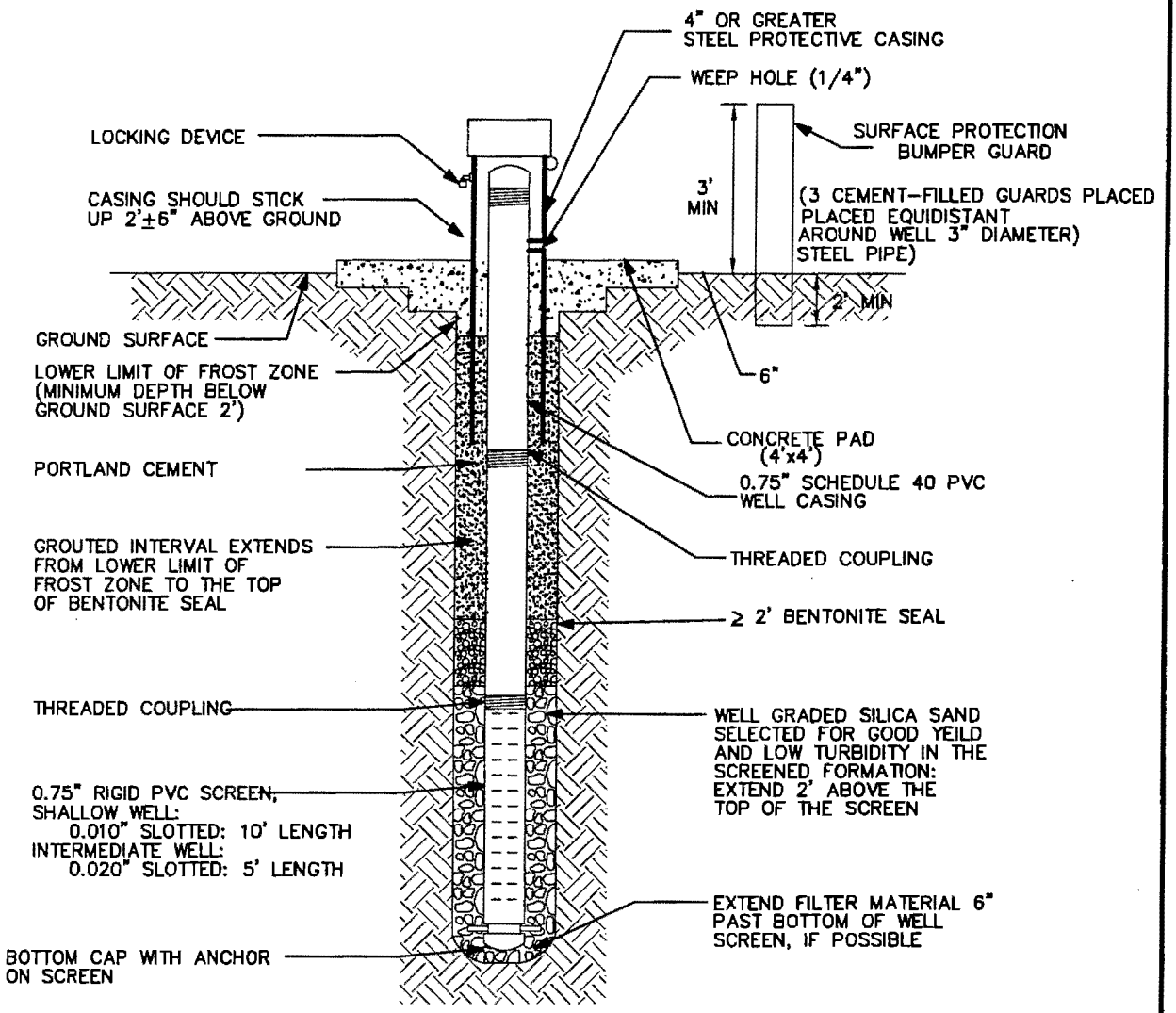

NOTE:

PVC = POLYVINYL CHLORIDE

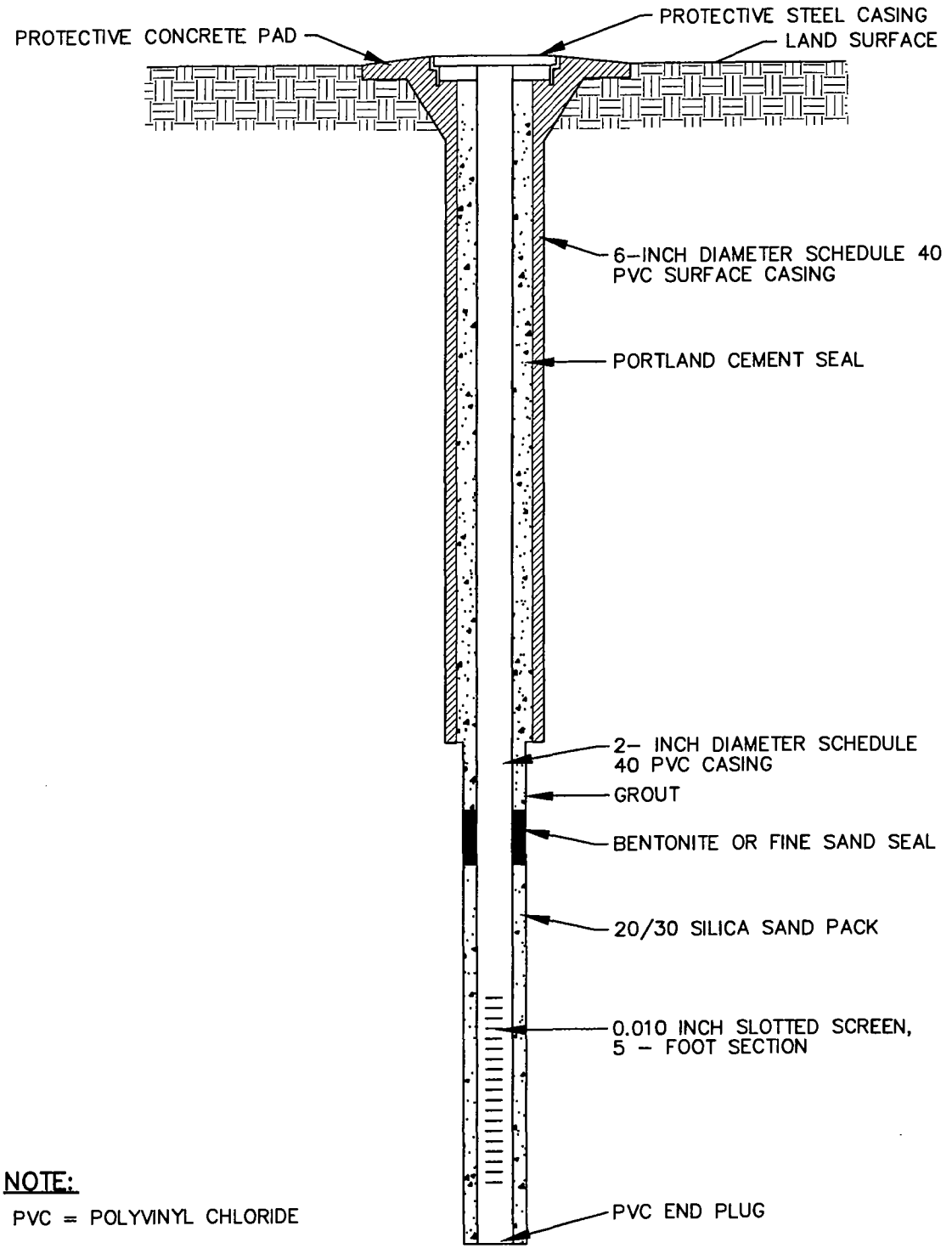
| | | | |
|---|---|---|---|
| DRAWN BY MF DATE 1/11/01 | | TYPICAL SHALLOW AND INTERMEDIATE MONITORING WELL CONSTRUCTION DETAIL SHERMAN FIELD FUEL FARM NAS PENSACOLA PENSACOLA, FLORIDA | CONTRACT NO. 0516 |
| CHECKED BY DATE | | | APPROVED BY DATE |
| COST/SCHED-AREA | | | APPROVED BY DATE |
| SCALE AS NOTED | | | DRAWING NO. FIGURE 2-3 / REV. 0 |

FORM CADD NO. SDIV_AV.DWG - REV 0 - 1/20/98

ACAD:Figure 2-4.dwg 02/05/02




| | | | |
|---|---|---|---|
| DRAWN BY DATE | | TYPICAL STICK-UP MONITORING WELL DETAIL SHERMAN FIELD FUEL FARM NAS PENSACOLA PENSACOLA, FLORIDA | CONTRACT NO. 0516 |
| CHECKED BY DATE | | | APPROVED BY DATE |
| COST/SCHED-AREA | | | APPROVED BY DATE |
| SCALE NONE | | | DRAWING NO. FIGURE 2-4 / REV. 1 |




ACAD:Figure 2-5.dwg 02/05/02

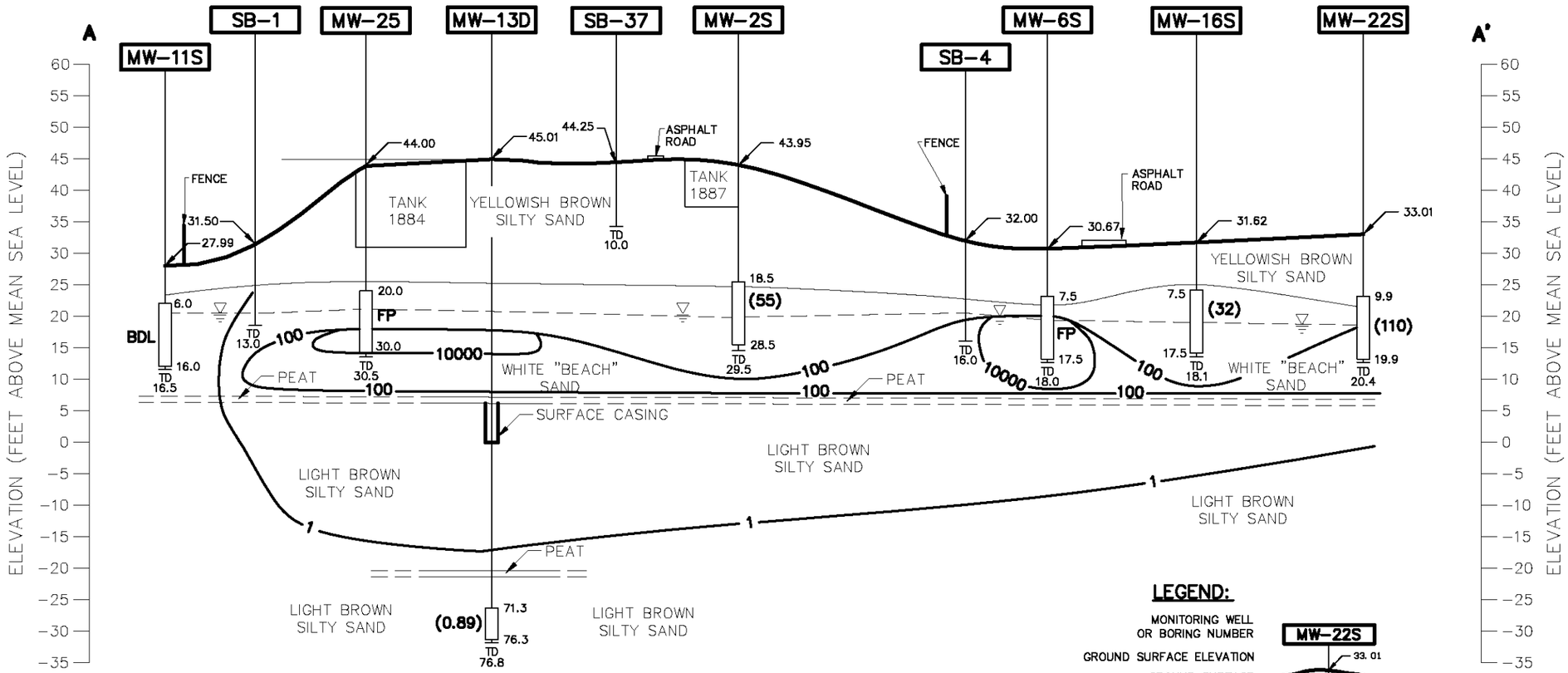
**NOTE:**

PVC = POLYVINYL CHLORIDE

| | | | |
|---|---|---|---|
| DRAWN BY DATE 2/5/02 | | TYPICAL DEEP MONITORING WELL CONSTRUCTION DETAIL SHERMAN FIELD FUEL FARM NAS PENSACOLA PENSACOLA, FLORIDA | CONTRACT NO. 0516 |
| CHECKED BY DATE | | | APPROVED BY DATE |
| COST/SCHED-AREA | | | APPROVED BY DATE |
| SCALE AS NOTED | | | DRAWING NO. FIGURE 2-5 REV. 0 |

FORM CADD NO. SDIV_AV.DWG - REV 0 - 1/20/98

ACAD: 0516GX01.dwg 02/08/01 HJP




0 80 160
HORIZONTAL SCALE IN FEET

0 20 40
VERTICAL SCALE IN FEET

## LEGEND:

MONITORING WELL OR BORING NUMBER — MW-22S

GROUND SURFACE ELEVATION — 33.01

GROUND SURFACE

GROUNDWATER ELEVATION 11/05/00 DATA

TOP OF MONITORED INTERVAL (FT BGS) — 9.9

LITHOLOGIC CONTACT (DASHED WHERE INFERRED)

BOTTOM OF MONITORED INTERVAL (FT BGS) — 19.9

TOTAL DEPTH OF WELL OR BORING (FT BGS) — TD 20.4

FP = FREE PRODUCT

BDL= BELOW DETECTION LIMIT FOR BENZENE

(110) = BENZENE CONCENTRATION IN ppb

ppb = PARTS PER BILLION

—1— BENZENE ISOCONCENTRATION

## NOTE:

ISOCONCENTRATION LEVELS EXPRESSED IN PPB

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY MF DATE 1/26/01

CHECKED BY DATE

COST/SCHED-AREA

SCALE AS NOTED

**HYDROGEOLOGIC CROSS SECTION**
**SHERMAN FIELD FUEL FARM**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

CONTRACT NO. 0516

APPROVED BY DATE

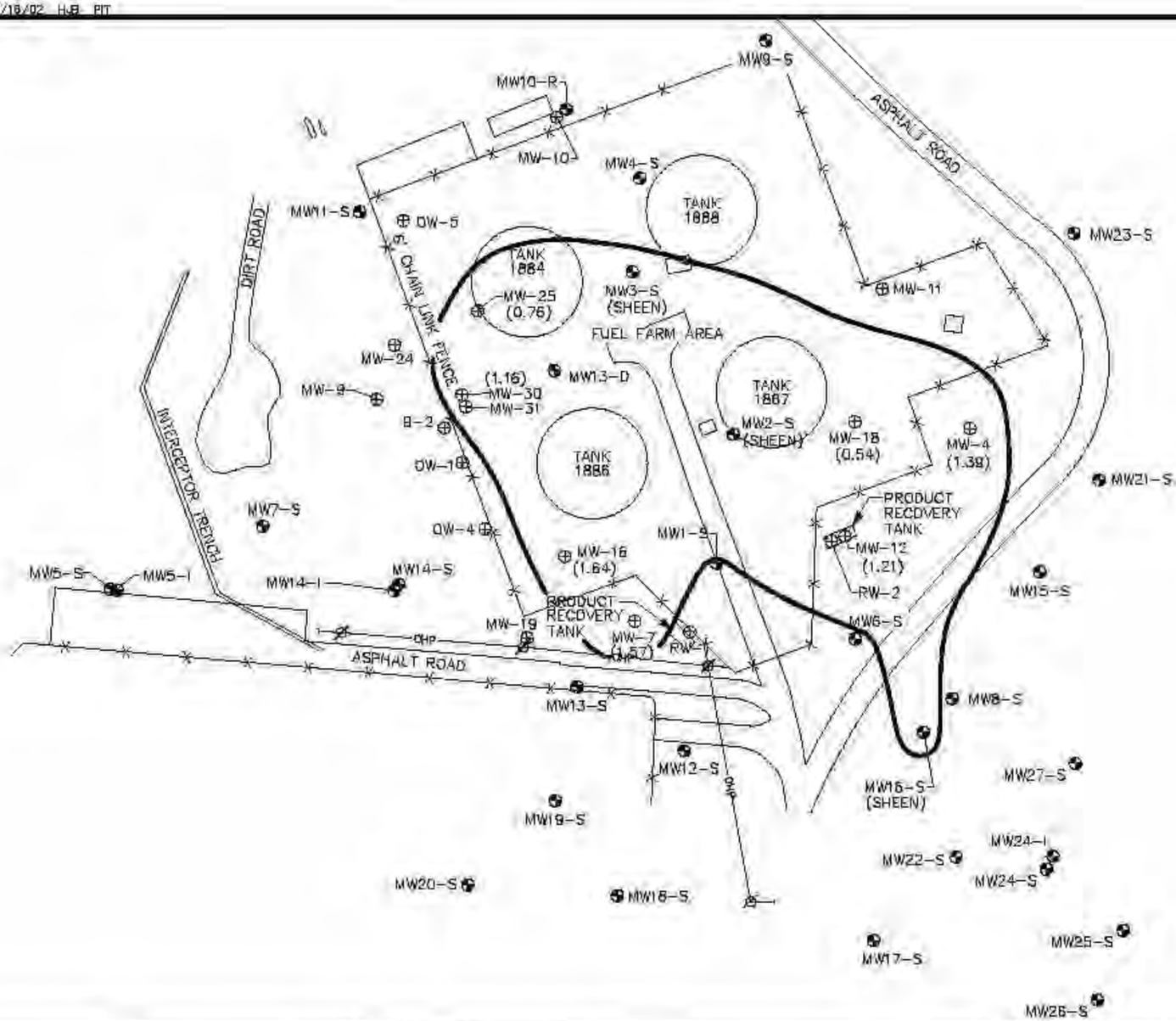
APPROVED BY DATE

DRAWING NO. FIGURE 3-1

REV. 0

FORM CADD NO. SOUTH-BH.DGN - REV 0 - 9/9/98

ACAD:0516GN10.dwg 07/16/02 H.B. PIT




LEGEND:

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| ● MW-8S | NEW MONITORING WELL |
| —X— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| ——— | FREE PRODUCT |
| (1.21) | APPROXIMATE FREE PRODUCT THICKNESS |

NOTE:

MEASURMENT RECORDED JULY 19, 2000 AND SEPTEMBER 2000

0 100 200

SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

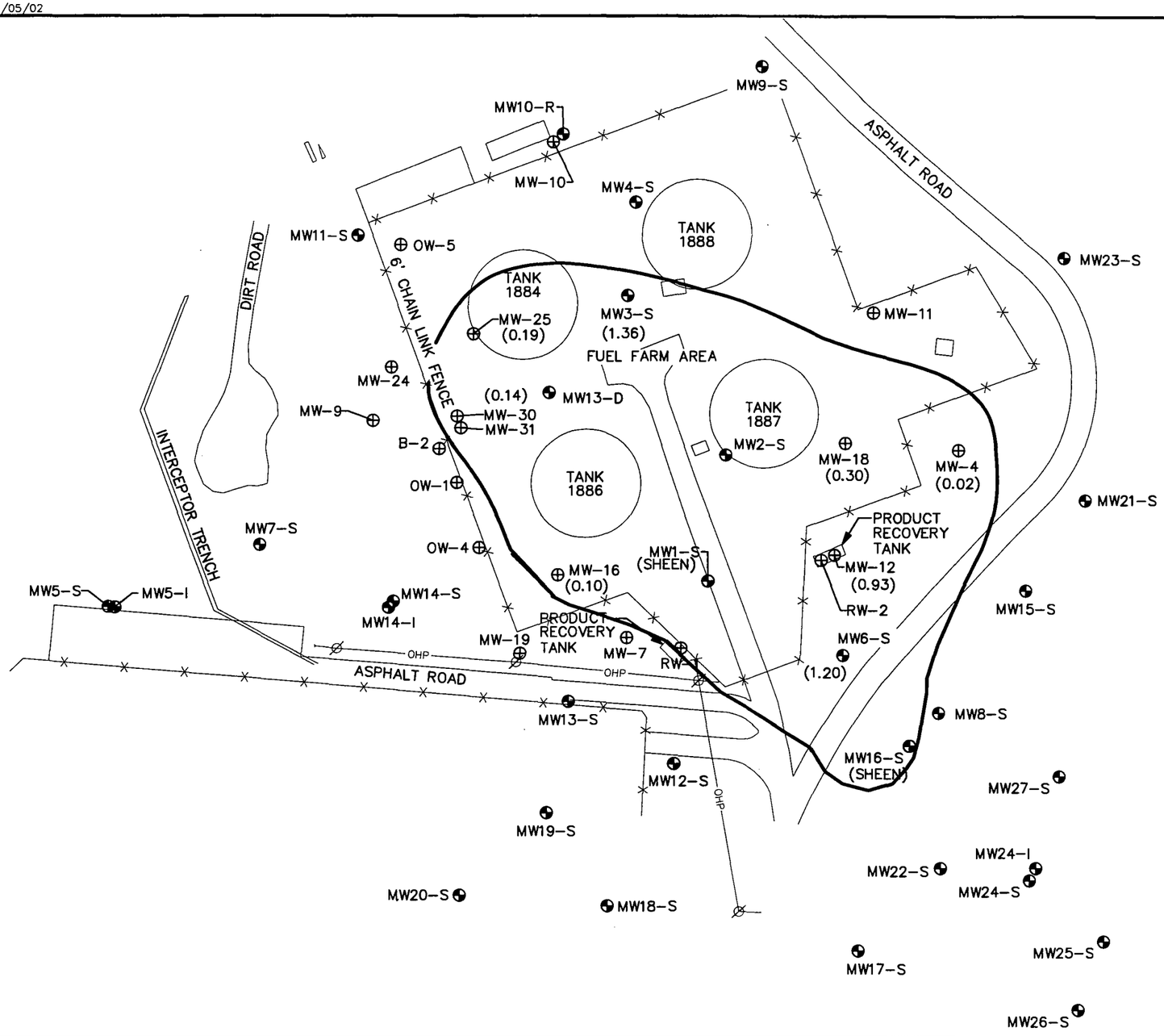
DRAWN BY: MF DATE: 7/15/02
CHECKED BY: DATE:
COST/SCHED-AREA:
SCALE: AS NOTED

FREE PRODUCT THICKNESS
JULY/SEPTEMBER 2000
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY: DATE:
APPROVED BY: DATE:
DRAWING NO.: FIGURE 3-2
REV.: 0

FORM CADD NO. CDIV_BHDWG - REV 0 - 1/30/98

ACAD: Figure 3-3.dwg 02/05/02




## LEGEND

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| ◒ MW-8S | NEW MONITORING WELL |
| —X— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| ——— | FREE PRODUCT |
| (1.21) | APPROXIMATE FREE PRODUCT THICKNESS |

**NOTE**

MEASURMENT RECORDED JANUARY 2002

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

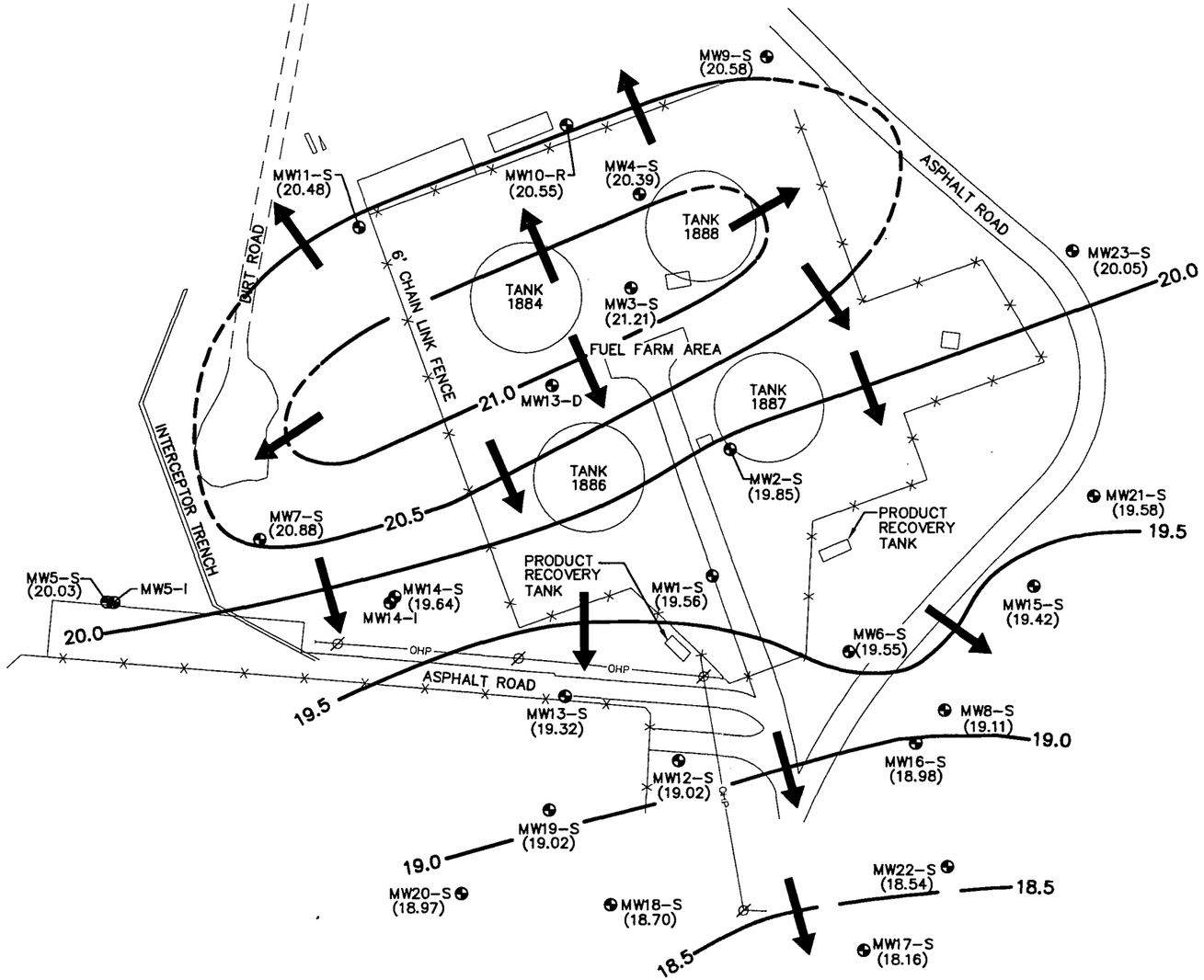
DEPARTMENT OF THE NAVY ★ CNO ★ SOUTHERN DIV FACILITIES ENGINEERING

FREE PRODUCT THICKNESS
JANUARY 2002
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-3
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: Figure 3-4.dwg 02/05/02




## LEGEND

| | |
|---|---|
| MW-8S | NEW MONITORING WELL |
| —X— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| (19.11) | GROUNDWATER ELEVATION (MSL) CORRECTED FOR FREE PRODUCT AS NECESSARY. |
| | GROUNDWATER CONTOUR (DASHED WHERE INFERED) |
| 19.0 | GROUNDWATER CONTOUR ELEVATION |
| | GROUNDWATER FLOW ARROW |

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

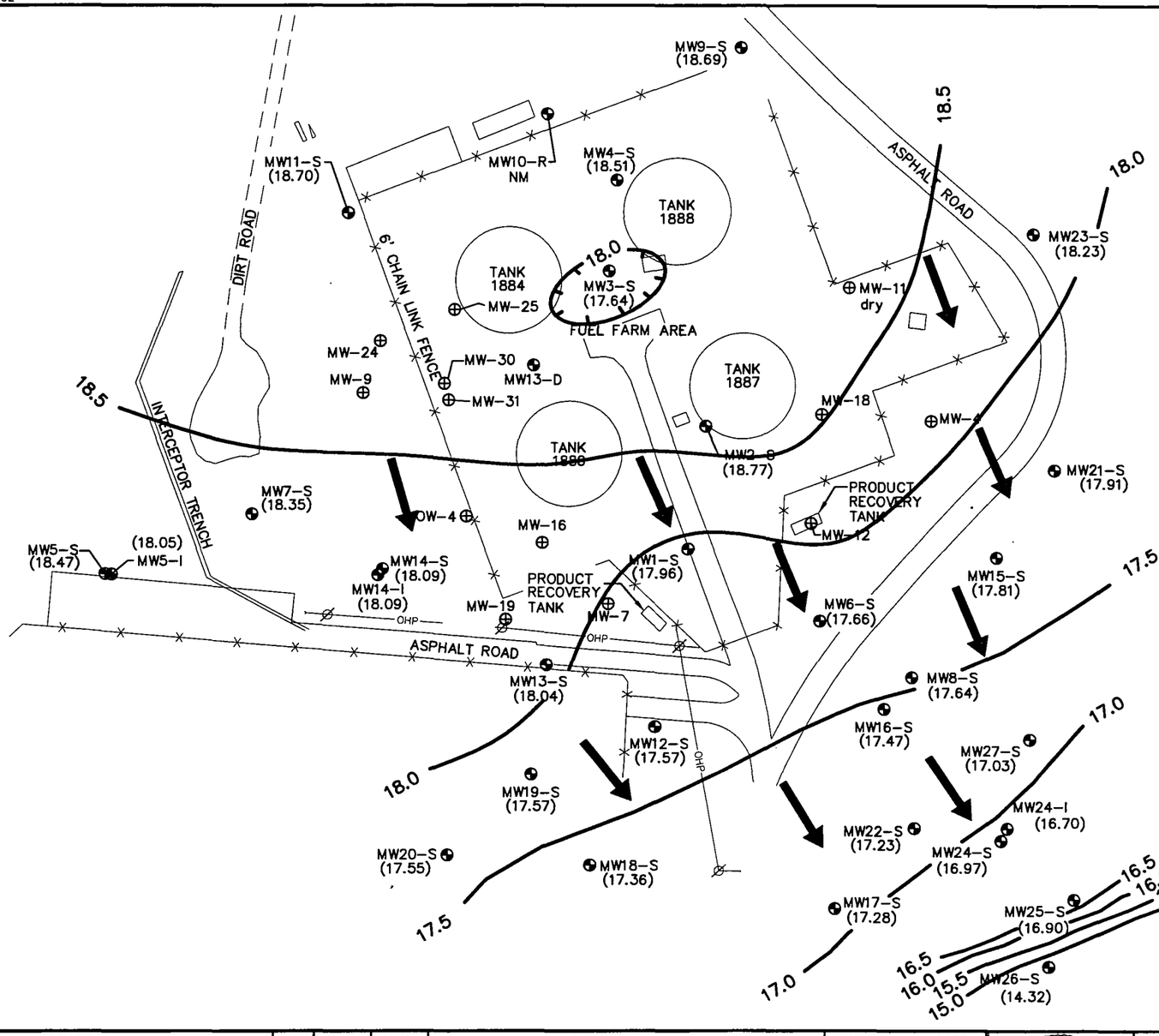
DEPARTMENT OF THE NAVY · SOUTHERN DIV FACILITIES ENGINEERING COMD

GROUNDWATER ELEVATION MAP
NOVEMBER 5, 2000
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-4
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: Figure 3-5.dwg 02/05/02




## LEGEND

| | |
|---|---|
| MW-8S | NEW MONITORING WELL |
| —X— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| (19.11) | GROUNDWATER ELEVATION (MSL) CORRECTED FOR FREE PRODUCT AS NECESSARY. |
| | GROUNDWATER CONTOUR (DASHED WHERE INFERED) |
| 19.0 | GROUNDWATER CONTOUR ELEVATION |
| | GROUNDWATER FLOW ARROW |

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

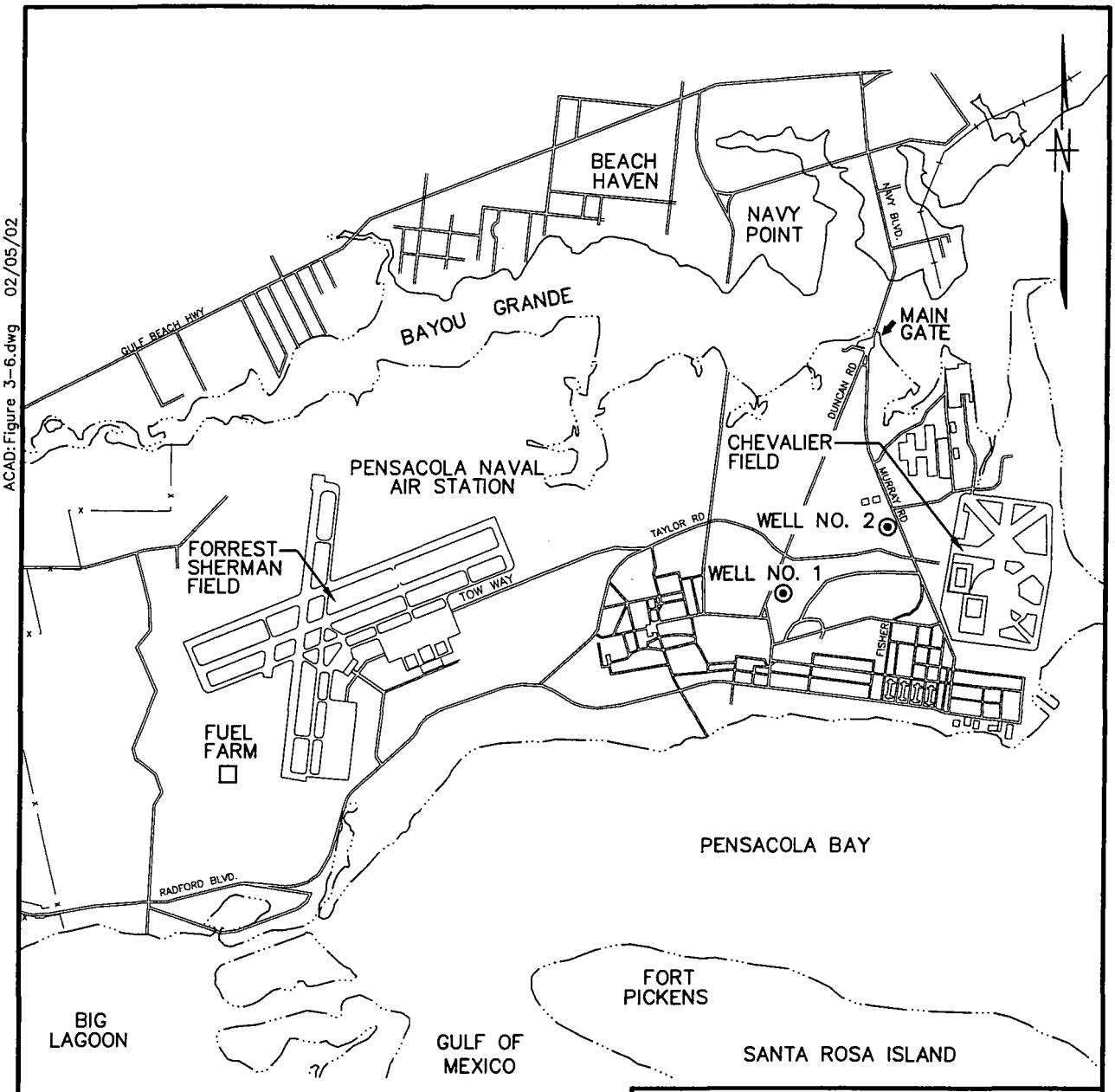
DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING CMD

GROUNDWATER ELEVATION MAP
JANUARY 11, 2002
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-5
REV. 0

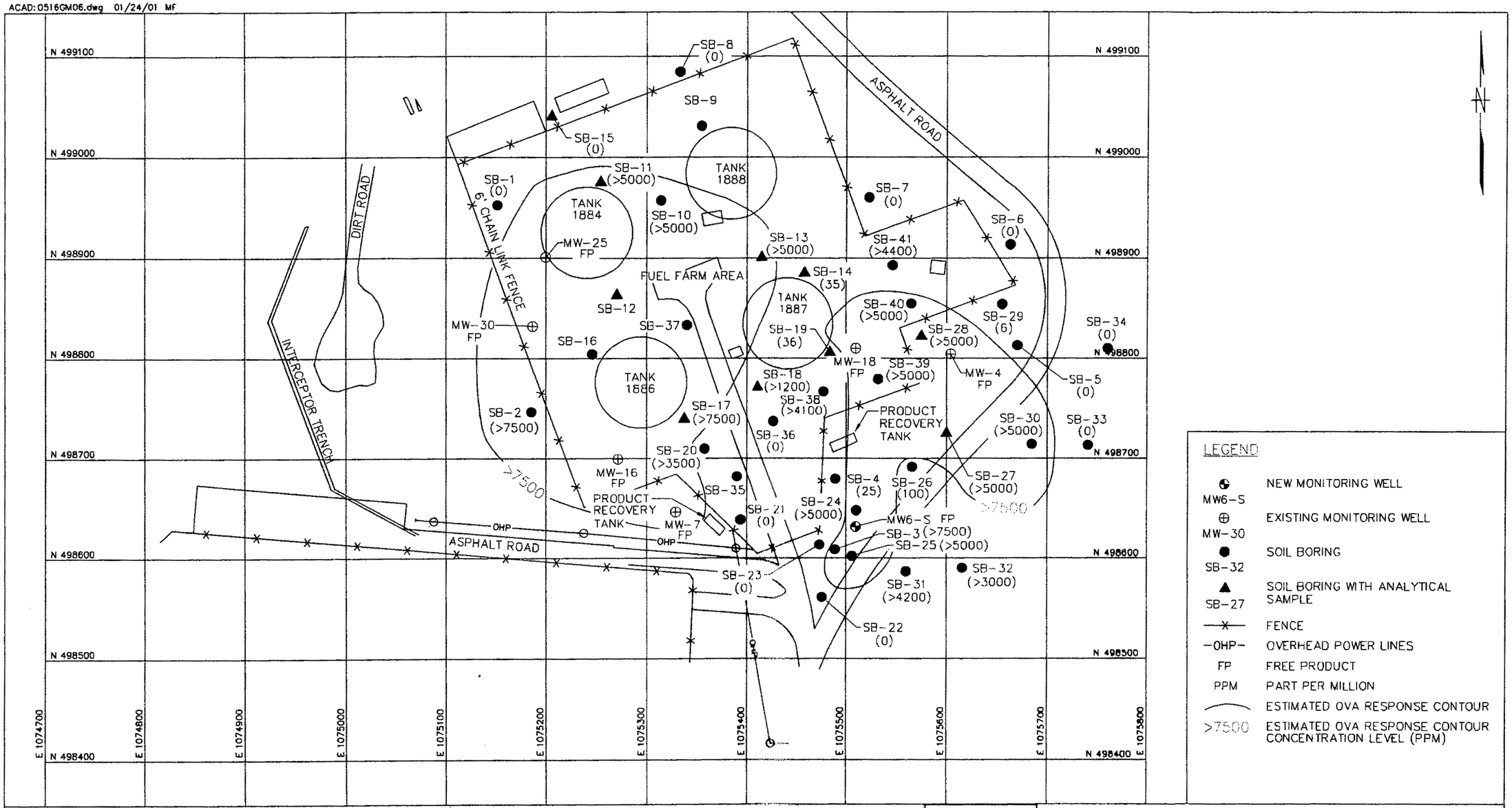
FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98




| | | | |
|---|---|---|---|
| DRAWN BY DATE 2/5/02 | DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMD | SUPPLY WELL LOCATIONS<br>SHERMAN FIELD FUEL FARM<br>NAS PENSACOLA<br>PENSACOLA, FLORIDA | CONTRACT NO. 0516 |
| CHECKED BY DATE | | | APPROVED BY DATE |
| COST/SCHED--AREA | | | APPROVED BY DATE |
| SCALE AS NOTED | | | DRAWING NO. FIGURE 3-6 REV. 0 |

FORM CADD NO. SDIV_AV.DWG – REV 0 – 1/20/98

ACAD: 0516GM06.dwg 01/24/01 MF




LEGEND

| | |
|---|---|
| MW6-S | NEW MONITORING WELL |
| ⊕ MW-30 | EXISTING MONITORING WELL |
| ● SB-32 | SOIL BORING |
| ▲ SB-27 | SOIL BORING WITH ANALYTICAL SAMPLE |
| —X— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| FP | FREE PRODUCT |
| PPM | PART PER MILLION |
| ⌒ | ESTIMATED OVA RESPONSE CONTOUR |
| >7500 | ESTIMATED OVA RESPONSE CONTOUR CONCENTRATION LEVEL (PPM) |

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

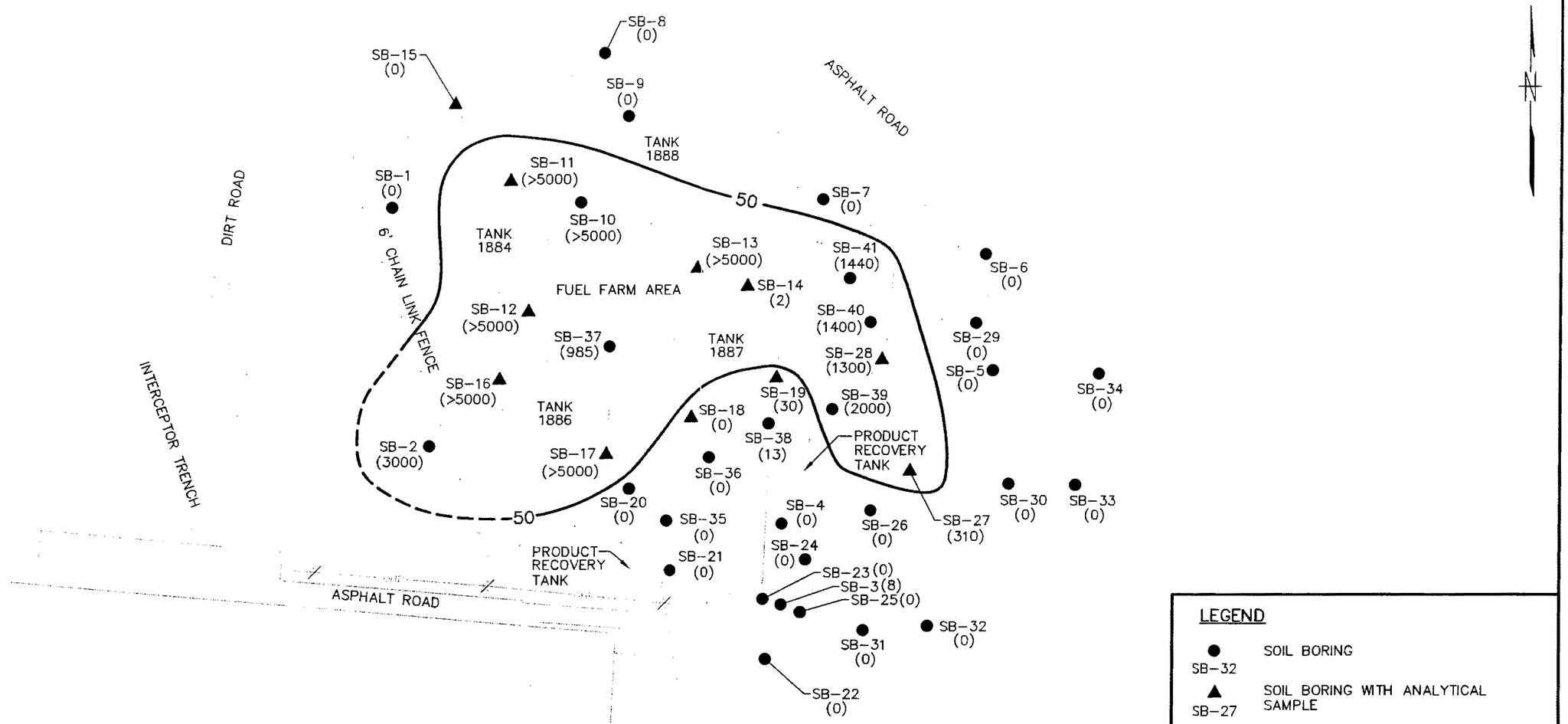
DRAWN BY MF DATE 1/24/01
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

OVA SCREENING RESULTS
HERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-1
REV. 0

FORM CADD NO. SDIV_SH.DWG - REV 0 - 1/20/98

ACAD: 0516GM07.dwg 02/07/01 MF




## LEGEND

- ● SB-32 — SOIL BORING
- ▲ SB-27 — SOIL BORING WITH ANALYTICAL SAMPLE
- OVA CONCENTRATION CONTOUR
- 50 — ESTIMATED OVA CONCENTRATION LEVEL
- (1400) — ESTIMATED OVA HEADSPACE RESULTS
- FENCE
- OVERHEAD POWER LINES

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

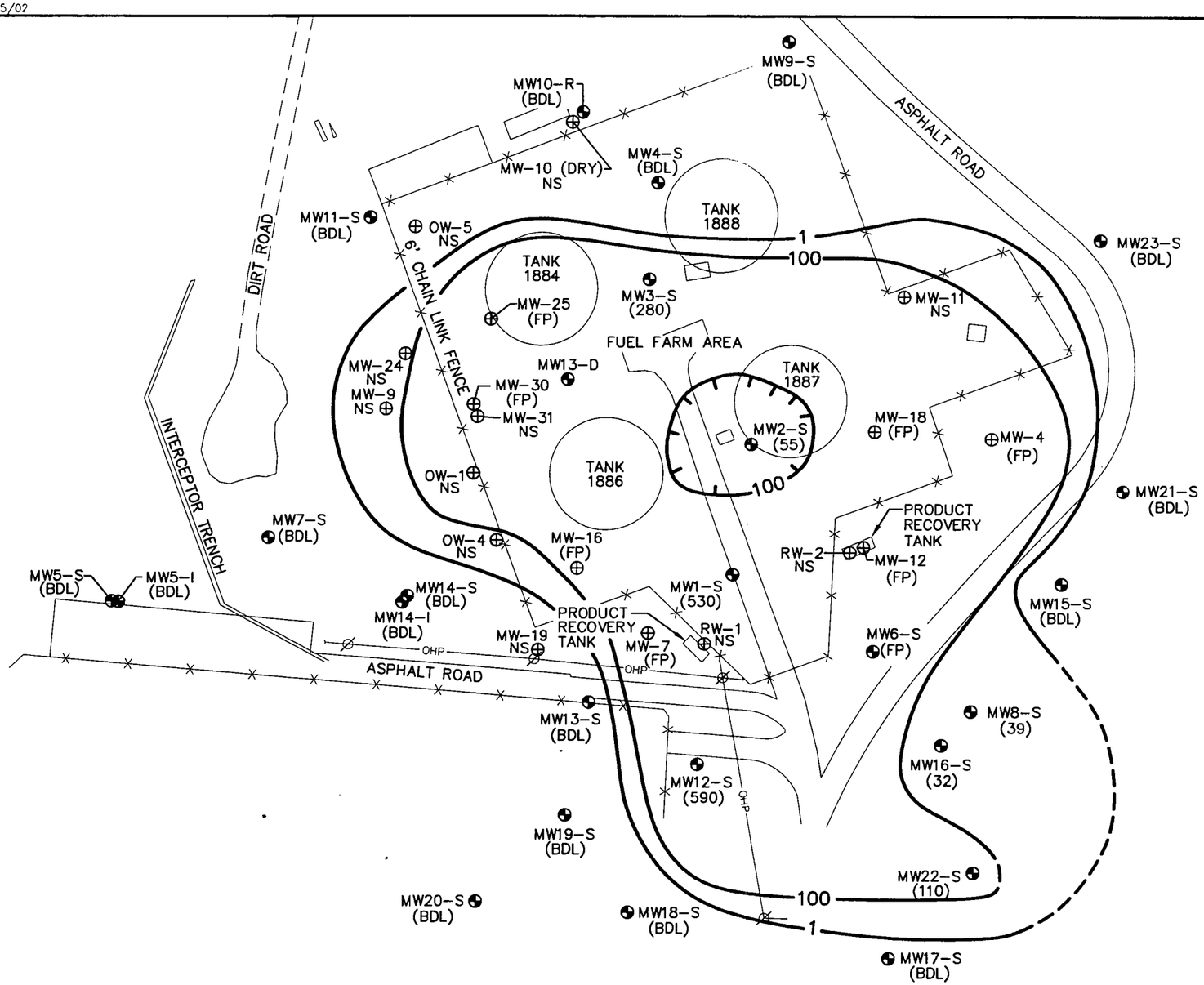
DRAWN BY MF DATE 2/7/01
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SOIL HEADSPACE SCREENING RESULTS FOR SAMPLE IMMEDIATELY ABOVE WATERTABLE
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-2
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/96

ACAD: Figure 4-3.dwg 02/05/02




## LEGEND

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| ◒ MW-8S | NEW MONITORING WELL |
| —×— | FENCE |
| –OHP– | OVERHEAD POWER LINES |
| | ESTIMATED BENZENE CONCENTRATION LEVEL CONTOUR. DASHED WHERE INFERRED. |
| NS | NOT SAMPLED |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| FP | FREE PRODUCT |
| BDL | BELOW DETECTION LIMIT |
| (39) | BENZENE CONCENTRATION (ug/L) |
| 100 | ESTIMATED BENZENE CONCENTRATION LEVEL (ug/L) |

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

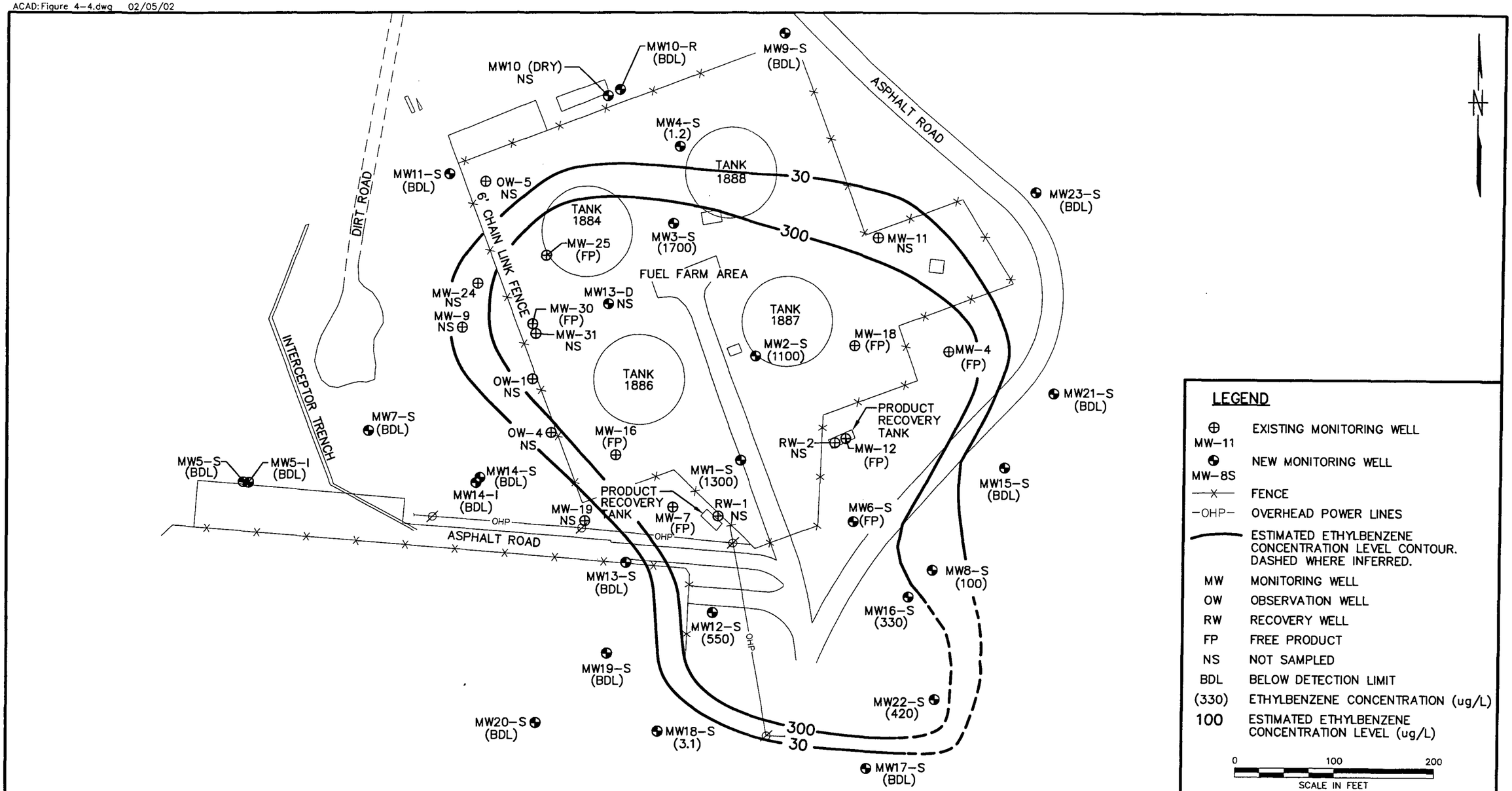
DEPARTMENT OF THE NAVY · SOUTHERN DIV FACILITIES ENGINEERING COMD

**GROUNDWATER ANALYTICAL RESULTS**
**NOVEMBER 2000**
**BENZENE CONCENTRATIONS**
**SHERMAN FIELD FUEL FARM**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-3
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: Figure 4-4.dwg 02/05/02




| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

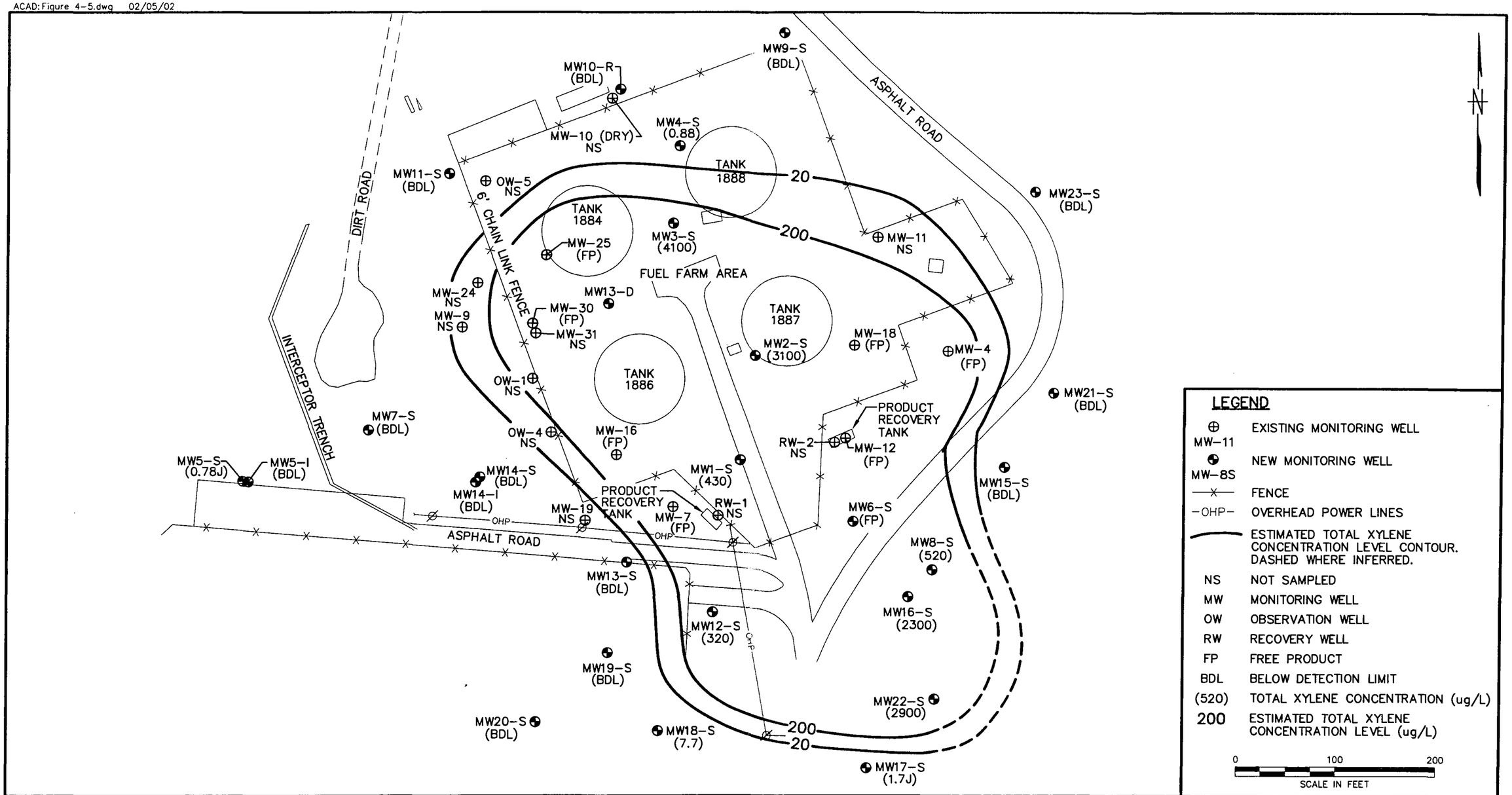
DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMMAND

**GROUNDWATER ANALYTICAL RESULTS**
**NOVEMBER 2000**
**ETHYLBENZENE CONCENTRATIONS**
**SHERMAN FIELD FUEL FARM**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-4
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: Figure 4-5.dwg 02/05/02




## LEGEND

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| ◒ MW-8S | NEW MONITORING WELL |
| —X— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| | ESTIMATED TOTAL XYLENE CONCENTRATION LEVEL CONTOUR. DASHED WHERE INFERRED. |
| NS | NOT SAMPLED |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| FP | FREE PRODUCT |
| BDL | BELOW DETECTION LIMIT |
| (520) | TOTAL XYLENE CONCENTRATION (ug/L) |
| 200 | ESTIMATED TOTAL XYLENE CONCENTRATION LEVEL (ug/L) |

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

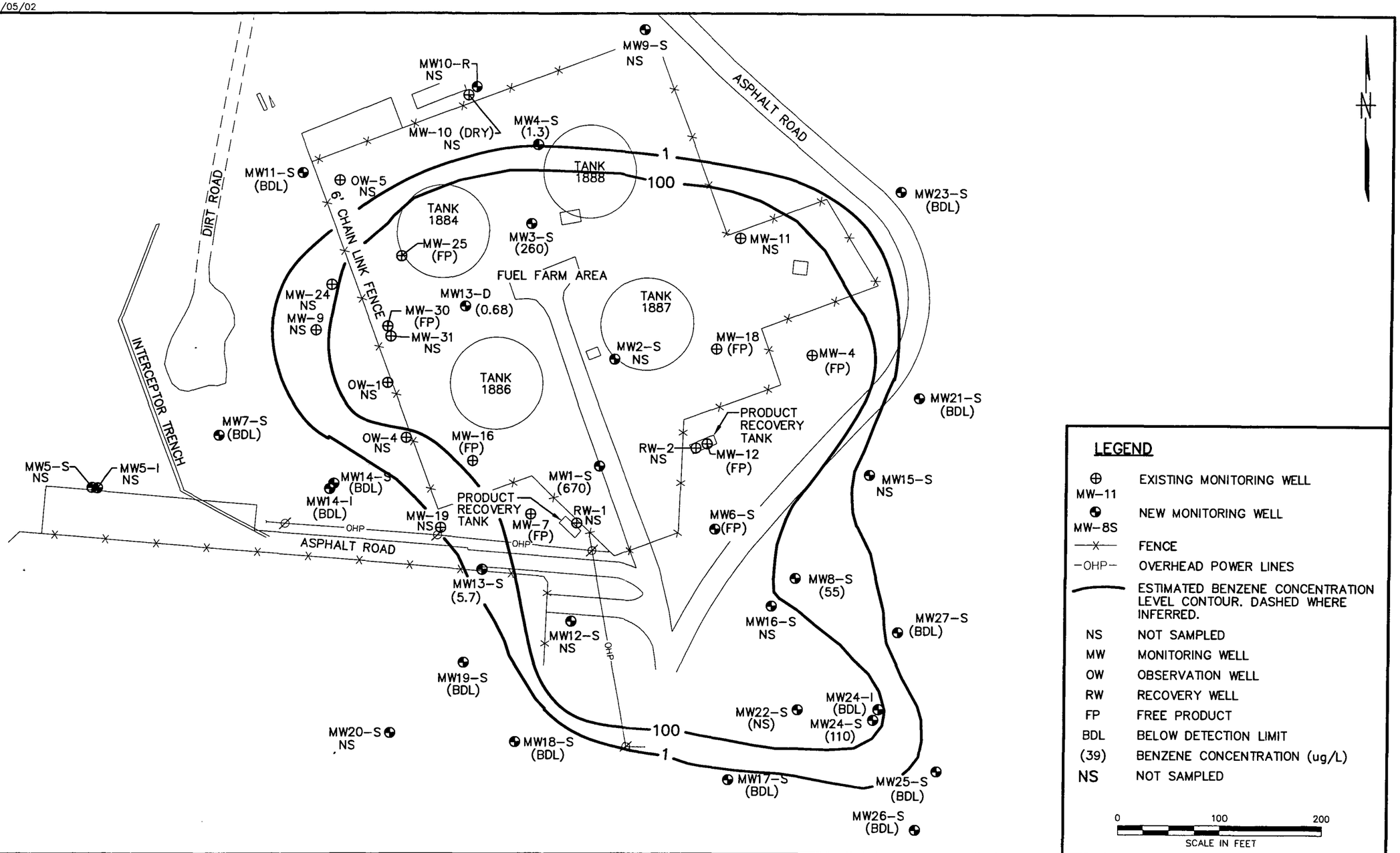
DEPARTMENT OF THE NAVY ★ OICNO ★ SOUTHERN DIV FACILITIES ENGINEERING

GROUNDWATER ANALYTICAL RESULTS
NOVEMBER 2000
TOTAL XYLENE CONCENTRATIONS
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-5
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: Figure 4-6.dwg 02/05/02




## LEGEND

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| ⊕ MW-8S | NEW MONITORING WELL |
| —×— | FENCE |
| –OHP– | OVERHEAD POWER LINES |
| ~~~ | ESTIMATED BENZENE CONCENTRATION LEVEL CONTOUR. DASHED WHERE INFERRED. |
| NS | NOT SAMPLED |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| FP | FREE PRODUCT |
| BDL | BELOW DETECTION LIMIT |
| (39) | BENZENE CONCENTRATION (ug/L) |
| NS | NOT SAMPLED |

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

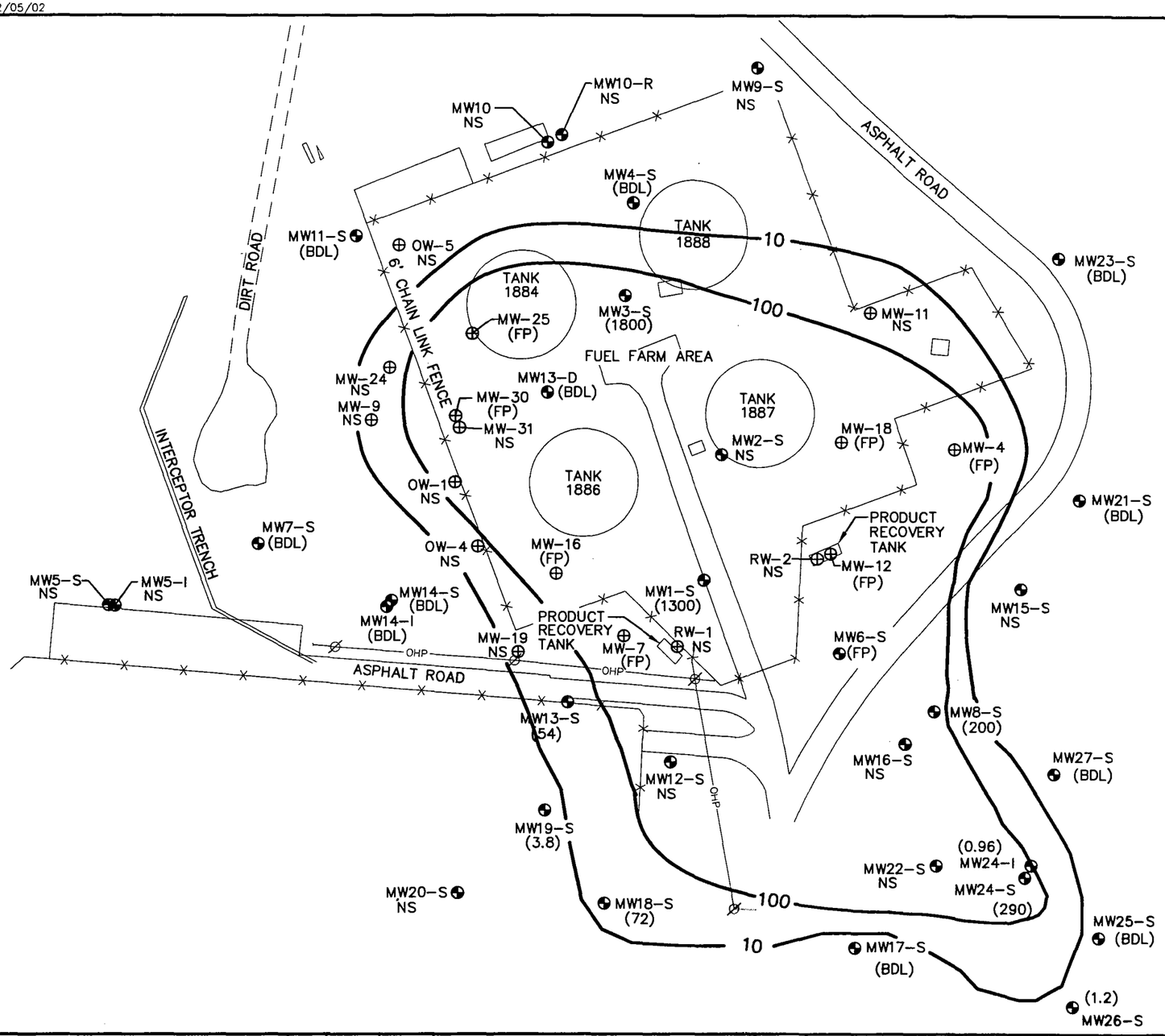
DEPARTMENT OF THE NAVY · NAVAL FACILITIES ENGINEERING COMMAND · SOUTHERN DIVISION

**GROUNDWATER ANALYTICAL RESULTS**
**BENZENE CONCENTRATIONS**
**OCT/NOV 2001 DATA**
**SHERMAN FIELD FUEL FARM**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-6
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: Figure 4-7.dwg 02/05/02




## LEGEND

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| ◒ MW-8S | NEW MONITORING WELL |
| —×— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| | ESTIMATED ETHYLBENZENE CONCENTRATION LEVEL CONTOUR. DASHED WHERE INFERRED. |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| FP | FREE PRODUCT |
| NS | NOT SAMPLED |
| BDL | BELOW DETECTION LIMIT |
| (330) | ETHYLBENZENE CONCENTRATION (ug/L) |
| NS | NOT SAMPLED |

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

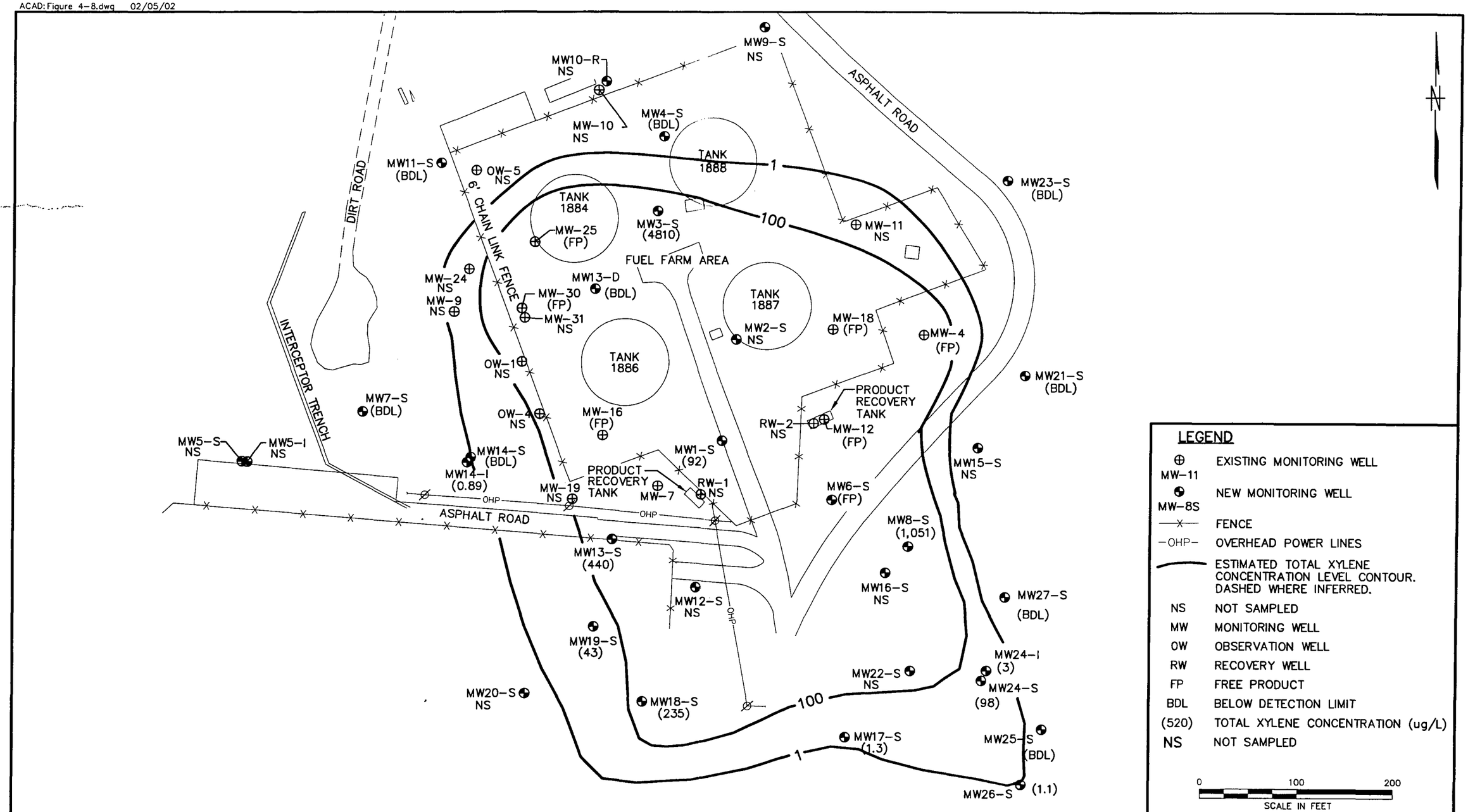
DEPARTMENT OF THE NAVY — NAVFAC ENGINEERING COMMAND — NAVY FACILITIES ENGINEERING

# GROUNDWATER ANALYTICAL RESULTS ETHYLBENZENE CONCENTRATIONS OCTOBER/NOVEMBER 2001 SHERMAN FIELD FUEL FARM NAS PENSACOLA PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-7
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: Figure 4-8.dwg 02/05/02




## LEGEND

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| ◒ MW-8S | NEW MONITORING WELL |
| —x— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| | ESTIMATED TOTAL XYLENE CONCENTRATION LEVEL CONTOUR. DASHED WHERE INFERRED. |
| NS | NOT SAMPLED |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| FP | FREE PRODUCT |
| BDL | BELOW DETECTION LIMIT |
| (520) | TOTAL XYLENE CONCENTRATION (ug/L) |
| NS | NOT SAMPLED |

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

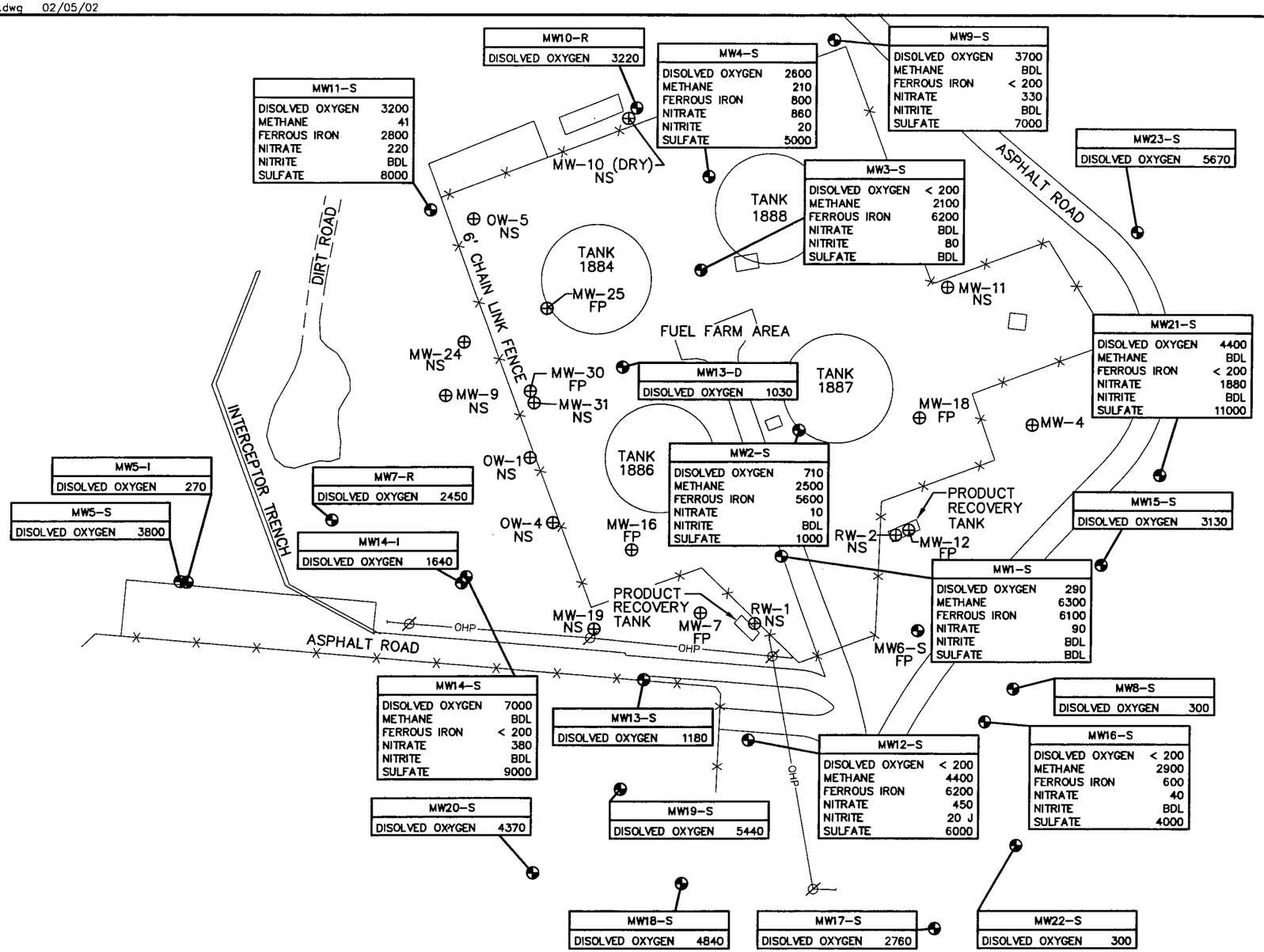
DEPARTMENT OF THE NAVY · NAVAL FACILITIES ENGINEERING COMMAND

GROUNDWATER ANALYTICAL RESULTS
TOTAL XYLENE CONCENTRATIONS
OCTOBER/NOVEMBER 2001
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-8
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: Figure 4-9.dwg 02/05/02




## LEGEND

| | |
|---|---|
| ⊕ MW-11 | EXISTING MONITORING WELL |
| ⊕ MW-8S | NEW MONITORING WELL |
| —×— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| NS | NOT SAMPLED |
| FP | FREE PORDUCT |
| J | ESTIMATED |
| MW | MONITORING WELL |
| OW | OBSERVATION WELL |
| RW | RECOVERY WELL |
| NA | NOT ANALYZED |
| BDL | BELOW DETECTION LIMIT |

## NOTE

ALL CONCENTRATIONS LEVELS ARE IN ug/L

0 100 200
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY DATE 2/5/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

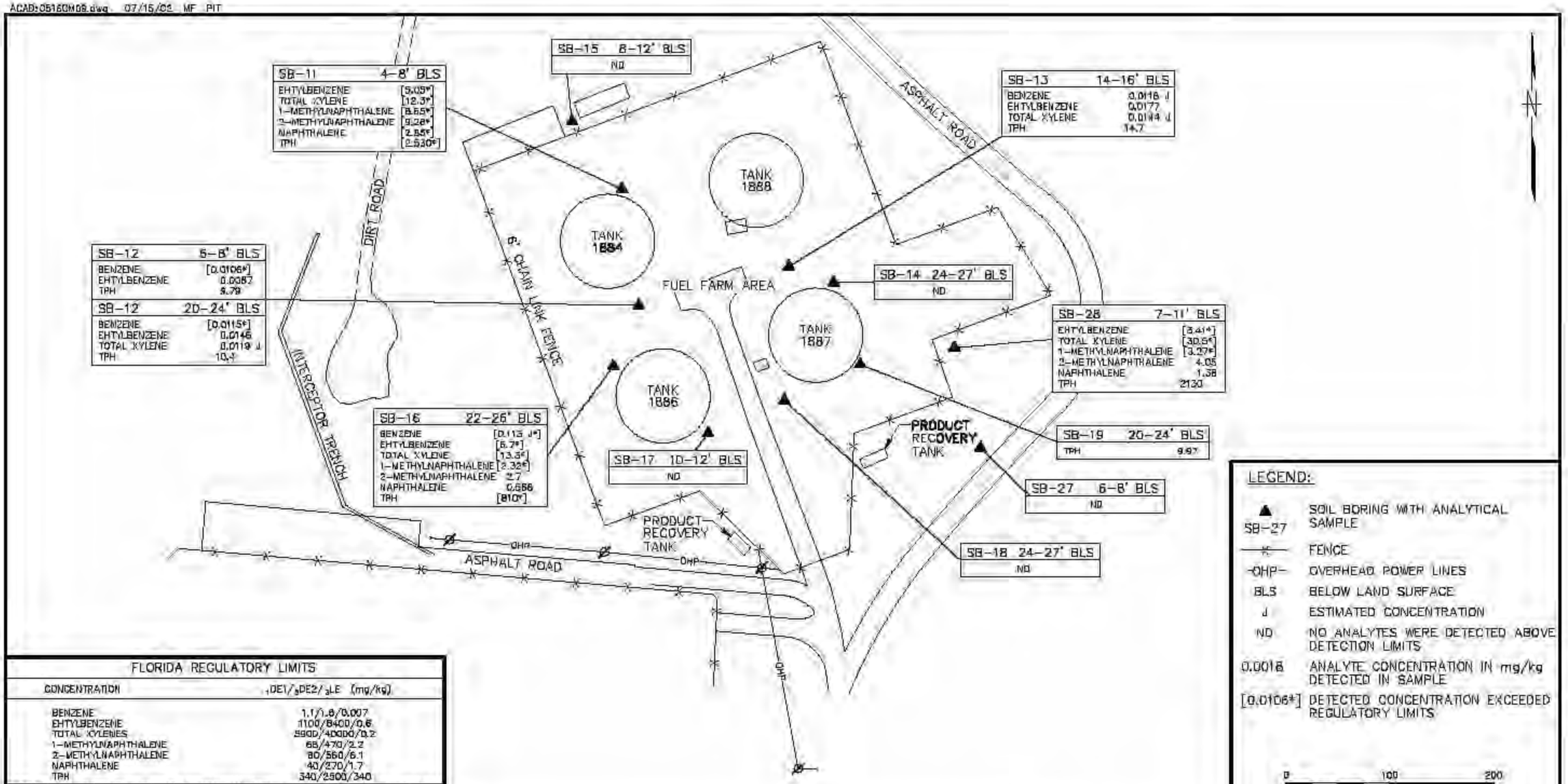
DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMMAND

NATURAL ATTENUATION PARAMETERS
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-9
REV. 0

FORM CADD NO. SDIV_BH.DWG - REV 0 - 1/20/98

ACAD:0516OM09.dwg 07/15/02 MF PIT




LEGEND:

| | |
|---|---|
| ▲ SB-27 | SOIL BORING WITH ANALYTICAL SAMPLE |
| —x— | FENCE |
| -OHP- | OVERHEAD POWER LINES |
| BLS | BELOW LAND SURFACE |
| J | ESTIMATED CONCENTRATION |
| ND | NO ANALYTES WERE DETECTED ABOVE DETECTION LIMITS |
| 0.0018 | ANALYTE CONCENTRATION IN mg/kg DETECTED IN SAMPLE |
| [0.0106*] | DETECTED CONCENTRATION EXCEEDED REGULATORY LIMITS |

0 100 200
SCALE IN FEET

FLORIDA REGULATORY LIMITS

| CONCENTRATION | [1]DE1/[2]DE2/[3]LE (mg/kg) |
|---|---|
| BENZENE | 1.1/1.8/0.007 |
| EHTYLBENZENE | 1100/8400/0.6 |
| TOTAL XYLENES | 5900/40000/0.2 |
| 1-METHYLNAPHTHALENE | 68/470/2.2 |
| 2-METHYLNAPHTHALENE | 80/560/6.1 |
| NAPHTHALENE | 40/270/1.7 |
| TPH | 340/2500/340 |

[1] DE1=DIRECT EXPOSURE LIMIT FOR RESIDENTIAL AREA FROM CHAPTER 62-777, F.A.C.
[2] DE2=DIRECT EXPOSURE LIMIT FOR INDUSTRIAL AREA FROM CHAPTER 62-777, F.A.C.
[3] LE=LEACHABILITY FOR GROUNDWATER LIMIT FROM CHAPTER 62-777, F.A.C.

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY MF DATE 7/15/02
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SOIL SAMPLING ANALYTICAL RESULTS
SHERMAN FIELD FUEL FARM
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 0516
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-10 REV. 0

FORM CADD NO. CDIV_BH.DWG - REV 0 - 1/20/98

# APPENDIX A

# FIELD DATA FORMS

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola - Former Fuel Farm
BORING No.: SB-1
PROJECT NUMBER:
DATE: 07-19-00
DRILLING COMPANY: ATI - Drilling & Probing
GEOLOGIST: Gary J. Davis
DRILLING RIG: Geoprobe
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Grass surface | | | | |
| | | NA | NA | | | | Brown to Light Brown silty sand | SC | fine-med. grained | | | | |
| | | | | | Hand | | Auger for utilities | | | | | | |
| | 5 | | 36"/46" | | loose to very loose | | Yellowish brown to buff silty sand trace Clay | | fine-med grained | | | 0 | 0 |
| | 10 | | 36"/46" | | | White | | | | | | | |
| | | | | ▼ | | | ▼Water level based on DW-5 & | | Adjacent Saturation | | | 0 | 0 |
| | | | | | | | Terminated boring @ 12' BGS | | | | | | |
| | 15 | | | | | | | | No FID Response | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm
PROJECT NUMBER:
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-2
DATE: 07-19-00
GEOLOGIST: Gary J. Davis
DRILLER:

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | | | | SC | | | | | |
| | | | to | | loose | | | | | | | | |
| | | | 4' | | to very | Dark Brown to | | | | | | | |
| | 5 | | | | loose | light brown silty clayey sand | | | | | | | |
| | | | | | sharp color change to yellowish Brown | | | | | 0.0 | | | |
| | | | | | | | silty clayey sand | SC | | | | | |
| | | | | | | | 90 w/ trace clay | | | | | | |
| 9' | 10 | | 24" | | white to buff | | | | | 0.0 | | | |
| 11' | 90 | | 24" | | | | silty sand | | very Petroleum strong odor | | | 3000 PPM | |
| | | 11' | | ▼ | | | | | | | | | |
| | | | | | | | | | | | | ← 5000 PPM | |
| | | 13' | | | | | Terminated Boring | | | | | | |
| | 15 | | | | | | @ 13' BGS | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: Confirms inside Free-Product boundary

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ✓ Well I.D. #:

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER:
DRILLING COMPANY: ATT Drilling & Probing
DRILLING RIG: Geoprobe

BORING No.: SB-3
DATE: 07-19-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sample Bz | Borehole** | Drillers Bz** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Hand Augr to 4' BGS | | | | |
| | | NA | NA | | Loose to very loose | light Brown to orange brown | silty sand with trace clay | SC | Dry fine-med grained. | | | 0 | 0 |
| | 5 | | 36" / 48" | | | | | | damp | | | | |
| | | | | | | Buff white to yellowish brown | silty sand | SC | | 0 | 0 | 0 | 0 |
| | 10 | | 30" / 40" | | | | | | "beach" sand | | | | |
| | | | | | | White | silty sand | SC | damp to moist | 8 | 0 | 0 | 0 |
| | | | | | | | | | Saturated | | | | |
| | | | | | | | | | | | | 25,000 | |
| | 15 | | | | | | | | strong odor | | | | |
| | | | | | | | | SC | | 3500 | | | |
| | | | | | | | Terminated boring @ 16' BGS | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm Sherman
PROJECT NUMBER:
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-4
DATE: 07-19-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Sampler BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | | | | yellowish orange to | | SC | Hand Auger to 4' BGS | | | | |
| | | | | | very loose to loose | light brown | silty sand w/ trace clay | | Dry | 0 | 0 | 0 | 0 |
| | 5 | | 36"/46" | | | buff white to yellowish brown | | | damp | | | | |
| | | | | | | | silty sand | SC | | 0 | 0 | 0 | 0 |
| | 10 | | 30"/46" | | | white "beach" sand to yellowish brown | | | damp to wet | 250 | | | |
| | | | | | | | silty sand | SC | Strong odor of petroleum | | | | |
| | 15 | | 36"/46" | | | | | | Saturated | 250 | | | |
| | | | | | | | Terminated at 16' BGS | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 8 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.
NAS Pensacola

# BORING LOG

Page 1 of 1

PROJECT NAME: Former Fuel Farm - Sherman
PROJECT NUMBER:
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-5
DATE: 07-19-00
GEOLOGIST: Gary T. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sample BZ | Borehole** | Borehole BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | buff to light brown | silty sand w/ trace clay | SC | Hand Auger to 5' BGS. Dry | 0 | 0 | 0 | 0 |
| | 5 | | | | | | | | | | | | |
| | 6 | | | | | white to buff | fine-med. grained silty sand "beach" sand | | fine-med. grained moist to damp | 0 | 0 | 0 | 0 |
| | 10' | | 36" / 48" | | | | | | saturated | | | | |
| | | | 48" / 48" | | | | same as above | | | 0 | 0 | 0 | 0 |
| | 14' | | | | | | Terminated boring at 14' BGS | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 Job 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-6
DATE: 07-20-06
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | buff to yellowish brown | | SC | Hand auger to 4 feet | | | | |
| | | NA | NA | | loose to | | silty sand | | | | | | |
| | | | | | very | | with trace clay | | | 0 | 0 | 0 | 0 |
| | | | | | loose | | | | dry | | | | |
| | 5 | | | | | | | | fine grained | | | | |
| | | | | | | | | | angular to sub-rounded | | | | |
| | | | 30/48" | | | | | SC | fine-med grained | 0 | 0 | 0 | 0 |
| | | | | | | buff to white | beach sand | | moist to damp at bottom of spoon | | | | |
| | 10 | | | | | | | | No Odor | | | | |
| | | | | | | same as above | | | | 0 | 0 | 0 | 0 |
| | | | | | | | | | saturated at 12 feet BGS | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | Terminated boring at 14' BGS | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Forrest Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 JOB 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB-7
DATE: 07-20-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (FL) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/FL) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | loose to very loose | buff to yellowish brown | Silty sand w/ trace clay | SP | Hand Auger to 4' BGS | 0 | 0 | 0 | 0 |
| | 5 | | | | | buff to white | "beach" sand Silty sand | | fine to med. grained | | | | |
| | 10 | | 36" / 48" | | | | | SC | damp to moist at bottom No Odor | 0 | 0 | 0 | 0 |
| | | | 36" / 48" | | | | same as above | | | 0 | 0 | 0 | 0 |
| | | | | | | | | | | 0 | 0 | 0 | 0 |
| | 15 | | | | Terminated boring at 14' BGS | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 5 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No ____ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Enal Farm-Sherman
PROJECT NUMBER:
DRILLING COMPANY:
DRILLING RIG:
BORING No.: SB-8
DATE: 07-20-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Hand augh to 4' BGS | | | | |
| | | NA | NA | | loose to very loose | Yellowish brown | Silty sand w/ trace clay | SC | Dry | 0 | 0 | 0 | 0 |
| | 5 | | | | | | | | | | | | |
| | | | 36" 48" | | @ 8' Strong odor change to white | | Silty sand "beach" sand | SC | No odor, damp | 0 | 0 | 0 | 0 |
| | 10 | | | | | | | | saturated | 0 | 0 | 0 | 0 |
| | 15 | | | | Terminated boring at 14' BGS | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO112 Job 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB-9
DATE: 07-20-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Grassy Weeds | | | | |
| | | NR | NA | | loose to very loose | buff to yellowish brown | silty sand w/ trace clay | SC | Just off back of Tank No 1888 Pad dry | 0 | 0 | 0 | 0 |
| | 5 | | 36"/48" | | | yellowish brown | silty sand | SC | moist | 0 | 0 | 0 | 0 |
| | 10 | | 36"/48" | | | Same as above except some iron staining to reddish brown | | SC | damp | 0 | 0 | 0 | 0 |
| | 15 | | 24"/48" | | | brown silty sand | | | | | | | |
| | | | | | | Same | | SC | damp | 0 | 0 | 0 | 0 |
| | 20 | | 30"/48" | | | Same as above | | SC | | 0 | 0 | 0 | 0 |
| | 25 | | 24"/48" | | | buff to white | silty sand | | "beach" sand | 0 | 0 | 0 | 0 |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
BORING No.: SB-9
PROJECT NUMBER: CTO 112 Job 0401
DATE: 07-20-00
DRILLING COMPANY: ATI
GEOLOGIST: Gary J. Davis
DRILLING RIG: Geoprobe
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25 | NA | 3/6" / 7/6" | ▼ | very loose | | White "beach" sand | SC | Nodor | 0 | 0 | 0 | 0 |
| | | | | | Wet | | Same as above | | Hit something | | | | |
| | | | | | | | silty sand | | hard, about | | | | |
| | | | | | | | | | 24'; but | | | | |
| | 30 | | | | | | Terminated boring | | got past it | | | | |
| | | | | | | | at 27' BGS | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.
NAS

# BORING LOG



PROJECT NAME:
PROJECT NUMBER:
DRILLING COMPANY:
DRILLING RIG:

BORING No.: SB-10
DATE: 12-28-78
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | yellowish to light brown silty sand | | SC | Hand Auger to 4' BGS | 0 | 0 | 0 | 0 ppm |
| | | | | | | | | | fine-med grained | | | | |
| | 5 | | 36"/48" | | | | same | SC | moist | 0 | 0 | 0 | 0 ppm |
| | 10 | | 36"/48" | | | | | | Has sewerage odor. | | | | |
| | | | | | | | | SC | | 0 | 0 | 0 | 0 ppm |
| | 15 | | 42"/48" | | | | same (except laminated layers of dark gray from sewerage?) | SC | damp | 35 ppm | | | |
| | 20 | | 42"/48" | | | | (Same as above) | SC | strong Petroleum odor dark gray layering | 350 ppm | | | |
| | | | | 21' BGS | | | | | Wood Fragment ½" foot or limb piece | | | | |
| | | | | | Sharp color change to white "beach" sand | | | | | >5,000 ppm | | | 1500 Thundastorm stopped work |
| | 25 | | | TD @ 27' BGS | Saturated approx 26' BGS | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: @ 18' BGS - Caving borehole? or something creating barrier to point - penetrates when opened?

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 Job 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB-11
DATE: 07-20-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No and Type or RQD | Depth (Ft.) or Run No | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Offset 2nd Try | | NA | | | very very loose | | buff to light brown silty sand w/ trace clay | SL | Hand auger to 4' BGS very soft could push auger down | | | | |
| | 5 | | | | | | | | | | | | |
| 30'/48" | | | | ▼ | offset 2nd Try | | Strong petroleum odor | | | >5000 / 225-25 | | | |
| | | | | ▼? | | | slight petroleum odor to water | | Saturated? Can't be groundwater | | | | |
| 36"/45" | 10 | | | | | | Possible runoff from top of tank? | | Possibly inside containment area? sewage leachate? | 4800/4800 | | | |
| | 15 | | | | | | offset not saturated below | | | 4500/4400 | | | |
| 36"/45" | 20 | | | | It gray to it olive mottled slightly gradational bottom of | | Refusal - Piece of concrete in | | | | | | |
| | | | | | to sharp color change to white "beach" sand | | Did not want to penetrate of containment area | SL | | >5000/ | | | |
| | | | 36"/36" | | | | Off setting out from the pad approximately 5' & trying again | | | | | | |
| | 25 | | | | | | silty sand | SL | fine to medium grained | >5000/ | | | |

Terminated

* When rock coring, enter rock brokenness.
** Include monitor reading in 6 foot intervals or borehole. Increase reading frequency if elevated reponse read.

Remarks: Terminated at 27' BGS same white sand - saturated.

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D # ____

With Ca Fi

Methe from sam

Tetra Tech NUS, Inc

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
BORING No: SB-12
PROJECT NUMBER: CTC 112 Job 0401
DATE: 07-21-00
DRILLING COMPANY: ATI
GEOLOGIST: Gary J. Davis
DRILLING RIG: Geoprobe
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency of Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NS | | NA | NA | | loose to very loose | | silty sand w/ trace clay Buff to light Brown | SC | Dry Hand auger to 4' BGS | 0 | 0 | 0 | 0 | |
| | 5 | | 30"/48" | | | | | SC | moist to damp | | | | | unfilt/clean w/Filt 240/120 |
| | | | | | | | Same as above except less clay | | | | | 0 | 0 | |
| | 10 | | 42"/48" | | | | | SC | fine-med. grained. | | | 0 | 0 | 30/0 |
| | 15 | | 42"/48" | | | | Same as above | | 120/0 | | | | | |
| 15 22-00 | 20 | | 48"/48" | | | | slightly mottled olive gray to Yellowish brown. | SC | damp 600/15 | | | | 0 | 1130 Sample for 1 hour (near mech.) |
| | 25 | | 48"/48" | | slightly gradational color change over 21-22' to white "beach" sand | | silty sand | SC | strong hydrocarbon odor moist >5,000/50 | | | | 0 | >5,000 |
| 25 | 25 | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.
** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

>5,000/80

Drilling Area Background (ppm): 0

Remarks: Tubed up replacement samples & tubes. Thunderstorm moved continuation until tomorrow.

Converted to Well Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm
PROJECT NUMBER: CTO 112 Job 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-13
DATE: 07-22-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | | | Light to dark brown | | silty sand | | Hand auger 4' BGS | | | | |
| | | | | | loose to very loose | | w/ trace clay | | | 0 | 0 | 0 | 0 |
| | 5 | | | | | | | | | | | | |
| 1st | | | 42"/48" | | | | same as above | | damp | 0 | 0 | 0 | 0 |
| 2nd | 10 | | 42"/48" | | | | same as above | | damp to moist | 0 | 0 | 0 | 0 |
| 3rd | 15 | | 42"/48" | | gradational color change to yellowish brown | | | | damp | 1100/600 ppm | | | 0 |
| 4th | | | 30"/48" | | | | | | damp 900/210 | | | | |
| 5th | 20 | | 36"/36" | | | | | | rattlet | 240/120 | | 0 | 0 |
| 6th | | | 30"/36" | | | | white "beach" sand silty sand | | fine med-grained damp to wet | >5,000/5 | | | |
| | 25 | | | | Sand had greenish tint from Free Product | | | | | >5,000/50 | | | |

Depth/ a F

Very stro Hydrocar odor

Saturated @27 27.5

* When rock coring, enter rock brokenness.
** Include more or reading in 6 foot intervals by borehole. Increase reading frequency if elevated response read.

Drilling Area

Remarks: Hand layer to penetrate similar to SB 10 & SB 11 at approx 16' on sands filling in (caving?) Point won't move. Much but sample will [illegible] open point? 7th sampler stuck at 241 when pulling out. ~30 min.

Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Hand drilling is probably due to compacted layer at base of tanks.

Tetra Tech NUS, Inc

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: 020112 sub 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-14
DATE: 07-22-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darline

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | SC | Dry | | | | |
| | | N/A | N/A | | loose to very loose | buff to light brown | silty sand w/ trace clay | | Hand Auger to 4' bgs | 0 | 0 | 0 | 0 |
| | 5 | | | | | | | | fine - med grained | | | | |
| | | | 42"/48" | | | light brown to yellowish brown | silty sand | SC | moist | 0 | 0 | 0 | 0 |
| | 10 | | 36"/48" | | | same except - | | | | | | | |
| | | | | | | slight mottling to gray to grayish black | | SC | moist to damp | 0 | 0 | 0 | 0 |
| | | | 42"/48" | | | same as above | | | | | | | |
| | 15 | | | | | | | SC | damp | 0 | 0 | 0 | 0 |
| | | | 48"/48" | | | | | | | | | | |
| | | | | | | same as above except no | | SC | damp | 0 | 0 | 0 | 0 |
| | 20 | | | | | | | | Hand drilling began at 18' for 20-24' Run | | | | |
| | | | | | | slightly gradational color change to white "beach" sand | | | | | | | |
| | | | | | | | silty sand | SC | damp | 2 | 0 | 0 | 0 |
| | 25 | | | | | | | | | | | | |

slight odor, no staining

* Water table encountered, enter water table depth.
** Vapor monitor reading in 6 foot intervals at borehole. Increase reading frequency if elevated response levels.

Terminated borehole at 24' bgs

Remarks: @ 24' bgs saturated

250 ppm at 22'

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm Sherman
PROJECT NUMBER: CTO 112 Jot 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-15
DATE: 07-22-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole* | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | SC | | | | | |
| | | NA | | | | | Light brown to | | Hand augered | 0 | 0 | 0 | 0 |
| | | | | | | | yellowish brown | | to 5' BGS | | | | |
| | | | | | | | silty sand | | | | | | |
| | 5 | | | | | | | | | | | | |
| | | | | | | | | SC | | | | | |
| | | | | | | | silty sand | | | | | | |
| | | | 48"/46" | | Gradational | | color change to | | damp | | | | |
| | | | | | | | White "beach" sand | SC | | 0 | 0 | 0 | 0 |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | 0 | 0 | 0 | 0 |
| | | | | | | | | | Saturated. | | | | |
| | | | | | | | Terminated boring | | | | | | |
| | 15 | | | | | | at 13' BGS | | | | | | |
| | 20 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read

Remarks:

Drilling Area Background (ppm):

Converted to Well Yes ____ No ____ Well I D #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 JA 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB-16
DATE: 07-23-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA. | | loose to very loose | buff | to light brown silty sand w/ trace clay | SC | Hand Auger 4' fine to med grained. | 0 | 0 | 0 | 0 |
| | 5 | | 42"/48" | | | | same as above | SC | moist | 0 | 0 | 0 | 0 |
| | 10 | | 42"/48" | | | | same as above | SC | damp | | | | |
| | 15 | | 24"/48" | | | | same as above | SC | damp | 50/10 | 0 | 0 | 0 |
| | 20 | | 36"/48" | | | | Same as above except black staining @ 18' | | @ 18' BGS very strong hydrocarbon odor | 75000 | | 0 | 0 |
| | 25 | | 42"/48" | | | | White "Beach" Sand stained light greenish tint from product. To yellowish green. same as above | | damp to wet | 75000 | | 0 | 0 |

unfiltered/Filtered (Charcoal)

* When rock coring, enter rock broken ... @ 26'

** Include monitor reading in 5 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 Job 0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-17
DATE: 07-23-00
GEOLOGIST: Gary J. Davis
DRILLER: Joshua Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm) Sample | Sample/BZ | Borehole** | Drilling** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | SL | Hand Auger | | | | |
| | | N/A | | | loose to very loose | Buff | to light brown silty sand | | to 4' BGS Dry | 0 | 0 | 0 | 0 |
| | 5 | | 42"/48" | | | | Mottled light brown to yellowish brown | | Moist | | | | |
| | | | | | | | | SL | | 0 | 0 | 0 | 0 |
| | 10 | | 42"/48" | | gradational color change to light brown to yellowish brown to gray mottled | | | SL | moist 1,000/130 | | | 0 | 0 |
| | 15 | | 48"/48" | | | | Same as above | | damp | | | | |
| | | | | | | | | SL | 1000/145 | | | 0 | 0 |
| | 20 | | 42"/48" | | gradational color change to white "beach" sand | | silty sand | SL | damp (>5,000/28) fine-med. grained | | | 0 | 0 |
| | | | 36"/48" | | | | Same white silty sand | SL | (>5,000/40) | | | 0 | 0 |
| | 25 | | | | | | | | | | | | |

23
26
TD 27
28
DIP

* When rock coring, enter rock brokeness.
** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Terminated at 27' BGS

>5,000

Drilling Area Background (ppm): 0

Remarks: Sample Screening (unfiltered) / filtered w/ act. charcoal

Converted to Well: Yes No ✓ Well I.D. #:

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB-18
DATE: 07-23-00
GEOLOGIST: Gary J. Davis
DRILLER: Josh Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | | | loose to very loose | Buff to light brown | silty sand | SC | Dry Hand Auger to 4' BGS fine-med. grained | 0 | 0 | 0 | 0 |
| | 5 | | 42"/48" | | | | Some slight mottling light gray - yellowish brown - light brown, otherwise same as above. | SC | moist ~1½" [illegible] diam cobble of Fe cemented sandstone | 0 | 0 | 0 | 0 |
| | 10 | | 48"/48" | | | | | SC | damp | 0 | 0 | 0 | 0 |
| | 15 | | 42"/48" | | | | Same as above | SC | 8/8 | | 0 | 0 | |
| | 20 | | 36"/48" | | | | Same as above | SC | damp 13/0 | | 0 | 0 | |
| | | | 36"/48" | | | | White "beach" sand silty sand | SC | damp 12/2 | | 0 | 0 | |
| | 25 | | | | | | | | | | | | |

Terminated boring @ 28'

1200/7 00

* When rock coring, enter rock brokenness.
** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Drilling Area Background (ppm): 0

Remarks: ~26'

28

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola FFF (Former Fuel Farm - Sherman)
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No. SB-19
DATE: 07-24-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | buff to light brown | silty sand w/ trace clay | SC | Dry fine-med grained | 0 | 0 | 0 | 0 |
| | 5 | | 48"/48" | | | | light brown to light gray to yellowish brown mottled or layered silty sand | SC | moist | 0 | 0 | 0 | 0 |
| | 10 | | 36"/48" | | | | Same as above " | SC | damp | 0 | 0 | 0 | 0 |
| | 15 | | 36"/48" | | | | Same as above except more yellowish brown | SC | damp | 0 | 0 | 0 | 0 |
| | 20 | | 42"/48" | | | | gradational color change to white "beach" sand silty sand | SC | damp | 0 | 0 | 0 | 0 |
| | | | 40"/48" | | | | | | damp to wet | | | | |
| | 25 | | | | | | | SC | | 36/0 | | 0 | 0 |

Saturated 15/5 0 0

* Where rock coring enter rock brokeness.
** Include monitor reading in foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: 36"/48"

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I D # ____

26 ▼

28'

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB-20
DATE: 07-24-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B

| Sample No. and Type or ROD | Depth (Ft.) or Run No. | Blows / 6" or ROD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | buff to light brown | silty sand w/ trace clay | SC | Hand Auger to 4' BGS Dry | 0 | 0 | 0 | 0 |
| | 5 | | 24"/48" | | | yellowish to light brown | | SC | moist fine-med. grained | 0 | 0 | 0 | 0 |
| | 10 | | 36"/48" | | | gradational color change to white "beach" sand | silty sand | SC | moist to damp | 0 | 0 | 0 | 0 |
| | 15 | | 30"/48" | | | | | SC | wet | 3500/D | 0 | 0 | |
| | | | | | Terminated boring at 16' BGS | | | | | | | | |
| | 20 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATT
DRILLING RIG: Geoprobe
BORING No.: SB 21
DATE: 07-24-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AH | | | Loose | buff to light brown | Silty Sand | SL | Hand Auger 4' BGS | 0 | 0 | 0 | 0 |
| | | | | | 40 | | | | | | | | |
| | | | | | Very | | | | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | 42" / 48" | | | | | | | | | | |
| | | | | | gradational color change to white "beach" | | | SL | damp | 0 | 0 | 0 | 0 |
| | 10 | | 24" / 48" | | | | | | | | | | |
| | | | | | same as above | | | SL | damp | 0 | 0 | 0 | 0 |
| | | | 19" / 48" | | | | | | | | | | |
| | 15 | | | | | | | SL | saturated | 0 | 0 | 0 | 0 |
| | | | | | Terminated boring at 16' BGS | | | | | | | | |
| | 20 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB-22
DATE: 07-24-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | Buff | to light brown silty sand | SC | Dry Hand Auger to 4' BGS | 0 | 0 | 0 | 0 |
| | 5 | | 42"/48" | | | | | | fine-med. grained moist | | | | |
| | | | | | gradational | | color change to white "beach" sand silty sand | SC | | 0 | 0 | 0 | 0 |
| | 10 | | 36"/48" | | | | | | | | | | |
| | | | | | | | | SC | | 0 | 0 | 0 | 0 |
| | 15 | | 24"/48" | | | | | | damp wet | | | | |
| | | | | | | | | SC | saturated | 0 | 0 | 0 | 0 |
| | 20 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola FFF Former Fuel Farm
PROJECT NUMBER: CTO 112 NOA01
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB23
DATE: 07-24-00
GEOLOGIST: Barry J. Davis
DRILLER: Nick B

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sample Bkd | Borehole** | Drilling Bkd |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | | | loose to very loose | buff to light brown | | SC | Dry<br>Hand dug to 4' BGS | 0 | 0 | 0 | 0 |
| | 5 | | 36" / 48" | | | | | | moist | | | | |
| | | | | | Gradational color change to White "beach" sand | | | SC | | 0 | 0 | 0 | 0 |
| | 10 | | 30" / 44" | | | | silty Sand | | | | | | |
| | | | | | | | | SC | damp | 0 | 0 | 0 | 0 |
| | | | 20" / 40" | | | | Same as above | | | | | | |
| | 15 | | | | | | | SC | wet | 0 | 0 | 0 | 0 |
| | 20 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes ____ No ____ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB 24
DATE: 07-24-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sample* BZ | Borehole** | Drillers BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose | buff to light brown | silty sand w/trace clay | SC | Dry | 0 | 0 | 0 | 0 |
| | 5 | | 36" 46" | | loose | | | | moist | | | | |
| | | | | | | | gradational color change to white "bead" sand | SC | | 0 | 0 | 0 | |
| | 10 | | 36" 48" | | | | | | damp | >5,000 | | 0 | 0 |
| | | | | | | | same | SC | wet strong petroleum odor saturated | >5,000 | | 0 | 0 |
| | 15 | | | | | | | SL | | | | | |
| | | | | | | | Terminated boring at 16' BLS | | | | | | |

* When rock coring, enter rock brokenness.
** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB25
DATE: 07-24-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler Bz | Borehole** | Drillers BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NR | | loose to very loose | buff to light brown | Silty Sand w/ trace clay | SC | Hand Auger to 4' BGS | 0 | 0 | 0 | 0 |
| | 5 | | 24" | | | yellowish brown | Silty Sand | | Moist | | | | |
| | | | 48" | | | | Gradational color change to White "beach" sand | SC | Screen 7-16' Strong petroleum odor | 20/0 | | 0 | 0 |
| | 10 | | 48" | | | | Silty sand | SC | | 0 | 0 | 0 | 0 |
| | | | 48" | | | | Same | | | | | | |
| | 15 | | 48" | | | | | | | >5000 | | 0 | 0 |
| | | | | | | | | SC | Saturated Strong petroleum odor | | | | |
| | | | | | | | Terminated boring at 16' BGS | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm (FFF) Sherman
BORING No.: SB-26
PROJECT NUMBER: CTO 112 N0401
DATE: 07-25-00
DRILLING COMPANY: ATI
GEOLOGIST: Gary T. Davis
DRILLING RIG: Geoprobe
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | buff to light brown | silty sand w/ trace clay | SL | Dry | 0 | 0 | 0 | 0 |
| | 5 | | 42"/48" | | | | | | | | | | |
| | | | | I gradational color change to | | | white "beach" sand | SL | damp slight odor petroleum | 0 | 0 | 0 | 0 |
| | 10 | | 42"/48" | | | | silty sand | | | | | | |
| | | | | | | | | SL | wet strong odor saturated | 0 | 0 | 0 | 0 |
| | | | | | | | Terminated boring at 12' BGS | | | | | | |
| | 15 | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | |
| | 25 | | | | | | | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm (FFF) Sherman
BORING No.: SB-27
PROJECT NUMBER: CTO 112 N0401
DATE: 07-25-00
DRILLING COMPANY: ATI
GEOLOGIST: Gary J. Davis
DRILLING RIG: Geoprobe
DRILLER: Nick B

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | Soil Density Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm) Sample | Sampler 1/2 | Sampler 1/4" | Driller 1/2" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Oyster Gravel Surface | | | | |
| | | NA | NA | | loose to very loose | Buff | to light brown silty sand w/ trace clay | SC | Dry Hand Auger to 4' BGS | 0 | 0 | 0 | 0 |
| | 5 | | | | | | | | | | | | |
| | | | | | | | gradational color change to ~~light~~ white "beach" sand silty sand | SC | damp | 3 | 0/0 | 0 | 0 |
| | 10 | | | | | | | | wet | | | | |
| | | | | | | | | SC | saturated | 75 | 0 | 0/0 | |
| | | | | | | | Terminated @ 12' BGS | | strong odor petroleum | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 1 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm (FFF) Sterman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB-28
DATE: 07-25-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Borehole Interval | Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm) Sample | Sampler BZ | Borehole** | Drill/Air BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | | Buff to light brown silty sand | SL | Dry Plant Aug to 4' BGS | 0 | 0 | 0 | 0 |
| | 5 | | 42"/48" | | | | | | | | | | |
| | | | | | | | gradational color change to white "beach" sand silty sand | SL | mainly 1,300/6 | | | 0 | 0 |
| | 10 | | 90"/48" | ▼ | | | | SL | | | | | |
| | | | | | | | | | Saturated 75,000/6 | | | 0 | 0 |
| | 15 | | | | | | Terminated at 12' BGS | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 5 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #:

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
BORING No.: SB 29
PROJECT NUMBER: CTO 112 N0401
DATE: 07-25-00
DRILLING COMPANY: ATI
GEOLOGIST: Gary J. Davis
DRILLING RIG: Geoprobe
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | Buff to light brown silty sand | | SL | Dry Hand Auger to 4' BGS | 0 | 0 | 0 | 0 |
| | 5 | | 42"/48" | | | | | | damp | | | | |
| | | | | | gradational color change to White "beach" sand | | | SL | | 0 | 0 | 0 | 0 |
| | 10 | | | ▼ | | | | SL | saturated | 1/6 | | 0 | 0 |
| | | | | | | | Terminated at 12' BGS | | | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm-Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB-30
DATE: 09-25-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | Buff to light brown | silty sand w/ trace clay | SL | Dry | 0 | 0 | 0 | 0 |
| | 5 | | | | | | | | | | | | |
| | | | 48"/48" | | | | | | hoist | | | | |
| | | | | | | | Gradational color change | SL | | 0 | 0 | 0 | 0 |
| | 10 | | 36"/48" | | | | | | | | | | |
| | | | | | | | | | wet >5000/600 strong petrol odor | | | | |
| | 15 | | | | | | | SL | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB 31
DATE: 07-25-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sample BZ | Borehole** | Other BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Hand Auger to 4' BLS | | | | |
| | | ATI | ATI | | loose | Buff to light brown | | SP | | 0 | 0 | 0 | 0 |
| | | | | | to | | silty sand | | | | | | |
| | | | | | very | | w/ trace clay | | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | gradational color change | SC | moist | 0 | 0 | 0 | 0 |
| | | | | | | | to White "beach" sand | | | | | | |
| | 10 | | | | | | silty sand | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | strong petroleum odor | SC | wet | 200 | | 0 | 0 |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 NO401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe
BORING No.: SB 32
DATE: 07-25-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sample BZ | Borehole* | Drillers BZ* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | Buff to light brown | | SL | dry Hand auger to 1' | 0 | 0 | 0 | 0 |
| | 5 | | 6"/48" | | | | | | moist | | | | |
| | | | | | gradational color change | | | | | 0 | 0 | 0 | 0 |
| | 10 | | 24"/48" | | Fg | White "beach" sand | silty sand | | moist to damp | | | | |
| | | | | | | | | SL | wet | 30% | 0 | 0 | |
| | | | | | | | Terminated boring at 12' BGS | | | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATF
DRILLING RIG: GeoProbe
BORING No.: SB 33
DATE: 07-25-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sampler Bz | Borehole** | Drillers Bz** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | Loose | Buff to light brown | silty sand | SM | Dry | 0 | 0 | 0 | 2 |
| | | | | | to very loose | | w/ trace clay | | | | | | |
| | 5 | | 42" / 48" | | | | | | | | | | |
| | | | | 1 | | | gradational color change to white "beach" sand | SP | moist | 0 | 0 | 0 | 0 |
| | 10 | | 36" / 48" | | | | | | damp | | | | |
| | | | | | | | | SC | wet to saturated | 0 | 0 | 0 | 0 |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ____ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 - N0401
DRILLING COMPANY: RTE
DRILLING RIG: Geoprobe
BORING No.: SB 34
DATE: 07-26-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Drillers BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Loose to very loose | Buff to light brown to light yellow brown | Silty Sand | SC | Hand Auger 4'-8'bgs Dry | 0 | 0 | 0 | 0 |
| | 5 | | | | Gradational color change to White to Black | | Silty Sand | SC | Moist to damp | 0 | 0 | 0 | 0 |
| | | | | | | | Same as above | | No odor | | | | |
| | | | | | | | | SC | Saturated | 0 | 0 | 0 | 0 |
| | | | | | | | Terminated boring at 12ft bgs | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATE
DRILLING RIG: Geoprobe
BORING No.: SB 35
DATE: 07-26-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler Bz | Borehole** | Drilling Eq. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Dry | | | | |
| | | N/A | N/A | | loose to very loose | Buff to light brown | Silty sand w/ trace clay | SC | Hand Auger to 4' BGS | 0 | 0 | 0 | 0 |
| | 5 | | | | | | slight mottling of light gray | | | | | | |
| | | | | | | | | SC | moist | 0 | 0 | 0 | 0 |
| | 10 | | | | | | | | | | | | |
| | | | | | | | Sand | SP | | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | Temp | | | | |
| | | | | | gradational color change to white "beach" sand | | | SP | | 0 | 0 | 0 | 0 |
| | | | | | | | silty sand | | | | | | |
| | | | | | | | | | | | | | |
| | 20 | | | | | | | SC | wet | 0 | 0 | 0 | 0 |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 25 | | | | | | | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 5 foot intervals @ borehole. Increase reading frequency if elevated reponses read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N040
DRILLING COMPANY: ATI
DRILLING RIG: Hand Auger
BORING No.: SB 36
DATE: 07-26-00
GEOLOGIST: Gary F. Davis
DRILLER: Dan Hartnett

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Drillers BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NR | | | loose to very loose | Buff | to light brown silty sand | SC | Dry | 0 | 0 | 0 | 0 |
| | 5 | 5 7 | | | | | | | moist | | | | |
| | | | | | | | | SC | | 0 | 0 | 0 | 0 |
| | 10 | 7 | | | | | | SC | damp | 0 | 0 | 0 | 0 |
| | | | | | gradational color change to white "beach" sand | | | SC | wet | 0 | 0 | 0 | 0 |
| | | | | | | | Terminated boring at 13' BGS | | | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: Hand auger to avoid taking truck down abandonment inside fenced yard.

Converted to Well: Yes ____ No Y Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Geoprobe

BORING No.: SB 37
DATE: 07-26-00
GEOLOGIST: Gary J. Davis
DRILLER: JBK Darling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/PID Reading (ppm) Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | | Buff to light brown silty sand w/ trace clay reddish brown to light gray mottled | SC | Hand Auger to 4' BGS Dry | 0 | 0 | 0 | 0 |
| | 5 | | | | | | | | | | | | |
| | | | 42"/48" | | | | | | moist | | | | |
| | | | | | | | Same | SC | | 170/10 | | 0 | 0 |
| | 10 | | 48"/48" | | | | | | damp | | | | |
| | | | | | | | Smell like starter wood → wood Fragments 12-13' | SC | | 215/135 | | 0 | 0 |
| | | | 36"/48" | | | | dark gray to black lamping | | damp | | | | |
| | 15 | | | | | | | SC | Hard Drilling | 1,800/310 | | 0 | 0 |
| | | | 18"/48" | | | | | | | | | | |
| | 20 | | | | | | | | | 1350/365 | | 0 | 0 |
| | | | | | | | Terminated at 20' BGS after 4 tries to get sample. | | | | | | |
| | 25 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: Hard drilling at 15' BGS & difficulty pulling too.

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm-Sherman
PROJECT NUMBER: CTO112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Hand Auger.
BORING No.: SB 38
DATE: 07-26-00
GEOLOGIST: Gary J. Davis
DRILLER: Josh D.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | | | loose to very loose | | Buff to light brown silty sand | SL | Dry | 0 | 0 | 0 | 0 |
| | | | NA | | | | | | | | | | |
| | 5 | | | | | | | | | | | | |
| | | | | | | | color change to white "beach" sand silty sand | SL | Moist | | | | |
| | | | | | | | | | damp | 13/0 | | 0 | 0 |
| | 10 | | | | | | | | wet | 4100/0 | | 0 | 0 |
| | | | | | | | Terminated boring @ 10' BGS | | | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: Hand Auger to avoid taking Rig down steep embankment inside fence.

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Farmer Fuel Farm - Sherman
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: HAND AUGER
BORING No.: SB 39
DATE: 07-26-00
GEOLOGIST: Gary J. Davis
DRILLER: Nick B

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sample Bz | Borehole** | Drillers BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Loose to Firm Loose | Buff to light brown | | SC | | | | | |
| | 5 | | | | | | | | | | | | |
| | | | | | | | | SC | | | | | |
| | | | | 7 | Gradational color change to White "beach" sand | | | | | 100/0 | 0 | 0 | 2 |
| | 10 | | | | | | | | wet | 2000/ | 0 | 0 | |
| | | | | | | | | SC | saturated | >5000/ | 0 | | |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokenness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: Hand Auger

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm
PROJECT NUMBER: CTO112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Hand Auger

BORING No.: SB 40
DATE: 07-26-00
GEOLOGIST: Gary J. Davis
DRILLER: Josh Parling

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | | Buff to light brown silty sand | SC | Shell & clay & sand surface | 0 | 0 | 0 | 0 |
| | 5 | | | | | | | | damp | | | | |
| | | | | | gradational color change to white "beach" sand silty sand | | | SC | moist | 1,400 | | 0 | 0 |
| | 10 | | | | | | | | | 75,000 | | 0 | 0 |
| | | | | | | | Terminated boring at 11' BGS | SC | | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: Hand auger inside fenced Area

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: NAS Pensacola Former Fuel Farm
PROJECT NUMBER: CTO 112 N0401
DRILLING COMPANY: ATI
DRILLING RIG: Hand Auger

BORING No.: SB 41
DATE: 07-26-00
GEOLOGIST: Gary Davis
DRILLER: Nick B.

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | Loose to very loose | Buff to light brown | silty sand | SC | 3 shell clay & sand surface Dry | 0 | 0 | 0 | 0 |
| | 5 | | | | Gradational color change to white "beach" sand | | | | | | | | |
| | | | | | | | Sand | SC | Moist | 180 | | 20 | |
| | 10 | | | | | | | SC | Wet ~~Damp~~ Saturated | 4400 4400 | | 60 | |
| | | | | | | | Terminated boring at 11' BGS | | | | | | |
| | 15 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

WELL No.: MW-15

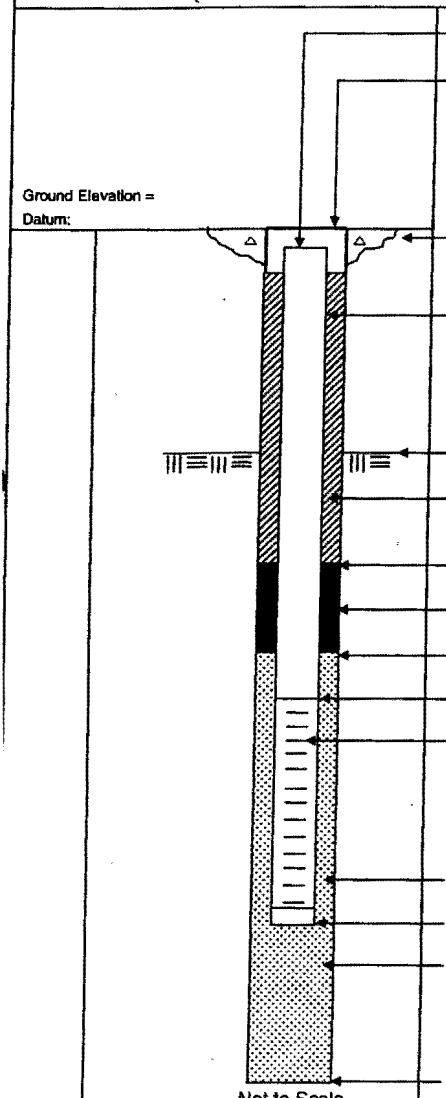
Sherman Field - **MONITORING WELL SHEET**

PROJECT: Former Fuel Farm DRILLING Co.: Universal Eng. Svcs. BORING No.: MW-15

PROJECT No.: N0516 00132 DRILLER: Johnny Body DATE COMPLETED: 09-09-00

SITE: ~~NAS~~ Sherman Field ~~Universal Eng. Svcs~~ DRILLING METHOD: HSA NORTHING:

GEOLOGIST: CME-75 DEV. METHOD: Pump & Surge EASTING:




Elevation / Depth of Top of Riser: 1

Elevation / Height of Top of Surface Casing: 1

I.D. of Surface Casing: 8-inch

Type of Surface Casing: Steel Manhole

Type of Surface Seal: Concrete Pad 2'X2'

I.D. of Riser: 2-inch

Type of Riser: Sch 40 PVC

Borehole Diameter: ~~8~~ 8¼"

Elevation / Depth Top of Rock: N/A

Type of Backfill: grout

Elevation / Depth of Seal: 109.5

Type of Seal: Bored Hole Plug 3/8 inch pellets chips

Elevation / Depth of Top of Filter Pack: 111.5

Elevation / Depth of Top of Screen: 114.5'

Type of Screen: Sch 40 PVC

Slot Size x Length: 0.01 x 10 feet

I.D. of Screen: 2-inch

Type of Filter Pack: Unamin Filter Sil 20/40

Elevation / Depth of Bottom of Screen: 124.5'

Elevation / Depth of Bottom of Filter Pack: 125'BGS

Type of Backfill Below Well: Unamin Filter Sil

Elevation / Total Depth of Borehole: 125'BGS

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Eng. Svcs.
DRILLING RIG: CME-75

BORING No.: MW-15
DATE: 09-09-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | loose | Yellowish brown | Silty sand | SC | See Adj. DPT SB-35 for detailed log. | | | | |
| | | NA | NA | | to | | | | | | | | |
| | | | | | slow | | | | | | | | |
| | | | | | loose | | | | | | | | |
| | 5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | moist | | | | |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | gradational color change to white beach sand | SC | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 20 | | | | | | | | wet to saturated | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 25 | | | | | | Terminated Boring at 25' BGS to set well | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated response read.

Remarks: Adjacent to SB-35 Soil Boring (DPT)

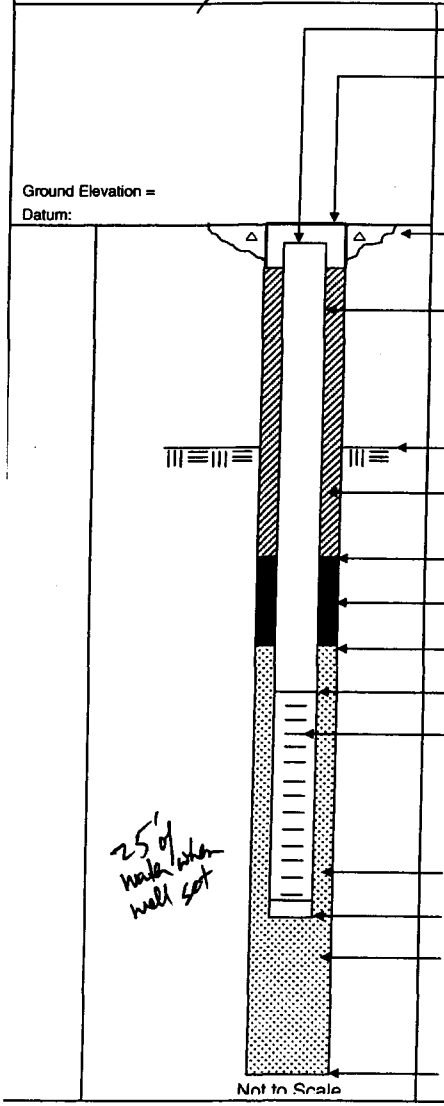
Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-15

Tetra Tech NUS, Inc. WELL No.: MW-25

Sherman Field – MONITORING WELL SHEET

PROJECT: Forma Fuel Farm DRILLING Co.: Universal Eng. Svcs BORING No.: MW-25
PROJECT No.: N0516 CTO 132 DRILLER: Johnny Boyd DATE COMPLETED: 09-09-00
SITE: NAS Pensacola DRILLING METHOD: HSA NORTHING:
GEOLOGIST: Gary J. Davis DEV. METHOD: Pump & Surge EASTING:




Elevation / Depth of Top of Riser: 1
Elevation / Height of Top of Surface Casing: 1
I.D. of Surface Casing: 8-inch
Type of Surface Casing: Steel Manhole
Type of Surface Seal: Concrete pad. 2'x2'
I.D. of Riser: 2-inch
Type of Riser: Sch 40 PVC
Borehole Diameter: ~ 8¼-inch
Elevation / Depth Top of Rock: NA / 1
Type of Backfill: grout
Elevation / Depth of Seal: 1 12.5
Type of Seal: Bored Hole Plug 3/8 inch chips
Elevation / Depth of Top of Filter Pack: 1 15.5
Elevation / Depth of Top of Screen: 1 18.5
Type of Screen: Sch 40 PVC
Slot Size x Length: 0.01 x 10 ft.
I.D. of Screen: 2-inch
Type of Filter Pack: Quarzin Filter Sil 20/40
Elevation / Depth of Bottom of Screen: 1 28.5
Elevation / Depth of Bottom of Filter Pack: 1 30
Type of Backfill Below Well: Quarzin Filter Sil
Elevation / Total Depth of Borehole: 1 30

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Eng. Srvcs.
DRILLING RIG: CME-75
BORING No.: MW-25
DATE: 09-09-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | yellowish brown | | | See Adj. DPT | | | | |
| | | | | | loose to very loose | | silty sand | SC | SB-18 for detailed log. | | | | |
| | | NR | NA | | | | | | | | | | |
| | 5 | | | | | | | | | | | | |
| | | | | | | | | | Moist. | | | | |
| | 10 | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | damp | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | gradational color change to "white beach sand" | SC | | | | | |
| | 25 | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.
** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: Adjacent to DPT soil Boring SB-18

? Wet @ 30' Saturated

Drilling Area Background (ppm): 0

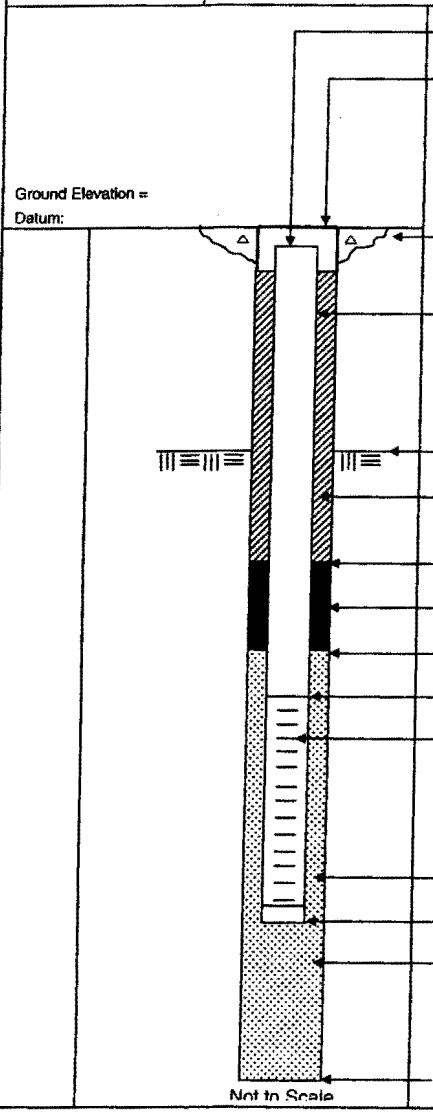
Converted to Well: Yes ✓ No _____ Well I.D. #: MW-25

Terminated boring at 30' BGS to set well.

Tetra Tech NUS, Inc. WELL No.: MW-35

Sherman Field – **MONITORING WELL SHEET**

PROJECT: Former Fuel Farm DRILLING Co.: Universal Eng. Svcs. BORING No.: MW-35
PROJECT No.: N0576 CTO132 DRILLER: Johnny Body DATE COMPLETED: 09-09-00
SITE: NAS Pensacola DRILLING METHOD: HSA NORTHING:
GEOLOGIST: Gary J. Davis DEV. METHOD: Pump & Surge EASTING:




Elevation / Depth of Top of Riser: /
Elevation / Height of Top of Surface Casing: /
I.D. of Surface Casing: 8-inch
Type of Surface Casing: Steel Manhole
Type of Surface Seal: Concrete Pad 2'x2'
I.D. of Riser: 2-inch
Type of Riser: Sch 40 PVC
Borehole Diameter: ~ 8 1/4 inch
Elevation / Depth Top of Rock: NA /
Type of Backfill: grout
Elevation / Depth of Seal: / 12.0
Type of Seal: Bored Hole Plug 3/8 inch chips
Elevation / Depth of Top of Filter Pack: / 15.0
Elevation / Depth of Top of Screen: / 19.0
Type of Screen: Sch 40 PVC
Slot Size x Length: 0.01 X 10 feet
I.D. of Screen: 2-inch
Type of Filter Pack: Unimin Filter Sil 20/40
Elevation / Depth of Bottom of Screen: / 29.0
Elevation / Depth of Bottom of Filter Pack: / 30.0
Type of Backfill Below Well: Unimin Filter Sil
Elevation / Total Depth of Borehole: / 30.0 BGS

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO132
DRILLING COMPANY: Universal Eng. Srvcs
DRILLING RIG: CME-75
BORING No.: MW-35
DATE: 00-09-00
GEOLOGIST: Gary T. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | See adj. DPT | | | | |
| | | NA | NA | | loose | | silty sand | SC | # SB-10 for | | | | |
| | | | | | to | | | | detailed log. | | | | |
| | | | | | very | | | | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | | | | | | | moist | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | gradational color change to "white beach sand" | SP | damp | | | | |
| | 25 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 5 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: Adj. to DPT boring SB-10

wet to saturated Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-35

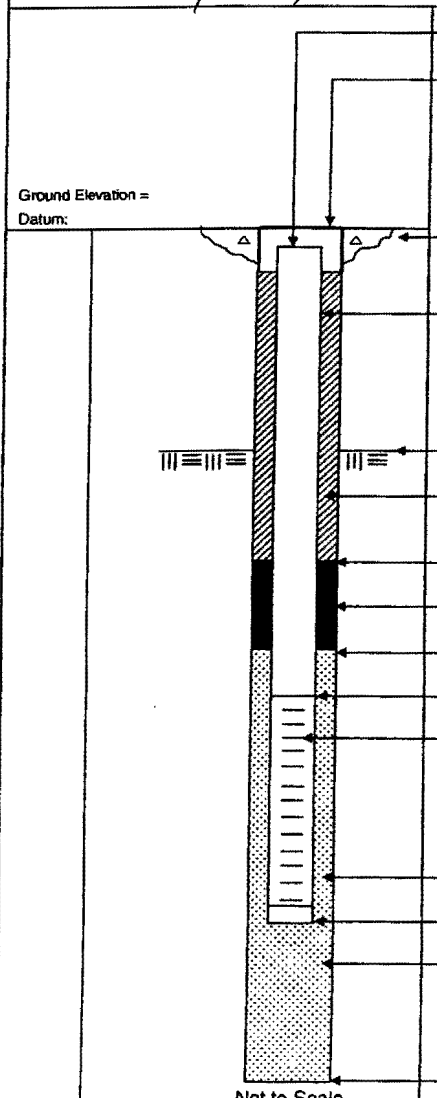
30 — Terminate boring at 30' BGS

Tetra Tech NUS, Inc.

WELL No.: MW-45

Sherman Field - **MONITORING WELL SHEET**

| | | | |
|---|---|---|---|
| PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Svcs | BORING No.: | MW-45 |
| PROJECT No.: N0516 CTO 132 | DRILLER: Johnny Brady | DATE COMPLETED: | 09-10-00 |
| SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING: | |
| GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING: | |




| | |
|---|---|
| Elevation / Depth of Top of Riser: | / |
| Elevation / Height of Top of Surface Casing: | / |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | Steel Manhole |
| Type of Surface Seal: | Concrete pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | sch 40 PVC |
| Borehole Diameter: | ~8 1/4 inch |
| Elevation / Depth Top of Rock: | NA |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | / 13.5 |
| Type of Seal: | Bored Hole Plug 3/8 inch chips |
| Elevation / Depth of Top of Filter Pack: | / 16.0 |
| Elevation / Depth of Top of Screen: | / 19.0 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 10' |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unamin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | / 29.0 |
| Elevation / Depth of Bottom of Filter Pack: | / 30.0 |
| Type of Backfill Below Well: | Unamin Filter Sil |
| Elevation / Total Depth of Borehole: | / 30.0' BGS |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Forma Fuel Farm - Sherman Field
BORING No.: MW-4S
PROJECT NUMBER: N0516 CTO 132
DATE: 09-10-00
DRILLING COMPANY: Universal Eng. Srvcs.
GEOLOGIST: Gary J. Davis
DRILLING RIG: CME 75
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | Located between | | | | |
| | | | | | loose | | silty sand | SL | DPT locations | | | | |
| | | NA | NA | | to | | | | SB9 + SB10 | | | | |
| | | | | | very | | | | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | moist | | | | |
| | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | damp | | | | |
| | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | gradational color change | | | | | | | | |
| | | | | | to "white beach sand." | | | SL | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 25 | | | | | | | | | | | | |

25-26' passed on DPT boring

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: Between former DPT locations SB9 + SB-10.

wet to saturated

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No ____ Well I.D. #: MW-4S

30 Terminated boring @ 30' BGS & set well.

Tetra Tech NUS, Inc.

WELL No.: MW-35

Sherman

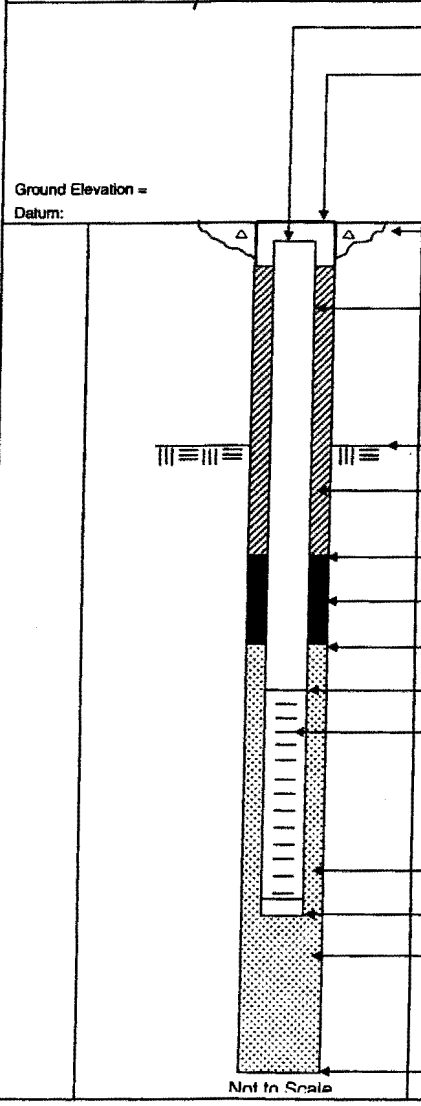
## MONITORING WELL SHEET

PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Svcs | BORING No.: MW35

PROJECT No.: N0516 CTO132 | DRILLER: Johnny Body | DATE COMPLETED: 09-08-00

SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING:

GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING:




- Elevation / Depth of Top of Riser: 1
- Elevation / Height of Top of Surface Casing: 1
- I.D. of Surface Casing: 8"
- Type of Surface Casing: Steel Manhole
- Type of Surface Seal: Concrete Pad 2'X2'
- I.D. of Riser: 2-inch
- Type of Riser: Sch 40 PVC
- Borehole Diameter: ~ 8½"-inch
- Elevation / Depth Top of Rock: N/A
- Type of Backfill: grout
- Elevation / Depth of Seal: 12.5' BGS
- Type of Seal: Baroid Hole Plug 3/8" chips
- Elevation / Depth of Top of Filter Pack: 14.5
- Elevation / Depth of Top of Screen: 17.5
- Type of Screen: sch 40 PVC
- Slot Size x Length: 0.01 x 10 feet
- I.D. of Screen: 2-inch
- Type of Filter Pack: Unamin Filter Sil 20/40
- Elevation / Depth of Bottom of Screen: 17.5
- Elevation / Depth of Bottom of Filter Pack: 18' BGS
- Type of Backfill Below Well: Unamin Filter Sil 20
- Elevation / Total Depth of Borehole: 19' BGS

9/28

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm-Sherman
PROJECT NUMBER: N0516 CT0132
DRILLING COMPANY: Universal Eng. Svcs
DRILLING RIG: CME-75

BORING No.: MW-5S
DATE: 09-08-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | | Yellowish brown silty sand | SC | moist | | | | |
| | 5 | | | | | | | | | | | | |
| | 10 | | | | | | gradational color change to "white beach" sand | SC | | | | | |
| | 15 | | | | | | | | wet to saturated | | | | |
| | 20 | | | | | | Terminated boring at ~~18~~ feet BGS to set well 20' AJD | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

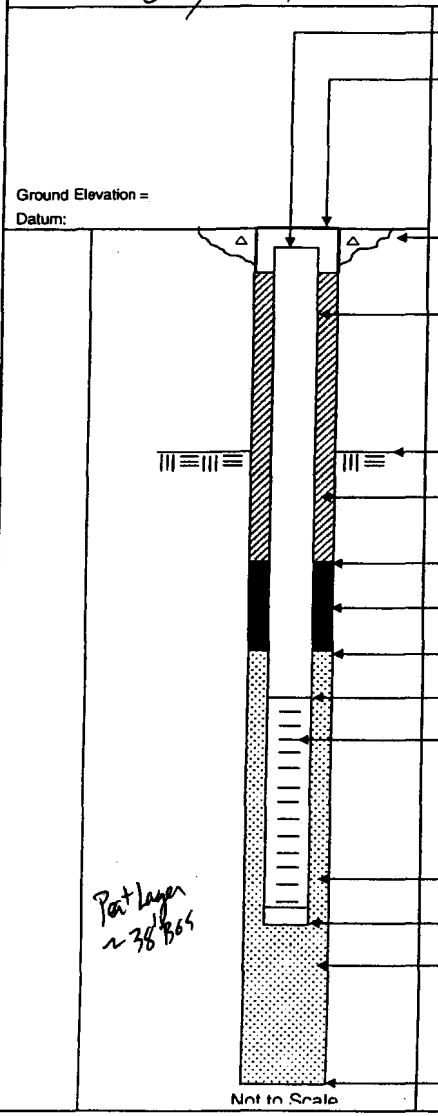
Converted to Well: Yes ✓ No ____ Well I.D. #: MW-5S

Tetra Tech NUS, Inc.

WELL No.: MW-5I

Sherman Field – **MONITORING WELL SHEET**

| | | | |
|---|---|---|---|
| PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Srvs. | BORING No.: | MW-5I |
| PROJECT No.: N0516 CT0132 | DRILLER: Johnny Body | DATE COMPLETED: | 09-11-00 |
| SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING: | |
| GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING: | |




| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 |
| Elevation / Height of Top of Surface Casing: | 1 |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | ~~8-inch~~ steel manhole |
| Type of Surface Seal: | Concrete pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | 8¼" |
| Elevation / Depth Top of Rock: | NA / |
| Type of Backfill: | Grout |
| Elevation / Depth of Seal: | 130 ' |
| Type of Seal: | Baroid Hole Plug 3/8-inch chips |
| Elevation / Depth of Top of Filter Pack: | 131.0 |
| Elevation / Depth of Top of Screen: | ~~139.0~~ 134.0 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 5 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unimin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | 139.0 |
| Elevation / Depth of Bottom of Filter Pack: | 140.0 |
| Type of Backfill Below Well: | Unimin Filter Sil |
| Elevation / Total Depth of Borehole: | 141.0 |

Part Layer ~38 bgs

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO132
DRILLING COMPANY: Universal Eng. Srvcs.
DRILLING RIG: CME-75
BORING No.: MW-5I
DATE: 09-11-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (FL) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/FL) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | loose | Yellowish brown | | SC | | | | | |
| | | NA | NA | | to | | silty sand | | | | | | |
| | | | | | very | | | | | | | | |
| | | | | | loose | | | | | | | | |
| | 10 | | | | | gradational color change | | SC | | | | | |
| | | | | | | to "white beach sand" | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | wet to saturated | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | Surge effect? Tried split spoon | | | | |
| | 30 | | | | | | | | | | | | |
| | | | | | | | | | 31' Sand flowed in when bailer pulled out | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | Color change to dark brown silty sand. Water to dark brown - coloring sand | | | Lost circulation when attempted to wash sand out of augers. Possible Peat layer? | | | | |
| | 40 | | | | | | | | | | | | |
| | | Pushed | No recovery | | 41'BGS | Terminated boring at 41' BGS to set well | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: Problem at TD - attempted split spoon - No Recovery even with catcher. Surge effect pulled sand into augers. Redrilled.

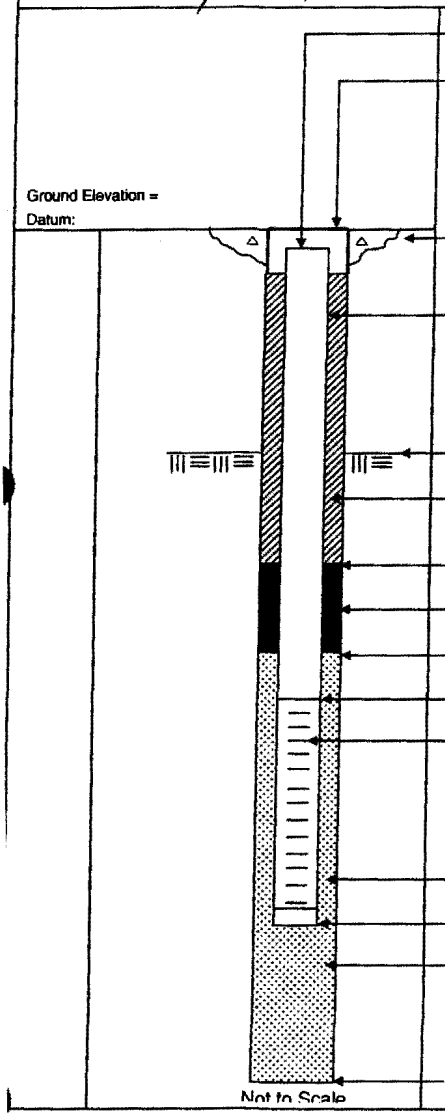
Converted to Well: Yes V No _____ Well I.D. #: MW-5I

Tetra Tech NUS, Inc.

WELL No.: MW-65

Sherman Field – **MONITORING WELL SHEET**

| | | | |
|---|---|---|---|
| PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Svcs | BORING No.: | MW-65 |
| PROJECT No.: N8516 CTO 132 | DRILLER: Johnny Body | DATE COMPLETED: | 09-10-00 |
| SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING: | |
| GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING: | |




| | |
|---|---|
| Elevation / Depth of Top of Riser: | / |
| Elevation / Height of Top of Surface Casing: | / |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | steel manhole |
| Type of Surface Seal: | concrete pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | ~8 1/4-inch |
| Elevation / Depth Top of Rock: | NA / |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | / 2.0 |
| Type of Seal: | Baroid Hole Plug 3/8-inch chips. |
| Elevation / Depth of Top of Filter Pack: | / 4.5 |
| Elevation / Depth of Top of Screen: | / 7.5 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unamin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | / 17.5 |
| Elevation / Depth of Bottom of Filter Pack: | / 18' |
| Type of Backfill Below Well: | Unamin Filter Sil |
| Elevation / Total Depth of Borehole: | / 18' BGS |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Eng. Svcs
DRILLING RIG: CME - 75
BORING No.: MW-65
DATE: 09-10-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (FL) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/FL) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | See adj. DPT | | | | |
| | | NA | NA | | loose | | silty sand | SC | boring log for | | | | |
| | | | | | to | | | | SB-3 for | | | | |
| | | | | | very | | | | details. | | | | |
| | 5 | | | | tight | | | | | | | | |
| | | | | | | | | | moist | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | gradational color change | SC | | 8 | | | from SB |
| | | | | | | | to "white beach sand" | | | | | | |
| | | | | | | | | | wet | | | | |
| | 15 | | | | | | | | to | | | | |
| | | | | | | | | | saturated | | | | |
| | | | | | | | | | | 7 | 5,000 | | from SB |
| | | | | | | | | | | to | 3,500 | | |
| | 20 | | | | | | Terminated boring | | | | | | |
| | | | | | | | at 22' BGS | | | | | | |
| | | | | | | | to set well. | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

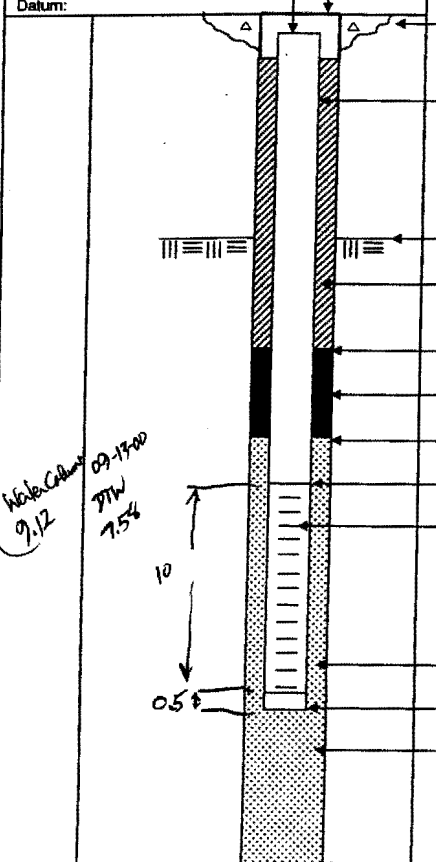
Remarks: Adjacent to DPT/ Location SB-3.
Drummed cuttings below 12' BGS.

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-65

Tetra Tech NUS, Inc. WELL No.: MW 75

Sherman – **MONITORING WELL SHEET**

PROJECT: Former Fuel Farm DRILLING Co.: Universal Eng. Svcs BORING No.: MW 75
PROJECT No.: N0516 CTO 132 DRILLER: Johnny Body DATE COMPLETED: 09-08-00
SITE: NAS Pensacola DRILLING METHOD: HSA NORTHING:
GEOLOGIST: Gary J. Davis DEV. METHOD: Pumped Surge EASTING:




Elevation / Depth of Top of Riser: 1
Elevation / Height of Top of Surface Casing: 1
I.D. of Surface Casing: 8-inch
Type of Surface Casing: Manhole
Type of Surface Seal: Concrete Pad
I.D. of Riser: 2-inch
Type of Riser: Sch 40 PVC
Borehole Diameter: 8 1/4 inch
Elevation / Depth Top of Rock: NA
Type of Backfill: grout
Elevation / Depth of Seal: 12.5' BGS
Type of Seal: Bavoid Hole Plug 3/8" chips
Elevation / Depth of Top of Filter Pack: 14.5
Elevation / Depth of Top of Screen: ~~+7.5~~ 6.2 MSL
Type of Screen: Sch 40 PVC
Slot Size x Length: 0.01 x 10 feet
I.D. of Screen: 2-inch
Type of Filter Pack: Unamin Filter Sil 20/40 - 50 lb Bags (8)
Elevation / Depth of Bottom of Screen: 16.7 ~~+17.5~~ MSL
Elevation / Depth of Bottom of Filter Pack: 18' BGS
Type of Backfill Below Well: Unamin Filter Sil
Elevation / Total Depth of Borehole: 20' 18' BGS

MSL

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: Fromm Fuel Farm - Sharon
PROJECT NUMBER: N0576 - CTO132
DRILLING COMPANY: Universal Eng Svcs
DRILLING RIG: CME-75

BORING No.: MW-75
DATE: 09-08-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | | | | | |
| | | NR | NR | | loose | | silty sand | SL | | | | | |
| | | | | | to | | | | | | | | |
| | | | | | very | | | | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | | | | | | | moist | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Gradational color change to "white beach" sand | | | | | | |
| | 10 | | | | | | | | wet | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | SL | | | | | |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | wet to saturated | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated boring at 18' BGS to set well | | | | | | |
| | 20 | | | | | | 20' TD | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): 0

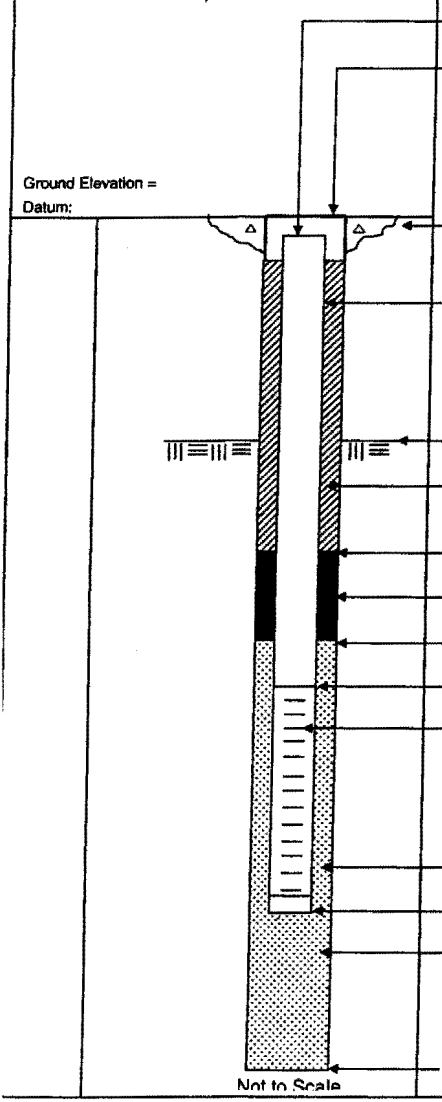
Converted to Well: Yes ✓ No _____ Well I.D. #: MW-75

Tetra Tech NUS, Inc.

WELL No.: MW 85

Sherman Field - **MONITORING WELL SHEET**

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | Former Fuel Farm | DRILLING Co.: | Universal Eng. Svcs | BORING No.: | MW 85 |
| PROJECT No.: | N0516 CTO 132 | DRILLER: | Johnny Bely | DATE COMPLETED: | 09-09-00 |
| SITE: | NAS Pensacola | DRILLING METHOD: | HSA | NORTHING: | |
| GEOLOGIST: | Gary J. Davis | DEV. METHOD: | Pumped Surge | EASTING: | |




| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 |
| Elevation / Height of Top of Surface Casing: | 1 |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | steel manhole |
| Type of Surface Seal: | Concrete Pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | sch 40 PVC |
| Borehole Diameter: | ~8¼" |
| Elevation / Depth Top of Rock: | NA |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | 12,5 |
| Type of Seal: | Baroid Hole Plug 3/8"-chips |
| Elevation / Depth of Top of Filter Pack: | 14,5 |
| Elevation / Depth of Top of Screen: | 17,5 |
| Type of Screen: | sch 40 PVC |
| Slot Size x Length: | 0,01 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unamin Filter 5:1 20/40 |
| Elevation / Depth of Bottom of Screen: | 17,5 |
| Elevation / Depth of Bottom of Filter Pack: | 18 |
| Type of Backfill Below Well: | Unamin Filter 5:1 20' |
| Elevation / Total Depth of Borehole: | ~~18~~ 20' |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Eng. Srvcs.
DRILLING RIG: CME-75

BORING No.: MW-8S
DATE: 09-09-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Yellowish brown to | | See adj. | | | | |
| | | NA | NA | | loose | | light brown | | SB32 | | | | |
| | | | | | to | | | | | | | | |
| | | | | | very | | | | | | | | |
| | | | | | loose | | | | Moist | | | | |
| | 5 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Gradational color change | | | | | | |
| | | | | | | | to "white beach sand" | | | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | wet | | | | |
| | 15 | | | | | | | | to | | | | |
| | | | | | | | | | saturated. | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated boring | | | | | | |
| | 20 | | | | | | at ~~18~~ 20' BGS | | | | | | |
| | | | | | | | to set well | | | | | | |
| | | | | | | | NJD | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

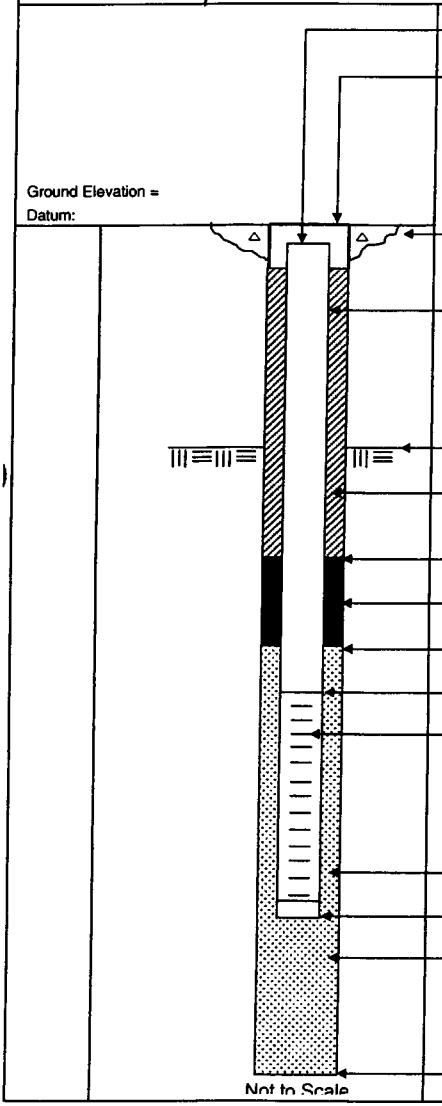
Converted to Well: Yes ✓ No ____ Well I.D. #: MW 8S

Tetra Tech NUS, Inc.

WELL No.: MW-9S

Sherman Field- **MONITORING WELL SHEET**

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | Former Fuel Farm | DRILLING Co.: | Universal Eng. Srvcs | BORING No.: | MW-9S |
| PROJECT No.: | N0516 CTO 132 | DRILLER: | Johnny Body | DATE COMPLETED: | 09-06-00 |
| SITE: | NAS Pensacola | DRILLING METHOD: | HSA | NORTHING: | |
| GEOLOGIST: | Gary J. Davis | DEV. METHOD: | Pump & Surge | EASTING: | |




Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: /

I.D. of Surface Casing: 8-inch

Type of Surface Casing: steel manhole

Type of Surface Seal: Concrete Pad 2'x2'

I.D. of Riser: 2-inch

Type of Riser: Sch 40 PVC

Borehole Diameter: ~8 1/4"

Elevation / Depth Top of Rock: NA /

Type of Backfill: grout

Elevation / Depth of Seal: / 2.5

Type of Seal: Baroid Hole Plug 3/8-inch chips

Elevation / Depth of Top of Filter Pack: / 4.5

Elevation / Depth of Top of Screen: / 7.5

Type of Screen: Sch 40 PVC

Slot Size x Length: 0.01 X 10 feet

I.D. of Screen: 2-inch

Type of Filter Pack: Unamin Filter Sil 20/40 8-50 lb bags

Elevation / Depth of Bottom of Screen: / 17.5

Elevation / Depth of Bottom of Filter Pack: / 18.0

Type of Backfill Below Well: Unamin Filter Sil

Elevation / Total Depth of Borehole: / ~~18~~ 20 BGS

HJD

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: Former Fuel Farm - Sherman
PROJECT NUMBER: N0516 CT0132
DRILLING COMPANY: Universal Eng. Service
DRILLING RIG: CME 75

BORING No.: MW-9S
DATE: 09-06-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (FL) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NR | NR | | loose | | | SC | logged from cuttings | | | | |
| | | | | | to | | | | | | | | |
| | | | | | very loose | | | | | | | | |
| | 5 | | | | | | additional color change to "white beach" sand | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | SC | | | | | |
| | 15 | | | | | | | | wet. | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated at 18' BGS to set well | | | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-10S

Tetra Tech NUS, Inc.

WELL No.: MW-10R

Sherman Field

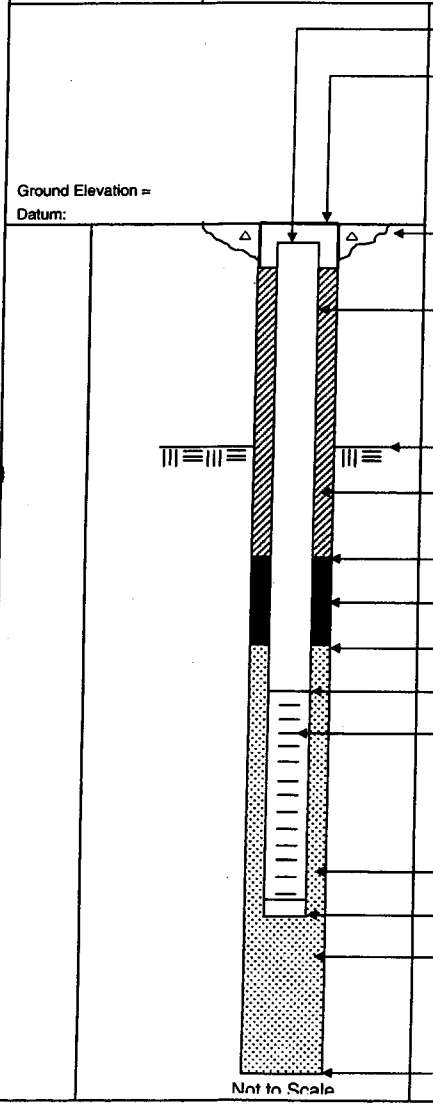
**MONITORING WELL SHEET**

PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Srvcs | BORING No.: MW-10R

PROJECT No.: N0516 CTO 132 | DRILLER: Johnny Body | DATE COMPLETED: 09-06-00

SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING:

GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING:




| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 |
| Elevation / Height of Top of Surface Casing: | 1 |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | Steel Manhole |
| Type of Surface Seal: | Concrete Pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | ~8¼-inch |
| Elevation / Depth Top of Rock: | N/A |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | 12.5 |
| Type of Seal: | Baroid Hole Plug 3/8-inch chips |
| Elevation / Depth of Top of Filter Pack: | 14.5 |
| Elevation / Depth of Top of Screen: | 17.5 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unimin Filter Sil 20/40 ~8-50 lb bags. |
| Elevation / Depth of Bottom of Screen: | 17.5 |
| Elevation / Depth of Bottom of Filter Pack: | 18 |
| Type of Backfill Below Well: | Unimin Filter Sil |
| Elevation / Total Depth of Borehole: | 18½ BGS |

20

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Engineering Sciences
DRILLING RIG: CME 75

BORING No.: MW 10 R
DATE: 09-06-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | NA | NA | | loose to very loose | | yellowish brown silty sand | SC | fine-grained | | | | |
| | 5 | | | | | | Gradational change to 'white beach sand' | | logged from cuttings | | | | |
| | | | | | | | | SC | | | | | |
| | 10 | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | wet | | | | |
| | 20 | | | | | | Terminated boring at ~~18'~~ BGS to set well 20' ~~BGS~~ | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

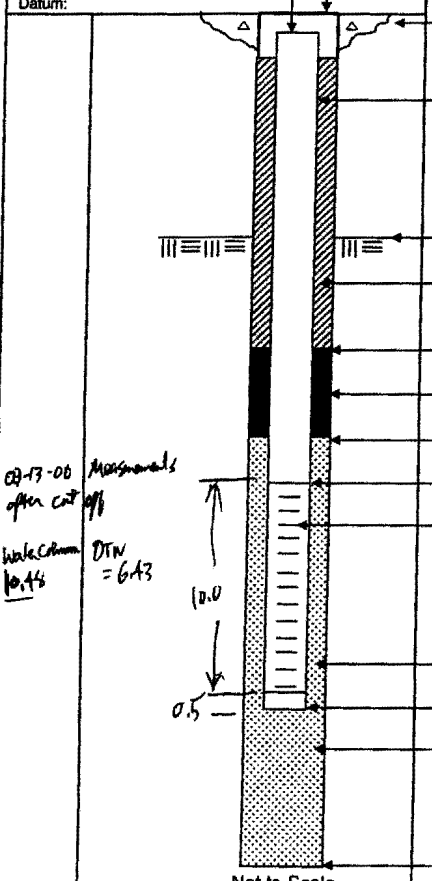
Remarks: ~ 1' of water on Rods when removed.
Replacement for MW-10 which was dry at ~~12' BGS~~ ~ 1½' stickup - 2' stickup
50 ~ 10' BGS

Converted to Well: Yes ✓ No ____ Well I.D. #: MW-10R

Tetra Tech NUS, Inc. WELL No.: MW-115

Sherman Field MONITORING WELL SHEET

PROJECT: Former Fuel Farm DRILLING Co.: Universal Eng. Svcs. BORING No.: MW-11S
PROJECT No.: N0516 CT0132 DRILLER: Johnny Berry DATE COMPLETED: 09-06-00
SITE: NAS Pensacola DRILLING METHOD: HSA NORTHING:
GEOLOGIST: Gary J. Davis DEV. METHOD: Pump + Surge EASTING:




| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 |
| Elevation / Height of Top of Surface Casing: | 1 |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | Steel Manhole |
| Type of Surface Seal: | Concrete Pad 2X2 |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | ~8 1/4" |
| Elevation / Depth Top of Rock: | NA |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | 12.5 |
| Type of Seal: | Baroid Hole Plug 3/8 inch chips |
| Elevation / Depth of Top of Filter Pack: | 14.5 |
| Elevation / Depth of Top of Screen: | ~~17.5~~ 6.41 AJP |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 X 10 feet |
| I.D. of Screen: | 2 inch |
| Type of Filter Pack: | Unamin Filter 5:1 20/40 ~(8) 50 lb bags. |
| Elevation / Depth of Bottom of Screen: | 16.91 AJP ~~17.5~~ |
| Elevation / Depth of Bottom of Filter Pack: | 18.0 |
| Type of Backfill Below Well: | Unamin Filter 5:1 20/40 |
| Elevation / Total Depth of Borehole: | 18.0 PLS AJP |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Forma Fuel Farm-Sherman
PROJECT NUMBER: N0516 CT0132
DRILLING COMPANY: Universal Eng. Srvc.
DRILLING RIG: CME-75

BORING No.: MW11S
DATE: 09-06-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | MATERIAL DESCRIPTION: Color | MATERIAL DESCRIPTION: Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | PID/FID Reading (ppm): Sampler BZ | PID/FID Reading (ppm): Borehole** | PID/FID Reading (ppm): Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | loose | Yellowish brown | | SC | Logged from | | | | |
| | | NA | NA | | to | | silty sand | | Cuttings | | | | |
| | | | | | firm | | | | | | | | |
| | | | | | loose | | | | | | | | |
| | 5 | | | | | | Gradational color change | | | | | | |
| | | | | | | | to white beach sand | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | wet | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | SC | | | | | |
| | 15 | | | | | | | | wet | | | | |
| | | | | | | | | | to | | | | |
| | | | | | | | | | saturated | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated boring | | | | | | |
| | 20 | | | | | | at 18' BGS | | | | | | |
| | | | | | | | to set well | | | | | | |
| | | | | | | | 20' BGS | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

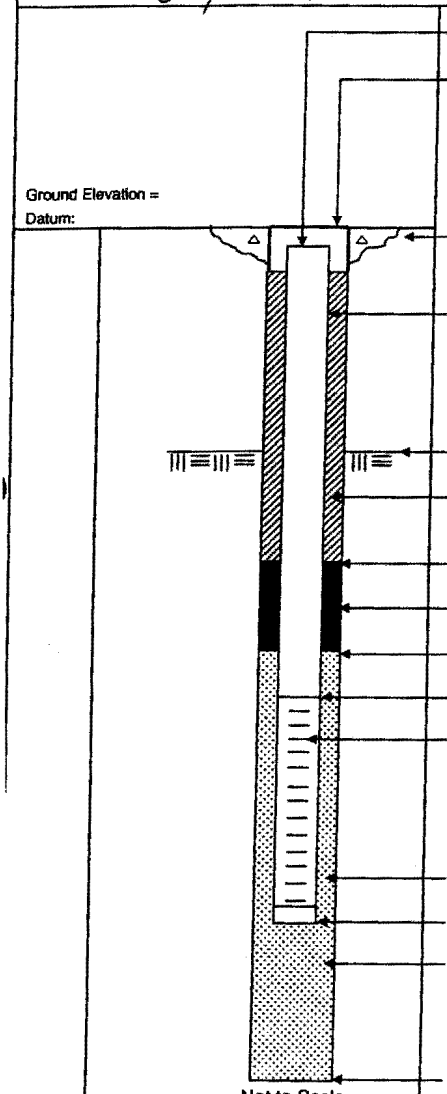
Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-11S

Tetra Tech NUS, Inc. WELL No.: MW-125

Sherman Field - **MONITORING WELL SHEET**

PROJECT: Former Fuel Farm DRILLING Co.: Universal Eng. Svcs BORING No.: MW125
PROJECT No.: N0516 CTO 172 DRILLER: Johnny Body DATE COMPLETED: 09-09-00
SITE: NAS Pensacola DRILLING METHOD: HSA NORTHING:
GEOLOGIST: Gary L. Davis DEV. METHOD: Pump & Surge EASTING:




| | |
|---|---|
| Elevation / Depth of Top of Riser: | / |
| Elevation / Height of Top of Surface Casing: | / |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | steel Manhole |
| Type of Surface Seal: | Concrete Pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | ~8¼" |
| Elevation / Depth Top of Rock: | NA / |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | 125 |
| Type of Seal: | Baroid Hole Plug 3/8" chips |
| Elevation / Depth of Top of Filter Pack: | 145 |
| Elevation / Depth of Top of Screen: | 147.5' |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unamin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | 157.5' |
| Elevation / Depth of Bottom of Filter Pack: | 158.0' / |
| Type of Backfill Below Well: Unamin Filter Sil | |
| Elevation / Total Depth of Borehole: | 158.0 BGS 20 |

JJP

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO132
DRILLING COMPANY: Universal Eng. Svcs.
DRILLING RIG: CME 75
BORING No.: MW-12S
DATE: 09-09-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | | | | | |
| | | NA | NA | | loose to very loose | | silty sand | SC | | | | | |
| | 5 | | | | | | | | | | | | |
| | 10 | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | 20 | | | | | | Terminated boring at 18' BGS to 20' set well | | | | | | |
| | | | | | | | HgP | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: _____

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-12S

Tetra Tech NUS, Inc.

WELL No.: MW-13S

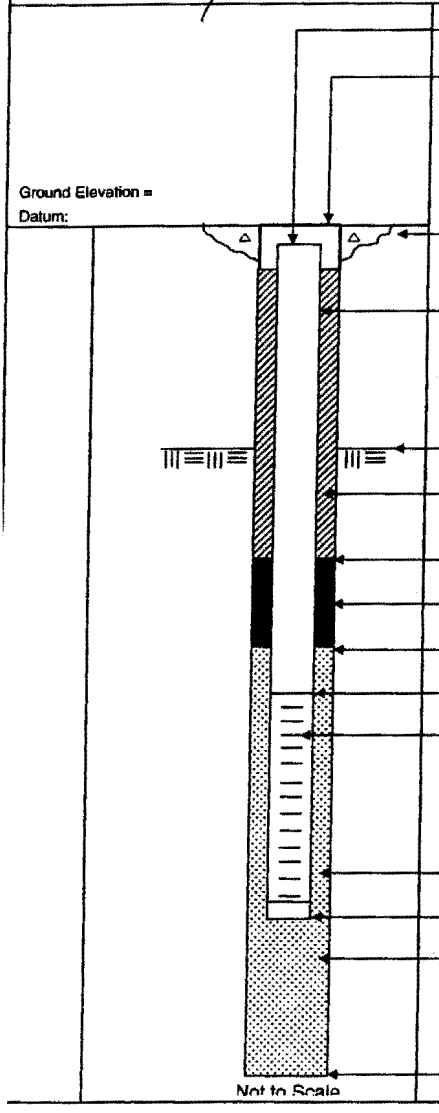
Sherman Field- **MONITORING WELL SHEET**

PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Sciks | BORING No.: MW-13S

PROJECT No.: N0516 CTO 132 | DRILLER: Johnny Body | DATE COMPLETED: 09-09-00

SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING:

GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING:




| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 |
| Elevation / Height of Top of Surface Casing: | 1 |
| I.D. of Surface Casing: | 6-inch |
| Type of Surface Casing: | Steel manhole |
| Type of Surface Seal: | Concrete Pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | 8 1/4 inch |
| Elevation / Depth Top of Rock: | N/A / 1 |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | 1 2.5 |
| Type of Seal: | Baroid Hole Plug 3/8-inch chips |
| Elevation / Depth of Top of Filter Pack: | 1 4.5 |
| Elevation / Depth of Top of Screen: | 1 7.5 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unamin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | 1 17.5 |
| Elevation / Depth of Bottom of Filter Pack: | 1 18.0 |
| Type of Backfill Below Well: | Unamin Filter Sil |
| Elevation / Total Depth of Borehole: | 1 180 |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Eng. Srvcs.
DRILLING RIG: CME 75

BORING No.: MW-135
DATE: 09-09-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | MATERIAL DESCRIPTION: Color | MATERIAL DESCRIPTION: Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | PID/FID Reading (ppm): Sampler BZ | PID/FID Reading (ppm): Borehole** | PID/FID Reading (ppm): Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | loose to very loose | Yellowish brown | Silty sand | SM | | | | | |
| | 5 | | | | | | | | | | | | |
| | 10 | | | | | | Gradational color change to "Mile beach sand" | SP | | | | | |
| | 15 | | | | | | | | Wet @ 15' Screened | | | | |
| | 20 | | | | | | Terminated boring at 20' BGS | | | | | | |
| | | | | | | | 20' to set well | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-135

Tetra Tech NUS, Inc.

WELL No.: MW-13D

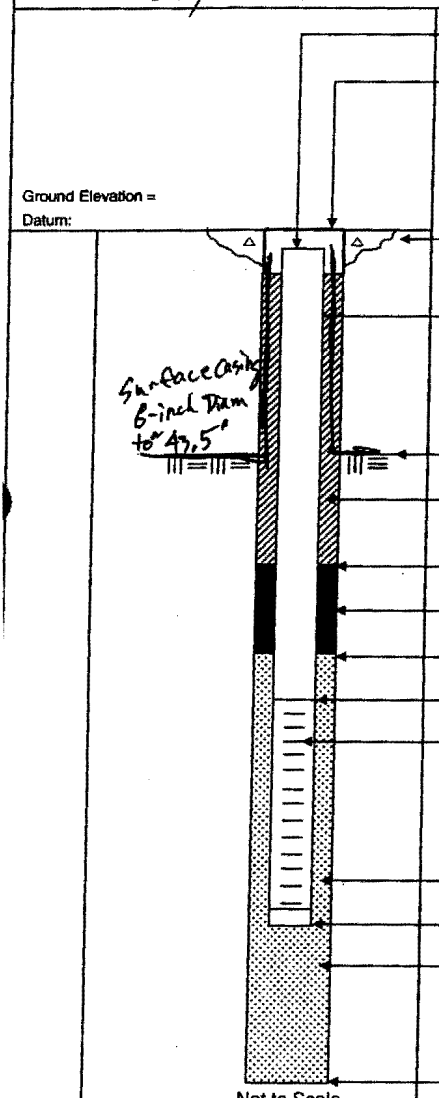
Sherman Field - **MONITORING WELL SHEET**

PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Srvcs | BORING No.: MW-13D

PROJECT No.: N0516 CTO 132 | DRILLER: Johnny Body | DATE COMPLETED: 09-13-00

SITE: NAS Pensacola | DRILLING METHOD: Mud-Rotary | NORTHING: _____

GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING: _____




Elevation / Depth of Top of Riser: 1

Elevation / Height of Top of Surface Casing: 1

I.D. of Surface Casing: 8-inch

Type of Surface Casing: steel Manhole

Type of Surface Seal: Concrete Pad

I.D. of Riser: 2-inch

Type of Riser: Sch 40 PVC

Borehole Diameter: 6-inch

Elevation / ~~Depth~~ Top of Rock: Bottom of Surface Casing ~~N/A~~ 43.5

Type of Backfill: Grout above bentonite within

Elevation / Depth of Seal: 160

Type of Seal: Pure Gold Bentonite medium chips

Elevation / Depth of Top of Filter Pack: 165

Elevation / Depth of Top of Screen: 169.5'

Type of Screen: Sch 40 PVC

Slot Size x Length: 0.01 x 5 feet

I.D. of Screen: 2-inch

Type of Filter Pack: Unimin Filter Sil 20/40

Elevation / Depth of Bottom of Screen: 174.5

Elevation / Depth of Bottom of Filter Pack: 175'

Type of Backfill Below Well: Unimin Filter Sil

Elevation / Total Depth of Borehole: 175' BGS

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: 10516 CTO132
DRILLING COMPANY: Universal
DRILLING RIG: CME 75
BORING No.: MW-13D
DATE: 09-10-06
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Approx 10" from Borehole | loose to firm | Yellowish brown | Silty sand | SC | Mud-Rotary to set surface casing | NA | | | |
| | | NA | NA | | | | | | | | | | |
| | 10 | | | | | | | | See Adjacent DPT location SB12 for detailed boring log to 28' BGS | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | gradational color change to white beach sand" | | | | SC | Start of Free Product returning with fluids. | | | | |
| | 30 | | | | | | | | | | | | |
| | | | | Surface casing Grout | | | | | | | | | |
| | 40 | | | | | | Peat layer at 38' BGS | OL | Water returns turn dark brown with tannic acid | | | | |
| | | | | 42.35' | | | pieces of wood & plant material some charcoal pieces | | | | | | |
| | | | | 5 7/8 bit | | | Could not tell how thick from cutting returns) | | | | | | |
| | | | | | | | Silty Sand below | SC | | | | | |
| | 50 | | | | | | | | | | | | |

Surface Casing grouted 18001 09-10-0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: 6" Surface casing set to 43.5' BGS.

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-13I

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Field
BORING No.: MW-13D
PROJECT NUMBER: N0516 CN0132
DATE: ~~08~~ 09-13-00
DRILLING COMPANY: Universal Eng. Srvcs.
GEOLOGIST: Gary J. Davis
DRILLING RIG: CME 75
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 50 | | | | | | | | | | | | |
| | | NA | NA | | loose | light | brown silty sand fine-med grained | SC | Logged from cuttings. | NA | | | |
| | 60 | | | | | | | | | | | | |
| | | | | | @65' | peat | layer coarse fragments of wood, plant material, clay, silt & sand | OL | at ~65' Returns turned brown with tannic acid | | | | |
| | 70 | | | screen | @ 70' | silty sandy clay dark gray with organics | | OH | fine to med. sand. | | | | |
| | | | | | | | Terminated boring at 75' BGS to set well | | | | | | |
| | 80 | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No ____ Well I.D. #: MW-13D

Tetra Tech NUS, Inc.

WELL No.: MW145

Sherman Field

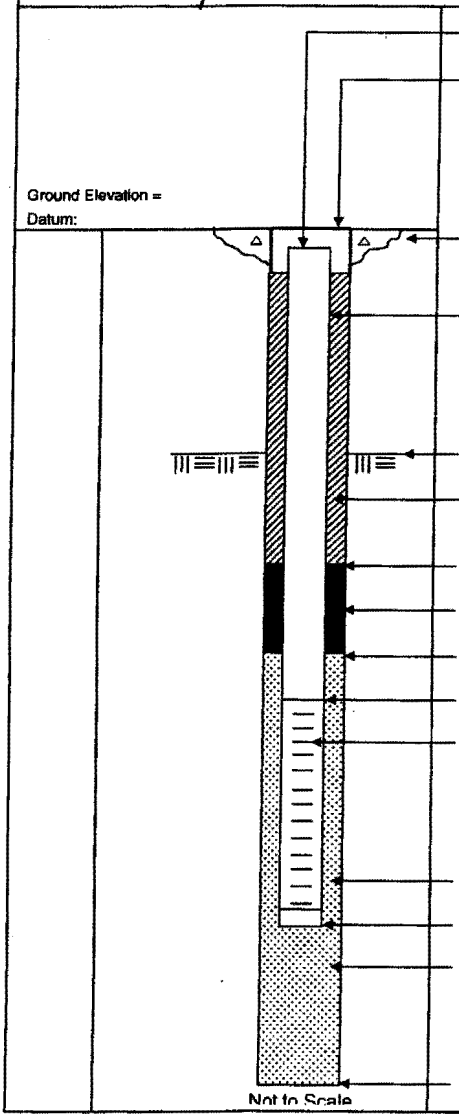
## MONITORING WELL SHEET

PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Svcs | BORING No.: MW-145

PROJECT No.: ND516 CTO 132 | DRILLER: Johnny Brady | DATE COMPLETED: 09-08-00

SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING:

GEOLOGIST: Gary T. Davis | DEV. METHOD: Pump & Surge | EASTING:




| | |
|---|---|
| Elevation / Depth of Top of Riser: | / |
| Elevation / Height of Top of Surface Casing: | / |
| I.D. of Surface Casing: | 8" |
| Type of Surface Casing: | steel manhole |
| Type of Surface Seal: | Concrete Pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | 8 1/4" |
| Elevation / Depth Top of Rock: | N/A / |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | 12.5' BGS |
| Type of Seal: | Bentonite Hole Plug 3/8" chips |
| Elevation / Depth of Top of Filter Pack: | 14.5 |
| Elevation / Depth of Top of Screen: | 17.5 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 10 feet |
| I.D. of Screen: | 2 Inch |
| Type of Filter Pack: | Unimin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | 27.5 |
| Elevation / Depth of Bottom of Filter Pack: | 28' BGS |
| Type of Backfill Below Well: | Unimin Filter Sil 20 |
| Elevation / Total Depth of Borehole: | 28' BGS |

AP

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm Sherman
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Eng. Servs
DRILLING RIG: CME 75
BORING No.: MW-14S
DATE: 09-06-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Bay

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | | | | | |
| | | | | | loose | | silty sand | SC | | | | | |
| | | NR | NA | | to | | | | Moist | | | | |
| | 5 | | | | very | | | | | | | | |
| | | | | | loose | | | | | | | | |
| | 10 | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 20 | | | | | | Terminated 20' boring at MW-14S to set well | | NP | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-14S

Tetra Tech NUS, Inc.

WELL No.: MW-14I

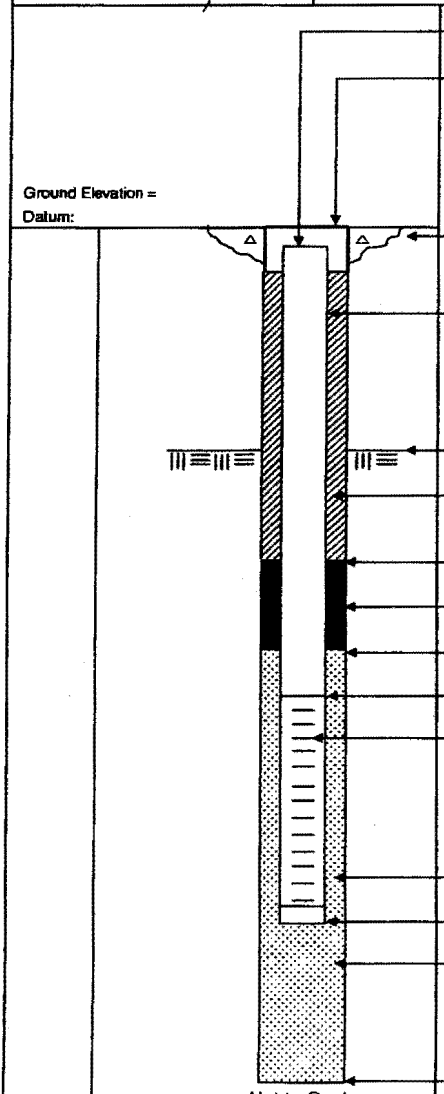
Former Fuel Farm **MONITORING WELL SHEET**

PROJECT: Sherman Field | DRILLING Co.: Universal Eng. Svcs | BORING No.: MW14I

PROJECT No.: N0516 CTO 132 | DRILLER: Johnny Body | DATE COMPLETED: 09-11-00

SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING:

GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING:




| | |
|---|---|
| Elevation / Depth of Top of Riser: | / |
| Elevation / Height of Top of Surface Casing: | / |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | steel manhole |
| Type of Surface Seal: | concrete pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | 8 1/4" |
| Elevation / Depth Top of Rock: | NA |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | / 2.0 |
| Type of Seal: | Bentonite Hole Plug 3/8-inch chips |
| Elevation / Depth of Top of Filter Pack: | / 31.0 |
| Elevation / Depth of Top of Screen: | / 34.0 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 5 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unimin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | / 39.0 |
| Elevation / Depth of Bottom of Filter Pack: | / 40.0 |
| Type of Backfill Below Well: | Unimin Filter Sil |
| Elevation / Total Depth of Borehole: | / 40' BGS |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm-Sherman Field
PROJECT NUMBER: N0516 CTO132
DRILLING COMPANY: Universal Eng. Svcs.
DRILLING RIG: CME-75
BORING No.: MW-14I
DATE: 09-11-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | | | | | |
| | | | | | loose | | silty sand | SC | | | | | |
| | | NA | NA | | to | | | | | | | | |
| | | | | | very loose | | gradational color change to white beach sand | | | | | | |
| | 10 | | | | | | | SC | | | | | |
| | | | | | | | | | wet to saturated | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Dark Brown water coloring | | | | | | |
| | 40 | | | | | | Sand Brown | | (Possible Peat Layer) | | | | |
| | | | | | | | Terminated boring at 40' BGS to set well | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks: _____

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-14I

Tetra Tech NUS, Inc.

WELL No.: MW-15S

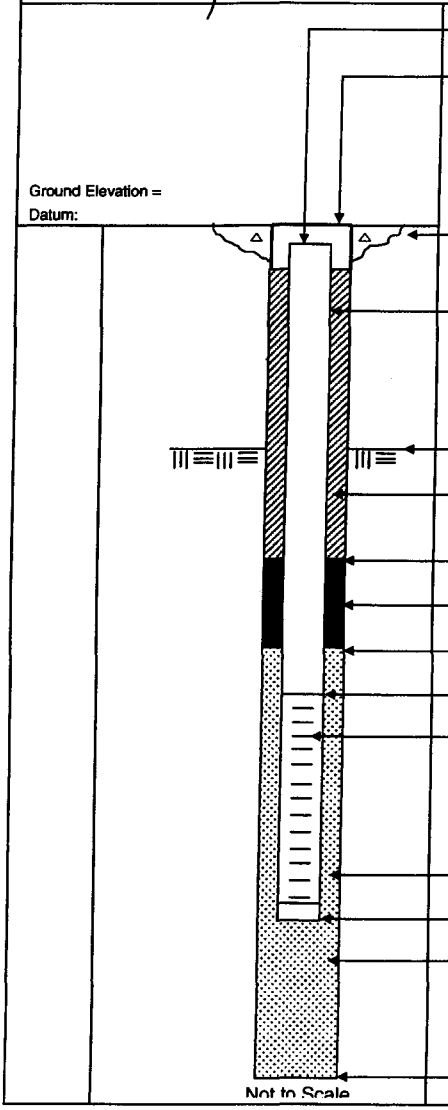
Shamrock Field - **MONITORING WELL SHEET**

PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Srvcs | BORING No.: MW-15S

PROJECT No.: N0516 CTO 132 | DRILLER: Johnny Boyd | DATE COMPLETED: 09-09-02

SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING:

GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING:




| | |
|---|---|
| Elevation / Depth of Top of Riser: | / |
| Elevation / Height of Top of Surface Casing: | / |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | Steel manhole |
| Type of Surface Seal: | Concrete Pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | ~ 8 1/4" |
| Elevation / Depth Top of Rock: | ND / |
| Type of Backfill: | Grout |
| Elevation / Depth of Seal: | / 1.5 |
| Type of Seal: | Bored Hole Plug 3/8-inch chips |
| Elevation / Depth of Top of Filter Pack: | / 3.5 |
| Elevation / Depth of Top of Screen: | / 7.5 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unamin Filter Sil 20/40 sand |
| Elevation / Depth of Bottom of Screen: | / 17.5 |
| Elevation / Depth of Bottom of Filter Pack: | / 18.0 |
| Type of Backfill Below Well: | Unamin Filter Sil 20' |
| Elevation / Total Depth of Borehole: | / 18 BGS |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CT0132
DRILLING COMPANY: Universal Eng. Srvcs.
DRILLING RIG: CME 75

BORING No.: MW-15S
DATE: 09-09-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Yellowish brown | SC | | | | | |
| | | NA | NA | | loose to | | silty sand | | | | | | |
| | | | | | very | | | | | | | | |
| | | | | | loose | | | | | | | | |
| | 5 | | | | | | | | moist | | | | |
| | | | | | | | Gradational color change | | | | | | |
| | | | | | | | to "white" beach | | | | | | |
| | | | | | | | sand | | | | | | |
| | | | | | | | | | | | | | |
| | 10 | | | | | | | SC | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | wet to | | | | |
| | | | | | | | | | saturated | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated | | | | | | |
| | 20 | | | | | | boring at 10' BGS | | | | | | |
| | | | | | 20' | | to set well. | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

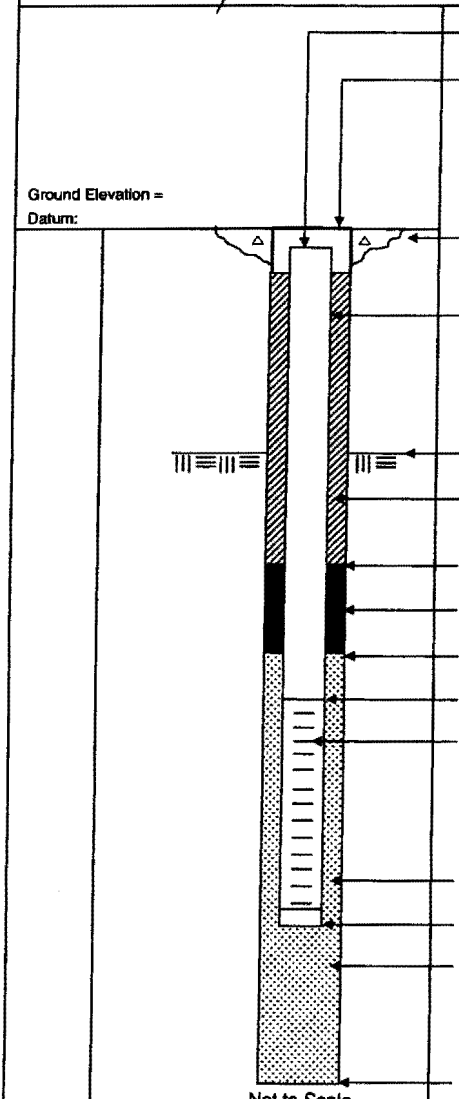
Remarks:

Converted to Well: Yes ✓ No ____ Well I.D. #: ~~CME~~ MW-15S

Tetra Tech NUS, Inc. WELL No.: MW-16S

Sherman Field - **MONITORING WELL SHEET**

| | | | |
|---|---|---|---|
| PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Svcs | BORING No.: | MW-16S |
| PROJECT No.: N0516CTO132 | DRILLER: Johnny Body | DATE COMPLETED: | 09-09-00 |
| SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING: | |
| GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING: | |




| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 |
| Elevation / Height of Top of Surface Casing: | 1 |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | ~~8 inch~~ steel manhole |
| Type of Surface Seal: | Concrete pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | sch 40 PVC |
| Borehole Diameter: | 8 3/4" |
| Elevation / Depth Top of Rock: | NA / |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | 11.5 |
| Type of Seal: | Baroid Hole Plug 3/8 inch chips |
| Elevation / Depth of Top of Filter Pack: | 13.5 |
| Elevation / Depth of Top of Screen: | 17.5 |
| Type of Screen: | sch 40 PVC |
| Slot Size x Length: | 0.01 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unimin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | 17.5 |
| Elevation / Depth of Bottom of Filter Pack: | 18 |
| Type of Backfill Below Well: | Unimin Filter Sil |
| Elevation / Total Depth of Borehole: | ~~18~~ 20 |

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Eng. Srvcs
DRILLING RIG: CME 75
BORING No.: MW-16S
DATE: 09-09-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | | | | | |
| | | NR | NR | | loose | | silty sand | SC | | | | | |
| | | | | | to | | | | | | | | |
| | | | | | very | | | | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | | | | | | | moist | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | gradational color change | | | | | | |
| | | | | | | | to "white-beach sand" | | | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | SC | | | | | |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | wet to saturated | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated boring at | | | | | | |
| | 20 | | | | | | 18' BGS to set well | | | | | | |
| | | | | | | | 20' BGS | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

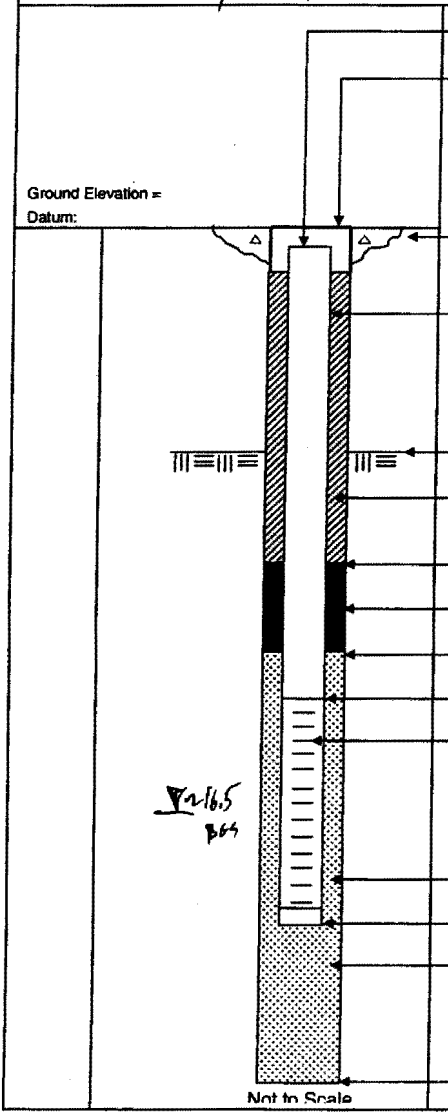
Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-16S

Tetra Tech NUS, Inc. WELL No.: MW-17S

Sherman Field MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | Former Fuel Farm | DRILLING Co.: | Universal Eng. Svcs | BORING No.: | MW17S |
| PROJECT No.: | N0516 CTO 132 | DRILLER: | Johnny Body | DATE COMPLETED: | 09-09-00 |
| SITE: | NAS Pensacola | DRILLING METHOD: | HSA | NORTHING: | |
| GEOLOGIST: | Gary J. Davis | DEV. METHOD: | Pump & Surge | EASTING: | |




| | |
|---|---|
| Elevation / Depth of Top of Riser: | / |
| Elevation / Height of Top of Surface Casing: | / |
| I.D. of Surface Casing: | 6-inch |
| Type of Surface Casing: | Steel Manhole |
| Type of Surface Seal: | Concrete pad 2'x2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | ~8 1/4" |
| Elevation / Depth Top of Rock: | NA / |
| Type of Backfill: | Grout |
| Elevation / Depth of Seal: | / 14.5 |
| Type of Seal: | Bentonite Hole Plug 1/4-inch chips |
| Elevation / Depth of Top of Filter Pack: | / 16.5 |
| Elevation / Depth of Top of Screen: | / 19.5 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unimin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | / 29.5 |
| Elevation / Depth of Bottom of Filter Pack: | / 20' BGS |
| Type of Backfill Below Well: | Unimin Filter Sil |
| Elevation / Total Depth of Borehole: | / 20' BGS |

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: Former Fred Farm - Sherman Field
PROJECT NUMBER: 105116 CTO132
DRILLING COMPANY: Universal Engr. Svcs
DRILLING RIG: CME-75

BORING No.: MW-175
DATE: 09-09-00
GEOLOGIST: Gary J. Jones
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (FL) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/FL) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | MATERIAL DESCRIPTION: Color | MATERIAL DESCRIPTION: Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | | | | | |
| | | | | | loose | | silty sand | SC | | | | | |
| | | NR | NA | | to | | | | Moist | | | | |
| | | | | | very | | | | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 10 | | | | | 3. | Gradational color change to white beach sand | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | Wet to saturated | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | Terminated Boring at 20' BGS to Set well | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

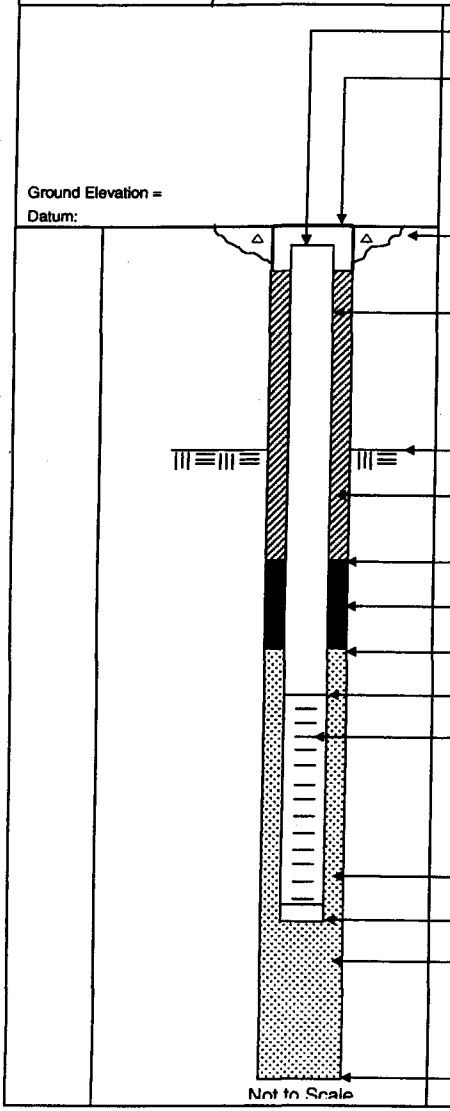
Remarks: Elevated ~ 3-4' above road on hill.

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-175

Tetra Tech NUS, Inc. WELL No.: MW-18S

Sherman Field – MONITORING WELL SHEET

PROJECT: Former Fuel Farm DRILLING Co.: Universal Eng. Srvcs BORING No.: MW-18S
PROJECT No.: N0516400132 DRILLER: Johnny Body DATE COMPLETED: 09-11-00
SITE: NAS Pensacola DRILLING METHOD: HSA NORTHING:
GEOLOGIST: Gary J. Davis DEV. METHOD: Pump & Surge EASTING:




Elevation / Depth of Top of Riser: /
Elevation / Height of Top of Surface Casing: /
I.D. of Surface Casing: 8-inch
Type of Surface Casing: Steel manhole
Type of Surface Seal: Concrete pad 2'X2'
I.D. of Riser: 2-inch
Type of Riser: Sch 40 PVC
Borehole Diameter: ~8 1/4"
Elevation / Depth Top of Rock: NA /
Type of Backfill: grout
Elevation / Depth of Seal: / 1.0
Type of Seal: Bavoid HolePlug 3/8-inch chips
Elevation / Depth of Top of Filter Pack: / 6.0
Elevation / Depth of Top of Screen: / 9.0
Type of Screen: Sch 40 PVC
Slot Size x Length: 0.01 X 10feet
I.D. of Screen: 2-inch
Type of Filter Pack: Unimin Filter Sil 20/40
Elevation / Depth of Bottom of Screen: / 19.0
Elevation / Depth of Bottom of Filter Pack: / 20.0
Type of Backfill Below Well: Unimin Filter Sil
Elevation / Total Depth of Borehole: / 20' BGS

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Fld. BORING No.: MW 18 S
PROJECT NUMBER: N0516 CTO 132 DATE: 09-11-00
DRILLING COMPANY: Universal Eng. Svcs GEOLOGIST: Barry J. Davis
DRILLING RIG: CME-75 DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | | | | | |
| | | NA | NA | | loose to very loose | | silty sand | SC | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | 10 | | | | | | gradational color change to "white beach sand" | " | wet to saturated | | | | |
| | 15 | | | | | | | | | | | | |
| | 20 | | | | | | Terminated boring at 20' BGS to set well | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

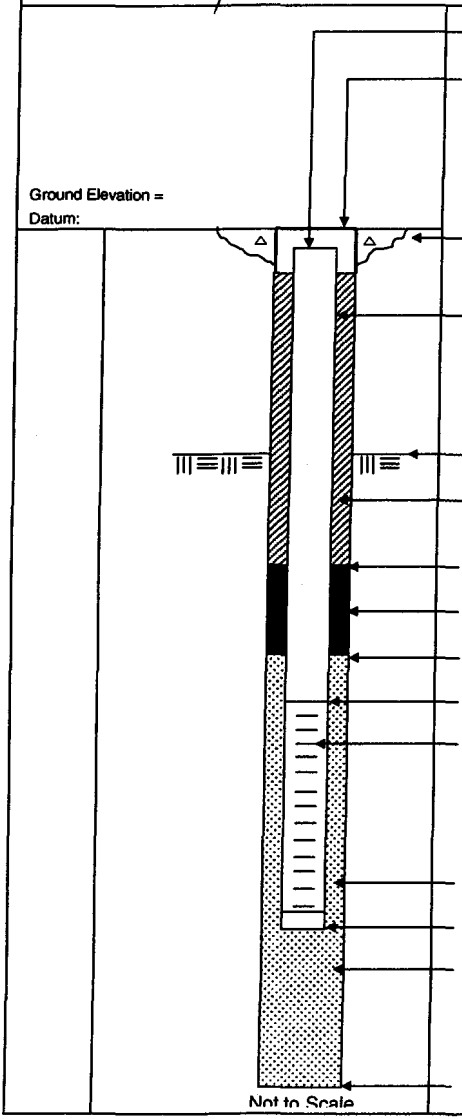
Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: MW 18 S

Tetra Tech NUS, Inc. WELL No.: MW-19S

Sherman Field - **MONITORING WELL SHEET**

| | | | |
|---|---|---|---|
| PROJECT: Former Fuel Farm | DRILLING Co.: Universal Engineering | BORING No.: MW-19S | |
| PROJECT No.: N0516CTD132 | DRILLER: Johnny Body | DATE COMPLETED: 09-11-00 | |
| SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING: | |
| GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING: | |




| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 |
| Elevation / Height of Top of Surface Casing: | 1 |
| I.D. of Surface Casing: | 8-inch |
| Type of Surface Casing: | Steel Manhole |
| Type of Surface Seal: | Concrete Pad 2'X 2' |
| I.D. of Riser: | 2-inch |
| Type of Riser: | Sch 40 PVC |
| Borehole Diameter: | 8 1/4" |
| Elevation / Depth Top of Rock: | NA |
| Type of Backfill: | Grout |
| Elevation / Depth of Seal: | 1 1.0 |
| Type of Seal: | Bavoid Hole Plug 3/8 inch chips |
| Elevation / Depth of Top of Filter Pack: | 1 6.0 |
| Elevation / Depth of Top of Screen: | 1 9.0 |
| Type of Screen: | Sch 40 PVC |
| Slot Size x Length: | 0.01 X 10 feet |
| I.D. of Screen: | 2-Inch |
| Type of Filter Pack: | Unamin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | 1 19.0 |
| Elevation / Depth of Bottom of Filter Pack: | 1 20.0 1/2 BGS |
| Type of Backfill Below Well: | Unamin Filter Sil |
| Elevation / Total Depth of Borehole: | 1 20.0 1/2 BGS |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Fld. BORING No.: MW-19S
PROJECT NUMBER: N0516 CT0132 DATE: 09-11-00
DRILLING COMPANY: Universal Eng. Srvcs. GEOLOGIST: Gary J. Davis
DRILLING RIG: CME-75 DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (FL) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/FL) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | | | | | | |
| | | NA | NA | | loose | | silty sand | SC | | | | | |
| | | | | | to | | | | | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | | | | | gradational color change | | | | | | |
| | | | | | | | to "white beach sand" | SC | | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | wet to saturated | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated boring at 18' BGS | | | | | | |
| | 20 | | | | | | to set Well | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-19S

Tetra Tech NUS, Inc.

WELL No.: MW-20S

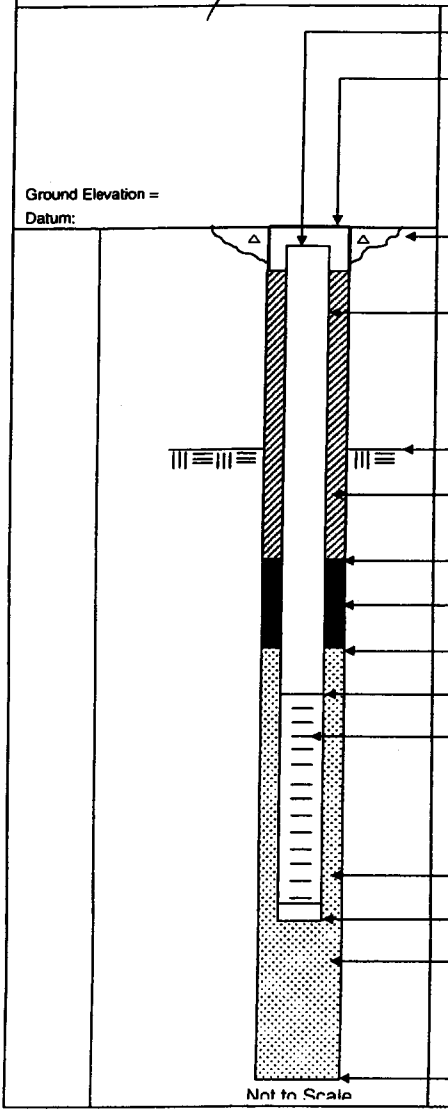
Sherman Field - **MONITORING WELL SHEET**

PROJECT: Former Fuel Farm | DRILLING Co.: Universal Engineering | BORING No.: MW-20S

PROJECT No.: N0516CTO132 | DRILLER: Johnny Body | DATE COMPLETED: 09-11-00

SITE: NAS Pensacola | DRILLING METHOD: HSA | NORTHING:

GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING:




Elevation / Depth of Top of Riser: 1.

Elevation / Height of Top of Surface Casing: 1

I.D. of Surface Casing: 6-inch

Type of Surface Casing: Steel Manhole

Type of Surface Seal: concrete pad 2'x 2'

I.D. of Riser: 2-inch

Type of Riser: Sch 40 PVC

Borehole Diameter: 8 1/4 inch

Elevation / Depth Top of Rock: NA

Type of Backfill: grout

Elevation / Depth of Seal: 11.0

Type of Seal: Bored Hole Plug 3/8-inch chips

Elevation / Depth of Top of Filter Pack: 16.0

Elevation / Depth of Top of Screen: 19.0'

Type of Screen: Sch 40 PVC

Slot Size x Length: 010 x 10 feet

I.D. of Screen: ~~NP-010~~ 2-inch

Type of Filter Pack: Unimin Filter Sil 20/40

Elevation / Depth of Bottom of Screen: 129.0'

Elevation / Depth of Bottom of Filter Pack: 120.0'

Type of Backfill Below Well: Unimin Filter Sil

Elevation / Total Depth of Borehole: 120.0' BGS

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm - Sherman Fld
PROJECT NUMBER: N0516 CTO 132
DRILLING COMPANY: Universal Eng. Srvcs
DRILLING RIG: CME 75
BORING No.: MW-20S
DATE: 09-11-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (FL) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/FL) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | yellowish Brown | | | Hand Augered | | | | |
| | | NA | NA | | loose | | Silty Sand | SC | to 10 BGS | | | | |
| | | | | | to | | | | | | | | |
| | | | | | very | | | | Dry | | | | |
| | 5 | | | | loose | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | Moist | | | | |
| | | | | | | | gradational color change to white beach sand" | | | | | | |
| | 10 | | | | | | | SC | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | wet | | | | |
| | 15 | | | | | | | | to | | | | |
| | | | | | | | | | saturated | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated boring at 20 ft BGS | | | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | Hydro to set well | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-20S

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: Former Fuel Farm - Sherman Field
PROJECT NUMBER: N0516 CT0132
DRILLING COMPANY: Universal Eng. Srvcs.
DRILLING RIG: CME 75
BORING No.: MW-21S
DATE: 09-09-00
GEOLOGIST: Gary J. Davis
DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS* | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish brown | | SC | | | | | |
| | | N/A | N/A | | loose | | silty sand | | | | | | |
| | | | | | to | | | | | | | | |
| | | | | | very | | | | | | | | |
| | 5 | | | | loose | | Gradational color change | | | | | | |
| | | | | | | | to "White beach" sand | | moist | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | SC | | | | | |
| | 10 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | wet to saturated | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | Terminated boring at 20' bgs to set well | | | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | 20' bgs | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes / No

Well I.D. #: MW-21S

Tetra Tech NUS, Inc.

WELL No.: MW21S

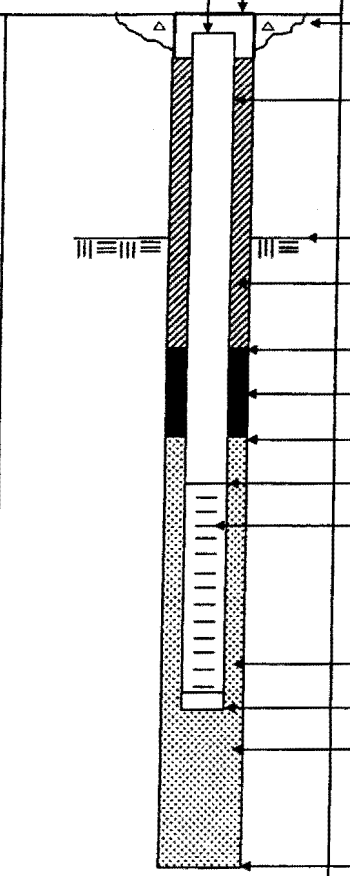
Sherman Field

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | Former Fuel Farm | DRILLING Co.: | Universal Eng. Srvcs | BORING No.: | MW-21S |
| PROJECT No.: | N0516 CT0132 | DRILLER: | Johnny Boyd | DATE COMPLETED: | 09-09-00 |
| SITE: | NAS Pensacola | DRILLING METHOD: | HSA | NORTHING: | |
| GEOLOGIST: | Gary J. Davis | DEV. METHOD: | Pump & Surge | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: /

I.D. of Surface Casing: 8-inch

Type of Surface Casing: Steel Manhole

Type of Surface Seal: Concrete Pad 2'x2'

I.D. of Riser: 2-inch

Type of Riser: Sch 40 PVC

Borehole Diameter: ~8 1/4 inch

Elevation / Depth Top of Rock: NA /

Type of Backfill: Grout

Elevation / Depth of Seal: / 1.5

Type of Seal: Bonded Hole Plug 3/8 inch chips

Elevation / Depth of Top of Filter Pack: / 3.5

Elevation / Depth of Top of Screen: / 7.5

Type of Screen: 0.01 x 10 feet

Slot Size x Length: Sch 40 PVC

I.D. of Screen: 2-inch

Type of Filter Pack: Unamin Filter Sil 20/40 ~8 bags.

Elevation / Depth of Bottom of Screen: / 17.5

Elevation / Depth of Bottom of Filter Pack: / 18'

Type of Backfill Below Well: Unamin Filter Sil

Elevation / Total Depth of Borehole: ~~18'~~ 20' BGS

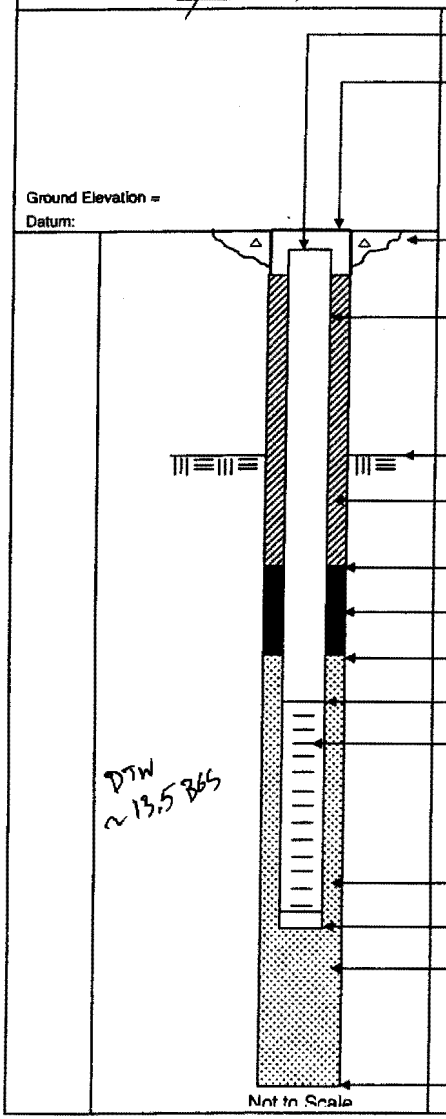
AJD

Tetra Tech NUS, Inc.

WELL No.: MW-215

Sherman Field MONITORING WELL SHEET

| | | | |
|---|---|---|---|
| PROJECT: Former Fuel Farm | DRILLING Co.: Universal Eng. Svcs | BORING No.: MW-215 | |
| PROJECT No.: N0516 CTO132 | DRILLER: Johnny Body | DATE COMPLETED: 09-13-00 | |
| SITE: NAS. Pensacola | DRILLING METHOD: HSA | NORTHING: | |
| GEOLOGIST: Gary J. Davis | DEV. METHOD: Pump & Surge | EASTING: | |




| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 |
| Elevation / Height of Top of Surface Casing: | 1 |
| I.D. of Surface Casing: | 8 inch |
| Type of Surface Casing: | Steel manhole |
| Type of Surface Seal: | concrete pad 2'X2' |
| I.D. of Riser: | 2 inch |
| Type of Riser: | sch 40 PVC |
| Borehole Diameter: | ~8 1/2" |
| Elevation / Depth Top of Rock: | N/A |
| Type of Backfill: | grout |
| Elevation / Depth of Seal: | 14.0 |
| Type of Seal: | Baroid Hole Plug 3/8 inch chips |
| Elevation / Depth of Top of Filter Pack: | 17.0 |
| Elevation / Depth of Top of Screen: | 110.5 |
| Type of Screen: | Sch. 40 PVC |
| Slot Size x Length: | .001 x 10 feet |
| I.D. of Screen: | 2-inch |
| Type of Filter Pack: | Unimin Filter Sil 20/40 |
| Elevation / Depth of Bottom of Screen: | 120.5 |
| Elevation / Depth of Bottom of Filter Pack: | 121.0 |
| Type of Backfill Below Well: | Unimin Filter Sil |
| Elevation / Total Depth of Borehole: | 122.0 BGS |

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Former Fuel Farm-Sherman Fld. BORING No.: MW-22S
PROJECT NUMBER: N0516GT0132 DATE: 09-13-00
DRILLING COMPANY: Universal Eng. Srvcs. GEOLOGIST: Gary J. Davis
DRILLING RIG: CME-75 DRILLER: Johnny Body

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness | Color | Material Classification | USCS * | Remarks | PID/FID Reading (ppm): Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Yellowish Brown | | | | | | | |
| | | N/A | N/A | | loose to very loose | | Silty Sand | SL | | | | | |
| | 5 | | | | | | | | | 0 | | | |
| | 10 | | | | | | | | | 0 | | | |
| | | | | | | | Additional color change to "White Beach Sand" | | | 0 | | | |
| | 15 | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | |
| | | | | | | | Terminated boring at 22' BGS to set well | | | | | | |

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: MW-21S

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASP-Bldg. 1932~~ Former Fuel Farm - Sherman Field
Project No.: ~~CTO 148/0547~~ 132 N0516

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASPFFF-MW3S
Sample Location: MW 3S
Sampled By: Gary J. Davis
C.O.C. No.:
Type of Sample:
[] Low Concentration
[X] High Concentration

| SAMPLING | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | SWL ~~TBD~~ | TBD DTW |
|---|---|---|---|---|---|---|---|---|
| Date: 11-09-00 | | | | | | | | |
| Time: 1345 | | | | | | | | |
| Method: Peristaltic | Clear to yellow | 5.93 | 0.234 | 24.8 | 2 | 0.89 | 0.00 | 25.57 |

| PURGE | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | SWL ~~TBD~~ | TBD | D |
|---|---|---|---|---|---|---|---|---|---|
| Date: 11-09-00 | | | | | | | | | |
| Method: peristaltic | ~1L | 5.91 | 0.254 | 25.1 | 5 | 1.05 | 0.00 | 1150 | 2 |
| Monitor Reading (ppm): NA | | See Low Flow Purge Data Sheet | | | | | GJD | | |
| Well Casing Diameter & Material | ~1.5gal | 5.76 | 0.232 | 24.5 | 4 | 0.85 | 0.00 | 1220 | 25 |
| Type: 2inch Sch 40 PVC | ~2gal | 5.92 | 0.234 | 24.9 | 3 | 0.81 | 0.00 | 1245 | 25 |
| Total Well Depth (TD): 29.45 | ~2.5gal | 5.97 | 0.231 | 24.8 | 2 | 1.80 | 0.00 | 1310 | 25 |
| Static Water Level (WL): 25.56 | ~3.5gal | 5.93 | 0.234 | 24.8 | 2 | 0.89 | 0.00 | 1340 | 2 |
| One Casing Volume (gal/L): 0.7 | | | | | | | | | |
| Start Purge (hrs): 1145 | | | | | | | | | |
| End Purge (hrs): 1345 | | | | | | | | | |
| Total Purge Time (min): 120 | | | | | | | | | |
| Total Vol. Purged (gal/L): ~3.5gal | | | | | | | | | |

Strong odor

FP 25.555

SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 3 - 40ml VOA | GJD |
| EDP | $Na_2S_2O_3$ | 3 - " " | GJD |
| PAH | Ice | 2 - 1L Amber | GJD |
| TRPH - FL PRO | HCL | 2 - " " | GJD |
| Pb | $HNO_3$ | 1 - 500ml Poly | GJD |
| Sulfide | NaOH | 1 - " " | GJD |
| Anions | Ice | 1 - " " | GJD |
| Methane | HCL | 3 - 40ml VOA | GJD |
| | | | |
| | | | |
| | | | |

OBSERVATIONS / NOTES

29.45 - 25.56 = 3.89 ft $H_2O$ x .167 = 0.65 gal = 1 vol.

~~6 mg/L~~ 6.2 mg/L $Fe^{2+}$ with Hach kit
Less than 0.2 mg/L Dissolved Oxygen

Circle if applicable

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

Signature(s): Gary J. Davis

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP-Former Fuel Farm-Sherman Field
Project No.: CTO 132 / 0516

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASPFFMW-4S
Sample Location: Sherman Field
Sampled By: D. Hartnett
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

| Date: 11/9/00 Time: 1310 Method: peristaltic/straw | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | TBD % Saturation | TBD Time 1202 |
|---|---|---|---|---|---|---|---|---|

Static Water Level Feet

| Date: 11/9/00 Method: peristaltic | Volume initial | pH 5.37 | S.C. 0.090 | Temp. (C) 25.4 | Turbidity 8 | DO 2.63 | TBD 0.00 | TBD 1202 | |
|---|---|---|---|---|---|---|---|---|---|
| Monitor Reading (ppm): | | See Low Flow Purge Data Sheet | | | | | | | |
| Well Casing Diameter & Material Type: 2" PVC | 1 | 5.14 | 0.066 | 25.3 | 6 | 2.31 | 0.00 | 1217 | 24.63 |
| | 2 | 5.15 | 0.067 | 25.2 | 4 | 2.66 | 0.00 | 1233 | 24.63 |
| Total Well Depth (TD): 29.70 | 3.5 | 5.16 | 0.068 | 25.4 | 3 | 2.55 | 0.00 | 1300 | 24.63 |
| Static Water Level (WL): 24.61 | 1308 | End purge | | | | | | | |
| One Casing Volume(gal/L): .85 | | | | | | | | | |
| Start Purge (hrs): 12:00 | | | | | | | | | |
| End Purge (hrs): | | | | | | | | | |
| Total Purge Time (min): | | | | | | | | | |
| Total Vol. Purged (gal/L): | | | | | | | | | |

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | - | |
| EDB | HCL $Na_2S_2O_3$ | 40ml X 3 | |
| PAH's | Ice | 1 liter X 1 | |
| TRPH | HCL | 1 liter X 1 | |
| Pb | $HNO_3$ | 500ml X 1 | |
| Sulfide | NaOH | 500ml X 1 | |
| Anions | Ice | 500ml X 1 | |
| Methane | HCL | 40ml X 3 | |

## REMARKS

Calibrate Horiba Model U-10, Pine Environmental ID. 951
Cal-solution Lot # 2270

HACH $Fe^{2+}$ = 0.8 mg/l D.O. = 2.6 mg/l

## QUALITY ASSURANCE

MS/MSD
Duplicate ID No.:

Signature(s):
D. Hartnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASP Bldg. 1932~~ Former Sherman Fuel Farm
Project No.: ~~CTO 140 / 0347~~ NO516

Sample ID No.: NASPFFMW-5S
Sample Location: Sherman Field FF
Sampled By: D. Heartnett
C.O.C. No.:

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

| Date: 11/6/00 | Color | pH | S.C. | Temp. | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Time: 0940 | Visual | Standard | mS/cm | °C | NTU | 3.88 mg/l | salinity | Time |
| Method: peristaltic/straw | Yellow | 5.49 | 0.123 | 24. | -6 | 4.73 | % 0 | 0957 |

| Date: 11/6/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | initial | 5.31 | 0.135 | 24.5 | -10 | 4.73 | 0.00 | 0957 |
| Monitor Reading (ppm): | | ~~See Low Flow Purge Data Sheet~~ | | | | | | |
| Well Casing Diameter & Material | 1 | 5.55 | 0.127 | 24.2 | -10 | 4.12 | 0.00 | 0908 |
| Type: PVC, 2" | 2 | 5.48 | 0.124 | 24.1 | -2 | 4.08 | 0.00 | 0922 |
| Total Well Depth (TD): 18.60 | 3 | 5.49 | 0.123 | 24.0 | -6 | 3.80 | 0.00 | 0937 |
| Static Water Level (WL): 11.81 | End Development | | | | | | | |
| One Casing Volume (gal/L): 1.1 | | | | | | | | |
| Start Purge (hrs): 0955 | | | | | | | | |
| End Purge (hrs): | | | | | | | | |
| Total Purge Time (min): | | | | | | | | |
| Total Vol. Purged (gal/L): | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC, 8021B | HCL | 40ml x3 | ✓ |
| EDB, 504.1 | | 40ml x3 | ✓ |
| PAHs, 8310 | Ice | 1 liter x2 | ✓ |
| TRPH, FL. PRO | $H_2SO_4$ | 1 liter x2 | ✓ |
| Pb, 7421 | $HNO_3$ | 1-500ml x1 | ✓ |

0950 calibrate Horiba Model U-10. Pine Env. # 951
Cal. Solution Lot # 2270 Exp. Dat 6-16-2002.
pH: 4.0 cond = 4.5 Turb = 0

MS/MSD | Duplicate ID No.:

Signature(s): Daniel Heartnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP ~~Bldg. 1932~~ Former Fuel Farm - Sherman Fld
Project No.: CTO ~~140 / 0547~~ 132N0516

[] Domestic Well Data
[✓] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASPFFF-MW7S
Sample Location: MW7S
Sampled By: Gary J. Davis
C.O.C. No.:
Type of Sample:
[✓] Low Concentration
[] High Concentration

| | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | SAL ~~TBD~~ | DTW ~~TBD~~ |
|---|---|---|---|---|---|---|---|---|
| Date: 11-06-00 | | | | | | | | |
| Time: 1000 | | | | | | | | |
| Method: Peristaltic | clear | 5.24 | 0.099 | 23.8 | 7 | 2.45 | 0.00 | 8.99 |

| | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | SAL ~~TBD~~ | TIME ~~TBD~~ | DTW |
|---|---|---|---|---|---|---|---|---|---|
| Date: 11-06-00 | | | | | | | | | |
| Method: Peristaltic | ~1L | 4.89 | 0.153 | 23.4 | 56 | 3.05 | 0.00 | 0905 | 8.98 |
| Monitor Reading (ppm): 0 | | ~~See Low Flow Purge Data Sheet~~ | | | | | | | slowed to 100 gal/min |
| Well Casing Diameter & Material | ~1 gal | 5.24 | 0.096 | 23.4 | 6 | 2.70 | 0.00 | 0915 | 8.98 |
| Type: 2 inch sch 40 PVC | ~1.5 gal | 5.22 | 0.097 | 23.8 | 9 | 2.45 | 0.00 | 0930 | 8.98 |
| Total Well Depth (TD): 16.70 | ~3 gal | 5.24 | 0.099 | 23.8 | 7 | 2.45 | 0.00 | 1000 | 8.99 |
| Static Water Level (WL): 8.98 | | | | | | | | | |
| One Casing Volume(gal/L): ~1.3 | | | | | | | | | |
| Start Purge (hrs): 0900 | | | | | | | | | |
| End Purge (hrs): 1000 | | | | | | | | | |
| Total Purge Time (min): 60 min | | | | | | | | | |
| Total Vol. Purged (gal/L): ~3 gal | | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 3 - 40 ml glass vial | GJD |
| EDB | $Na_2S_2O_3$ | 3 - " " | GJD |
| PAH | Ice | 2 - 1L Amber Glass | GJD |
| TRPH - FL PRO | $H_2SO_4$ | 2 1L " " | GJD |
| Pb | $HNO_3$ | 1 500ml poly | GJD |

16.70 - 8.98 = 7.72 ft $H_2O$ x .167 = 1.29 gal

| MS/MSD | Duplicate ID No.: | Signature(s): Gary J. Davis |
|---|---|---|

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASP Bldg. 1932~~ Former Fuel Farm, Sherman Fld
Project No.: ~~CTO 4407.0041~~ 132 ND516

Sample ID No.: NASPFFF-MW8S
Sample Location: MW-8S
Sampled By: Mary J. Davis
C.O.C. No.:

- [ ] Domestic Well Data
- [x] Monitoring Well Data
- [ ] Other Well Type:
- [ ] QA Sample Type:

Type of Sample:
- [x] Low Concentration
- [ ] High Concentration

| Date: 11-05-00 | Color | pH | S.C. | Temp. | Turbidity | DO | SWL TBD | DTW TBD |
|---|---|---|---|---|---|---|---|---|
| Time: 1500 | Visual | Standard | mS/cm | °C | NTU | mg/l | | |
| Method: Peristaltic | Clear | 5.82 | 0.178 | 25.2 | 2 | 0.30 | 0.00 | 12.37 |

| Date: 11-05-00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | Static | TTBD |
|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic | ~2L | 5.83 | 0.182 | 25.6 | 2 | 0.48 | 0.00 | 1410 |
| Monitor Reading (ppm): 0 | | See Low Flow Purge Data Sheet | | | | | | |
| Well Casing Diameter & Material | ~4.5gl | 5.83 | 0.178 | 25.5 | 2 | 0.30 | 0.00 | 1430 |
| Type: 2 inch Sch 40 PVC | ~2 gl | 5.82 | 0.178 | 25.2 | 2 | 0.30 | 0.00 | 1445 |
| Total Well Depth (TD): 18.27 | | | | | | | | |
| Static Water Level (WL): 12.36 | | | | | | | | |
| One Casing Volume(gal/L): ~1gal | | | | | | | | |
| Start Purge (hrs): 1400 | | | | | | | | |
| End Purge (hrs): | | | | | | | | |
| Total Purge Time (min): | | | | | | | | |
| Total Vol. Purged (gal/L): | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCl | 3 - 40ml VOA | |
| EDB 504.1 | $Na_2S_2O_3$ | 3 - 40 ml VOA | |
| PAH | Ice | 2 1 L Amber | |
| TRPH - FL PRO | $H_2SO_4$ | 2 1 L Amber | |
| Pb | $HNO_3$ | 1 500ml Poly | |

18.27 - 12.36 = 5.91 ~~ft~~ H2O x .167 = .99

| MS/MSD | Duplicate ID No.: | Signature(s): |
|---|---|---|
| | | Mary J. Davis |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP-Former Fuel Farm-Sherman Field
Project No.: CTO 132 / 0516

Sample ID No.: NASPFFMW-9S
Sample Location: Sherman Field
Sampled By: D. Hartnett
C.O.C. No.:
Type of Sample:
- [] Low Concentration
- [] High Concentration

- [] Domestic Well Data
- [] Monitoring Well Data
- [] Other Well Type:
- [] QA Sample Type:

| Date: 11/15/00 | Color | pH | S.C. | Temp. | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Time: 1630 | Visual | Standard | mS/cm | °C | NTU | mg/l | % Salinity | Time |
| Method: peristaltic/tubing | | | | | | | | |

DTW 9.88

| Date: 11/15/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | initial | 6.12 | 0.103 | 24.8 | 18 | 3.70 | 0.00 | 1538 |
| Monitor Reading (ppm): | | See Low Flow Purge Data Sheet | | | | | | |
| Well Casing Diameter & Material | 1/2 | 5.97 | 0.100 | 25.0 | 11 | 3.50 | 0.00 | 1545 |
| Type: 2" PVC | 1 | 5.97 | 0.099 | 25.0 | 5 | 3.50 | 0.00 | |
| Total Well Depth (TD): 16.65 | 2 | 5.89 | 0.095 | 25.1 | 0 | 3.27 | 0.00 | |
| Static Water Level (WL): 8.78 | 3 | 5.77 | 0.097 | 25.1 | 1 | 3.49 | 0.00 | |
| One Casing Volume (gal/L): 1.25 | | End purge | | | | | | |
| Start Purge (hrs): 1535 1535 | | | | | | | | |
| End Purge (hrs): 1627 | | | | | | | | |
| Total Purge Time (min): | | | | | | | | |
| Total Vol. Purged (gal/L): | | | | | | | | |

9.88

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 40ml X3 | ✓ |
| EDB | $Na_2S_2O_3$ | 40ml X3 | ✓ |
| Methane | HCL | 40ml X3 | ✓ |
| PAH's | Ice | 1 liter X2 | ✓ |
| TRPH | HCL | 1 liter X2 | ✓ |
| Pb | $HNO_3$ | 500ml X1 | ✓ |
| Sulfide | NaOH ZnAc | 500ml X1 | ✓ |
| Anions | Ice | 500ml X1 | ✓ |
| HACH Results | $Fe^{2+}$ = <0.2 | D.O. = 3.7 mg/l | |

Use Horiba Model U-10 From Pine Environmental #00954
Cal-Solution Lot # 2200 From Pine Env

MS/MSD: N/A
Duplicate ID No.: N/A
Signature(s): Dan Hartnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP ~~Bldg. 1932~~ Former Fuel Farm Sherman FH
Project No.: CTO ~~1407/0547~~ 132 N0516

Sample ID No.: NASP FFF-MW10R
Sample Location: MW 10 R
Sampled By: Mary J. Davis
C.O.C. No.:
Type of Sample:
- [x] Low Concentration
- [ ] High Concentration

- [ ] Domestic Well Data
- [x] Monitoring Well Data
- [ ] Other Well Type:
- [ ] QA Sample Type:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Date: 11-06-00 | Color | pH | S.C. | Temp. | Turbidity | DO | TBD | TBD |
| Time: 1215 | Visual | Standard | mS/cm | °C | NTU | mg/l | | |
| Method: Peristaltic | Clear | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Date: 11-06-00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ~~TBD~~ SAL | ~~TBD~~ TIME | DTW |
| Method: Peristaltic | ~1L | 5.69 | 0.233 | 24.7 | 337 | 1.45 | 0.00 | 1110 | 9.3 |
| Monitor Reading (ppm): 0 | ~~See Low Flow Purge Data Sheet~~ | | | | | | 0.00 | | |
| Well Casing Diameter & Material | ~1 gal | 5.60 | 0.188 | 23.9 | 4 | 3.07 | 0.00 | 1130 | 9.3 |
| Type: 2-inch S40 PVC | ~2 gal | 5.63 | 0.178 | 23.8 | 1 | 3.18 | 0.00 | 1155 | 9.3 |
| Total Well Depth (TD): 18.50 | ~2.5 gal | 5.74 | 0.179 | 23.6 | 0 | 3.22 | 0.00 | 1215 | |
| Static Water Level (WL): 9.31 | | | | | | | | | |
| One Casing Volume(gal/L): ~1.5 gal | | | | | | | | | |
| Start Purge (hrs): 1110 | | | | | | | | | |
| End Purge (hrs): 1215 | | | | | | | | | |
| Total Purge Time (min): 65 | | | | | | | | | |
| Total Vol. Purged (gal/L): ~2.5 gal | | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 3 - 40ml glass vials | MJD |
| EDB | $Na_2S_2O_3$ | 3 - " " " | MJD |
| PAH | Ice | 2 - 1L Amber Glass | MJD |
| TRPH-FL PRO | $H_2SO_4$ | 2 - " " " | MJD |
| Pb | $HNO_3$ | 1 - 500ml poly | MJD |

14.50 - 9.31 = 9.19 ft $H_2O$ x .167 = 1.53

MS/MSD | Duplicate ID No.:

Signature(s): Mary J. Davis

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP-Former Fuel Farm-Sherman Field
Project No.: CTO 132 / 0516

Sample ID No.: NASPFFMW-11S
Sample Location: Sherman Field
Sampled By: D. Hartnett
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

| Date: 11/15/00 | Color | pH | S.C. | Temp. | Turbidity | DO | TBD | TBD | DTW |
|---|---|---|---|---|---|---|---|---|---|
| Time: 1459 | Visual | Standard | mS/cm | °C | NTU | mg/l | % Salinity | Time | |
| Method: peristaltic/straw | | | | | | | | | |

| Date: 11/15/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD | |
|---|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | initial | 5.39 | 0.104 | 22.4 | 12.0 | 3.48 | 0.00 | 1203 | 7.70 |
| Monitor Reading (ppm): | | See Low-Flow Purge Data Sheet | | | | | | ~~1245~~ | |
| Well Casing Diameter & Material | 1 | 5.33 | 0.080 | 22.5 | 3 | 3.73 | 0.00 | 1245 | 7.69 |
| Type: 2" PVC | 2 | 5.35 | 0.081 | 22.5 | 3 | 3.59 | 0.00 | 1810 | 7.69 |
| Total Well Depth (TD): 16.50 | 3 | 5.37 | .082 | 22.4 | 3 | 3.75 | 0.00 | 1447 | 7.69 |
| Static Water Level (WL): 7.69 | End purge | | | | | | | | |
| One Casing Volume (gal/L): 16.5 | 1.5 | | | | | | | | |
| Start Purge (hrs): 1300 | | | | | | | | | |
| End Purge (hrs): 1445 | | | | | | | | | |
| Total Purge Time (min): 105 | | | | | | | | | |
| Total Vol. Purged (Gal/L): 4.5 | | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 40 ml x 3 | ✓ |
| EDB | $Na_2S_2O_3$ | 40 ml x 3 | ✓ |
| methane | HCL | 40 ml x 3 | ✓ |
| PAH's | Ice | 1 liter x 2 | ✓ |
| TRPH | HCL | 1 liter x 2 | ✓ |
| Pb | $HNO_3$ | 500 ml x 1 | ✓ |
| Sulfide | Zn Ac NaOH | " " | ✓ |
| Anions | Ice | " " | ✓ |
| HACH results | $Fe^{2+}$ = 2.8 mg/l | D.O. = 6.4 mg/l @ 3.2 ml/l | |

- Flow Rate ≤ 100 ml/min due to High Turbidity.
  Use Horiba Model U-10 from Pine Environmental # 00951
- Cal-Solution Lot # 2270, calibrate @ 1255

| MS/MSD | Duplicate ID No.: | Signature(s): |
|---|---|---|
| N/A | N/A | Dan Hartnett |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP-Former Fuel Farm-Sherman Field
Project No.: CTO 132 / 0516

[] Domestic Well Data
[✓] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASPFFMW-12S
Sample Location: Sherman Field
Sampled By: D. Hartnett
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

| | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | TBD % Salinity | TBD Time |
|---|---|---|---|---|---|---|---|---|
| Date: 11/16/00 | | | | | | | | |
| Time: 1000 | | | | | | | | |
| Method: peristaltic/straw | V. Clear | 5.97 | 0.305 | 25.4 | 0 | 1.26 | 0.01 | |

| | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD | |
|---|---|---|---|---|---|---|---|---|---|
| Date: 11/16/00 | | | | | | | | | |
| Method: peristaltic | Initial | 5.86 | 0.316 | 23.7 | 15 | 0.91 | 0.01 | | |
| Monitor Reading (ppm): | | ~~See Low Flow Purge Data Sheet~~ | | | | | | | |
| Well Casing Diameter & Material | 1 | 5.96 | 0.313 | 25.2 | 1 | 0.65 | 0.01 | 900 | 14 |
| Type: 2" PVC | 2 | 5.95 | 0.307 | 25.5 | 0 | 0.92 | 0.01 | 930 | 14 |
| Total Well Depth (TD): 19.70 | 3 | 5.97 | 0.305 | 25.4 | 0 | 1.26 | 0.01 | 957 | 14 |
| Static Water Level (WL): 14.60 | End purge | | | | | | | | |
| One Casing Volume(gal/L): .85 | | | | | | | | | |
| Start Purge (hrs): 0830 | | | | | | | | | |
| End Purge (hrs): 0957 | | | | | | | | | |
| Total Purge Time (min): 117 | | | | | | | | | |
| Total Vol. Purged (gal/L): 3 | | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 40ml X 3 | ✓ |
| EDB | $Na_2S_2O_3$ | 40ml x 3 | ✓ |
| Pb | $HNO_3$ | 500ml x1 | ✓ |
| PAH's | Ice | 1 liter x2 | ✓ |
| TRPH | HCL | 1 liter x2 | ✓ |
| Sulfide | ZnAc NaOH | 500ml X 1 | ✓ |
| ANions | Ice | 500ml X 1 | ✓ |
| Methane | HCL | 40ml X 3 | ✓ |
| | | | |
| HACH Results | $Fe^{2+}$ = | 6.2 mg/l D.O. = <0.2 | |

Calibrate Horiba Model U-10 @ 0830 from Pine Environ.
ID#00954, Cal-Solution Lot # 2200
collect Equip BK. (NASPFFEQB-2) @ 0800

★ Sheen

| MS/MSD | Duplicate ID No.: | Signature(s): |
|---|---|---|
| N/A | NASPFF[redacted]DUP-3 | [signature] |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASB Bldg. 1932~~ Sherman Fuel Farm
Project No.: CTO 140 / 0547 NO516

Sample ID No.: NASPFFMW-13S
Sample Location: Sherman Fuel Farm
Sampled By: Dr Hartuff
C.O.C. No.: 27734

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

| Date: 11/7/00 | Color | pH | S.C. | Temp. | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Time: 1035 | Visual | Standard | mS/cm | °C | NTU | mg/l | % Salinity | Time |
| Method: peristaltic/straw | N. Clear | | | 26. | | | | |

DTW

| Date: 11/7/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD | |
|---|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | Initial | 5.10 | 0.179 | 26.2 | 0 | 1.26 | 0.00 | — | |
| Monitor Reading (ppm): | | ~~See Low Flow Purge Data Sheet~~ | | | | | | | |
| Well Casing Diameter & Material | 1 | 5.15 | 0.174 | 26.2 | 0 | 1.24 | 0.00 | 1012 | 16.99 |
| Type: 2" PVC | 2 | 5.23 | 0.170 | 26.3 | 0 | 1.58 | 0.00 | 1023 | 16.99 |
| Total Well Depth (TD): 18.80 | 3 | 5.22 | 0.168 | 26.4 | 0 | 1.18 | 0.00 | 1034 | 16.99 |
| Static Water Level (WL): 16.97 | End | Developing purge | | | | | | | |
| One Casing Volume (gal/l): 0.3 | | | | | | | | | |
| Start Purge (hrs): 10:10 | | | | | | | | | |
| End Purge (hrs): 10:34 | | | | | | | | | |
| Total Purge Time (min): 24 | | | | | | | | | |
| Total Vol. Purged (gal/l): ~1.0 | | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 40ml X 3 | ✓ |
| EDB | $Na_2S_2O_3$ | " " | ✓ |
| PAHS | Ice | 1liter x 2 | ✓ |
| TRPH | $H_2SO_4$ | " " | ✓ |
| Pb | $HNO_3$ | 500ml X 1 | ✓ |

OBSERVATIONS / NOTES:

Collect Equipment Blank prior to this well.
1010 calibrate Horiba Model U-10 from Pine Environmental.
Cal solution Lot # 2270 Exp. 6/16/2002

| MS/MSD | Duplicate ID No.: | Signature(s): |
|---|---|---|
| | | Dan Hartuff |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP-Former Fuel Farm-Sherman Field
Project No.: CTO 132 / 0516

[] Domestic Well Data
[x] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASP FF MW-14S
Sample Location: Sherman Field
Sampled By: Dan Hartnett
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

| Date: 11/16/00 Time: 1300 | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | TBD % Salinity | TBD Time |
|---|---|---|---|---|---|---|---|---|
| Method: peristaltic/straw | V. Clear | 6.21 | 0.127 | 23.4 | 0 | 6.03 | 0.00 | |

| Date: 11/16/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | initial | 6.27 | 0.132 | 22.5 | 0 | 6.47 | 0.00 | 1157 |
| Monitor Reading (ppm): | | ~~See Low Flow Purge Data Sheet~~ | | | | | 000 | # 1220 |
| Well Casing Diameter & Material | 1 | 6.24 | 0.127 | 23.4 | 0 | 6.63 | 0.00 | ~~1220~~ |
| Type: 2=PVC | 2 | 6.20 | 0.127 | 23.4 | 1 | 5.98 | 0.00 | #57 |
| Total Well Depth (TD): 18.25 | 3 | 6.21 | 0.127 | 23.4 | 0 | 6.03 | 000 | 11:57 |
| Static Water Level (WL): 11.96 | End purge | | | | | | | |
| One Casing Volume (gal/L): 1.0 | | | | | | | | |
| Start Purge (hrs): 1155 | | | | | | | | |
| End Purge (hrs): 1157 | | | | | | | | |
| Total Purge Time (min): 62 | | | | | | | | |
| Total Vol. Purged (gal/L): 3 | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 3 x 40ml | ✓ |
| EDB | | 3 x 40ml | ✓ |
| Methane | HCL | 3 x 40ml | ✓ |
| PAH's | Ice | 2 x 1 liter | ✓ |
| TRPH | HCL | 2 x 1 liter | ✓ |
| Pb | HNO3 | 1 x 500ml x 1 | ✓ |
| Sulfide | | 1 x 500ml x 1 | ✓ |
| Anions | Ice | 1 x 500ml x 1 | ✓ |
| | | | |
| HACH results | $Fe^{2+}$ = 0mg/l | DO = 7.0mg/l | |

- Use Horiba, Model U-10, calibrated this morning @ 08:30
- Fine Environmental I.D. # 00954
- Cal solution Lot # 2200

MS/MSD ✓ | Duplicate ID No.: N/A | Signature(s): Dan Hartnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Former Fuel Farm Sherman FH

Project Site Name: NASP-~~Bldg. 1932~~
Project No.: CTO ~~148/0547~~ 132 N0516

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASPFFF-MW15S
Sample Location: MW-15S
Sampled By: Gary J. Davis
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

| Date: 11-07-00 | Color | pH | S.C. | Temp. | Turbidity | DO | SAL ~~TBD~~ | DTW ~~TBD~~ |
|---|---|---|---|---|---|---|---|---|
| Time: 1100 | Visual | Standard | mS/cm | °C | NTU | mg/l | | |
| Method: peristaltic | Clear | 6.65 | 0.224 | 26.0 | 0 | 3.13 | 0.00 | 11.27 |

| Date: 11-07-00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | SAL ~~TBD~~ | Time ~~TBD~~ | DTW |
|---|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic | ~1L | 6.28 | 0.248 | 25.8 | 0 | 3.83 | 0.00 | 0920 | 11.27 |
| Monitor Reading (ppm): 0 | | ~~See Low Flow Purge Data Sheet~~ | | | | | | | |
| Well Casing Diameter & Material | ~1.5gal | 6.65 | 0.224 | 25.8 | 0 | 3.50 | 0.00 | 0950 | 11.27 |
| Type: 2-inch Sch 40 PVC | ~2.5gal | 6.64 | 0.225 | 25.8 | 0 | 3.15 | 0.00 | 1025 | 11.27 |
| Total Well Depth (TD): 18.20 | ~3gal | 6.65 | 0.224 | 26.0 | 0 | 3.13 | 0.00 | 1055 | 11.27 |
| Static Water Level (WL): 11.27 | | | | | | | | | |
| One Casing Volume(gal/L): ~1.2gal | | | | | | | | | |
| Start Purge (hrs): 0915 | | | | | | | | | |
| End Purge (hrs): 1055 | | | | | | | | | |
| Total Purge Time (min): 100min | | | | | | | | | |
| Total Vol. Purged (gal/L): ~3gal | | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 3 - 40ml VOA | GJD |
| EDB | $Na_2S_2O_3$ | 3 - " " | GJD |
| PAH | Ice | 2 - 1L Amber | GJD |
| TRPH-FL Pro | $H_2SO_4$ | 2 - " | GJD |
| Pb | $HNO_3$ | 1 - ~~1.50~~ 500ml Poly | GJD |

18.20 - 11.27 = 6.93ft H2O x .167 = 1.16 gal

MS/MSD | Duplicate ID No.: NASPFFF-DUPE2

Signature(s): Gary J. Davis

TETRA TECH NUS, INC. **LOW FLOW PURGE DATA SHEET**

PROJECT SITE NAME: NAS PENSACOLA
PROJECT NUMBER: N0516
Begin 0745

OTW = 12.69
TD = 18.10
1 Volume = .90

WELL ID.: NASPFFmw-16s
DATE: 11/8/00

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (°C) | Sal. (ppt) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 748 | 12 13.71 | 300/min | 5.60 | 0.180 | 8 | 0.78 | 25.2 | 0.00 | Very Clear |
| 708 | 0815 12.70 | " | 5.62 | 0.173 | 7 | 0.34 | 25.3 | 0.00 | Very Clear |
| 0827 | 12.70 | 300/min | 5.65 | 0.173 | 11 | 0.28 | 25.3 | 0.00 | Drop FlRate to 100/min |
| 0842 | 12.70 | 100/min | 5.61 | 0.179 | 8 | 0.39 | 25.5 | 0.00 | Very Clear |
| 0904 | 12.70 | " " | 5.61 | 0.176 | 6 | 0.26 | 25.6 | 0.00 | " " |
| | End purge | | | | | | | | |

HACH

$Fe^{2+}$ = 0.6 mg/l

D.O. = <0.20 mg/l

PAGE ___ OF ___

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP ~~Bldg. 1930~~ Former Fuel Farm Sherman Fld.
Project No.: CTO ~~148 / 0547~~ 132 N0516

[] Domestic Well Data
[✓] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASP FFF-MW175
Sample Location: MW-175
Sampled By: Gary J. Davis
C.O.C. No.:
Type of Sample:
[✓] Low Concentration
[] High Concentration

| SAMPLING DATA | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Date: 11-06-00 | Color | pH | S.C. | Temp. | Turbidity | DO | Gal ~~TBD~~ | ~~Time TBD~~ DTW | |
| Time: 1700 | Visual | Standard | mS/cm | °C | NTU | mg/l | | | |
| Method: Peristaltic | Cloudy | 6.49 | 0.167 | 24.2 | 25 | 2.76 | 0.00 | 16.17 | |

| PURGE DATA | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Date: 11-06-00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | Sal ~~TBD~~ | Time ~~TBD~~ | DTW |
| Method: Peristaltic | ~1L | 6.33 | 0.190 | 24.9 | 9 | 5.06 | 0.00 | ~~[illegible]~~ | 16.17 |
| Monitor Reading (ppm): 0 | ~~See Low Flow Purge Data Sheet~~ | | | | | | | 1455 | |
| Well Casing Diameter & Material | ~1 gal | 6.49 | 0.172 | 24.7 | 18 | 3.67 | 0.00 | ~~[illegible]~~ 1515 | 16.17 |
| Type: 2 inch Sch 40 PVC | ~1.5 gal | 6.53 | 0.169 | 24.6 | 22 | 2.92 | 0.00 | 1530 | |
| Total Well Depth (TD): 19.40 | ~2 gal | 6.56 | 0.173 | 24.3 | 21 | 3.90 | 0.00 | 1600 | 16.16 |
| Static Water Level (WL): 16.15 | ~2.5 | 6.49 | 0.167 | 24.2 | 25 | 3.12 | 0.00 | 1630 | 16.17 pump stope |
| One Casing Volume(gal/L): ~.5 gal | ~3 gal | 6.49 | 0.167 | 24.2 | 25 | 2.76 | ~~0.00~~ | 1700 | 16.17 |
| Start Purge (hrs): 1445 | | | | | | | | | |
| End Purge (hrs): 1700 | | | | | | | | | |
| Total Purge Time (min): 135 | | | | | | | | | |
| Total Vol. Purged (gal/L): ~3.5 gal | | | | | | | | | |

| SAMPLE CONCENTRATION INFORMATION | | | |
|---|---|---|---|
| Analysis | Preservative | Container Requirements | Collected |
| VOC | HCL | 3 - 40ml glass vials | [illegible] |
| EDB | $Na_2S_2O_3$ | 3 - " " " | [illegible] |
| PAH | Ice | 2 - 1L Amber glass | [illegible] |
| TRPH-FL PRO | $H_2SO_4$ | 2 " " " | [illegible] |
| Pb | $HNO_3$ | 1 500ml poly | [illegible] |

OBSERVATIONS / NOTES

19.40 - 16.15 = 3.25 ft $H_2O$ x .167 = .54 gal

| CIRCLE IF APPLICABLE | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | Gary J. Davis |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASP Bldg. 1932~~ Sherman Field
Project No.: ~~CTO 140 / 0647~~ No 516

Sample ID No.: NASPFFMW-18S
Sample Location: Sherman Fuel Farm
Sampled By: D Hartnett
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[x] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

| Date: 11/5/00 | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | TBD Salinity | TBD Time |
|---|---|---|---|---|---|---|---|---|
| Time: 10:30 | | | | | | | | |
| Method: peristaltic/Straw | Very Clear | 5.12 | 0.098 | 25.7 | ~4 | 4.84 | % | 10:30 |

| Date: 11/5/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic | Initial | 5.13 | 0.098 | 25.1 | 2 | 4.87 | 0.00 | 0932 |
| Monitor Reading (ppm): | | ~~See Low Flow Purge Data Sheet~~. | | | | | | |
| Well Casing Diameter & Material | 1 | 5.42 | 0.093 | 25.7 | -4 | 5.12 | 0.00 | 0950 |
| Type: 2" PVC | 2 | 5.42 | 0.093 | 25.8 | -4 | 4.76 | 0.00 | 1010 |
| Total Well Depth (TD): 19.56 | 3 | 5.42 | 0.092 | 25.7 | -4 | 4.84 | 0.00 | 1028 |
| Static Water Level (WL): 13.59 | End | purge | | | | | | |
| One Casing Volume (gal/L): 1.0 | | | | | | | | |
| Start Purge (hrs): 09:30 | | | | | | | | |
| End Purge (hrs): 10:28 | | | | | | | | |
| Total Purge Time (min): 55 | | | | | | | | |
| Total Vol. Purged (gal/L): 3.0 | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC 8021B | HCL | 40ml x3 | ✓ |
| EDB 504.1 | $Na_2S_2O_3$ | " " | ✓ |
| PAH's 8310 | Ice | 1 liter x2 | ✓ |
| TRPH FL. PRO | $H_2SO_4$ | " " | ✓ |
| Pb 7421 | $HNO_3$ | 1500ml pl. x1 | ✓ |

Calibrate Horiba from Pine Env. # 951 09:20
cal sol. Lot # 2270

MS/MSD | Duplicate ID No.:

Signature(s): Daniel Hartnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASP-Bldg. 1932~~ Former Fuel Farm Sherman Fld.
Project No.: ~~CTO 140/0547~~ CTO132 N0516

Sample ID No.: NASPFFF-MW-19S
Sample Location: MW-19S
Sampled By: Gary J. Davis
C.O.C. No.:
Type of Sample:
[x] Low Concentration
[] High Concentration

[] Domestic Well Data
[x] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

| SAMPLING DATA | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | SAL ~~TDS~~ | ~~TDS~~ DTW |
|---|---|---|---|---|---|---|---|---|
| Date: 11-05-00 | | | | | | | | |
| Time: 1100 | | | | | | | | |
| Method: Peristaltic | Clear | 5.28 | 0.109 | 25.3 | 0 | 5.44 | 0.00 | 16.87 |

| PURGE DATA | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | SAL ~~TDS~~ | TIME ~~TDS~~ | DTW |
|---|---|---|---|---|---|---|---|---|---|
| Date: 11-05-00 | | | | | | | | | |
| Method: Peristaltic | ~1L | 5.25 | 0.144 | 24.5 | 10 | 4.65 | 0.00 | 1000 | 16.86 |
| Monitor Reading (ppm): 0 | ~~See Low Flow Purge Data Sheet~~ | | | | | | ~~[illegible]~~ | | |
| Well Casing Diameter & Material | ~1.5gal | 5.32 | 0.111 | 25.0 | 0 | 5.44 | 0.00 | 1025 | 16.87 ~~1025~~ |
| Type: 2inch Sch 40 PVC | ~2gal | 5.32 | 0.109 | 25.4 | 1 | 5.43 | 0.00 | 1045 | 16.87 |
| Total Well Depth (TD): 19.20 | ~3gal | 5.28 | 0.109 | 25.3 | 0 | 5.44 | 0.00 | 1100 | |
| Static Water Level (WL): 16.85 | | | | | | | | | |
| One Casing Volume(gal/L): ~.4 | | | | | | | | | |
| Start Purge (hrs): 0955 | ~~0955~~ | | | | | | | | |
| End Purge (hrs): 1100 | | | | | | | | | |
| Total Purge Time (min): 65 | | | | | | | | | |
| Total Vol. Purged (gal/L): ~3.5gal | | | | | | | | | |

SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC 8021B | HCL | 3 - 40ml VOAs | |
| EDB 504.1 | ~~Ice~~ $NA_2S_2O_3$ | 3 - 40ml VOAs | |
| PAH | Ice | 2 - 1L Amber | |
| TRPH - FL PRO | $H_2SO_4$ | 2 - 1L Amber | |
| Pb | $HNO_3$ | 1 - 500ml poly | |

OBSERVATIONS/NOTES

19.20 - 16.85 = 2.35 ft $H_2O$ x .167 = .39

Pumping ~100ml/min

| Circle if applicable | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | Gary J. Davis |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASP-Bldg. T932~~ Sherman Field
Project No.: ~~CTO 149 / 0647~~

Sample ID No.: NASPFFMW-20S
Sample Location: Sherman F.F.
Sampled By:
C.O.C. No.:

[] Domestic Well Data
[x] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

| Date: 11/5/00 Time: 1140 | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | TBD Salinity | TBD Time |
|---|---|---|---|---|---|---|---|---|
| Method: peristaltic/Straw | very Clear | 5.90 | 0.157 | 26.2 | -4 | 4.37 | % | 1140 |

| Date: 11/5/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | Initial | 5.84 | 0.166 | 26.0 | 1 | 4.70 | 0.00 | 11:03 |
| Monitor Reading (ppm): | | ~~See Low Flow Purge Data Sheet~~ | | | | | | |
| Well Casing Diameter & Material | 1 | 5.90 | 0.158 | 26.3 | -4 | 4.67 | 0.00 | 1118 |
| Type: 2= PVC | 2 | 5.90 | 0.158 | 26.3 | -4 | 4.44 | 0.00 | 1120 |
| Total Well Depth (TD): 19.40 | 3 | 5.90 | 0.157 | 26.2 | -4 | 4.37 | 0.00 | 1130 |
| Static Water Level (WL): 17.16 | | | | | | | | |
| One Casing Volume(gal/L): .4 | | | | | | | | |
| Start Purge (hrs): 11:00 | | | | | | | | |
| End Purge (hrs): 11:30 | | | | | | | | |
| Total Purge Time (min): 30 | | | | | | | | |
| Total Vol. Purged (gal/L): 1.5 | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC, 8021B | HCL | 40ml x 3 | ✓ |
| EDB, 504.1 | ~~Ice~~ Na2S2O3 | " " | ✓ |
| PAH's, 8310 | Ice | 1 liter x 2 | ✓ |
| TRPH, FL.PRO | H2SO4 | " " | ✓ |
| Pb, 7421 | HNO3 | 500ml x1 | ✓ |

Use Horiba Model U-10 Pine I.D. # 951
Cal Solution Lot # 2270 Calibrated today @ 0920

MS/MSD | Duplicate ID No.:

Signature(s): Daniel Hartnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP-Former Fuel Farm-Sherman Field
Project No.: CTO 132 / 0516

[] Domestic Well Data
[x] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASPFFMW-21S
Sample Location: Sherman Field
Sampled By: D. Hartnett
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

| Date: 11/15/00 Time: 1205 Method: peristaltic/straw | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | TBD % Salinity | TBD Time |
|---|---|---|---|---|---|---|---|---|

| Date: 11/15/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | initial | 5.30 | 0.147 | 23.6 | 19 | 2.36 | 0.00 | 1100 |
| Monitor Reading (ppm): | | ~~See Low Flow Purge Data Sheet~~ | | | | | | 1120 |
| Well Casing Diameter & Material | 1 | 5.99 | 0.152 | 24.5 | 1 | 2.93 | 0.00 | 1120 |
| Type: 2" PVC | 2 | 6.15 | 0.160 | 24.9 | 2 | 3.18 | 0.00 | 1140 |
| Total Well Depth (TD): 18.15 | 3 | 6.19 | 0.160 | 25.0 | 0 | 3.12 | 0.00 | 1200 |
| Static Water Level (WL): 9.46 | | Endpurge | | | | | | 1204 |
| One Casing Volume(gal/L): 1.5 | | | | | | | | |
| Start Purge (hrs): 1055 | | | | | | | | |
| End Purge (hrs): 1204 | | | | | | | | |
| Total Purge Time (min): | | | | | | | | |
| Total Vol. Purged (gal/L): | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 40ml x 3 | ✓ |
| EDB | None | 40ml x 3 | ✓ |
| methane | HCL | 40ml x 3 | ✓ |
| PAH's | Ice | 1 liter x 2 | ✓ |
| TRPH | H2SO4 HCL | 1 liter x 2 | ✓ |
| Pb | HNO3 | 1500ml x 1 | ✓ |
| Sulfide Zn Ac | NaOH | 500ml x 1 | ✓ |
| Anions | Ice | 500ml x 1 | ✓ |
| HACH Results | Fe2+ = 0mg/l | D.O. = 4.4mg/l | |

Calibrate Horiba Model U-10 from Pine Environ. ID#951
• Cal. Solution Lot # 2270 from Pine Environmental
• calibrate @ 1050

| MS/MSD | Duplicate ID No.: | Signature(s): |
|---|---|---|
| N/A | N/A | Dan Hartnett |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASP Bldg. 1932~~ Sherman Field Fuel Farm
Project No.: ~~CTO 149 / 0547~~ N0516

Sample ID No.: NASPFFMW-22S
Sample Location: Sherman Fuel F
Sampled By: D. Martnett
C.O.C. No.: 2273+2

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Type of Sample:
[] Low Concentration
[] High Concentration

| | Color | pH | S.C. | Temp. | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Date: 11/6/00 | | | | | | | | |
| Time: 15:30 | Visual | Standard | mS/cm | °C | NTU | mg/l | % Salinity | Time |
| Method: peristaltic/Straw | V. Clear | 5.72 | 0.184 | 24.5 | 2 | 0.30 | 0.00 | |

| | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Date: 11/6/00 | | | | | | | | |
| Method: peristaltic | initial | 5.74 | 0.198 | 24.6 | 3 | 0.68 | 0.00 | 1442 |
| Monitor Reading (ppm): | | See Low Flow Purge Data Sheet | | | | | | |
| Well Casing Diameter & Material | 1 | 5.72 | 0.192 | 24.5 | 2 | 0.34 | 0.00 | 1452 |
| Type: 2 = PVC | 2 | 5.72 | 0.186 | 24.5 | 2 | 0.30 | 0.00 | 1504 |
| Total Well Depth (TD): 20.35 | 3 4 | 5.72 | 0.184 | 24.5 | 2 | 0.30 | 0.00 | 1528 |
| Static Water Level (WL): 14.47 | End development | | | | | | | |
| One Casing Volume (gal/L): 1.0 | | | | | | | | |
| Start Purge (hrs): 14:40 | | | | | | | | |
| End Purge (hrs): | | | | | | | | |
| Total Purge Time (min): | | | | | | | | |
| Total Vol. Purged (gal/L): | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC, 8021B | HCL | 40ml x 3 | ✓ |
| EDB, 501.4 | $Na_2S_2O_3$ | 40ml x 3 | ✓ |
| PAH's, 8310 | Ice | 1 liter x 2 | ✓ |
| TRPH, FL. PRO | $H_2SO_4$ | 1 liter x 2 | ✓ |
| Pb, 7421 | $HNO_3$ | 500ml x 1 | ✓ |

Use Horiba model U-10; Pine Environmental I.D. # 00951
Cal. Solution Lot# 2270 - calibrated Today.

MS/MSD

Duplicate ID No.: NASPFF DUP-1

Signature(s): David Martnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: ~~NASP Bldg. 1002~~ Sherman Field Fuel Farm
Project No.: ~~CTO 148/0547~~ N0516

Sample ID No.: NASPFF-MW-23S
Sample Location: Sherman Fuel Farm
Sampled By: D. Hartnett
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

| Date: 11/6/00 Time: 1145 | Color Visual | pH Standard | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/l | TBD Salinity | TBD Time | DTW |
|---|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic/Straw | Very Clear | 5.77 | 0.093 | 24.7 | 1 | 5.67 | % | 1145 | |

| Date: 11/6/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD | |
|---|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | 11:07 | 5.56 | 0.093 | 24.9 | 6 | 4.25 | 0.00 | 11:07 | 9.57 |
| Monitor Reading (ppm): | | ~~See Low-Flow Purge Data Sheet~~ | | | | | | | |
| Well Casing Diameter & Material | 1 | 5.79 | 0.094 | 24.7 | 1 | 5.70 | 0.00 | 11:20 | 9.56 |
| Type: 2 = PVC | 2 | 5.78 | 0.093 | 24.7 | 1 | 5.69 | 0.00 | 11:30 | 9.56 |
| Total Well Depth (TD): 15.30 | 3 | 5.79 | 0.093 | 24.7 | 1 | 5.67 | 0.00 | 11:40 | 9.56 |
| Static Water Level (WL): 9.55 | End Development | | | | | | | | |
| One Casing Volume(gal/L): 1.0 | | | | | | | | | |
| Start Purge (hrs): 11:05 | | | | | | | | | |
| End Purge (hrs): 11:45 | | | | | | | | | |
| Total Purge Time (min): 45 | | | | | | | | | |
| Total Vol. Purged (gal/L): 3 | | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 40ml X3 | ✓ |
| EDB | | 40ml X3 | ✓ |
| PAH's | Ice | 1 liter X2 | ✓ |
| TRPH | $H_2SO_4$ | 1 liter X2 | ✓ |
| Pb | $HNO_3$ | 500ml X1 | ✓ |

Using Horiba Model U-10 calibrated Today at 09:50
Pine Env. I.D.# 00951, Cal. Solution Lot #2270
Exp. 6-16-2002

MS/MSD | Duplicate ID No.:

Signature(s): Donald Hartnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP ~~Bldg. 1932~~ Former Fuel Farm - Sherman Field
Project No.: CTO ~~140/0547~~ 132 N0516

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: NASPFFF-MW5I
Sample Location: MW-5I
Sampled By: Gary J. Davis
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

| Date: 11-07-00 | Color | pH | S.C. | Temp. | Turbidity | DO | SAL ~~TBD~~ | DTW ~~TBD~~ |
|---|---|---|---|---|---|---|---|---|
| Time: 1615 | Visual | Standard | mS/cm | °C | NTU | mg/l | | |
| Method: Peristaltic | Clear Yellow | 4.88 | 0.082 | 22.3 | 1 | 0.27 | 0.00 | 12.24 |

| Date: 11-07-00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | SAL ~~TBD~~ | DTW ~~TBD~~ | DT |
|---|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic | ~1L | 5.01 | 0.086 | 24.6 | 4 | 1.09 | 0.00 | 1405 | 12.2 |
| Monitor Reading (ppm): 0 | | ~~See Low Flow Purge Data Sheet~~ | | | | | | increased pump | |
| Well Casing Diameter & Material | ~1.5gal | 4.85 | 0.083 | 23.1 | 1 | 0.69 | 0.00 | 1435 | 12. |
| Type: 2-inch Sch 40 PVC | ~2.5gal | 4.91 | 0.083 | 23.2 | 1 | 0.31 | 0.00 | 1500 | 12. |
| Total Well Depth (TD): 39.30 | ~5.5gal | 4.90 | 0.083 | 22.2 | 2 | 0.22 | 0.00 | 1530 | 12. |
| Static Water Level (WL): 12.19 | ~10gal | 4.88 | 0.082 | 22.3 | 1 | 0.27 | 0.00 | 1615 | 12 |
| One Casing Volume(gal/L): 4.53 | | | | | | | | | |
| Start Purge (hrs): 1400 | | | | | | | | | |
| End Purge (hrs): 1615 | | | | | | | | | |
| Total Purge Time (min): 135 | | | | | | | | | |
| Total Vol. Purged (gal/L): ~10gal | | | | | | | | | |

2.4A

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 3 - 40ml VOA | GJD |
| EDB | $Na_2S_2O_3$ | 3 - " " | GJD |
| PAH | Ice | 2 - 1L Amber | GJD |
| TRPH-FL PRO | $H_2SO_4$ | 2 - " " | GJD |
| Pb | $HNO_3$ | 1 - 500ml Poly | GJD |

39.30 - 12.19 = 27.11 ft $H_2O$ x .167 = 4.53 gal ≈ 1 vol.
set tubing approx 3 ft off bottom (5' screen)

| MS/MSD | Duplicate ID No.: | Signature(s): Gary J. Davis |
|---|---|---|

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP-Former Fuel Farm-Sherman Field
Project No.: CTO 132 / 0518

Sample ID No.: NASPFFMW-11T
Sample Location: Sherman Field
Sampled By: D. Hartnett
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

[] Domestic Well Data
[x] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

| Date: 11/16/00<br>Time: 1555 | Color<br>Visual | pH<br>Standard | S.C.<br>mS/cm | Temp.<br>°C | Turbidity<br>NTU | DO<br>mg/l | TBD | TBD<br>Time |
|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic/straw | V. Clear | 5.09 | 0.148 | 21.0 | 0 | 1.64 | % Saturation | |

| Date: 11/16/00 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | TBD | TBD |
|---|---|---|---|---|---|---|---|---|
| Method: peristaltic/straw | initial | 5.63 | 0.146 | 21.5 | 16 | 2.70 | 0.00 | |
| Monitor Reading (ppm): | | ~~See Low Flow Purge Data Sheet~~ | | | | | | |
| Well Casing Diameter & Material | 1/2 | 5.22 | 0.199 | 21.4 | 2 | 1.67 | 0.00 | |
| Type: 2" PVC | 1 | 5.11 | 0.148 | 21.6 | 0 | 2.40 | 0.00 | |
| Total Well Depth (TD): 40.0 | 1 1/2 | 5.10 | 0.149 | 21.1 | 1 | 1.80 | 0.00 | |
| Static Water Level (WL): 12.77 | 2 | 5.09 | 0.148 | 21.0 | 0 | 1.64 | 0.00 | |
| One Casing Volume (gal/L): 4.5 | End | purge | | | | | | |
| Start Purge (hrs): 1405 | | | | | | | | |
| End Purge (hrs): | | | | | | | | |
| Total Purge Time (min): | | | | | | | | |
| Total Vol. Purged (gal/L): | | | | | | | | |

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 40 ml x 3 | ✓ |
| EDB | $Na_2S_2O_3$ | 40 ml x 3 | ✓ |
| Pb | $HNO_3$ | 500 ml x 1 | ✓ |
| PAH's | Ice | 1 liter x 2 | ✓ |
| TRPH | HCL | 1 liter x 2 | ✓ |

- Use Horiba Model U-10 calibrated this morning @ 08:30
- Cal-Solution Lot # 2200 Both from Pine Environmental

MS/MSD: N/A
Duplicate ID No.: N/A

Signature(s): Dan Hartnett

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: NASP ~~Bldg. 1932~~ Former Fuel Farm Sherman Field
Project No.: CTO ~~140/0547~~ 132 N0516

Sample ID No.: NASPFFF-MW13D
Sample Location: MW-13D
Sampled By: Gary J. Davis
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

**SAMPLING DATA**

| Date: 11-09-00 | Color | pH | S.C. | Temp. | Turbidity | DO | SAL ~~TBD~~ | DTW ~~TBD~~ |
|---|---|---|---|---|---|---|---|---|
| Time: 1515 | Visual | Standard | mS/cm | °C | NTU | mg/l | | |
| Method: Peristaltic | Clear H. brown | 4.90 | 0.059 | 24.1 | 15 | 1.03 | 0.00 | 28.39 |

**PURGE DATA**

| Date: | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | SAL ~~TBD~~ | TIM ~~TBD~~ | DT |
|---|---|---|---|---|---|---|---|---|---|
| Method: Whale & Peristaltic | ~1.5 gal | 4.83 | 0.060 | 24.9 | 5 | 0.47 | 0.00 | 1210 | |
| Monitor Reading (ppm): N/A | | ~~See Low Flow Purge Data Sheet~~ | | | | | GAD | | |
| Well Casing Diameter & Material | ~6 gal | 5.36 | 0.061 | 25.5 | 17 | 1.02 | 0.00 | 1250 | 28 |
| Type: 2 inch Sch 40 PVC | ~13 gal | 5.32 | 0.062 | 26.1 | 82 | 0.43 | 0.00 | 1305 | 28 |
| Total Well Depth (TD): 76.83 | ~19 gal | 4.95 | 0.064 | 26.3 | 46 | 0.47 | 0.00 | ~~1448~~ | 28 |
| Static Water Level (WL): ~~28.21~~ 28.13 | | Change to Peristaltic | | | | | | 1400 | |
| One Casing Volume (gal/L): 8.12 | ~20 gal | 4.93 | 0.063 | 24.1 | 17 | 1.36 | 0.00 | 1445 | |
| Start Purge (hrs): 1200 | ~20.5 gal | 4.94 | 0.061 | 24.3 | 18 | 1.31 | 0.00 | 1500 | 21 |
| End Purge (hrs): 1515 | ~21 gal | 4.90 | 0.059 | 24.1 | 15 | 1.03 | 0.00 | 1515 | 28 |
| Total Purge Time (min): 195 | | | | | | | | | |
| Total Vol. Purged (gal/L): ~21 gal | | | | | | | | | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| VOC | HCL | 3 - 40 ml VOA | GAD |
| EDB | $Na_2S_2O_3$ | 3 - " " | GAD |
| PAH | Ice | 2 - 1L Amber | GAD |
| TPA - FL. PRO | HCL | 2 - " " | GAD |
| Pb | HNO3 | 1 - 500 ml Poly | GAD |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

**OBSERVATIONS / NOTES**

76.83 - ~~28.21~~ 28.13 ≅ ~~48.62~~ 48.70 Ft $H_2O$ x .167 = ~~8.12~~ 8.13 gallons Req. Min. Vol ~~16.24~~ 16.26 gallons
Pump Rate w/ whale ≈ 1 gal/6 min. ≈ 10 gal/hr

Note: There is a density difference in the clear water up above and the peat water deep.

**Circle if Applicable**

| MS/MSD | Duplicate ID No.: | Signature(s): Gary J. Davis |
|---|---|---|

# APPENDIX B

# LABORATORY ANALYTICAL REPORTS

Tetra Tech NUS, Inc. Internal Correspondence

TO: Mr. Gerald Walker DATE: January 8, 2001

FROM: Suzanne I. Smith CC: File

SUBJECT: Organic Data Validation – VOC, EDB, Methane, PAH, and TRPH
CTO132 – NAS Pensacola
SDG 26150

SAMPLES: 1/Aqueous

NASPFF MW 16S

**OVERVIEW**

The sample set for CTO132, SDG 26150; Naval Air Station Pensacola, Pensacola, Florida consists of one (1) aqueous environmental sample. The environmental sample was analyzed for Volatile Organic Carbons (VOCs), Ethylene Dibromide (EDB), Methane, Polycyclic Aromatic Hydrocarbons (PAHs), and Total Residual Petroleum Hydrocarbons (TRPHs).

The sample was collected by Tetra Tech NUS on November 8, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 8260B (VOCs), EPA Method 504.1 (EDB), RSK-175 (Methane), SW-846 Method 8270C (PAHs), and FL-PRO (TRPHs) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

- * Data Completeness
- * Holding Times
- Laboratory method/field quality control blank results
- Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Volatile Fraction

All quality control criteria were met for this fraction.

EDB Fraction

All quality control criteria were met for this fraction.

Polycyclic Aromatic Hydrocarbon Fraction

All quality control criteria were met for this fraction.

Methane Fraction

All quality control criteria were met for this fraction.

Total Residual Petroleum Fraction

Laboratory Blank Analysis

Affected samples: none

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| TRPH | 0.35 | 1.75 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors and sample aliquots were taken into account when evaluating for blank contamination.

All other quality control criteria were met for this fraction.

Executive Summary

**Laboratory performance:** All quality control criteria were met

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne J. Smith

Suzanne Smith

Project Chemist
Tetra Tech NUS, Inc.

**SDG: 26150**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-16S | | | // | | | // | | | // | | |
| SAMPLE DATE: | 11/08/00 | | | | | | | | | | | |
| LABORATORY ID: | AC02994 | | | | | | | | | | | |
| QC_TYPE: | NORMAL | | | | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 100.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | UG/L | | | | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 10 | U | | | | | | | | | | |
| 1,1,2,2-TETRACHLOROETHANE | 10 | U | | | | | | | | | | |
| 1,1,2-TRICHLOROETHANE | 10 | U | | | | | | | | | | |
| 1,1-DICHLOROETHANE | 10 | U | | | | | | | | | | |
| 1,1-DICHLOROETHENE | 10 | U | | | | | | | | | | |
| 1,2-DIBROMOETHANE | 0.05 | U | | | | | | | | | | |
| 1,2-DICHLOROETHANE | 10 | U | | | | | | | | | | |
| 1,2-DICHLOROPROPANE | 10 | U | | | | | | | | | | |
| 1,3-DICHLOROPROPENE | 10 | U | | | | | | | | | | |
| 2-CHLOROETHYL VINYL ETHER | 100 | U | | | | | | | | | | |
| ACROLEIN | 100 | U | | | | | | | | | | |
| ACRYLONITRILE | 100 | U | | | | | | | | | | |
| BENZENE | 32 | | | | | | | | | | | |
| BROMODICHLOROMETHANE | 10 | U | | | | | | | | | | |
| BROMOFORM | 50 | U | | | | | | | | | | |
| BROMOMETHANE | 10 | U | | | | | | | | | | |
| CARBON TETRACHLORIDE | 10 | U | | | | | | | | | | |
| CHLOROBENZENE | 10 | U | | | | | | | | | | |
| CHLOROETHANE | 10 | U | | | | | | | | | | |
| CHLOROFORM | 10 | U | | | | | | | | | | |
| CHLOROMETHANE | 10 | U | | | | | | | | | | |
| ETHYLBENZENE | 330 | | | | | | | | | | | |
| METHYL TERT-BUTYL ETHER | 100 | U | | | | | | | | | | |
| METHYLENE CHLORIDE | 13 | J | P | | | | | | | | | |
| TETRACHLOROETHENE | 10 | U | | | | | | | | | | |
| TOLUENE | 17 | | | | | | | | | | | |
| TRANS-1,2-DICHLOROETHENE | 10 | U | | | | | | | | | | |
| TRICHLOROETHENE | 10 | U | | | | | | | | | | |
| VINYL CHLORIDE | 10 | U | | | | | | | | | | |
| XYLENES, TOTAL | 2300 | | | | | | | | | | | |

**CTO132-NAS PENSACOLA**
**WATER DATA**
**AAL**
**SDG: 26150**



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-16S | | | | | | | | | | | |
| SAMPLE DATE: | 11/08/00 | | | / / | | | / / | | | / / | | |
| LABORATORY ID: | AC02994 | | | | | | | | | | | |
| QC_TYPE: | NORMAL | | | | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 100.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | UG/L | | | | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 29 | | | | | | | | | | | |
| 2-METHYLNAPHTHALENE | 37 | | | | | | | | | | | |
| ACENAPHTHENE | 0.44 | J | P | | | | | | | | | |
| ACENAPHTHYLENE | 1.0 | U | | | | | | | | | | |
| ANTHRACENE | 1.0 | U | | | | | | | | | | |
| BENZO(A)ANTHRACENE | 1.0 | U | | | | | | | | | | |
| BENZO(A)PYRENE | 1.0 | U | | | | | | | | | | |
| BENZO(B)FLUORANTHENE | 1.0 | U | | | | | | | | | | |
| BENZO(G,H,I)PERYLENE | 0.44 | J | P | | | | | | | | | |
| BENZO(K)FLUORANTHENE | 1.0 | U | | | | | | | | | | |
| CHRYSENE | 1.0 | U | | | | | | | | | | |
| DIBENZO(A,H)ANTHRACENE | 0.27 | J | P | | | | | | | | | |
| FLUORANTHENE | 1.0 | U | | | | | | | | | | |
| FLUORENE | 0.42 | J | P | | | | | | | | | |
| INDENO(1,2,3-CD)PYRENE | 0.28 | J | P | | | | | | | | | |
| NAPHTHALENE | 75 | | | | | | | | | | | |
| PHENANTHRENE | 1.0 | U | | | | | | | | | | |
| PYRENE | 1.0 | U | | | | | | | | | | |

SDG: 26150

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-16S | | | / / | | | / / | | | / / | | |
| SAMPLE DATE: | 11/08/00 | | | | | | | | | | | |
| LABORATORY ID: | AC02994 | | | | | | | | | | | |
| QC_TYPE: | NORMAL | | | | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 100.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | UG/ML | | | | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **DISSOLVED GASES** | | | | | | | | | | | | |
| METHANE | 2.9 | | | | | | | | | | | |

WAF_RES.DBF

**CTO132-NAS PENSACOLA**
**WATER DATA**
**AAL**
**SDG: 26150**



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-16S | | | | | | | | | | | |
| SAMPLE DATE: | 11/08/00 | | | / / | | | / / | | | / / | | |
| LABORATORY ID: | AC02994 | | | | | | | | | | | |
| QC_TYPE: | NORMAL | | | | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 100.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | MG/L | | | | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 9.6 | | | | | | | | | | | |

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | M | 11/08/00 | 11/13/00 | 11/23/00 | 5 | 10 | 15 |
| UG/ML | NASPFF MW-16S | AC02994 | NORMAL | 26150 | METH | 11/08/00 | 11/21/00 | 11/21/00 | 13 | 0 | 13 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | NTA | 11/08/00 | 11/09/00 | 11/10/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | NTI | 11/08/00 | 11/09/00 | 11/10/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | OV | 11/08/00 | 11/10/00 | 11/16/00 | 2 | 6 | 8 |
| UG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | PAH | 11/08/00 | 11/15/00 | 11/19/00 | 7 | 4 | 11 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | SO4 | 11/08/00 | 11/09/00 | 11/10/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | SUL | 11/08/00 | 11/10/00 | 11/10/00 | 2 | 0 | 2 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | TPH | 11/08/00 | 11/13/00 | 11/16/00 | 5 | 3 | 8 |

Tetra Tech NUS, Inc. Internal Correspondence

**TO:** Mr. Gerald Walker **DATE:** January 8, 2001

**FROM:** Suzanne I. Smith **CC:** File

**SUBJECT:** Inorganic Data Validation – Lead and Anions
CTO132 – NAS Pensacola
SDG 26150

**SAMPLES:** 1/Aqueous

NASPFF MW 16S

**OVERVIEW**

The sample set for CTO132, SDG 26150; Naval Air Station Pensacola, Pensacola, Florida consists of one (1) aqueous environmental sample. The environmental sample was analyzed for Lead and Anions.

The sample was collected by Tetra Tech NUS on November 8, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 6010B (VOCs), and EPA Methods 300 and 376.1 (Anions) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • Laboratory method/field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Lead Fraction

All quality control criteria were met for this fraction.

Anion Fraction

All quality control criteria were met for this fraction.

Executive Summary

**Laboratory performance:** All quality control criteria were met

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne I. Smith

Project Chemist
Tetra Tech NUS, Inc.

# CTO132-NAS PENSACOLA
## WATER DATA
## AAL
## SDG: 26150



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-16S | | | | | | | | | | | |
| SAMPLE DATE: | 11/08/00 | | | / / | | | / / | | | / / | | |
| LABORATORY ID: | AC02994 | | | | | | | | | | | |
| QC_TYPE: | NORMAL | | | | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 100.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | MG/L | | | | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| INORGANICS | | | | | | | | | | | | |
| LEAD | 0.01 | | | | | | | | | | | |

**AAL**
**SDG: 26150**

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-16S | | | |
| SAMPLE DATE: | 11/08/00 | / / | / / | / / |
| LABORATORY ID: | AC02994 | | | |
| QC_TYPE: | NORMAL | | | |
| % SOLIDS: | 0.0 % | 100.0 % | 100.0 % | 100.0 % |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INORGANIC PARAMETERS** | | | | | | | | | | | | |
| NITRATE(MG/L) | 0.04 | | | | | | | | | | | |
| NITRITE(MG/L) | 0.01 | U | | | | | | | | | | |
| SULFATE(MG/L) | 4 | | | | | | | | | | | |
| SULFIDE(MG/L) | 1.0 | U | | | | | | | | | | |

**26150**

*HOLDING TIME*
*01/02/01*

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | M | 11/08/00 | 11/13/00 | 11/23/00 | 5 | 10 | 15 |
| UG/ML | NASPFF MW-16S | AC02994 | NORMAL | 26150 | METH | 11/08/00 | 11/21/00 | 11/21/00 | 13 | 0 | 13 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | NTA | 11/08/00 | 11/09/00 | 11/10/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | NTI | 11/08/00 | 11/09/00 | 11/10/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | OV | 11/08/00 | 11/10/00 | 11/16/00 | 2 | 6 | 8 |
| UG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | PAH | 11/08/00 | 11/15/00 | 11/19/00 | 7 | 4 | 11 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | SO4 | 11/08/00 | 11/09/00 | 11/10/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | SUL | 11/08/00 | 11/10/00 | 11/10/00 | 2 | 0 | 2 |
| MG/L | NASPFF MW-16S | AC02994 | NORMAL | 26150 | TPH | 11/08/00 | 11/13/00 | 11/16/00 | 5 | 3 | 8 |

27744

# ACCURA ANALYTICAL LABORATORY, INC.

*Environmental Analytical Services*

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

## CHAIN OF CUSTODY

Company Name: Tetra Tech NUS
Address: 1401 Oven Park Dr.
Report Sent to: (Client Contact): Gerry Walker
Contact Phone # 850/3859899 Fax # 850/3859860
Project Name: Former Fuel Farm
Project Number: N0516

Billing address:
Client P.O. #

Samplers: (signature) Daniel Hartnett
Samplers: (printed) Dan Hartnett

| Sample ID # | Sample Date / Time | Comp | Grab | Matrix | Preserved | Sample Location: | No. of Containers | VOC | EDB | PAHs | TRPH | Pb | Anions | Sulfide | Methane | Remarks | Accura Sample ID No. AB |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NASPFF MW-16S | 11/8/00 0905 | | | W | ✓ | Sherman Field Fuel Farm | 16 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 3 | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

| Relinquished By: | Date / Time | Received By: | Date / Time | Special Requirements Or Remarks: |
|---|---|---|---|---|
| Daniel Hartnett | 11/7/00 1800 | FEDEX | | |
| Relinquished By: | Date / Time | Received By: | Date / Time | Turnaround Time Requested: |

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02994** **Accura Project #: 26150**

Client: Tetra Tech Nus -Tallahassee
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
Client Sample ID: NASPFF MW-16S

Date Sampled: 11/8/00
Date Received: 11/9/00
Date Reported: 12/5/00
Sample Matrix: WATER

---

**ANALYSIS: Anions** Method Ref: 300.0

Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.04 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 4 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.011 | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 2.9 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 29 | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | 37 | 1.0 |
| Acenaphthene | 0.44J | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | 0.44J | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | 0.27J | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | 0.42J | 1.0 |
| Indeno(1,2,3-cd)pyrene | 0.28J | 1.0 |
| Naphthalene | 75 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 9.6 | 5.0 |

ANALYSIS: Sulfide Method Ref: 376.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 10 |
| 1,1,2,2-Tetrachloroethane | <RDL | 10 |
| 1,1,2-Trichloroethane | <RDL | 10 |
| 1,1-Dichloroethane | <RDL | 10 |
| 1,1-Dichloroethene | <RDL | 10 |
| 1,2-Dichloroethane | <RDL | 10 |
| 1,2-Dichloropropane | <RDL | 10 |
| 1,3-Dichloropropene | <RDL | 10 |
| 2-Chloroethylvinyl ether | <RDL | 100 |
| Acrolein | <RDL | 100 |
| Acrylonitrile | <RDL | 100 |
| Benzene | 32 | 10 |
| Bromodichloromethane | <RDL | 10 |
| Bromoform | <RDL | 50 |
| Bromomethane | <RDL | 10 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 10 |
| Chlorobenzene | <RDL | 10 |
| Chloroethane | <RDL | 10 |
| Chloroform | <RDL | 10 |
| Chloromethane | <RDL | 10 |
| Ethylbenzene | 330 | 10 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 100 |
| Methylene chloride | 13 J | 50 |
| Tetrachloroethene | <RDL | 10 |
| Toluene | 17 | 10 |
| trans-1,2-Dichloroethene | <RDL | 10 |
| Trichloroethene | <RDL | 10 |
| Vinyl chloride | <RDL | 10 |
| Xylenes (Total) | 2300 | 50 |

ANALYSIS: X B/N Sample Surrogates (Water) Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 71 | |
| Nitrobenzene-d5 (Range 37-104) | 85 | |
| p-Terphenyl-d14 (Range 15-132) | 33 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 9.5 | |
| o-Terphenyl (Range 82-142) | 48 | |

ANALYSIS: X VOC Sample Surrogates-Water Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 79 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 100 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

## LABORATORY REPORT

**Accura Sample ID #: AC02995** **Accura Project #: 26150**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00
Client Contact: GERRY WALKER Date Received: 11/9/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

---

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

---

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.35J | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X Base Neutral OC Surrogates (W — Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 57-102) | 78 | |
| Nitrobenzene-d5 | (Range 50-103) | 84 | |
| p-Terphenyl-d14 | (Range 64-113) | 92 | |

ANALYSIS: X PRO OC Surrogates (Water) — Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 18 | |
| o-Terphenyl (Range 82-142) | 89 | |

ANALYSIS: X VOC OC Surrogates-Waters — Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 86 | |
| 4-Bromofluorobenzene (85-111) | 98 | |
| Toluene-d8 (88-106) | 99 | |

Accura Analytical Laboratory, Inc.

Tetra Tech NUS, Inc. Internal Correspondence

**TO:** Mr. Gerald Walker **DATE:** January 4, 2001

**FROM:** Suzanne I. Smith **CC:** File

**SUBJECT:** Organic Data Validation – VOC, EDB, Methane, PAH, and TRPH
CTO132 – NAS Pensacola
SDG 26137

**SAMPLES:** 8/Aqueous

| | | |
|---|---|---|
| NASPFF DUP-2 | NASPFF EQB-1 | NASPFF MW-13S |
| NASPFF MW-15S | NASPFF MW-1S | NASPFF MW-2S |
| NASPFF MW-5I | TRIP BLANK | |

**OVERVIEW**

The sample set for CTO132, SDG 26137; Naval Air Station Pensacola, Pensacola, Florida consists of six (6) aqueous environmental samples, one (1) equipment blank, and one (1) trip blank. The environmental samples and equipment blank were analyzed for Volatile Organic Carbons (VOCs), Ethylene Dibromide (EDB), Polycyclic Aromatic Hydrocarbons (PAHs), and Total Residual Petroleum Hydrocarbons (TRPHs). Only MW-1S and MW-2S were also analyzed for Methane. The trip blank was only analyzed for VOCs. The sample set included one set of duplicate samples: NASPFF MW-15S/NASPFF DUP-2.

The samples were collected by Tetra Tech NUS on November 7, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 8260B (VOCs), EPA Method 504.1 (EDB), RSK-175M (Methane), SW-846 method 8270C (PAHs), and FL-PRO (TRPHs) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

- * Data Completeness
- * Holding Times
- Laboratory method/field quality control blank results
- * Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Volatile Fraction

The MS/MSD %R for Acrolein and 2-Chloroethylvinyl ether were outside acceptable accuracy control limits due to matrix interference. The LCS %R was acceptable. No action was taken since neither compound was detected in the associated samples.

All other quality control criteria were met for this fraction.

EDB Fraction

All quality control criteria were met for this fraction.

Methane

All quality control criteria were met for this fraction.

Polycylcic Aromatic Hydrocarbon Fraction

The MS/MSD %R for the following compounds was outside acceptable accuracy control limits due to matrix interference: Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-c,d)pyrene. The LCS %Rs were acceptable. No action was taken since no PAHs were detected in the associated samples.

All other quality control criteria were met for this fraction.

Total Residual Petroleum Fraction

Laboratory Blank Analysis

Affected samples: all

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| TRPH | 0.35 | 1.75 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors and sample aliquots were taken into account when evaluating for blank contamination. Results less than the action level and reporting limit (RL) were reported as a nondetect at the RL value.

The MS/MSD %R was outside acceptable accuracy control limits due to matrix interference. The LCS %R was also outside of acceptable limits. Therefore, all detects are flagged estimated "J" due to spike noncompliance.

All other quality control criteria were met for this fraction.

Field Duplicate Summary

No analytes were detected in the sample duplicate pair.

Executive Summary

| | |
|---|---|
| **Laboratory performance:** | Detects for TRPH less than the action level and less than the RL were reported as nondetects. All TRPH detects are flagged estimated "J" due to spike noncompliance. |
| **Other factors affecting data quality:** | None. |

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne J. Smith

Suzanne J. Smith

Project Chemist
Tetra Tech NUS, Inc.

**SDG: 26137**

| | NASPFF DUP-2 | NASPFF EQB-1 | NASPFF MW-13S | NASPFF MW-15S |
|---|---|---|---|---|
| SAMPLE NUMBER: | | | | |
| SAMPLE DATE: | 11/07/00 | 11/07/00 | 11/07/00 | 11/07/00 |
| LABORATORY ID: | AC02916 | AC02910 | AC02911 | AC02912 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | UG/L | UG/L | UG/L | UG/L |
| FIELD DUPLICATE OF: | MW-15S | | | |

| VOLATILES | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| 1,1,2,2-TETRACHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1,2-TRICHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1-DICHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1-DICHLOROETHENE | | U | | | U | | | U | | | U | |
| 1,2-DIBROMOETHANE | 0.05 | U | | 0.05 | U | | 0.05 | U | | 0.05 | U | |
| 1,2-DICHLOROETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| 1,2-DICHLOROPROPANE | | U | | | U | | | U | | | U | |
| 1,3-DICHLOROPROPENE | | U | | | U | | | U | | | U | |
| 2-CHLOROETHYL VINYL ETHER | 10 | U | | 10 | U | | 10 | U | | 10 | U | |
| ACROLEIN | | U | | | U | | | U | | | U | |
| ACRYLONITRILE | | U | | | U | | | U | | | U | |
| BENZENE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| BROMODICHLOROMETHANE | | U | | | U | | | U | | | U | |
| BROMOFORM | 5.0 | U | | 5.0 | U | | 5.0 | U | | 5.0 | U | |
| BROMOMETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| CARBON TETRACHLORIDE | | U | | | U | | | U | | | U | |
| CHLOROBENZENE | | U | | | U | | | U | | | U | |
| CHLOROETHANE | | U | | | U | | | U | | | U | |
| CHLOROFORM | | U | | | U | | 2.2 | | | | U | |
| CHLOROMETHANE | | U | | | U | | 1.0 | U | | | U | |
| ETHYLBENZENE | | U | | | U | | | U | | | U | |
| METHYL TERT-BUTYL ETHER | 10 | U | | 10 | U | | 10 | U | | 10 | U | |
| METHYLENE CHLORIDE | 5.0 | U | | 5.0 | U | | 5.0 | U | | 5.0 | U | |
| TETRACHLOROETHENE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| TOLUENE | | U | | | U | | | U | | | U | |
| TRANS-1,2-DICHLOROETHENE | | U | | | U | | | U | | | U | |
| TRICHLOROETHENE | | U | | | U | | | U | | | U | |
| VINYL CHLORIDE | | U | | | U | | | U | | | U | |
| XYLENES, TOTAL | 2.0 | U | | 2.0 | U | | 2.0 | U | | 2.0 | U | |

# CTO132- NAS PENSACOLA
## WATER DATA
## AAL
## SDG: 26137



| | NASPFF MW-1S | NASPFF MW-2S | NASPFF MW-5I | TRIP BLANK |
|---|---|---|---|---|
| SAMPLE NUMBER: | | | | |
| SAMPLE DATE: | 11/07/00 | 11/07/00 | 11/07/00 | 11/07/00 |
| LABORATORY ID: | AC02913 | AC02915 | AC02914 | AC02922 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | UG/L | UG/L | UG/L | UG/L |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 25 | U | | 5.0 | U | | 1.0 | U | | 1.0 | U | |
| 1,1,2,2-TETRACHLOROETHANE | ↓ | U | | ↓ | U | | ↓ | U | | ↓ | U | |
| 1,1,2-TRICHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1-DICHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1-DICHLOROETHENE | ↓ | U | | ↓ | U | | ↓ | U | | ↓ | U | |
| 1,2-DIBROMOETHANE | 0.05 | U | | 0.05 | U | | 0.05 | U | | | | |
| 1,2-DICHLOROETHANE | 17 | J | P | 5.0 | U | | 1.0 | U | | 1.0 | U | |
| 1,2-DICHLOROPROPANE | 25 | U | | 3.6 | J | P | | U | | | U | |
| 1,3-DICHLOROPROPENE | ↓ | U | | 5.0 | U | | ↓ | U | | ↓ | U | |
| 2-CHLOROETHYL VINYL ETHER | 250 | U | | 50 | U | | 10 | U | | 10 | U | |
| ACROLEIN | ↓ | U | | ↓ | U | | ↓ | U | | ↓ | U | |
| ACRYLONITRILE | ↓ | U | | ↓ | U | | ↓ | U | | ↓ | U | |
| BENZENE | 530 | | | 55 | | | 1.0 | U | | 1.0 | U | |
| BROMODICHLOROMETHANE | 25 | U | | 5.0 | U | | ↓ | U | | ↓ | U | |
| BROMOFORM | 130 | U | | 25 | U | | 5.0 | U | | 5.0 | U | |
| BROMOMETHANE | 25 | U | | 5.0 | U | | 1.0 | U | | 1.0 | U | |
| CARBON TETRACHLORIDE | | U | | | U | | | U | | | U | |
| CHLOROBENZENE | | U | | | U | | | U | | | U | |
| CHLOROETHANE | | U | | | U | | | U | | | U | |
| CHLOROFORM | | U | | | U | | | U | | | U | |
| CHLOROMETHANE | ↓ | U | | ↓ | U | | ↓ | U | | ↓ | U | |
| ETHYLBENZENE | 1300 | | | 1100 | | | ↓ | U | | ↓ | U | |
| METHYL TERT-BUTYL ETHER | 250 | U | | 50 | U | | 10 | U | | 10 | U | |
| METHYLENE CHLORIDE | 130 | U | | 25 | U | | 5.0 | U | | 5.0 | U | |
| TETRACHLOROETHENE | 25 | U | | 5.0 | U | | 1.0 | U | | 1.0 | U | |
| TOLUENE | | U | | 10 | | | | U | | | U | |
| TRANS-1,2-DICHLOROETHENE | | U | | 5.0 | U | | | U | | | U | |
| TRICHLOROETHENE | | U | | | U | | | U | | | U | |
| VINYL CHLORIDE | ↓ | U | | ↓ | U | | ↓ | U | | ↓ | U | |
| XYLENES, TOTAL | 430 | | | 3100 | | | 2.0 | U | | 2.0 | U | |

**SDG: 26137**

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF DUP-2 | NASPFF EQB-1 | NASPFF MW-13S | NASPFF MW-15S |
| SAMPLE DATE: | 11/07/00 | 11/07/00 | 11/07/00 | 11/07/00 |
| LABORATORY ID: | AC02916 | AC02910 | AC02911 | AC02912 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | UG/L | UG/L | UG/L | UG/L |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| 2-METHYLNAPHTHALENE | | U | | | U | | | U | | | U | |
| ACENAPHTHENE | | U | | | U | | | U | | | U | |
| ACENAPHTHYLENE | | U | | | U | | | U | | | U | |
| ANTHRACENE | | U | | | U | | | U | | | U | |
| BENZO(A)ANTHRACENE | | U | | | U | | | U | | | U | |
| BENZO(A)PYRENE | | U | | | U | | | U | | | U | |
| BENZO(B)FLUORANTHENE | | U | | | U | | | U | | | U | |
| BENZO(G,H,I)PERYLENE | | U | | | U | | | U | | | U | |
| BENZO(K)FLUORANTHENE | | U | | | U | | | U | | | U | |
| CHRYSENE | | U | | | U | | | U | | | U | |
| DIBENZO(A,H)ANTHRACENE | | U | | | U | | | U | | | U | |
| FLUORANTHENE | | U | | | U | | | U | | | U | |
| FLUORENE | | U | | | U | | | U | | | U | |
| INDENO(1,2,3-CD)PYRENE | | U | | | U | | | U | | | U | |
| NAPHTHALENE | | U | | | U | | | U | | | U | |
| PHENANTHRENE | | U | | | U | | | U | | | U | |
| PYRENE | | U | | | U | | | U | | | U | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-1S | | | NASPFF MW-2S | | | NASPFF MW-5I | | | | | |
| SAMPLE DATE: | 11/07/00 | | | 11/07/00 | | | 11/07/00 | | | / / | | |
| LABORATORY ID: | AC02913 | | | AC02915 | | | AC02914 | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | | |
| UNITS: | UG/L | | | UG/L | | | UG/L | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** |
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 54 | | | 50 | | | 1.0 | U | | | | |
| 2-METHYLNAPHTHALENE | 68 | | | 63 | | | | U | | | | |
| ACENAPHTHENE | 0.8 | J | P | 2.2 | | | | U | | | | |
| ACENAPHTHYLENE | 1.0 | U | | 1.0 | U | | | U | | | | |
| ANTHRACENE | | U | | | U | | | U | | | | |
| BENZO(A)ANTHRACENE | | U | | | U | | | U | | | | |
| BENZO(A)PYRENE | | U | | | U | | | U | | | | |
| BENZO(B)FLUORANTHENE | | U | | | U | | | U | | | | |
| BENZO(G,H,I)PERYLENE | | U | | | U | | | U | | | | |
| BENZO(K)FLUORANTHENE | | U | | | U | | | U | | | | |
| CHRYSENE | | U | | | U | | | U | | | | |
| DIBENZO(A,H)ANTHRACENE | | U | | | U | | | U | | | | |
| FLUORANTHENE | | U | | | U | | | U | | | | |
| FLUORENE | 1.1 | | | 2.0 | | | | U | | | | |
| INDENO(1,2,3-CD)PYRENE | 1.0 | U | | 1.0 | U | | | U | | | | |
| NAPHTHALENE | 130 | | | 110 | | | | U | | | | |
| PHENANTHRENE | 0.78 | J | P | 2.0 | | | | U | | | | |
| PYRENE | 1.0 | U | | 1.0 | U | | | U | | | | |

**SDG: 26137**

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF DUP-2 | NASPFF EQB-1 | NASPFF MW-13S | NASPFF MW-15S |
| SAMPLE DATE: | 11/07/00 | 11/07/00 | 11/07/00 | 11/07/00 |
| LABORATORY ID: | AC02916 | AC02910 | AC02911 | AC02912 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | MG/L | MG/L | MG/L | MG/L |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | ~~0.37~~ 1.0 | ~~JB~~ U | | ~~1.0~~ ~~0.98~~ | ~~JB~~ 1.0 U | | ~~0.4~~ 1.0 | ~~JB~~ U | | ~~0.37~~ 1.0 | ~~JB~~ U | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-1S | | | NASPFF MW-2S | | | NASPFF MW-5I | | | | | |
| SAMPLE DATE: | 11/07/00 | | | 11/07/00 | | | 11/07/00 | | | / / | | |
| LABORATORY ID: | AC02913 | | | AC02915 | | | AC02914 | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 5.6 | J | D,E | 7.9 | J | D,E | 1.0 | U | | | | |

**SDG: 26137**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-1S | | | NASPFF MW-2S | | | | | | | |
| SAMPLE DATE: | 11/07/00 | | | 11/07/00 | | | / / | | | / / | |
| LABORATORY ID: | AC02913 | | | AC02915 | | | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 100.0 % | | | 100.0 % | |
| UNITS: | UG/ML | | | UG/ML | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| DISSOLVED GASES | | | | | | | | | | | | |
| METHANE | 6.3 | | | 62.5 | | | | | | | | |

HOLDING TIME
01/02/01

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF DUP-2 | AC02916 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF EQB-1 | AC02910 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-13S | AC02911 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-15S | AC02912 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-5I | AC02914 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| UG/ML | NASPFF MW-1S | AC02913 | NORMAL | 26137 | METH | 11/07/00 | 11/20/00 | 11/20/00 | 13 | 0 | 13 |
| UG/ML | NASPFF MW-2S | AC02915 | NORMAL | 26137 | METH | 11/07/00 | 11/20/00 | 11/20/00 | 13 | 0 | 13 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | NTA | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | NTA | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | NTI | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | NTI | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| UG/L | NASPFF DUP-2 | AC02916 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF EQB-1 | AC02910 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/10/00 | 3 | 0 | 3 |
| UG/L | NASPFF MW-13S | AC02911 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF MW-15S | AC02912 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF MW-5I | AC02914 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | TRIP BLANK | AC02922 | NORMAL | 26137 | OV | 11/07/00 | 11/13/00 | 11/13/00 | 6 | 0 | 6 |
| UG/L | NASPFF DUP-2 | AC02916 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| UG/L | NASPFF EQB-1 | AC02910 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/10/00 | 1 | 2 | 3 |
| UG/L | NASPFF MW-13S | AC02911 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |

| | | | | | | | | | EXTR_DATE | ANAL_DATE | ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-5I | AC02914 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | SO4 | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | SO4 | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | SUL | 11/07/00 | 11/09/00 | 11/09/00 | 2 | 0 | 2 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | SUL | 11/07/00 | 11/09/00 | 11/09/00 | 2 | 0 | 2 |
| MG/L | NASPFF DUP-2 | AC02916 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |
| MG/L | NASPFF EQB-1 | AC02910 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/15/00 | 6 | 2 | 8 |
| MG/L | NASPFF MW-13S | AC02911 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/15/00 | 6 | 2 | 8 |
| MG/L | NASPFF MW-15S | AC02912 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |
| MG/L | NASPFF MW-5I | AC02914 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |

**Tetra Tech NUS, Inc.** **Internal Correspondence**

**TO:** Mr. Gerald Walker **DATE:** January 5, 2001

**FROM:** Suzanne I. Smith **CC:** File

**SUBJECT:** Inorganic Data Validation – Lead and Anions
CTO132 – NAS Pensacola
SDG 26137

**SAMPLES:** 7/Aqueous

| | | |
|---|---|---|
| NASPFF DUP-2 | NASPFF EQB-1 | NASPFF MW-13S |
| NASPFF MW-15S | NASPFF MW-1S | NASPFF MW-2S |
| NASPFF MW-5I | | |

**OVERVIEW**

The sample set for CTO132, SDG 26137; Naval Air Station Pensacola, Pensacola, Florida consists of six (6) aqueous environmental samples and one (1) equipment blank. The environmental samples and equipment blank were analyzed for Lead. Only MW-1S and MW-2S were also analyzed for Anions. The sample set included one set of duplicate samples: NASPFF MW-15S/NASPFF DUP-2.

The samples were collected by Tetra Tech NUS on November 7, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 6010B (VOCs), and EPA Methods 300 and 376.1 (Anions) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

- * Data Completeness
- * Holding Times
- * Laboratory method/field quality control blank results
- * Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Lead Fraction

All quality control criteria were met for this fraction.

Anion Fraction

All quality control criteria were met for this fraction.

Field Duplicate Summary

No analytes were detected in the sample duplicate pair.

Executive Summary

**Laboratory performance:** All quality control criteria were met.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne I. Smith

Project Chemist
Tetra Tech NUS, Inc.

**SDG: 26137**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF DUP-2 | | | NASPFF EQB-1 | | | NASPFF MW-13S | | | NASPFF MW-15S | | |
| SAMPLE DATE: | 11/07/00 | | | 11/07/00 | | | 11/07/00 | | | 11/07/00 | | |
| LABORATORY ID: | AC02916 | | | AC02910 | | | AC02911 | | | AC02912 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** |
| **INORGANICS** | | | | | | | | | | | | |
| LEAD | 0.010 | U | | 0.010 | U | | 0.010 | U | | 0.010 | U | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-1S | | | NASPFF MW-2S | | | NASPFF MW-5I | | | | | |
| SAMPLE DATE: | 11/07/00 | | | 11/07/00 | | | 11/07/00 | | | / / | | |
| LABORATORY ID: | AC02913 | | | AC02915 | | | AC02914 | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| INORGANICS | | | | | | | | | | | | |
| LEAD | 0.010 | U | | 0.010 | U | | 0.010 | U | | | | |

**SDG: 26137**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-1S | | | NASPFF MW-2S | | | | | | | |
| SAMPLE DATE: | 11/07/00 | | | 11/07/00 | | | / / | | | / / | |
| LABORATORY ID: | AC02913 | | | AC02915 | | | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 100.0 % | | | 100.0 % | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **MISCELLANEOUS PARAMETERS** | | | | | | | | | | | | |
| NITRATE(MG/L) | 0.09 | | | 0.01 | | | | | | | | |
| NITRITE(MG/L) | 0.01 | U | | 0.01 | U | | | | | | | |
| SULFATE(MG/L) | 1.0 | U | | 1 | | | | | | | | |
| SULFIDE(MG/L) | 1.0 | U | | 1.0 | U | | | | | | | |

**26137**

*HOLDING TIME*
*01/02/01*

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF DUP-2 | AC02916 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF EQB-1 | AC02910 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-13S | AC02911 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-15S | AC02912 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| MG/L | NASPFF MW-5I | AC02914 | NORMAL | 26137 | M | 11/07/00 | 11/13/00 | 11/23/00 | 6 | 10 | 16 |
| UG/ML | NASPFF MW-1S | AC02913 | NORMAL | 26137 | METH | 11/07/00 | 11/20/00 | 11/20/00 | 13 | 0 | 13 |
| UG/ML | NASPFF MW-2S | AC02915 | NORMAL | 26137 | METH | 11/07/00 | 11/20/00 | 11/20/00 | 13 | 0 | 13 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | NTA | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | NTA | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | NTI | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | NTI | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| UG/L | NASPFF DUP-2 | AC02916 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF EQB-1 | AC02910 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/10/00 | 3 | 0 | 3 |
| UG/L | NASPFF MW-13S | AC02911 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF MW-15S | AC02912 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | NASPFF MW-5I | AC02914 | NORMAL | 26137 | OV | 11/07/00 | 11/10/00 | 11/16/00 | 3 | 6 | 9 |
| UG/L | TRIP BLANK | AC02922 | NORMAL | 26137 | OV | 11/07/00 | 11/13/00 | 11/13/00 | 6 | 0 | 6 |
| UG/L | NASPFF DUP-2 | AC02916 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| UG/L | NASPFF EQB-1 | AC02910 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/10/00 | 1 | 2 | 3 |
| UG/L | NASPFF MW-13S | AC02911 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-5I | AC02914 | NORMAL | 26137 | PAH | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | SO4 | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | SO4 | 11/07/00 | 11/08/00 | 11/09/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | SUL | 11/07/00 | 11/09/00 | 11/09/00 | 2 | 0 | 2 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | SUL | 11/07/00 | 11/09/00 | 11/09/00 | 2 | 0 | 2 |
| MG/L | NASPFF DUP-2 | AC02916 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |
| MG/L | NASPFF EQB-1 | AC02910 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/15/00 | 6 | 2 | 8 |
| MG/L | NASPFF MW-13S | AC02911 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/15/00 | 6 | 2 | 8 |
| MG/L | NASPFF MW-15S | AC02912 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |
| MG/L | NASPFF MW-1S | AC02913 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |
| MG/L | NASPFF MW-2S | AC02915 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |
| MG/L | NASPFF MW-5I | AC02914 | NORMAL | 26137 | TPH | 11/07/00 | 11/13/00 | 11/16/00 | 6 | 3 | 9 |

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02910** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF EQB-1**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.88JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X_B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 86 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 106 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 14 | |
| o-Terphenyl (Range 82-142) | 98 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 85 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC02911** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** **Date Sampled: 11/7/00**

Client Contact: GERRY WALKER **Date Received: 11/8/00**

Client Project Number: CTO 132 / N0516 **Date Reported: 12/5/00**

Client Project Name: FORMER SHERMAN FIELD FUEL FARM **Sample Matrix: WATER**

Client Sample ID: NASPFF MW-13S

---

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.40JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 2.2 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 86 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 87 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 18 | |
| o-Terphenyl (Range 82-142) | 99 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 92 | |
| 4-Bromofluorobenzene (86-112) | 100 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800; FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02912** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-15S**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.37JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 87 | |
| Nitrobenzene-d5 | (Range 37-104) | 84 | |
| p-Terphenyl-d14 | (Range 15-132) | 105 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 22 | |
| o-Terphenyl (Range 82-142) | 95 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 82 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 97 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02913** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-1S**

---

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.09 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 6.3 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 54 | 1.0 |

---

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 25 |
| Chlorobenzene | <RDL | 25 |
| Chloroethane | <RDL | 25 |
| Chloroform | <RDL | 25 |
| Chloromethane | <RDL | 25 |
| Ethylbenzene | 1300 | 50 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 250 |
| Methylene chloride | <RDL | 130 |
| Tetrachloroethene | <RDL | 25 |
| Toluene | <RDL | 25 |
| trans-1,2-Dichloroethene | <RDL | 25 |
| Trichloroethene | <RDL | 25 |
| Vinyl chloride | <RDL | 25 |
| Xylenes (Total) | 430 | 50 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 82 | |
| Nitrobenzene-d5 (Range 37-104) | 66 | |
| p-Terphenyl-d14 (Range 15-132) | 47 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 14 | |
| o-Terphenyl (Range 82-142) | 70 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 86 | |
| 4-Bromofluorobenzene (86-112) | 100 | |
| Toluene-d8 (84-108) | 98 | |

Accura Analytical Laboratory, Inc.

| | | |
|---|---|---|
| 2-Methylnaphthalene | 68 | 1.0 |
| Acenaphthene | 0.80J | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | 1.1 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 130 | 1.0 |
| Phenanthrene | 0.78J | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 5.6 | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 25 |
| 1,1,2,2-Tetrachloroethane | <RDL | 25 |
| 1,1,2-Trichloroethane | <RDL | 25 |
| 1,1-Dichloroethane | <RDL | 25 |
| 1,1-Dichloroethene | <RDL | 25 |
| 1,2-Dichloroethane | 17 J | 25 |
| 1,2-Dichloropropane | <RDL | 25 |
| 1,3-Dichloropropene | <RDL | 25 |
| 2-Chloroethylvinyl ether | <RDL | 250 |
| Acrolein | <RDL | 250 |
| Acrylonitrile | <RDL | 250 |
| Benzene | 530 | 25 |
| Bromodichloromethane | <RDL | 25 |
| Bromoform | <RDL | 130 |
| Bromomethane | <RDL | 25 |

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02914** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-5I**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |



Client Sample ID: NASPFF MW-5I AAL Sample ID #: AC02914 Accura Project #: 26137

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.40JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 84 | |
| Nitrobenzene-d5 | (Range 37-104) | 82 | |
| p-Terphenyl-d14 | (Range 15-132) | 100 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 16 | |
| o-Terphenyl (Range 82-142) | 112 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 87 | |
| 4-Bromofluorobenzene (86-112) | 94 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02915** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-2S**

---

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.01 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 1 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 2.5 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 50 | 1.0 |

---

| | | |
|---|---|---|
| 2-Methylnaphthalene | 63 | 1.0 |
| Acenaphthene | 2.2 | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | 2.0 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 110 | 1.0 |
| Phenanthrene | 2.0 | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 7.9 | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 5.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 5.0 |
| 1,1,2-Trichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethene | <RDL | 5.0 |
| 1,2-Dichloroethane | <RDL | 5.0 |
| 1,2-Dichloropropane | 3.6 J | 5.0 |
| 1,3-Dichloropropene | <RDL | 5.0 |
| 2-Chloroethylvinyl ether | <RDL | 50 |
| Acrolein | <RDL | 50 |
| Acrylonitrile | <RDL | 50 |
| Benzene | 55 | 5.0 |
| Bromodichloromethane | <RDL | 5.0 |
| Bromoform | <RDL | 25 |
| Bromomethane | <RDL | 5.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 5.0 |
| Chlorobenzene | <RDL | 5.0 |
| Chloroethane | <RDL | 5.0 |
| Chloroform | <RDL | 5.0 |
| Chloromethane | <RDL | 5.0 |
| Ethylbenzene | 1100 | 50 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 50 |
| Methylene chloride | <RDL | 25 |
| Tetrachloroethene | <RDL | 5.0 |
| Toluene | 10 | 5.0 |
| trans-1,2-Dichloroethene | <RDL | 5.0 |
| Trichloroethene | <RDL | 5.0 |
| Vinyl chloride | <RDL | 5.0 |
| Xylenes (Total) | 3100 | 100 |

ANALYSIS: X B/N Sample Surrogates (Waters — Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 78 | |
| Nitrobenzene-d5 (Range 37-104) | 76 | |
| p-Terphenyl-d14 (Range 15-132) | 46 | |

ANALYSIS: X PRO Sample Surrogates (Water) — Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 24 | |
| o-Terphenyl (Range 82-142) | 95 | |

ANALYSIS: X VOC Sample Surrogates-Waters — Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 93 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 98 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02916** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF DUP-2**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.37JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 82 | |
| Nitrobenzene-d5 | (Range 37-104) | 78 | |
| p-Terphenyl-d14 | (Range 15-132) | 105 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 14 | |
| o-Terphenyl (Range 82-142) | 96 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 87 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 94 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02917** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/8/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

---

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

---

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.35J | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X Base Neutral QC Surrogates (W — Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 57-102) | 82 | |
| Nitrobenzene-d5 (Range 50-103) | 82 | |
| p-Terphenyl-d14 (Range 64-113) | 102 | |

ANALYSIS: X PRO QC Surrogates (Water) — Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 18 | |
| o-Terphenyl (Range 82-142) | 89 | |

ANALYSIS: X VOC QC Surrogates-Waters — Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 82 | |
| 4-Bromofluorobenzene (85-111) | 98 | |
| Toluene-d8 (88-106) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02922** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: TRIP BLANK**

---

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X VOC Sample Surrogates-Waters  Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00  Date Analyzed: 11/13/00  Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 94 | |
| 4-Bromofluorobenzene (86-112) | 99 | |
| Toluene-d8 (84-108) | 91 | |

Accura Analytical Laboratory, Inc.

*Environmental Analytical Services*

# CHAIN OF CUSTODY

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: TetraTech NUS
Billing address:
Address: 1401 Oven Park Dr, Tallahassee, FL 32312
Client P.O. #
Report Sent to: (Client Contact): Gerry Walker
Contact Phone # 850/385-9899 Fax # 850/385-9860
Project Name: Former Sherman Field Fuel Farm
Project Number: N0516-GR00[redacted]60210

Samplers: (signature): Dan Hartnett
Samplers: (printed): Gary Davis / Dan Hartnett

| Sample ID # | Sample Date / Time | Comp | Grab | Matrix | Preserved | Sample Location: | No. of Containers | VOC | EDB | PAH's | TRPH | Pb | Sulfide | Anions | Methane | Remarks | Accura Sample ID No. AB- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NASPFF EQB-1 | 11/7/00 0945 | | ✓ | A | ✓ | Sherman Field Fuel Farm | 11 | 3 | 3 | 2 | 2 | 1 | | | | | 02910 |
| NASPFF MW-13S | 11/7/00 1035 | | ✓ | A | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | 02911 |
| NASPFF MW-15S | 11/7/00 1100 | | ✓ | A | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | 02912 |
| NASPFF MW-1S | 11/7/00 1350 | | ✓ | A | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 3 | | 02913 |
| NASPFF MW-5I | 11/7/00 1615 | | ✓ | A | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | 02914 |
| NASPFF MW-2S | 11/7/00 1625 | | ✓ | A | ✓ | | 18 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | 3 | (spike) | 02915 |
| NASPFF DUP-2 | 11/7/00 | | ✓ | A | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | 02916 |
| Trip Blank | | | | W | | | 2 | | | | | | | | | | 02917 |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

| Relinquished By: | Date / Time | Received By: | Date / Time | Special Requirements Or Remarks: |
|---|---|---|---|---|
| Dan Hartnett | 11/7/00 1900 | | | |
| **Relinquished By:** | **Date / Time** | **Received By:** | **Date / Time** | **Turnaround Time Requested:** |
| Fedex | 11/08/00 9:15 | R.P. Summatti 11/8/00 | 11/08/00 9:15 | |

Matrix Codes: (S = Soil) (W = Water) (L = Liquid) (C = Cartridge) (SL = Sludge) (A = Air Sample) (F = Food) (M = Miscellaneous)

COC97-2.XLS

Tetra Tech NUS, Inc. Internal Correspondence

**TO:** Mr. Gerald Walker **DATE:** January 5, 2001

**FROM:** Suzanne I. Smith **CC:** File

**SUBJECT:** Organic Data Validation – VOC, EDB, Methane, PAH, and TRPH
CTO132 – NAS Pensacola
SDG 26163

**SAMPLES:** 4/Aqueous

NASPFF MW-13D NASPFF MW-3S NASPFF MW-4S
TRIP BLANK

**OVERVIEW**

The sample set for CTO132, SDG 26137; Naval Air Station Pensacola, Pensacola, Florida consists of three (3) aqueous environmental samples and one (1) trip blank. The environmental samples and equipment blank were analyzed for Volatile Organic Carbons (VOCs), Ethylene Dibromide (EDB), Polycyclic Aromatic Hydrocarbons (PAHs), and Total Residual Petroleum Hydrocarbons (TRPHs). Only MW-3S and MW-4S were also analyzed for Methane. The trip blank was only analyzed for VOCs.

The samples were collected by Tetra Tech NUS on November 9, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 8260B (VOCs), EPA Method 504.1 (EDB), RSK-175M (Methane), SW-846 method 8270C (PAHs), and FL-PRO (TRPHs) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* Data Completeness
* Holding Times
* Laboratory method/field quality control blank results
* Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Volatile Fraction

Trip Blank Analysis

Affected samples: all

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| Methylene Chloride | 2.1 | 10.5 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors and sample aliquots were taken into account when evaluating for blank contamination. Results less than the action level and reporting limit (RL) were reported as a nondetect at the RL value.

All other quality control criteria were met for this fraction.

EDB Fraction

All quality control criteria were met for this fraction.

Methane

All quality control criteria were met for this fraction.

Polycyclic Aromatic Hydrocarbon Fraction

All quality control criteria were met for this fraction.

Total Residual Petroleum Fraction

Laboratory Blank Analysis

Affected samples: all

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| TRPH | 0.45 | 2.25 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors and sample aliquots were taken into account when evaluating for blank contamination. Results less than the action level and reporting limit (RL) were reported as a nondetect at the RL value.

All other quality control criteria were met for this fraction.

Executive Summary

**Laboratory performance:** Results less than the action level and reporting limit (RL) for Methylene Chloride were reported as nondetects. Detects for TRPH less than the action level and less than the RL were reported as nondetects.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne J. Smith

Suzanne J. Smith

Project Chemist
Tetra Tech NUS, Inc.

**SDG: 26163**

| SAMPLE NUMBER: | NASPFF MW-13D | | | NASPFF MW-3S | | | NASPFF MW-4S | | | TRIP BLANK | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE DATE: | 11/09/00 | | | 11/09/00 | | | 11/09/00 | | | 11/09/00 | | |
| LABORATORY ID: | AC03085 | | | AC03084 | | | AC03083 | | | AC03086 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | UG/L | | | UG/L | | | UG/L | | | UG/L | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| VOLATILES | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | ø 1.0 | U | | ø 25 | U | | ø 1.0 | U | | ø 1.0 | U | |
| 1,1,2,2-TETRACHLOROETHANE | ø ↓ | U | | ø | U | | ø | U | | ø | U | |
| 1,1,2-TRICHLOROETHANE | ø | U | | ø | U | | ø | U | | ø | U | |
| 1,1-DICHLOROETHANE | 2 | | | ø | U | | ø | U | | ø | U | |
| 1,1-DICHLOROETHENE | ø 1.0 | U | | ø | U | | ø | U | | ø | U | |
| 1,2-DIBROMOETHANE | ø 0.05 | U | | ø 0.05 | U | | ø 0.05 | U | | | | |
| 1,2-DICHLOROETHANE | ø 1.0 | U | | ø 25 | U | | ø 1.0 | U | | ø 1.0 | U | |
| 1,2-DICHLOROPROPANE | ø | U | | ø | U | | ø | U | | ø | U | |
| 1,3-DICHLOROPROPENE | ø | U | | ø | U | | ø | U | | ø | U | |
| 2-CHLOROETHYL VINYL ETHER | ø 10 | U | | ø 250 | U | | ø 10 | U | | ø 10 | U | |
| ACROLEIN | ø | U | | ø | U | | ø | U | | ø | U | |
| ACRYLONITRILE | ø | U | | ø | U | | ø | U | | ø | U | |
| BENZENE | 0.89 | J | P | 280 | | | ø 1.0 | U | | ø 1.0 | U | |
| BROMODICHLOROMETHANE | ø 1.0 | U | | ø 25 | U | | ø | U | | ø | U | |
| BROMOFORM | ø 5.0 | U | | ø 130 | U | | ø 5.0 | U | | ø 5.0 | U | |
| BROMOMETHANE | ø 1.0 | U | | ø 25 | U | | ø 1.0 | U | | ø 1.0 | U | |
| CARBON TETRACHLORIDE | ø | U | | ø | U | | ø | U | | ø | U | |
| CHLOROBENZENE | ø | U | | ø | U | | ø | U | | ø | U | |
| CHLOROETHANE | ø | U | | ø | U | | ø | U | | ø | U | |
| CHLOROFORM | ø | U | | ø | U | | 0.63 | J | P | ø | U | |
| CHLOROMETHANE | ø | U | | ø | U | | ø 1.0 | U | | ø | U | |
| ETHYLBENZENE | ø | U | | 1700 | | | 1.2 | | | ø | U | |
| METHYL TERT-BUTYL ETHER | 5.1 | J | P | ø 250 | U | | ø 10 | U | | ø 10 | U | |
| METHYLENE CHLORIDE | ø 5.0 | U | | ø 130 | U | | ø 5.0 | U | P | 2.1 | J | P |
| TETRACHLOROETHENE | ø 1.0 | U | | ø 25 | U | | ø 1.0 | U | | ø 1.0 | U | |
| TOLUENE | ø | U | | 16 | J | P | ø | U | | ø | U | |
| TRANS-1,2-DICHLOROETHENE | ø | U | | ø 25 | U | | ø | U | | ø | U | |
| TRICHLOROETHENE | ø | U | | ø | U | | ø | U | | ø | U | |
| VINYL CHLORIDE | ø | U | | ø | U | | ø | U | | ø | U | |
| XYLENES, TOTAL | ø 2.0 | U | | 4100 | | | 0.88 | J | P | ø 2.0 | U | |

# CTO132-NAS PENSACOLA
## WATER DATA
## AAL
## SDG: 26163



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-13D | | | NASPFF MW-3S | | | NASPFF MW-4S | | | | |
| SAMPLE DATE: | 11/09/00 | | | 11/09/00 | | | 11/09/00 | | | / / | |
| LABORATORY ID: | AC03085 | | | AC03084 | | | AC03083 | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | |
| UNITS: | UG/L | | | UG/L | | | UG/L | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | ~~1.0~~ | U | | 64 | | | ~~1.0~~ | U | | | | |
| 2-METHYLNAPHTHALENE | | U | | 79 | | | | U | | | | |
| ACENAPHTHENE | | U | | 0.59 | J | P | | U | | | | |
| ACENAPHTHYLENE | | U | | ~~1.0~~ | U | | | U | | | | |
| ANTHRACENE | | U | | | U | | | U | | | | |
| BENZO(A)ANTHRACENE | | U | | | U | | | U | | | | |
| BENZO(A)PYRENE | | U | | | U | | | U | | | | |
| BENZO(B)FLUORANTHENE | | U | | | U | | | U | | | | |
| BENZO(G,H,I)PERYLENE | | U | | | U | | | U | | | | |
| BENZO(K)FLUORANTHENE | | U | | | U | | | U | | | | |
| CHRYSENE | | U | | | U | | | U | | | | |
| DIBENZO(A,H)ANTHRACENE | | U | | | U | | | U | | | | |
| FLUORANTHENE | | U | | | U | | | U | | | | |
| FLUORENE | | U | | 1.4 | | | | U | | | | |
| INDENO(1,2,3-CD)PYRENE | | U | | ~~1.0~~ | U | | | U | | | | |
| NAPHTHALENE | | U | | 200 | | | | U | | | | |
| PHENANTHRENE | | U | | ~~1.0~~ | U | | | U | | | | |
| PYRENE | | U | | | U | | | U | | | | |

AAL

SDG: 26163

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-13D | | | NASPFF MW-3S | | | NASPFF MW-4S | | | | |
| SAMPLE DATE: | 11/09/00 | | | 11/09/00 | | | 11/09/00 | | | / / | |
| LABORATORY ID: | AC03085 | | | AC03084 | | | AC03083 | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 0.46 1.0 JB | U | | 28 | | | 0.41 1.0 JB | U | | | | |

# CTO132-NAS PENSACOLA
## WATER DATA
## AAL
## SDG: 26163



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-3S | | | NASPFF MW-4S | | | | | | | | |
| SAMPLE DATE: | 11/09/00 | | | 11/09/00 | | | / / | | | / / | | |
| LABORATORY ID: | AC03084 | | | AC03083 | | | | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | UG/ML | | | UG/ML | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **DISSOLVED GASES** | | | | | | | | | | | | |
| METHANE | 2.1 | | | 0.21 | | | | | | | | |

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW-13D | AC03085 | NORMAL | 26163 | M | 11/09/00 | 11/13/00 | 11/23/00 | 4 | 10 | 14 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | M | 11/09/00 | 11/13/00 | 11/23/00 | 4 | 10 | 14 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | M | 11/09/00 | 11/13/00 | 11/23/00 | 4 | 10 | 14 |
| UG/ML | NASPFF MW-3S | AC03084 | NORMAL | 26163 | METH | 11/09/00 | 11/21/00 | 11/21/00 | 12 | 0 | 12 |
| UG/ML | NASPFF MW-4S | AC03083 | NORMAL | 26163 | METH | 11/09/00 | 11/21/00 | 11/21/00 | 12 | 0 | 12 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | NTA | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | NTA | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | NTI | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | NTI | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-13D | AC03085 | NORMAL | 26163 | OV | 11/09/00 | 11/16/00 | 11/16/00 | 7 | 0 | 7 |
| UG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | OV | 11/09/00 | 11/16/00 | 11/16/00 | 7 | 0 | 7 |
| UG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | OV | 11/09/00 | 11/16/00 | 11/16/00 | 7 | 0 | 7 |
| UG/L | TRIP BLANK | AC03086 | NORMAL | 26163 | OV | 11/09/00 | 11/15/00 | 11/15/00 | 6 | 0 | 6 |
| UG/L | NASPFF MW-13D | AC03085 | NORMAL | 26163 | PAH | 11/09/00 | 11/15/00 | 11/19/00 | 6 | 4 | 10 |
| UG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | PAH | 11/09/00 | 11/15/00 | 11/19/00 | 6 | 4 | 10 |
| UG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | PAH | 11/09/00 | 11/15/00 | 11/19/00 | 6 | 4 | 10 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | SO4 | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | SO4 | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | SUL | 11/09/00 | 11/15/00 | 11/15/00 | 6 | 0 | 6 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | SUL | 11/09/00 | 11/15/00 | 11/15/00 | 6 | 0 | 6 |
| MG/L | NASPFF MW-13D | AC03085 | NORMAL | 26163 | TPH | 11/09/00 | 11/16/00 | 11/17/00 | 7 | 1 | 8 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | TPH | 11/09/00 | 11/16/00 | 11/21/00 | 7 | 5 | 12 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | TPH | 11/09/00 | 11/16/00 | 11/17/00 | 7 | 1 | 8 |

Tetra Tech NUS, Inc. Internal Correspondence

| | | | |
|---|---|---|---|
| **TO:** | **Mr. Gerald Walker** | | **DATE: January 5, 2001** |
| **FROM:** | **Suzanne I. Smith** | | **CC: File** |
| **SUBJECT:** | **Inorganic Data Validation – Lead and Anions**<br>**CTO132 – NAS Pensacola**<br>**SDG 26163** | | |
| **SAMPLES:** | **3/Aqueous** | | |
| | **NASPFF MW-13D** | **NASPFF MW-3S** | **NASPFF MW-4S** |

**OVERVIEW**

The sample set for CTO132, SDG 26163; Naval Air Station Pensacola, Pensacola, Florida consists of three (3) aqueous environmental samples. The environmental samples and equipment blank were analyzed for Lead. Only MW-3S and MW-4S were also analyzed for Anions.

The samples were collected by Tetra Tech NUS on November 9, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 60100B (Lead) and EPA Methods 300 and 376.1 analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • Laboratory method/field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Lead Fraction

All quality control criteria were met for this fraction.

Anion Fraction

All quality control criteria were met for this fraction.

Executive Summary

**Laboratory performance:** All quality control criteria were met.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne L. Smith

Project Chemist
Tetra Tech NUS, Inc.

**SDG: 26163**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-13D | | | NASPFF MW-3S | | | NASPFF MW-4S | | | | |
| SAMPLE DATE: | 11/09/00 | | | 11/09/00 | | | 11/09/00 | | | / / | |
| LABORATORY ID: | AC03085 | | | AC03084 | | | AC03083 | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| INORGANICS | | | | | | | | | | | | |
| LEAD | 0.00 0.010 | U | | 0.00 0.010 | U | | 0.00 0.010 | U | | | | |

# CTO132-NAS PENSACOLA
## WATER DATA
## AAL
## SDG: 26163



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-3S | | | NASPFF MW-4S | | | | | | | |
| SAMPLE DATE: | 11/09/00 | | | 11/09/00 | | | / / | | | / / | |
| LABORATORY ID: | AC03084 | | | AC03083 | | | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 100.0 % | | | 100.0 % | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** |
| **INORGANIC PARAMETERS** | | | | | | | | | | | | |
| NITRATE(MG/L) | ~~0.01~~ | U | | 0.86 | | | | | | | | |
| NITRITE(MG/L) | 0.08 | | | 0.02 | | | | | | | | |
| SULFATE(MG/L) | 1.0 | U | | 5 | | | | | | | | |
| SULFIDE(MG/L) | 1.0 | U | | ~~1.0~~ | U | | | | | | | |

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW-13D | AC03085 | NORMAL | 26163 | M | 11/09/00 | 11/13/00 | 11/23/00 | 4 | 10 | 14 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | M | 11/09/00 | 11/13/00 | 11/23/00 | 4 | 10 | 14 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | M | 11/09/00 | 11/13/00 | 11/23/00 | 4 | 10 | 14 |
| UG/ML | NASPFF MW-3S | AC03084 | NORMAL | 26163 | METH | 11/09/00 | 11/21/00 | 11/21/00 | 12 | 0 | 12 |
| UG/ML | NASPFF MW-4S | AC03083 | NORMAL | 26163 | METH | 11/09/00 | 11/21/00 | 11/21/00 | 12 | 0 | 12 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | NTA | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | NTA | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | NTI | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | NTI | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-13D | AC03085 | NORMAL | 26163 | OV | 11/09/00 | 11/16/00 | 11/16/00 | 7 | 0 | 7 |
| UG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | OV | 11/09/00 | 11/16/00 | 11/16/00 | 7 | 0 | 7 |
| UG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | OV | 11/09/00 | 11/16/00 | 11/16/00 | 7 | 0 | 7 |
| UG/L | TRIP BLANK | AC03086 | NORMAL | 26163 | OV | 11/09/00 | 11/15/00 | 11/15/00 | 6 | 0 | 6 |
| UG/L | NASPFF MW-13D | AC03085 | NORMAL | 26163 | PAH | 11/09/00 | 11/15/00 | 11/19/00 | 6 | 4 | 10 |
| UG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | PAH | 11/09/00 | 11/15/00 | 11/19/00 | 6 | 4 | 10 |
| UG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | PAH | 11/09/00 | 11/15/00 | 11/19/00 | 6 | 4 | 10 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | SO4 | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | SO4 | 11/09/00 | 11/10/00 | 11/11/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | SUL | 11/09/00 | 11/15/00 | 11/15/00 | 6 | 0 | 6 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | SUL | 11/09/00 | 11/15/00 | 11/15/00 | 6 | 0 | 6 |
| MG/L | NASPFF MW-13D | AC03085 | NORMAL | 26163 | TPH | 11/09/00 | 11/16/00 | 11/17/00 | 7 | 1 | 8 |
| MG/L | NASPFF MW-3S | AC03084 | NORMAL | 26163 | TPH | 11/09/00 | 11/16/00 | 11/21/00 | 7 | 5 | 12 |
| MG/L | NASPFF MW-4S | AC03083 | NORMAL | 26163 | TPH | 11/09/00 | 11/16/00 | 11/17/00 | 7 | 1 | 6 |

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03083** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00
Client Contact: GERRY WALKER Date Received: 11/10/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-4S**

---

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/11/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.86 | 0.01 |
| Nitrite by IC | 0.02 | 0.01 |
| Sulfate by IC | 5 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 0.21 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

---

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.41JB | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.63 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | 1.2 | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 1.9 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 0.88 J | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters — Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 75 | |
| Nitrobenzene-d5 (Range 37-104) | 82 | |
| p-Terphenyl-d14 (Range 15-132) | 64 | |

ANALYSIS: X PRO Sample Surrogates (Water) — Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 6.1 | |
| o-Terphenyl (Range 82-142) | 106 | |

ANALYSIS: X VOC Sample Surrogates-Waters — Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 91 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 98 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC03084** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00

Client Contact: GERRY WALKER Date Received: 11/10/00

Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00

Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER

**Client Sample ID: NASPFF MW-3S**

---

**ANALYSIS: Anions** Method Ref: 300.0

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/11/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | 0.08 | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 2.1 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 64 | 1.0 |

---

| | | |
|---|---|---|
| 2-Methylnaphthalene | 79 | 1.0 |
| Acenaphthene | 0.59J | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | 1.4 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 200 | 10 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/21/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 28 | 5.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 25 |
| 1,1,2,2-Tetrachloroethane | <RDL | 25 |
| 1,1,2-Trichloroethane | <RDL | 25 |
| 1,1-Dichloroethane | <RDL | 25 |
| 1,1-Dichloroethene | <RDL | 25 |
| 1,2-Dichloroethane | <RDL | 25 |
| 1,2-Dichloropropane | <RDL | 25 |
| 1,3-Dichloropropene | <RDL | 25 |
| 2-Chloroethylvinyl ether | <RDL | 250 |
| Acrolein | <RDL | 250 |
| Acrylonitrile | <RDL | 250 |
| Benzene | 280 | 25 |
| Bromodichloromethane | <RDL | 25 |
| Bromoform | <RDL | 130 |
| Bromomethane | <RDL | 25 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 25 |
| Chlorobenzene | <RDL | 25 |
| Chloroethane | <RDL | 25 |
| Chloroform | <RDL | 25 |
| Chloromethane | <RDL | 25 |
| Ethylbenzene | 1700 | 100 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 250 |
| Methylene chloride | <RDL | 130 |
| Tetrachloroethene | <RDL | 25 |
| Toluene | 16 J | 25 |
| trans-1,2-Dichloroethene | <RDL | 25 |
| Trichloroethene | <RDL | 25 |
| Vinyl chloride | <RDL | 25 |
| Xylenes (Total) | 4100 | 200 |

ANALYSIS: X B/N Sample Surrogates (Waters — Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 78 | |
| Nitrobenzene-d5 (Range 37-104) | 75 | |
| p-Terphenyl-d14 (Range 15-132) | 21 | |

ANALYSIS: X PRO Sample Surrogates (Water) — Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.6 | |
| o-Terphenyl (Range 82-142) | 103 | |

ANALYSIS: X VOC Sample Surrogates-Waters — Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 83 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 97 | |

Accutest Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03085** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00
Client Contact: GERRY WALKER Date Received: 11/10/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-13D**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.46JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | 2.0 | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | 0.89 J | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | 5.1 J | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X_B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 82 | |
| Nitrobenzene-d5 | (Range 37-104) | 90 | |
| p-Terphenyl-d14 | (Range 15-132) | 67 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.7 | |
| o-Terphenyl (Range 82-142) | 104 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 84 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC03086** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00

Client Contact: GERRY WALKER Date Received: 11/10/00

Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00

Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER

**Client Sample ID: TRIP BLANK**

---

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 2.1 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X VOC Sample Surrogates-Waters  Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00  Date Analyzed: 11/15/00  Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 81 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 93 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03087** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/10/00

Client Contact: GERRY WALKER Date Received: 11/10/00

Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00

Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER

**Client Sample ID: METHOD BLANK**

---

**ANALYSIS: Anions** Method Ref: 300.0

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.45J | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X Base Neutral QC Surrogates (W — Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 57-102) | 78 | |
| Nitrobenzene-d5 (Range 50-103) | 84 | |
| p-Terphenyl-d14 (Range 64-113) | 92 | |

ANALYSIS: X PRO QC Surrogates (Water) — Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 9.4 | |
| o-Terphenyl (Range 82-142) | 101 | |

ANALYSIS: X VOC QC Surrogates-Waters — Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 80 | |
| 4-Bromofluorobenzene (85-111) | 98 | |
| Toluene-d8 (88-106) | 97 | |

Accura Analytical Laboratory, Inc.

# CHAIN OF CUSTODY

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Tetra Tech NUS
Address: 1401 Oven Park Dr. Talla. FL
Report Sent to: (Client Contact): Gerry Walker
Contact Phone # 8503859899 Fax # 8501385 9860
Project Name: Former Sherman Fuel Farm
Project Number: NO516

Billing address:
Client P.O. #

[redacted]

Samplers: (signature) Dan Hartnett
Samplers: (printed) Dr Hartnett/G Davis

| Sample ID # | Sample Date / Time | Comp | Grab | Matrix | Preserved | Sample Location: | No. of Containers | VOC | EDB | PAH's | TRPH | Anion | Pb | Sulfide | Methane | | Remarks | Accura Sample ID No. AB/AC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NASPFF MW-4S | 11/9/00 1310 | | ✓ | A | | Sherman Fuel Farm | 16 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 3 | | | 03083 |
| NASPFF MW-3S | 11/9/00 1345 | | ✓ | A | | ↓ | 16 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | 3 | | | 03084 |
| NASPFF MW-13D | 11/9/00 1515 | | ✓ | A | | ↓ | 11 | 3 | 3 | 2 | 2 | | 1 | | | | | 03085 |
| Trip Blank | — | | | | | | 32 | 32 | | | | | | | | | | 03086 |
| | | | | | | | DJ 11/10/00 | DJ 11/10/00 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

| Relinquished By: | Date / Time | Received By: | Date / Time | Special Requirements Or Remarks: |
|---|---|---|---|---|
| Dan Hartnett | 11/9/00 1730 | FEDEX | 11-10-00 / 0920 | |
| **Relinquished By:** | **Date / Time** | **Received By:** | **Date / Time** | **Turnaround Time Requested:** |
| FEDEX | 11-10-00 0920 | [signature] | 11-10-00 / 0920 | |

Matrix Guide: (S = Soil) (W = Water) (L = Liquid) (C = Cartridge) (SL = Sludge) (A = Air Sample) (F = Foods) (M = Miscellaneous)

COC97-2.XLS

Tetra Tech NUS, Inc. Internal Correspondence

**TO:** Mr. Gerald Walker **DATE:** January 5, 2001

**FROM:** Suzanne I. Smith **CC:** File

**SUBJECT:** Organic Data Validation – VOC, EDB, PAH, and TRPH
CTO132 – NAS Pensacola
SDG 26126

**SAMPLES:** 12/Aqueous

| | | |
|---|---|---|
| NASPFF MW DUP-1 | NASPFF MW-10R | NASPFF MW-17S |
| NASPFF MW-18S | NASPFF MW-19S | NASPFF MW-20S |
| NASPFF MW-22S | NASPFF MW-23S | NASPFF MW-5S |
| NASPFF MW-7S | NASPFF MW-8S | TRIP BLANK |

**OVERVIEW**

The sample set for CTO132, SDG 26126; Naval Air Station Pensacola, Pensacola, Florida consists of eleven (11) aqueous environmental samples and one (1) trip blank. The environmental samples were analyzed for Volatile Organic Carbons (VOCs), Ethylene Dibromide (EDB), Polycyclic Aromatic Hydrocarbons (PAHs), and Total Residual Petroleum Hydrocarbons (TRPHs). The trip blank was only analyzed for VOCs. One pair of duplicate samples was analyzed with this sample set: NASPFF MW-22S/NASPFF MW DUP-1.

The samples were collected by Tetra Tech NUS on November 5 and 6, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 8260B (VOCs), EPA Method 504.1 (EDB), SW-846 Method 8270C (PAHs), and FL-PRO (TRPHs) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* * Data Completeness
* * Holding Times
- Laboratory method/field quality control blank results
- Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Volatile Fraction

Trip Blank Analysis

Affected samples: all

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| Methylene Chloride | 2.1 | 10.5 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors and sample aliquots were taken into account when evaluating for blank contamination. Results less than the action level were reported as nondetects.

All other quality control criteria were met for this fraction.

EDB Fraction

All quality control criteria were met for this fraction.

Polycyclic Aromatic Hydrocarbon Fraction

All surrogates for NASPFF MW-5S had low recoveries therefore all detects will be estimated "J" due to surrogate recovery noncompliance.

All other quality control criteria were met for this fraction.

Total Residual Petroleum Fraction

Laboratory Blank Analysis

Affected samples: all

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| TRPH | 0.41 | 2.05 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors and sample aliquots were taken into account when evaluating for blank contamination. Results less than the action level and reporting limit (RL) were reported as a nondetect at the RL value.

All other quality control criteria were met for this fraction.

Field Duplicate Summary

| Analyte | NASPFF MW-22S(ug/L) | NASPFF MW DUP-1(ug/L) | %RPD |
|---|---|---|---|
| 1,2-Dichloroethane | 3.8 | ND | NA |
| Benzene | 110 | 120 | 8.7 |
| Chloromethane | 0.65 | 0.64 | 1.6 |
| Ethylbenzene | 420 | 450 | 6.9 |
| Toluene | 2.8 | 2.8 | 0 |
| Xylenes, total | 2900 | 3100 | 6.7 |
| TRPH | 23 | 22 | 4.4 |

For PAH analysis, it is apparent that NASPFF MW DUP-1 is not a duplicate of NASPFF MW-22S, but rather of NASPFF MW-5S. It is unknown whether this is due to a mislabeling in the field or in the lab, but it does not compromise the data so no action has been taken.

Executive Summary

**Laboratory performance:** Results less than the action level for Methylene Chloride were reported as nondetects. Detects for TRPH less than the action level and less than the RL were reported as nondetects. All detects for PAHs in NASPFF MW-5S will be estimated "J" due to surrogate recovery noncompliance.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne J. Smith

Suzanne J. Smith

Project Chemist
Tetra Tech NUS, Inc.

**SDG: 26126**

| | NASPFF MW DUP-1 | | | NASPFF MW-10R | | | NASPFF MW-17S | | | NASPFF MW-18S | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW DUP-1 | | | NASPFF MW-10R | | | NASPFF MW-17S | | | NASPFF MW-18S | | |
| SAMPLE DATE: | 11/06/00 | | | 11/06/00 | | | 11/06/00 | | | 11/05/00 | | |
| LABORATORY ID: | AC02878 | | | AC02875 | | | AC02877 | | | AC02868 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | UG/L | | | UG/L | | | UG/L | | | UG/L | | |
| FIELD DUPLICATE OF: | MW-22S | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| VOLATILES | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| 1,1,2,2-TETRACHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1,2-TRICHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1-DICHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1-DICHLOROETHENE | | U | | | U | | | U | | | U | |
| 1,2-DIBROMOETHANE | 0.05 | U | | 0.05 | U | | 0.05 | U | | 0.05 | U | |
| 1,2-DICHLOROETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| 1,2-DICHLOROPROPANE | | U | | | U | | | U | | | U | |
| 1,3-DICHLOROPROPENE | | U | | | U | | | U | | | U | |
| 2-CHLOROETHYL VINYL ETHER | 10 | U | | 10 | U | | 10 | U | | 10 | U | |
| ACROLEIN | | U | | | U | | | U | | | U | |
| ACRYLONITRILE | | U | | | U | | | U | | | U | |
| BENZENE | 120 | | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| BROMODICHLOROMETHANE | 1.0 | U | | | U | | 5.0 | U | | 5.0 | U | |
| BROMOFORM | 5.0 | U | | 5.0 | U | | 1.0 | U | | 1.0 | U | |
| BROMOMETHANE | 1.0 | U | | 1.0 | U | | | U | | | U | |
| CARBON TETRACHLORIDE | | U | | | U | | | U | | | U | |
| CHLOROBENZENE | | U | | | U | | | U | | | U | |
| CHLOROETHANE | | U | | | U | | | U | | | U | |
| CHLOROFORM | | U | | 0.85 | J | P | 2.4 | | | | U | |
| CHLOROMETHANE | 0.64 | J | P | 1.0 | U | | 1.0 | U | | | U | |
| ETHYLBENZENE | 450 | | | | U | | | U | | 3.1 | | |
| METHYL TERT-BUTYL ETHER | 10 | U | | 10 | U | | 10 | U | | 10 | U | |
| METHYLENE CHLORIDE | 5.0 | U | | 5.0 | U | | 5.0 | U | | 5.0 | U | |
| TETRACHLOROETHENE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| TOLUENE | 2.8 | | | | U | | | U | | 0.54 | J | P |
| TRANS-1,2-DICHLOROETHENE | 1.0 | U | | | U | | | U | | 1.0 | U | |
| TRICHLOROETHENE | | U | | | U | | | U | | | U | |
| VINYL CHLORIDE | | U | | | U | | | U | | | U | |
| XYLENES, TOTAL | 3100 | | | 2.0 | U | | 1.7 | J | P | 7.7 | | |

| SAMPLE NUMBER: | NASPFF MW-19S | NASPFF MW-20S | NASPFF MW-22S | NASPFF MW-23S |
|---|---|---|---|---|
| SAMPLE DATE: | 11/05/00 | 11/05/00 | 11/06/00 | 11/06/00 |
| LABORATORY ID: | AC02869 | AC02870 | AC02876 | AC02874 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | UG/L | UG/L | UG/L | UG/L |
| FIELD DUPLICATE OF: | | | | |

| VOLATILES | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| 1,1,2,2-TETRACHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1,2-TRICHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1-DICHLOROETHANE | | U | | | U | | | U | | | U | |
| 1,1-DICHLOROETHENE | | U | | | U | | | U | | | U | |
| 1,2-DIBROMOETHANE | 0.05 | U | | 0.05 | U | | 0.05 | U | | 0.05 | U | |
| 1,2-DICHLOROETHANE | 1.0 | U | | 1.0 | U | | 3.8 | | | 1.0 | U | |
| 1,2-DICHLOROPROPANE | | U | | | U | | 1.0 | U | | | U | |
| 1,3-DICHLOROPROPENE | | U | | | U | | | U | | | U | |
| 2-CHLOROETHYL VINYL ETHER | 10 | U | | 10 | U | | 10 | U | | 10 | U | |
| ACROLEIN | | U | | | U | | | U | | | U | |
| ACRYLONITRILE | | U | | | U | | | U | | | U | |
| BENZENE | 1.0 | U | | 1.0 | U | | 110 | | | 1.0 | U | |
| BROMODICHLOROMETHANE | | U | | | U | | 1.0 | U | | | U | |
| BROMOFORM | 5.0 | U | | 5.0 | U | | 5.0 | U | | 5.0 | U | |
| BROMOMETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| CARBON TETRACHLORIDE | | U | | | U | | | U | | | U | |
| CHLOROBENZENE | | U | | | U | | | U | | | U | |
| CHLOROETHANE | | U | | | U | | | U | | | U | |
| CHLOROFORM | 0.93 | J | P | | U | | | U | | 0.74 | J | P |
| CHLOROMETHANE | 1.0 | U | | | U | | 0.65 | J | P | 1.0 | U | |
| ETHYLBENZENE | | U | | | U | | 420 | | | | U | |
| METHYL TERT-BUTYL ETHER | 10 | U | | 10 | U | | 10 | U | | 10 | U | |
| METHYLENE CHLORIDE | 5.0 | U | | 5.0 | U | | 5.0 | U | | 5.0 | U | |
| TETRACHLOROETHENE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| TOLUENE | | U | | 1.8 | | | 2.8 | | | | U | |
| TRANS-1,2-DICHLOROETHENE | | U | | 1.0 | U | | 1.0 | U | | | U | |
| TRICHLOROETHENE | | U | | | U | | | U | | | U | |
| VINYL CHLORIDE | | U | | | U | | | U | | | U | |
| XYLENES, TOTAL | 2.0 | U | | 2.0 | U | | 2900 | | | 2.0 | U | |

**AAL**
**SDG: 26126**

| | NASPFF MW-5S | NASPFF MW-7S | NASPFF MW-8S | TRIP BLANK |
|---|---|---|---|---|
| SAMPLE NUMBER: | | | | |
| SAMPLE DATE: | 11/06/00 | 11/06/00 | 11/05/00 | 11/05/00 |
| LABORATORY ID: | AC02872 | AC02873 | AC02871 | AC02879 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | UG/L | UG/L | UG/L | UG/L |
| FIELD DUPLICATE OF: | | | | |

| VOLATILES | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 1.0 | U | | 1.0 | U | | 10 | U | | 0 | U | |
| 1,1,2,2-TETRACHLOROETHANE | " | U | | " | U | | " | U | | 0 | U | |
| 1,1,2-TRICHLOROETHANE | " | U | | " | U | | " | U | | 0 | U | |
| 1,1-DICHLOROETHANE | " | U | | " | U | | " | U | | 0 | U | |
| 1,1-DICHLOROETHENE | " | U | | " | U | | " | U | | 0 | U | |
| 1,2-DIBROMOETHANE | 0.05 | U | | 0.05 | U | | 0.05 | U | | | | |
| 1,2-DICHLOROETHANE | 1.0 | U | | 1.0 | U | | 10 | U | | 0 | U | |
| 1,2-DICHLOROPROPANE | " | U | | " | U | | " | U | | 0 | U | |
| 1,3-DICHLOROPROPENE | " | U | | " | U | | " | U | | 0 | U | |
| 2-CHLOROETHYL VINYL ETHER | 10 | U | | 10 | U | | 100 | U | | 0 | U | |
| ACROLEIN | " | U | | " | U | | " | U | | 0 | U | |
| ACRYLONITRILE | " | U | | " | U | | " | U | | 0 | U | |
| BENZENE | 1.0 | U | | 1.0 | U | | 39 | | | 0 | U | |
| BROMODICHLOROMETHANE | " | U | | " | U | | 10 | U | | 0 | U | |
| BROMOFORM | 5.0 | U | | 5.0 | U | | 50 | U | | 0 | U | |
| BROMOMETHANE | 1.0 | U | | 1.0 | U | | 10 | U | | 0 | U | |
| CARBON TETRACHLORIDE | " | U | | " | U | | " | U | | 0 | U | |
| CHLOROBENZENE | " | U | | " | U | | " | U | | 0 | U | |
| CHLOROETHANE | " | U | | " | U | | " | U | | 0 | U | |
| CHLOROFORM | 2.9 | | | 1.8 | | | " | U | | 0 | U | |
| CHLOROMETHANE | 1.0 | U | | 1.0 | U | | " | U | | 0 | U | |
| ETHYLBENZENE | " | U | | " | U | | 100 | | | 0 | U | |
| METHYL TERT-BUTYL ETHER | 10 | U | | 10 | U | | 100 | U | | 0 | U | |
| METHYLENE CHLORIDE | 5.0 | U | | 5.0 | U | | 7.1 | U | R | 2.1 | J | |
| TETRACHLOROETHENE | 1.0 | U | | 1.0 | U | | 10 | U | | 0 | U | |
| TOLUENE | " | U | | " | U | | " | U | | 0 | U | |
| TRANS-1,2-DICHLOROETHENE | " | U | | " | U | | " | U | | 0 | U | |
| TRICHLOROETHENE | " | U | | " | U | | " | U | | 0 | U | |
| VINYL CHLORIDE | " | U | | " | U | | " | U | | 0 | U | |
| XYLENES, TOTAL | 0.78 | J | P | 2.0 | U | | 520 | | | 0 | U | |

# CTO132-NAS PENSACOLA
## VATER DATA
## AL
## DG: 26126

| | | | |
|---|---|---|---|
| AMPLE NUMBER: | NASPFF MW DUP-1 | NASPFF MW-10R | NASPFF MW-17S | NASPFF MW-18S |
| AMPLE DATE: | 11/06/00 | 11/06/00 | 11/06/00 | 11/05/00 |
| ABORATORY ID: | AC02878 | AC02875 | AC02877 | AC02868 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| NITS: | UG/L | UG/L | UG/L | UG/L |
| IELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OLYNUCLEAR AROMATIC HYDROCARBONS | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 37 | | | 1.0 | U | | 1.0 | U | | 4.5 | | |
| 2-METHYLNAPHTHALENE | 45 | | | | U | | | U | | 3.3 | | |
| ACENAPHTHENE | 1.0 | U | | | U | | | U | | 1.0 | U | |
| ACENAPHTHYLENE | | U | | | U | | | U | | | U | |
| ANTHRACENE | | U | | | U | | | U | | | U | |
| BENZO(A)ANTHRACENE | | U | | | U | | | U | | | U | |
| BENZO(A)PYRENE | | U | | | U | | | U | | | U | |
| BENZO(B)FLUORANTHENE | | U | | | U | | | U | | | U | |
| BENZO(G,H,I)PERYLENE | | U | | | U | | | U | | | U | |
| BENZO(K)FLUORANTHENE | | U | | | U | | | U | | | U | |
| CHRYSENE | | U | | | U | | | U | | | U | |
| DIBENZO(A,H)ANTHRACENE | | U | | | U | | | U | | | U | |
| FLUORANTHENE | | U | | | U | | | U | | | U | |
| FLUORENE | | U | | | U | | | U | | | U | |
| INDENO(1,2,3-CD)PYRENE | | U | | | U | | | U | | | U | |
| NAPHTHALENE | 120 | | | | U | | | U | | 5.7 | | |
| PHENANTHRENE | 1.0 | U | | | U | | | U | | 1.0 | U | |
| PYRENE | | U | | | U | | | U | | | U | |

**SDG: 26126**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-19S | | | NASPFF MW-20S | | | NASPFF MW-22S | | | NASPFF MW-23S | | |
| SAMPLE DATE: | 11/05/00 | | | 11/05/00 | | | 11/06/00 | | | 11/06/00 | | |
| LABORATORY ID: | AC02869 | | | AC02870 | | | AC02876 | | | AC02874 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | UG/L | | | UG/L | | | UG/L | | | UG/L | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 1.0 | U | | 1.0 | U | | 1.0 | U | | 1.0 | U | |
| 2-METHYLNAPHTHALENE | 1.0 | U | | | U | | | U | | | U | |
| ACENAPHTHENE | | U | | | U | | | U | | | U | |
| ACENAPHTHYLENE | | U | | | U | | | U | | | U | |
| ANTHRACENE | | U | | | U | | | U | | | U | |
| BENZO(A)ANTHRACENE | | U | | | U | | | U | | | U | |
| BENZO(A)PYRENE | | U | | | U | | | U | | | U | |
| BENZO(B)FLUORANTHENE | | U | | | U | | | U | | | U | |
| BENZO(G,H,I)PERYLENE | | U | | | U | | | U | | | U | |
| BENZO(K)FLUORANTHENE | | U | | | U | | | U | | | U | |
| CHRYSENE | | U | | | U | | | U | | | U | |
| DIBENZO(A,H)ANTHRACENE | | U | | | U | | | U | | | U | |
| FLUORANTHENE | | U | | | U | | | U | | | U | |
| FLUORENE | | U | | | U | | | U | | | U | |
| INDENO(1,2,3-CD)PYRENE | | U | | | U | | | U | | | U | |
| NAPHTHALENE | | U | | | U | | | U | | | U | |
| PHENANTHRENE | | U | | | U | | | U | | | U | |
| PYRENE | | U | | | U | | | U | | | U | |

# CTO132-NAS PENSACOLA
## WATER DATA
## AAL
## SDG: 26126

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-5S | NASPFF MW-7S | NASPFF MW-6S | |
| SAMPLE DATE: | 11/06/00 | 11/06/00 | 11/05/00 | / / |
| LABORATORY ID: | AC02872 | AC02873 | AC02871 | |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 100.0 % |
| UNITS: | UG/L | UG/L | UG/L | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 30 | J | R | 1.0 | U | | 16 | | | | | |
| 2-METHYLNAPHTHALENE | 48 | J | R | | U | | 21 | | | | | |
| ACENAPHTHENE | 1.0 | U | | | U | | 1.0 | U | | | | |
| ACENAPHTHYLENE | | U | | | U | | | U | | | | |
| ANTHRACENE | | U | | | U | | | U | | | | |
| BENZO(A)ANTHRACENE | | U | | | U | | | U | | | | |
| BENZO(A)PYRENE | | U | | | U | | | U | | | | |
| BENZO(B)FLUORANTHENE | | U | | | U | | | U | | | | |
| BENZO(G,H,I)PERYLENE | | U | | | U | | | U | | | | |
| BENZO(K)FLUORANTHENE | | U | | | U | | | U | | | | |
| CHRYSENE | | U | | | U | | | U | | | | |
| DIBENZO(A,H)ANTHRACENE | | U | | | U | | | U | | | | |
| FLUORANTHENE | | U | | | U | | | U | | | | |
| FLUORENE | | U | | | U | | | U | | | | |
| INDENO(1,2,3-CD)PYRENE | | U | | | U | | | U | | | | |
| NAPHTHALENE | 110 | J | R | | U | | 30 | | | | | |
| PHENANTHRENE | 1.0 | U | | | U | | 1.0 | U | | | | |
| PYRENE | | U | | | U | | | U | | | | |

AAL

**SDG: 26126**

| | NASPFF MW DUP-1 | | | NASPFF MW-10R | | | NASPFF MW-17S | | | NASPFF MW-18S | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | | | | | | | | | | | | |
| SAMPLE DATE: | 11/06/00 | | | 11/06/00 | | | 11/06/00 | | | 11/05/00 | | |
| LABORATORY ID: | AC02878 | | | AC02875 | | | AC02877 | | | AC02868 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 22 | | | 0.89 1.0 JB U | | | 0.42 1.0 JB U | | | 0.56 1.0 JB U | | |

# CTO132-NAS PENSACOLA
## WATER DATA
## AAL
## SDG: 26126



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-19S | | | NASPFF MW-20S | | | NASPFF MW-22S | | | NASPFF MW-23S | | |
| SAMPLE DATE: | 11/05/00 | | | 11/05/00 | | | 11/06/00 | | | 11/06/00 | | |
| LABORATORY ID: | AC02869 | | | AC02870 | | | AC02876 | | | AC02874 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 0.38 1.0 U | | | 0.49 1.0 U | | | 23 | | | 0.39 1.0 U | | |

**SDG: 26126**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-5S | | | NASPFF MW-7S | | | NASPFF MW-8S | | | | |
| SAMPLE DATE: | 11/06/00 | | | 11/06/00 | | | 11/05/00 | | | / / | |
| LABORATORY ID: | AC02872 | | | AC02873 | | | AC02871 | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 0.27 1.0 | UB | | 0.27 1.0 | UB | | 4.8 | | | | | |

26126

HOLDING TIME
01/02/01

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW DUP-1 | AC02878 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-10R | AC02875 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-17S | AC02877 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-18S | AC02868 | NORMAL | 26126 | M | 11/05/00 | 11/10/00 | 11/23/00 | 5 | 13 | 18 |
| MG/L | NASPFF MW-19S | AC02869 | NORMAL | 26126 | M | 11/05/00 | 11/10/00 | 11/23/00 | 5 | 13 | 18 |
| MG/L | NASPFF MW-20S | AC02870 | NORMAL | 26126 | M | 11/05/00 | 11/10/00 | 11/23/00 | 5 | 13 | 18 |
| MG/L | NASPFF MW-22S | AC02876 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-23S | AC02874 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-5S | AC02872 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-7S | AC02873 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-8S | AC02871 | NORMAL | 26126 | M | 11/05/00 | 11/10/00 | 11/23/00 | 5 | 13 | 18 |
| UG/L | NASPFF MW DUP-1 | AC02878 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-10R | AC02875 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-17S | AC02877 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-18S | AC02868 | NORMAL | 26126 | OV | 11/05/00 | 11/10/00 | 11/10/00 | 5 | 0 | 5 |
| UG/L | NASPFF MW-19S | AC02869 | NORMAL | 26126 | OV | 11/05/00 | 11/10/00 | 11/10/00 | 5 | 0 | 5 |
| UG/L | NASPFF MW-20S | AC02870 | NORMAL | 26126 | OV | 11/05/00 | 11/10/00 | 11/10/00 | 5 | 0 | 5 |
| UG/L | NASPFF MW-22S | AC02876 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-23S | AC02874 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-5S | AC02872 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-7S | AC02873 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-8S | AC02871 | NORMAL | 26126 | OV | 11/05/00 | 11/10/00 | 11/10/00 | 5 | 0 | 5 |
| UG/L | TRIP BLANK | AC02879 | NORMAL | 26126 | OV | 11/05/00 | 11/13/00 | 11/13/00 | 8 | 0 | 8 |
| UG/L | NASPFF MW DUP-1 | AC02878 | NORMAL | 26126 | PAH | 11/06/00 | 11/10/00 | 11/13/00 | 4 | 3 | 7 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UG/L | NASPFF MW-10R | AC02875 | NORMAL | 26126 | PAH | 11/06/00 | 11/08/00 | 11/09/00 | 2 | 1 | 3 |
| UG/L | NASPFF MW-17S | AC02877 | NORMAL | 26126 | PAH | 11/06/00 | 11/10/00 | 11/13/00 | 4 | 3 | 7 |
| UG/L | NASPFF MW-18S | AC02868 | NORMAL | 26126 | PAH | 11/05/00 | 11/08/00 | 11/09/00 | 3 | 1 | 4 |
| UG/L | NASPFF MW-19S | AC02869 | NORMAL | 26126 | PAH | 11/05/00 | 11/08/00 | 11/09/00 | 3 | 1 | 4 |
| UG/L | NASPFF MW-20S | AC02870 | NORMAL | 26126 | PAH | 11/05/00 | 11/08/00 | 11/09/00 | 3 | 1 | 4 |
| UG/L | NASPFF MW-22S | AC02876 | NORMAL | 26126 | PAH | 11/06/00 | 11/08/00 | 11/09/00 | 2 | 1 | 3 |
| UG/L | NASPFF MW-23S | AC02874 | NORMAL | 26126 | PAH | 11/06/00 | 11/08/00 | 11/09/00 | 2 | 1 | 3 |
| UG/L | NASPFF MW-5S | AC02872 | NORMAL | 26126 | PAH | 11/06/00 | 11/08/00 | 11/10/00 | 2 | 2 | 4 |
| UG/L | NASPFF MW-7S | AC02873 | NORMAL | 26126 | PAH | 11/06/00 | 11/08/00 | 11/09/00 | 2 | 1 | 3 |
| UG/L | NASPFF MW-8S | AC02871 | NORMAL | 26126 | PAH | 11/05/00 | 11/08/00 | 11/09/00 | 3 | 1 | 4 |
| MG/L | NASPFF MW DUP-1 | AC02878 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/15/00 | 4 | 5 | 9 |
| MG/L | NASPFF MW-10R | AC02875 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-17S | AC02877 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-18S | AC02868 | NORMAL | 26126 | TPH | 11/05/00 | 11/10/00 | 11/14/00 | 5 | 4 | 9 |
| MG/L | NASPFF MW-19S | AC02869 | NORMAL | 26126 | TPH | 11/05/00 | 11/10/00 | 11/14/00 | 5 | 4 | 9 |
| MG/L | NASPFF MW-20S | AC02870 | NORMAL | 26126 | TPH | 11/05/00 | 11/13/00 | 11/16/00 | 8 | 3 | 11 |
| MG/L | NASPFF MW-22S | AC02876 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/15/00 | 4 | 5 | 9 |
| MG/L | NASPFF MW-23S | AC02874 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-5S | AC02872 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-7S | AC02873 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-8S | AC02871 | NORMAL | 26126 | TPH | 11/05/00 | 11/10/00 | 11/14/00 | 5 | 4 | 9 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | TPH | 11/15/00 | 11/16/00 | 11/27/00 | 1 | 11 | 12 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | TPH | 11/15/00 | 11/16/00 | 11/27/00 | 1 | 11 | 12 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | TPH | 11/15/00 | 11/16/00 | 11/27/00 | 1 | 11 | 12 |

**26211**

*HOLDING TIME*
*01/02/01*

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | M | 11/15/00 | 11/27/00 | 11/28/00 | 12 | 1 | 13 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | M | 11/15/00 | 11/27/00 | 11/29/00 | 12 | 2 | 14 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | M | 11/15/00 | 11/27/00 | 11/28/00 | 12 | 1 | 13 |
| UG/ML | NASPFF MW-11S | AC03322 | NORMAL | 26211 | METH | 11/15/00 | 11/21/00 | 11/21/00 | 6 | 0 | 6 |
| UG/ML | NASPFF MW-21S | AC03323 | NORMAL | 26211 | METH | 11/15/00 | 11/21/00 | 11/21/00 | 6 | 0 | 6 |
| UG/ML | NASPFF MW-9S | AC03321 | NORMAL | 26211 | METH | 11/15/00 | 11/21/00 | 11/21/00 | 6 | 0 | 6 |
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | NTA | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | NTA | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | NTA | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | NTI | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | NTI | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | NTI | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | OV | 11/15/00 | 11/16/00 | 11/16/00 | 1 | 0 | 1 |
| UG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | OV | 11/15/00 | 11/16/00 | 11/16/00 | 1 | 0 | 1 |
| UG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | OV | 11/15/00 | 11/16/00 | 11/16/00 | 1 | 0 | 1 |
| UG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | PAH | 11/15/00 | 11/17/00 | 11/20/00 | 2 | 3 | 5 |
| UG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | PAH | 11/15/00 | 11/17/00 | 11/20/00 | 2 | 3 | 5 |
| UG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | PAH | 11/15/00 | 11/20/00 | 11/21/00 | 5 | 1 | 6 |
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | SO4 | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | SO4 | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | SO4 | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | SUL | 11/15/00 | 11/20/00 | 11/20/00 | 5 | 0 | 5 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | SUL | 11/15/00 | 11/20/00 | 11/20/00 | 5 | 0 | 5 |

**AAL**
**SDG: 26211**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-11S | | | NASPFF MW-21S | | | NASPFF MW-9S | | | | |
| SAMPLE DATE: | 11/15/00 | | | 11/15/00 | | | 11/15/00 | | | / / | |
| LABORATORY ID: | AC03322 | | | AC03323 | | | AC03321 | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | |
| UNITS: | UG/ML | | | UG/ML | | | UG/ML | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **DISSOLVED GASES** | | | | | | | | | | | | |
| METHANE | 0.041 | | | 0.010 | U | | 0.010 | U | | | | |

WAS_RES.DBF

# CTO132-NAS PENSACOLA
**WATER DATA**
**AAL**
**SDG: 26211**



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-11S | | | NASPFF MW-21S | | | NASPFF MW-9S | | | | |
| SAMPLE DATE: | 11/15/00 | | | 11/15/00 | | | 11/15/00 | | | / / | |
| LABORATORY ID: | AC03322 | | | AC03323 | | | AC03321 | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 0.81 1.0 JB | | U | 0.34 1.0 JB | | U | 0.85 1.0 JB | | U | | | |

**AAL**
**SDG: 26211**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-11S | | | NASPFF MW-21S | | | NASPFF MW-9S | | | | | |
| SAMPLE DATE: | 11/15/00 | | | 11/15/00 | | | 11/15/00 | | | / / | | |
| LABORATORY ID: | AC03322 | | | AC03323 | | | AC03321 | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | | |
| UNITS: | UG/L | | | UG/L | | | UG/L | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 0 1.0 | U | | 0 1.0 | U | | 0 1.0 | U | | | | |
| 2-METHYLNAPHTHALENE | 0 | U | | 0 | U | | 0 | U | | | | |
| ACENAPHTHENE | 0 | U | | 0 | U | | 0 | U | | | | |
| ACENAPHTHYLENE | 0 | U | | 0 | U | | 0 | U | | | | |
| ANTHRACENE | 0 | U | | 0 | U | | 0 | U | | | | |
| BENZO(A)ANTHRACENE | 0 | U | | 0 | U | | 0 | U | | | | |
| BENZO(A)PYRENE | 0 | U | | 0 | U | | 0 | U | | | | |
| BENZO(B)FLUORANTHENE | 0 | U | | 0 | U | | 0 | U | | | | |
| BENZO(G,H,I)PERYLENE | 0 | U | | 0 | U | | 0 | U | | | | |
| BENZO(K)FLUORANTHENE | 0 | U | | 0 | U | | 0 | U | | | | |
| CHRYSENE | 0 | U | | 0 | U | | 0 | U | | | | |
| DIBENZO(A,H)ANTHRACENE | 0 | U | | 0 | U | | 0 | U | | | | |
| FLUORANTHENE | 0 | U | | 0 | U | | 0 | U | | | | |
| FLUORENE | 0 | U | | 0 | U | | 0 | U | | | | |
| INDENO(1,2,3-CD)PYRENE | 0 | U | | 0 | U | | 0 | U | | | | |
| NAPHTHALENE | 0 | U | | 0 | U | | 0 | U | | | | |
| PHENANTHRENE | 0 | U | | 0 | U | | 0 | U | | | | |
| PYRENE | 0 | U | | 0 | U | | 0 | U | | | | |

# CTO132-NAS PENSACOLA
**WATER DATA**
**AAL**
**SDG: 26211**



| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-11S | NASPFF MW-21S | NASPFF MW-9S | |
| SAMPLE DATE: | 11/15/00 | 11/15/00 | 11/15/00 | / / |
| LABORATORY ID: | AC03322 | AC03323 | AC03321 | |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 100.0 % |
| UNITS: | UG/L | UG/L | UG/L | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | | | |
| 1,1,2,2-TETRACHLOROETHANE | ↓ | U | | ↓ | U | | ↓ | U | | | | |
| 1,1,2-TRICHLOROETHANE | | U | | | U | | | U | | | | |
| 1,1-DICHLOROETHANE | | U | | | U | | | U | | | | |
| 1,1-DICHLOROETHENE | | U | | | U | | | U | | | | |
| 1,2-DIBROMOETHANE | 0.05 | U | | 0.05 | U | | 0.05 | U | | | | |
| 1,2-DICHLOROETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | | | |
| 1,2-DICHLOROPROPANE | | U | | | U | | 1.0 | U | | | | |
| 1,3-DICHLOROPROPENE | | U | | | U | | 1.0 | U | | | | |
| 2-CHLOROETHYL VINYL ETHER | 10 | U | | 10 | U | | 10 | U | | | | |
| ACROLEIN | | U | | | U | | | U | | | | |
| ACRYLONITRILE | | U | | | U | | | U | | | | |
| BENZENE | 1.0 | U | | 1.0 | U | | 1.0 | U | | | | |
| BROMODICHLOROMETHANE | | U | | | U | | | U | | | | |
| BROMOFORM | 5.0 | U | | 5.0 | U | | 5.0 | U | | | | |
| BROMOMETHANE | 1.0 | U | | 1.0 | U | | 1.0 | U | | | | |
| CARBON TETRACHLORIDE | 1.0 | U | | | U | | | U | | | | |
| CHLOROBENZENE | | U | | | U | | | U | | | | |
| CHLOROETHANE | | U | | | U | | | U | | | | |
| CHLOROFORM | | U | | | U | | 0.81 | J | P | | | |
| CHLOROMETHANE | | U | | | U | | 0.56 | J | P | | | |
| ETHYLBENZENE | | U | | | U | | 1.0 | U | | | | |
| METHYL TERT-BUTYL ETHER | 10 | U | | 10 | U | | 10 | U | | | | |
| METHYLENE CHLORIDE | 0.81 | J | P | 0.68 | J | P | 0.58 | J | P | | | |
| TETRACHLOROETHENE | 1.0 | U | | 1.0 | U | | 1.0 | U | | | | |
| TOLUENE | | U | | | U | | | U | | | | |
| TRANS-1,2-DICHLOROETHENE | | U | | | U | | | U | | | | |
| TRICHLOROETHENE | | U | | | U | | | U | | | | |
| VINYL CHLORIDE | | U | | | U | | | U | | | | |
| XYLENES, TOTAL | 2.0 | U | | 2.0 | U | | 2.0 | U | | | | |

Tetra Tech NUS, Inc. Internal Correspondence

TO: Mr. Gerald Walker DATE: January 4, 2001

FROM: Suzanne I. Smith CC: File

SUBJECT: Organic Data Validation – VOC, EDB, Methane, PAH, and TRPH
CTO132 – NAS Pensacola
SDG 26211

SAMPLES: 3/Aqueous

NASPFFMW-11S NASPFFMW-21S
NASPFFMW-9S

**OVERVIEW**

The sample set for CTO132, SDG 26211; Naval Air Station Pensacola, Pensacola, Florida consists of three (3) aqueous environmental samples. The environmental samples were analyzed for Volatile Organic Carbons (VOCs), Ethylene Dibromide (EDB), Methane, Polycyclic Aromatic Hydrocarbons (PAHs), and Total Residual Petroleum Hydrocarbons (TRPHs).

The samples were collected by Tetra Tech NUS on November 15, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 8260B (VOCs), EPA Method 504.1 (EDB), RSK-175M (Methane), SW-846 method 8270C (PAHs), and FL-PRO (TRPHs) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* Data Completeness
* Holding Times
- Laboratory method/field quality control blank results
* Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Volatile Fraction

The MS/MSD %R for 2-Chloroethylvinyl ether was below the lower accuracy control limits. The LCS %R was acceptable. No action was taken since 2-Chloroethylvinyl ether was not detected in the associated samples.

All other quality control criteria were met for this fraction.

EDB Fraction

All quality control criteria were met for this fraction.

Methane

All quality control criteria were met for this fraction.

Polycylcic Aromatic Hydrocarbon Fraction

All quality control criteria were met for this fraction.

Total Residual Petroleum Fraction

Laboratory Blank Analysis

Affected samples: all

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| TRPH | 0.43 | 2.15 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors, and sample aliquots were taken into account when evaluating for blank contamination. Results less than the action level and reporting limit (RL) were reported as a nondetect at the RL value.

All other quality control criteria were met for this fraction.

Executive Summary

| | |
|---|---|
| **Laboratory performance:** | MS/MSD %Rs for 2-Chloroethylvinyl ether were below the lower control limits. No action was taken. Detects for TRPH less than the action level and less than the RL were reported as nondetects. |
| **Other factors affecting data quality:** | None. |

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne J. Smith

Suzanne J. Smith

Project Chemist
Tetra Tech NUS, Inc.

27733

# ACCURA ANALYTICAL LABORATORY, INC.

*Environmental Analytical Services*

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

## CHAIN OF CUSTODY

Company Name: TetraTech NVS

Billing address:

Address: 1401 Oven Park Dr. Tallahassee, FL

Client P.O. #

Report Sent to: (Client Contact): Gerry Walker

Contact Phone # 850/385-9899 Fax # 850/385-9860

Project Name: Sherman Field Fuel Farm NASP

Project Number: N0516 GR0060210

[redacted]

Samplers: (signature) Dan Hartnett / Gary J. Davis

Samplers: (printed)

| Sample ID # | Sample Date / Time | Comp | Grab | Matrix | Preserved | Sample Location: | No. of Containers | VOC | EDB | PAH's | TRPH | Pb | | | | | Remarks | Accura Sample ID No. ~~AB~~ AC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NASPFF DUP-1 | 11/6/00 | | ✓ | W | ✓ | Sherman Field Fuel Farm | 11 | 3 | 3 | 2 | 2 | 1 | | | | | | 02878 |
| Trip Blank | | | | W | ✓ | | 3 | 3 | | | | | | | | | | 02879 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

| Relinquished By: | Date / Time | Received By: | Date / Time | Special Requirements Or Remarks: |
|---|---|---|---|---|
| Gary J. Davis | 11-06-00 / 1900 | | | |
| Relinquished By: | Date / Time | Received By: | Date / Time | Turnaround Time Requested: |

*Environmental Analytical Services*

# CHAIN OF CUSTODY

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Tetra Tech NUS
Billing address:
Address: 1401 Oven Park Dr.
Client P.O. #
Report Sent to: (Client Contact): Gerry Walker
Contact Phone # 850/385/9899 Fax # 850/385-9860
Project Name: Former Sherman Field Fuel Farm
Project Number: N0516 GR0060210

Samplers: (signature) Dan Hartnett / Gary Davis
Samplers: (printed) Dan Hartnett + Gary Davis

| Sample ID # | Sample Date / Time | Comp | Grab | Matrix | Preserved | Sample Location: | No. of Containers | ANALYSIS: VOC | EDB | PAH's | TRPH | PB | | | | | Remarks | Accura Sample ID No. AB- |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NASPFF MW-18s | 11/5/00 1030 | | ✓ | W | ✓ | Former Fuel Farm Sherman Field | 11 | 3 | 3 | 2 | 2 | 1 | | | | | | 02868 |
| NASPFF MW-19s | 11/5/00 1100 | | ✓ | W | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | 1 EDB VIAL BROKEN ON REC'PT 3 1 Amber | 02869 |
| NASPFF MW-20s | 11/5/00 1140 | | ✓ | W | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | | 02870 |
| NASPFF MW-8s | 11/6/00 1500 | | ✓ | W | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | | 02871 |
| NASPFF MW-5s | 11/6/00 0940 | | ✓ | W | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | 2 EDB VIALS BROKEN ON REC'PT 3 1 Amber | 02872 |
| NASPFF MW-7s | 11/6/00 1010 | | ✓ | W | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | | 02873 |
| NASPFF MW-23s | 11/6/00 1145 | | ✓ | W | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | | 02874 |
| NASPFF MW-10R | 11/6/00 | | ✓ | W | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | 1 VOC'S VIAL BROKEN ON REC'PT | 02875 |
| NASPFF MW-22s | 11/6/00 1530 | | ✓ | W | ✓ | | 11 | 3 | 3 | 2 | 2 | 1 | | | | | | 02876 |
| NASPFF MW-17s | 11/6/00 1700 | | ✓ | W | ✓ | ✓ | 11 | | | | | | | | | | | 02877 |

AC

| Relinquished By: | Date / Time | Received By: | Date / Time | Special Requirements Or Remarks: |
|---|---|---|---|---|
| Dan Hartnett / Gary Davis | 11/6/00 1900 | | | |
| Relinquished By: | Date / Time | Received By: | Date / Time | Turnaround Time Requested: |
| Fedex | 11/07/00 9:10 | R. P. Sumatlu | 11/07/00 9:10 | |

Matrix Guide: (S = Soil) (W = Water) (L = Liquid) (C = Cartridge) (SL = Sludge) (A = Air Sample) (F = Foods) (M = Miscellaneous)

COC97-2.XLS

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC02868** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/5/00

Client Contact: GERRY WALKER Date Received: 11/7/00

Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00

Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER

**Client Sample ID: NASPFF MW-18S**

---

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 4.5 | 1.0 |
| 2-Methylnaphthalene | 3.3 | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 5.7 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.48JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | 3.1 | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | 0.54 J | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 7.7 | 2.0 |

ANALYSIS: X_B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 78 | |
| Nitrobenzene-d5 | (Range 37-104) | 77 | |
| p-Terphenyl-d14 | (Range 15-132) | 101 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 13 | |
| o-Terphenyl (Range 82-142) | 71 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 84 | |
| 4-Bromofluorobenzene (86-112) | 100 | |
| Toluene-d8 (84-108) | 99 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02869** **Accura Project #: 26126**

Client: Tetra Tech Nus -Tallahassee
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
Client Sample ID: NASPFF MW-19S

Date Sampled: 11/5/00
Date Received: 11/7/00
Date Reported: 11/28/00
Sample Matrix: WATER

---

ANALYSIS: EDB — Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

ANALYSIS: Metals - Lead — Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

ANALYSIS: PAH's - Low Level — Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.38JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.93 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 86 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 96 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 12 | |
| o-Terphenyl (Range 82-142) | 70 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 89 | |
| 4-Bromofluorobenzene (86-112) | 101 | |
| Toluene-d8 (84-108) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02870** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/5/00
Client Contact: GERRY WALKER Date Received: 11/7/00
Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-20S**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.49JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | 1.6 | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 87 | |
| Nitrobenzene-d5 | (Range 37-104) | 90 | |
| p-Terphenyl-d14 | (Range 15-132) | 97 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 16 | |
| o-Terphenyl (Range 82-142) | 90 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 91 | |
| 4-Bromofluorobenzene (86-112) | 99 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02871** **Accura Project #: 26126**

Client: Tetra Tech Nus -Tallahassee
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
Client Sample ID: NASPFF MW-8S

Date Sampled: 11/5/00
Date Received: 11/7/00
Date Reported: 11/28/00
Sample Matrix: WATER

---

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 16 | 1.0 |
| 2-Methylnaphthalene | 21 | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 30 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 4.6 | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 10 |
| 1,1,2,2-Tetrachloroethane | <RDL | 10 |
| 1,1,2-Trichloroethane | <RDL | 10 |
| 1,1-Dichloroethane | <RDL | 10 |
| 1,1-Dichloroethene | <RDL | 10 |
| 1,2-Dichloroethane | <RDL | 10 |
| 1,2-Dichloropropane | <RDL | 10 |
| 1,3-Dichloropropene | <RDL | 10 |
| 2-Chloroethylvinyl ether | <RDL | 100 |
| Acrolein | <RDL | 100 |
| Acrylonitrile | <RDL | 100 |
| Benzene | 39 | 10 |
| Bromodichloromethane | <RDL | 10 |
| Bromoform | <RDL | 50 |
| Bromomethane | <RDL | 10 |
| Carbon tetrachloride | <RDL | 10 |
| Chlorobenzene | <RDL | 10 |
| Chloroethane | <RDL | 10 |
| Chloroform | <RDL | 10 |
| Chloromethane | <RDL | 10 |
| Ethylbenzene | 100 | 10 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 100 |
| Methylene chloride | 7.1 J | 50 |
| Tetrachloroethene | <RDL | 10 |
| Toluene | <RDL | 10 |
| trans-1,2-Dichloroethene | <RDL | 10 |
| Trichloroethene | <RDL | 10 |
| Vinyl chloride | <RDL | 10 |
| Xylenes (Total) | 520 | 20 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 85 | |
| Nitrobenzene-d5 | (Range 37-104) | 88 | |
| p-Terphenyl-d14 | (Range 15-132) | 53 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 15 | |
| o-Terphenyl (Range 82-142) | 80 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 86 | |
| 4-Bromofluorobenzene (86-112) | 100 | |
| Toluene-d8 (84-108) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC02872** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/6/00

Client Contact: GERRY WALKER Date Received: 11/7/00

Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00

Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER

**Client Sample ID: NASPFF MW-5S**

---

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 30 | 1.0 |
| 2-Methylnaphthalene | 48 | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 110 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.37JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 2.9 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 0.78 J | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 28 | |
| Nitrobenzene-d5 | (Range 37-104) | 26 | |
| p-Terphenyl-d14 | (Range 15-132) | 15 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 5.9 | |
| o-Terphenyl (Range 82-142) | 76 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 86 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC02873** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/6/00

Client Contact: GERRY WALKER Date Received: 11/7/00

Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00

Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER

**Client Sample ID: NASPFF MW-7S**

---

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.37JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 1.8 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 80 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 84 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 25 | |
| o-Terphenyl (Range 82-142) | 88 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 83 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC02874** **Accura Project #: 26126**

Client: Tetra Tech Nus -Tallahassee
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
Client Sample ID: NASPFF MW-23S

Date Sampled: 11/6/00
Date Received: 11/7/00
Date Reported: 11/28/00
Sample Matrix: WATER

---

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.39JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.74 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 87 | |
| Nitrobenzene-d5 | (Range 37-104) | 84 | |
| p-Terphenyl-d14 | (Range 15-132) | 90 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 16 | |
| o-Terphenyl (Range 82-142) | 63 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 78 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02875** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/6/00
Client Contact: GERRY WALKER Date Received: 11/7/00
Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-10R**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0072J | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.39JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.65 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 84 | |
| Nitrobenzene-d5 | (Range 37-104) | 83 | |
| p-Terphenyl-d14 | (Range 15-132) | 80 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 20 | |
| o-Terphenyl (Range 82-142) | 76 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 91 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02876** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/6/00
Client Contact: GERRY WALKER Date Received: 11/7/00
Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-22S**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0067J | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 23 | 5.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | 3.8 | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | 110 | 25 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | 0.65 J | 1.0 |
| Ethylbenzene | 420 | 25 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | 2.8 | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 2900 | 50 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 85 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 81 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 15 | |
| o-Terphenyl (Range 82-142) | 86 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 88 | |
| 4-Bromofluorobenzene (86-112) | 107 | |
| Toluene-d8 (84-108) | 101 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC02877** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** **Date Sampled: 11/6/00**

Client Contact: GERRY WALKER Date Received: 11/7/00

Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00

Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER

Client Sample ID: NASPFF MW-17S

---

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0047J | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.42JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 2.4 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 1.7 J | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 82 | |
| Nitrobenzene-d5 | (Range 37-104) | 73 | |
| p-Terphenyl-d14 | (Range 15-132) | 69 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/14/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 21 | |
| o-Terphenyl (Range 82-142) | 91 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 87 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02878** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/6/00
Client Contact: GERRY WALKER Date Received: 11/7/00
Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPEF MW DUP-1**

---

ANALYSIS: EDB Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

ANALYSIS: Metals - Lead Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0064J | 0.010 |

ANALYSIS: PAH's - Low Level Method Ref: 8270C
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 37 | 1.0 |
| 2-Methylnaphthalene | 45 | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 120 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/15/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 22 | 5.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | 120 | 25 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | 0.64 J | 1.0 |
| Ethylbenzene | 450 | 25 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | 2.8 | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 3100 | 100 |

ANALYSIS: X_B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/13/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 77 | |
| Nitrobenzene-d5 | (Range 37-104) | 84 | |
| p-Terphenyl-d14 | (Range 15-132) | 57 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 13 | |
| o-Terphenyl (Range 82-142) | 86 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 100 | |
| 4-Bromofluorobenzene (86-112) | 111 | |
| Toluene-d8 (84-108) | 100 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02879** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/5/00
Client Contact: GERRY WALKER Date Received: 11/7/00
Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: TRIP BLANK**

---

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 2.1 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X VOC Sample Surrogates-Waters

Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 88 | |
| 4-Bromofluorobenzene (86-112) | 99 | |
| Toluene-d8 (84-108) | 93 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02880** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/7/00
Client Project Number: CTO 132 / N0516 Date Reported: 11/28/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/13/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.41J | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X Base Neutral QC Surrogates (W Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 57-102) | 82 | |
| Nitrobenzene-d5 | (Range 50-103) | 82 | |
| p-Terphenyl-d14 | (Range 64-113) | 102 | |



Client Sample ID: METHOD BLANK AAL Sample ID #: AC02880 Accura Project #: 26126

ANALYSIS: X PRO OC Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 17 | |
| o-Terphenyl (Range 82-142) | 72 | |

ANALYSIS: X VOC OC Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 86 | |
| 4-Bromofluorobenzene (85-111) | 98 | |
| Toluene-d8 (88-106) | 99 | |

Accura Analytical Laboratory, Inc.

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| UG/L | NASPFF MW-10R | AC02875 | NORMAL | 26126 | PAH | 11/06/00 | 11/08/00 | 11/09/00 | 2 | 1 | 3 |
| UG/L | NASPFF MW-17S | AC02877 | NORMAL | 26126 | PAH | 11/06/00 | 11/10/00 | 11/13/00 | 4 | 3 | 7 |
| UG/L | NASPFF MW-18S | AC02868 | NORMAL | 26126 | PAH | 11/05/00 | 11/08/00 | 11/09/00 | 3 | 1 | 4 |
| UG/L | NASPFF MW-19S | AC02869 | NORMAL | 26126 | PAH | 11/05/00 | 11/06/00 | 11/09/00 | 3 | 1 | 4 |
| UG/L | NASPFF MW-20S | AC02870 | NORMAL | 26126 | PAH | 11/05/00 | 11/08/00 | 11/09/00 | 3 | 1 | 4 |
| UG/L | NASPFF MW-22S | AC02876 | NORMAL | 26126 | PAH | 11/06/00 | 11/08/00 | 11/09/00 | 2 | 1 | 3 |
| UG/L | NASPFF MW-23S | AC02874 | NORMAL | 26126 | PAH | 11/06/00 | 11/06/00 | 11/09/00 | 2 | 1 | 3 |
| UG/L | NASPFF MW-5S | AC02872 | NORMAL | 26126 | PAH | 11/06/00 | 11/06/00 | 11/10/00 | 2 | 2 | 4 |
| UG/L | NASPFF MW-7S | AC02873 | NORMAL | 26126 | PAH | 11/06/00 | 11/06/00 | 11/09/00 | 2 | 1 | 3 |
| UG/L | NASPFF MW-8S | AC02871 | NORMAL | 26126 | PAH | 11/05/00 | 11/06/00 | 11/09/00 | 3 | 1 | 4 |
| MG/L | NASPFF MW DUP-1 | AC02876 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/15/00 | 4 | 5 | 9 |
| MG/L | NASPFF MW-10R | AC02875 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-17S | AC02877 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-18S | AC02868 | NORMAL | 26126 | TPH | 11/05/00 | 11/10/00 | 11/14/00 | 5 | 4 | 9 |
| MG/L | NASPFF MW-19S | AC02869 | NORMAL | 26126 | TPH | 11/05/00 | 11/10/00 | 11/14/00 | 5 | 4 | 9 |
| MG/L | NASPFF MW-20S | AC02870 | NORMAL | 26126 | TPH | 11/05/00 | 11/13/00 | 11/16/00 | 8 | 3 | 11 |
| MG/L | NASPFF MW-22S | AC02876 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/15/00 | 4 | 5 | 9 |
| MG/L | NASPFF MW-23S | AC02874 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-5S | AC02872 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-7S | AC02873 | NORMAL | 26126 | TPH | 11/06/00 | 11/10/00 | 11/14/00 | 4 | 4 | 8 |
| MG/L | NASPFF MW-8S | AC02871 | NORMAL | 26126 | TPH | 11/05/00 | 11/10/00 | 11/14/00 | 5 | 4 | 9 |

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW DUP-1 | AC02878 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-10R | AC02875 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-17S | AC02877 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-18S | AC02868 | NORMAL | 26126 | M | 11/05/00 | 11/10/00 | 11/23/00 | 5 | 13 | 18 |
| MG/L | NASPFF MW-19S | AC02869 | NORMAL | 26126 | M | 11/05/00 | 11/10/00 | 11/23/00 | 5 | 13 | 18 |
| MG/L | NASPFF MW-20S | AC02870 | NORMAL | 26126 | M | 11/05/00 | 11/10/00 | 11/23/00 | 5 | 13 | 18 |
| MG/L | NASPFF MW-22S | AC02876 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-23S | AC02874 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-5S | AC02872 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-7S | AC02873 | NORMAL | 26126 | M | 11/06/00 | 11/10/00 | 11/23/00 | 4 | 13 | 17 |
| MG/L | NASPFF MW-8S | AC02871 | NORMAL | 26126 | M | 11/05/00 | 11/10/00 | 11/23/00 | 5 | 13 | 18 |
| UG/L | NASPFF MW DUP-1 | AC02878 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-10R | AC02875 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-17S | AC02877 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-18S | AC02868 | NORMAL | 26126 | OV | 11/05/00 | 11/10/00 | 11/10/00 | 5 | 0 | 5 |
| UG/L | NASPFF MW-19S | AC02869 | NORMAL | 26126 | OV | 11/05/00 | 11/10/00 | 11/10/00 | 5 | 0 | 5 |
| UG/L | NASPFF MW-20S | AC02870 | NORMAL | 26126 | OV | 11/05/00 | 11/10/00 | 11/10/00 | 5 | 0 | 5 |
| UG/L | NASPFF MW-22S | AC02876 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-23S | AC02874 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-5S | AC02872 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-7S | AC02873 | NORMAL | 26126 | OV | 11/06/00 | 11/10/00 | 11/10/00 | 4 | 0 | 4 |
| UG/L | NASPFF MW-8S | AC02871 | NORMAL | 26126 | OV | 11/05/00 | 11/10/00 | 11/10/00 | 5 | 0 | 5 |
| UG/L | TRIP BLANK | AC02879 | NORMAL | 26126 | OV | 11/05/00 | 11/13/00 | 11/13/00 | 8 | 0 | 8 |
| UG/L | NASPFF MW DUP-1 | AC02878 | NORMAL | 26126 | PAH | 11/06/00 | 11/10/00 | 11/13/00 | 4 | 3 | 7 |

**CTO132-NAS PENSACOLA**
**WATER DATA**
**AAL**
**SDG: 26126**



| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-5S | | | NASPFF MW-7S | | | NASPFF MW-8S | | | | |
| SAMPLE DATE: | 11/06/00 | | | 11/06/00 | | | 11/05/00 | | | / / | |
| LABORATORY ID: | AC02872 | | | AC02873 | | | AC02871 | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| INORGANICS | | | | | | | | | | | | |
| LEAD | 0.00 0.010 | U | | 0.00 0.010 | U | | 0.00 0.010 | U | | | | |

**AAL**

**SDG: 26126**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-19S | | | NASPFF MW-20S | | | NASPFF MW-22S | | | NASPFF MW-23S | | |
| SAMPLE DATE: | 11/05/00 | | | 11/05/00 | | | 11/06/00 | | | 11/06/00 | | |
| LABORATORY ID: | AC02869 | | | AC02870 | | | AC02876 | | | AC02874 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| INORGANICS | | | | | | | | | | | | |
| LEAD | ~~0.00~~ 0.010 | U | | ~~0.00~~ 0.010 | U | | ~~0.01~~ 0.0067 | J | P | ~~0.00~~ 0.010 | U | |

**CTO132-NAS PENSACOLA**
**WATER DATA**
**AAL**
**SDG: 26126**



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW DUP-1 | | | NASPFF MW-10R | | | NASPFF MW-17S | | | NASPFF MW-18S | | |
| SAMPLE DATE: | 11/06/00 | | | 11/06/00 | | | 11/06/00 | | | 11/05/00 | | |
| LABORATORY ID: | AC02878 | | | AC02875 | | | AC02877 | | | AC02868 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| INORGANICS | | | | | | | | | | | | |
| LEAD | ~~0.01~~ 0.0048 | J | P | ~~0.01~~ 0.0072 | J | P | 0.0047 | J | P | ~~0.00~~ 0.010 | U | |

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB18, 24-27'BGS | | |
| **Lab Sample ID:** | F7243-4 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 94.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008857.D | 1 | 08/09/00 | JG | n/a | n/a | VH122 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 5.2 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 5.2 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.2 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.2 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.2 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.2 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 10 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.2 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.2 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.2 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.2 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.2 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.2 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.2 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.2 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.2 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.2 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.2 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 5.2 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.2 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.2 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 10 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.2 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.2 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.2 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.2 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.2 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.2 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.2 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.2 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.2 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 15 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis

| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB17, 10-12'BGS | | |
| **Lab Sample ID:** | F7243-5 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.4 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 86% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 107% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 106% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 94% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB17, 10-12'BGS | | |
| **Lab Sample ID:** | F7243-5 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.4 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008872.D | 1 | 08/10/00 | JG | n/a | n/a | VH122 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 5.3 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 5.3 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.3 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.3 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.3 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.3 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 11 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.3 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.3 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.3 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.3 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.3 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.3 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.3 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.3 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.3 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.3 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.3 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.3 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.3 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.3 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 5.3 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.3 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.3 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 11 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.3 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.3 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.3 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.3 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.3 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.3 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.3 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.3 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.3 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 16 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis

| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB12, 6-8'BGS | | |
| **Lab Sample ID:** | F7243-6 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.6 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 86% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 105% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 110% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bl
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB12, 6-8'BGS | | |
| **Lab Sample ID:** | F7243-6 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.6 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008873.D | 1 | 08/10/00 | JG | n/a | n/a | VH122 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 10.6 | 5.2 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 5.2 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.2 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.2 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.2 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.2 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 10 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.2 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.2 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.2 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.2 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.2 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.2 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.2 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.2 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.2 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.2 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.2 | ug/kg | |
| 100-41-4 | Ethylbenzene | 8.7 | 5.2 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.2 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.2 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 10 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.2 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.2 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.2 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.2 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.2 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.2 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.2 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.2 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.2 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 16 | ug/kg | |



ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis

| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB12, 20-24'BGS | | |
| **Lab Sample ID:** | F7243-7 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.1 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 87% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 108% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 111% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 87% | | 71-122% |

0092

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method bl
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB12, 20-24'BGS | | |
| **Lab Sample ID:** | F7243-7 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.1 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008874.D | 1 | 08/11/00 | JG | n/a | n/a | VH122 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 11.3 | 5.2 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 5.2 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.2 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.2 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.2 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.2 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 10 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.2 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.2 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.2 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.2 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.2 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.2 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.2 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.2 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.2 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.2 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.2 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.2 | ug/kg | |
| 100-41-4 | Ethylbenzene | 14.6 | 5.2 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.2 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.2 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 10 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.2 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.2 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.2 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.2 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.2 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.2 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.2 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.2 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.2 | ug/kg | |
| 1330-20-7 | Xylene (total) | 11.9 | 16 | ug/kg | J |

0091

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

## APPENDIX B

**Results as Reported by the Laboratory**

**NAS PEN[redacted]COLA**
**SPLP DA[redacted]**
**Accutest, NJ**
**SDG: F7243**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | | | NASPFFSB17, 10-12'BGS | | | / / | | | / / | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | | | | | | |
| LABORATORY ID: | F7243-7A | | | F7243-5A | | | | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | MG/L | | | MG/L | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TPH (C8-C40) | 2.5 | U | | 2.5 | U | | | | | | | |

**SDG: F7243**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB19, 20-24'BGS | | | NASPFFSB27, 6-8'BGS | | | NASPFFSB28, 7-11'BGS | | | | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | 08/02/00 | | | / / | | |
| LABORATORY ID: | F7243-3 | | | F7243-1 | | | F7243-2 | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | | |
| % SOLIDS: | 94.4 % | | | 98.0 % | | | 94.7 % | | | 100.0 % | | |
| UNITS: | MG/KG | | | MG/KG | | | MG/KG | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TPH (C8-C40) | 9.97 | | | 8.7 | U | | 2130 | | | | | |

**NAS PE[redacted]COLA**
**SOIL DAT[redacted]**
**Accutest, NJ**
**SDG: F7243**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | | | NASPFFSB12, 6-8'BGS | | | NASPFFSB17, 10-12'BGS | | | NASPFFSB18, 24-27'BGS | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | 08/02/00 | | | 08/02/00 | | |
| LABORATORY ID: | F7243-7 | | | F7243-6 | | | F7243-5 | | | F7243-4 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 95.1 % | | | 95.8 % | | | 95.4 % | | | 94.5 % | | |
| UNITS: | MG/KG | | | MG/KG | | | MG/KG | | | MG/KG | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TPH (C8-C40) | 10.4 | | | 9.79 | | | 8.7 | U | | 8.8 | U | |

**SDG: F7243**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | | | NASPFFSB17, 10-12'BGS | | | / / | | | / / | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | | | | | | |
| LABORATORY ID: | F7243-7A | | | F7243-5A | | | | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | MG/L | | | MG/L | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 0.02 | U | | 0.02 | U | | | | | | | |
| 2-METHYLNAPHTHALENE | 0.02 | U | | 0.02 | U | | | | | | | |
| ACENAPHTHENE | 0.04 | U | | 0.04 | U | | | | | | | |
| ACENAPHTHYLENE | 0.04 | U | | 0.04 | U | | | | | | | |
| ANTHRACENE | 0.02 | U | | 0.02 | U | | | | | | | |
| BENZO(A)ANTHRACENE | 0.002 | U | | 0.002 | U | | | | | | | |
| BENZO(A)PYRENE | 0.002 | U | | 0.002 | U | | | | | | | |
| BENZO(B)FLUORANTHENE | 0.002 | U | | 0.002 | U | | | | | | | |
| BENZO(G,H,I)PERYLENE | 0.002 | U | | 0.002 | U | | | | | | | |
| BENZO(K)FLUORANTHENE | 0.002 | U | | 0.002 | U | | | | | | | |
| CHRYSENE | 0.02 | U | | 0.02 | U | | | | | | | |
| DIBENZO(A,H)ANTHRACENE | 0.002 | U | | 0.002 | U | | | | | | | |
| FLUORANTHENE | 0.02 | U | | 0.02 | U | | | | | | | |
| FLUORENE | 0.02 | U | | 0.02 | U | | | | | | | |
| INDENO(1,2,3-CD)PYRENE | 0.002 | U | | 0.002 | U | | | | | | | |
| NAPHTHALENE | 0.02 | U | | 0.02 | U | | | | | | | |
| PHENANTHRENE | 0.02 | U | | 0.02 | U | | | | | | | |
| PYRENE | 0.02 | U | | 0.02 | U | | | | | | | |

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB19, 20-24'BGS | NASPFFSB27, 6-8'BGS | NASPFFSB28, 7-11'BGS | |
| SAMPLE DATE: | 08/02/00 | 08/02/00 | 08/02/00 | / / |
| LABORATORY ID: | F7243-3 | F7243-1 | F7243-2 | |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | |
| % SOLIDS: | 94.4 % | 96.0 % | 94.7 % | 100.0 % |
| UNITS: | UG/KG | UG/KG | UG/KG | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 350 | U | | 350 | U | | 3270 | | | | | |
| 2-METHYLNAPHTHALENE | 350 | U | | 350 | U | | 4050 | | | | | |
| ACENAPHTHENE | 710 | U | | 690 | U | | 700 | U | | | | |
| ACENAPHTHYLENE | 710 | U | | 690 | U | | 700 | U | | | | |
| ANTHRACENE | 350 | U | | 350 | U | | 350 | U | | | | |
| BENZO(A)ANTHRACENE | 71 | U | | 69 | U | | 70 | U | | | | |
| BENZO(A)PYRENE | 71 | U | | 69 | U | | 70 | U | | | | |
| BENZO(B)FLUORANTHENE | 71 | U | | 69 | U | | 70 | U | | | | |
| BENZO(G,H,I)PERYLENE | 71 | U | | 69 | U | | 70 | U | | | | |
| BENZO(K)FLUORANTHENE | 71 | U | | 69 | U | | 70 | U | | | | |
| CHRYSENE | 350 | U | | 350 | U | | 350 | U | | | | |
| DIBENZO(A,H)ANTHRACENE | 71 | U | | 69 | U | | 70 | U | | | | |
| FLUORANTHENE | 350 | U | | 350 | U | | 350 | U | | | | |
| FLUORENE | 350 | U | | 350 | U | | 350 | U | | | | |
| INDENO(1,2,3-CD)PYRENE | 71 | U | | 69 | U | | 70 | U | | | | |
| NAPHTHALENE | 350 | U | | 350 | U | | 1380 | | | | | |
| PHENANTHRENE | 350 | U | | 350 | U | | 350 | U | | | | |
| PYRENE | 350 | U | | 350 | U | | 350 | U | | | | |

**SDG: F7243**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | | | NASPFFSB12, 6-8'BGS | | | NASPFFSB17, 10-12'BGS | | | NASPFFSB18, 24-27'BGS | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | 08/02/00 | | | 08/02/00 | | |
| LABORATORY ID: | F7243-7 | | | F7243-6 | | | F7243-5 | | | F7243-4 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 95.1 % | | | 95.6 % | | | 95.4 % | | | 94.5 % | | |
| UNITS: | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |
| 2-METHYLNAPHTHALENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |
| ACENAPHTHENE | 700 | U | | 700 | U | | 700 | U | | 700 | U | |
| ACENAPHTHYLENE | 700 | U | | 700 | U | | 700 | U | | 700 | U | |
| ANTHRACENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |
| BENZO(A)ANTHRACENE | 70 | U | | 70 | U | | 70 | U | | 70 | U | |
| BENZO(A)PYRENE | 70 | U | | 70 | U | | 70 | U | | 70 | U | |
| BENZO(B)FLUORANTHENE | 70 | U | | 70 | U | | 70 | U | | 70 | U | |
| BENZO(G,H,I)PERYLENE | 70 | U | | 70 | U | | 70 | U | | 70 | U | |
| BENZO(K)FLUORANTHENE | 70 | U | | 70 | U | | 70 | U | | 70 | U | |
| CHRYSENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |
| DIBENZO(A,H)ANTHRACENE | 70 | U | | 70 | U | | 70 | U | | 70 | U | |
| FLUORANTHENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |
| FLUORENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |
| INDENO(1,2,3-CD)PYRENE | 70 | U | | 70 | U | | 70 | U | | 70 | U | |
| NAPHTHALENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |
| PHENANTHRENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |
| PYRENE | 350 | U | | 350 | U | | 350 | U | | 350 | U | |

**NAS PENSACOLA**
**SPLP DATA**
**Accutest, NJ**
**SDG: F7243**



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | | | NASPFFSB17, 10-12'BGS | | | / / | | | / / | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | | | | | | |
| LABORATORY ID: | F7243-7A | | | F7243-5A | | | | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | MG/L | | | MG/L | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 0.002 | U | | 0.002 | U | | | | | | | |
| 1,1,2,2-TETRACHLOROETHANE | 0.002 | U | | 0.002 | U | | | | | | | |
| 1,1,2-TRICHLOROETHANE | 0.002 | U | | 0.002 | U | | | | | | | |
| 1,1-DICHLOROETHANE | 0.002 | U | | 0.002 | U | | | | | | | |
| 1,1-DICHLOROETHENE | 0.002 | U | | 0.002 | U | | | | | | | |
| 1,2-DICHLOROETHANE | 0.002 | U | | 0.002 | U | | | | | | | |
| 1,2-DICHLOROPROPANE | 0.002 | U | | 0.002 | U | | | | | | | |
| 2-HEXANONE | 0.01 | U | | 0.01 | U | | | | | | | |
| 4-METHYL-2-PENTANONE | 0.01 | U | | 0.01 | U | | | | | | | |
| ACETONE | 0.05 | U | | 0.05 | U | | | | | | | |
| BENZENE | 0.002 | U | | 0.002 | U | | | | | | | |
| BROMODICHLOROMETHANE | 0.002 | U | | 0.002 | U | | | | | | | |
| BROMOFORM | 0.002 | U | | 0.002 | U | | | | | | | |
| BROMOMETHANE | 0.005 | U | | 0.005 | U | | | | | | | |
| CARBON DISULFIDE | 0.01 | U | | 0.01 | U | | | | | | | |
| CARBON TETRACHLORIDE | 0.002 | U | | 0.002 | U | | | | | | | |
| CHLOROBENZENE | 0.002 | U | | 0.002 | U | | | | | | | |
| CHLOROETHANE | 0.002 | U | | 0.002 | U | | | | | | | |
| CHLOROFORM | 0.002 | U | | 0.002 | U | | | | | | | |
| CHLOROMETHANE | 0.005 | U | | 0.005 | U | | | | | | | |
| CIS-1,2-DICHLOROETHENE | 0.002 | U | | 0.002 | U | | | | | | | |
| CIS-1,3-DICHLOROPROPENE | 0.002 | U | | 0.002 | U | | | | | | | |
| DIBROMOCHLOROMETHANE | 0.002 | U | | 0.002 | U | | | | | | | |
| ETHYLBENZENE | 0.002 | U | | 0.002 | U | | | | | | | |
| METHYL ETHYL KETONE | 0.01 | U | | 0.01 | U | | | | | | | |
| METHYLENE CHLORIDE | 0.0329 | | | 0.0262 | | | | | | | | |
| STYRENE | 0.002 | U | | 0.002 | U | | | | | | | |
| TETRACHLOROETHENE | 0.002 | U | | 0.002 | U | | | | | | | |
| TOLUENE | 0.002 | U | | 0.002 | U | | | | | | | |
| TRANS-1,2-DICHLOROETHENE | 0.002 | U | | 0.002 | U | | | | | | | |
| TRANS-1,3-DICHLOROPROPENE | 0.002 | U | | 0.002 | U | | | | | | | |
| | 0.002 | U | | 0.002 | U | | | | | | | |

**SDG: F7243**

| | | | |
|---|---|---|---|
| SAMPLE NUMBER: | TRIP BLANK | | |
| SAMPLE DATE: | 08/02/00 | / / | / / | / / |
| LABORATORY ID: | F7243-8 | | | |
| QC_TYPE: | NORMAL | | | |
| % SOLIDS: | 0.0 % | 100.0 % | 100.0 % | 100.0 % |
| UNITS: | UG/L | | | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILES** | | | | | | | | | | | | |
| XYLENES, TOTAL | 6 | U | | | | | | | | | | |

| | | | |
|---|---|---|---|
| SAMPLE NUMBER: | TRIP BLANK | | |
| SAMPLE DATE: | 08/02/00 | / / | / / |
| LABORATORY ID: | F7243-8 | | |
| QC_TYPE: | NORMAL | | |
| % SOLIDS: | 0.0 % | 100.0 % | 100.0 % |
| UNITS: | UG/L | | |
| FIELD DUPLICATE OF: | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOLATILES | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,1,2,2-TETRACHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,1,2-TRICHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,1-DICHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,1-DICHLOROETHENE | 2 | U | | | | | | | | | | |
| 1,2 DICHLOROBENZENE | 2 | U | | | | | | | | | | |
| 1,2-DICHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,2-DICHLOROPROPANE | 2 | U | | | | | | | | | | |
| 1,3 DICHLOROBENZENE | 2 | U | | | | | | | | | | |
| 1,4-DICHLOROBENZENE | 2 | U | | | | | | | | | | |
| 2-CHLOROETHYL VINYL ETHER | 5 | U | | | | | | | | | | |
| BENZENE | 1 | U | | | | | | | | | | |
| BROMODICHLOROMETHANE | 2 | U | | | | | | | | | | |
| BROMOFORM | 2 | U | | | | | | | | | | |
| BROMOMETHANE | 5 | U | | | | | | | | | | |
| CARBON TETRACHLORIDE | 2 | U | | | | | | | | | | |
| CHLOROBENZENE | 2 | U | | | | | | | | | | |
| CHLOROETHANE | 5 | U | | | | | | | | | | |
| CHLOROFORM | 2 | U | | | | | | | | | | |
| CHLOROMETHANE | 5 | U | | | | | | | | | | |
| CIS-1,2-DICHLOROETHENE | 2 | U | | | | | | | | | | |
| CIS-1,3-DICHLOROPROPENE | 2 | U | | | | | | | | | | |
| DIBROMOCHLOROMETHANE | 2 | U | | | | | | | | | | |
| DICHLORODIFLUOROMETHANE | 5 | U | | | | | | | | | | |
| ETHYLBENZENE | 2 | U | | | | | | | | | | |
| METHYL TERT-BUTYL ETHER | 2 | U | | | | | | | | | | |
| METHYLENE CHLORIDE | 5 | U | | | | | | | | | | |
| TETRACHLOROETHENE | 2 | U | | | | | | | | | | |
| TOLUENE | 2 | U | | | | | | | | | | |
| TRANS-1,2-DICHLOROETHENE | 2 | U | | | | | | | | | | |
| TRANS-1,3-DICHLOROPROPENE | 2 | U | | | | | | | | | | |
| [illegible] | 2 | U | | | | | | | | | | |

**SDG: F7243**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB19, 20-24'BGS | | | NASPFFSB27, 6-8'BGS | | | NASPFFSB28, 7-11'BGS | | | / / | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | 08/02/00 | | | | | |
| LABORATORY ID: | F7243-3 | | | F7243-1 | | | F7243-2 | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | | |
| % SOLIDS: | 94.4 % | | | 96.0 % | | | 94.7 % | | | 100.0 % | | |
| UNITS: | UG/KG | | | UG/KG | | | UG/KG | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** |
| **VOLATILES** | | | | | | | | | | | | |
| XYLENES, TOTAL | 16 | U | | 17 | U | | 30500 | | | | | |

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB19, 20-24'BGS | NASPFFSB27, 6-8'BGS | NASPFFSB28, 7-11'BGS | |
| SAMPLE DATE: | 08/02/00 | 08/02/00 | 08/02/00 | / / |
| LABORATORY ID: | F7243-3 | F7243-1 | F7243-2 | |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | |
| % SOLIDS: | 94.4 % | 96.0 % | 94.7 % | 100.0 % |
| UNITS: | UG/KG | UG/KG | UG/KG | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,1,2,2-TETRACHLOROETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,1,2-TRICHLOROETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,1-DICHLOROETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,1-DICHLOROETHENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,2 DICHLOROBENZENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,2-DICHLOROETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,2-DICHLOROPROPANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,3 DICHLOROBENZENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 1,4-DICHLOROBENZENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| 2-CHLOROETHYL VINYL ETHER | 11 | U | | 11 | U | | 2400 | U | | | | |
| BENZENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| BROMODICHLOROMETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| BROMOFORM | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| BROMOMETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| CARBON TETRACHLORIDE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| CHLOROBENZENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| CHLOROETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| CHLOROFORM | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| CHLOROMETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| CIS-1,2-DICHLOROETHENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| CIS-1,3-DICHLOROPROPENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| DIBROMOCHLOROMETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| DICHLORODIFLUOROMETHANE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| ETHYLBENZENE | 5.5 | U | | 5.6 | U | | 3410 | | | | | |
| METHYL TERT-BUTYL ETHER | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| METHYLENE CHLORIDE | 11 | U | | 11 | U | | 2400 | U | | | | |
| TETRACHLOROETHENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| TOLUENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| TRANS-1,2-DICHLOROETHENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |
| TRANS-1,3-DICHLOROPROPENE | 5.5 | U | | 5.6 | U | | 1200 | U | | | | |

**SDG: F7243**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | | | NASPFFSB12, 6-8'BGS | | | NASPFFSB17, 10-12'BGS | | | NASPFFSB18, 24-27'BGS | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | 08/02/00 | | | 08/02/00 | | |
| LABORATORY ID: | F7243-7 | | | F7243-8 | | | F7243-5 | | | F7243-4 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 95.1 % | | | 95.6 % | | | 95.4 % | | | 94.5 % | | |
| UNITS: | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **VOLATILES** | | | | | | | | | | | | |
| XYLENES, TOTAL | 11.9 | J | | 16 | U | | 16 | U | | 15 | U | |

**NAS PE[redacted]COLA**
**SOIL DATA**
**Accutest, NJ**
**SDG: F7243**



| | NASPFFSB12, 20-24'BGS | NASPFFSB12, 6-8'BGS | NASPFFSB17, 10-12'BGS | NASPFFSB18, 24-27'BGS |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | NASPFFSB12, 6-8'BGS | NASPFFSB17, 10-12'BGS | NASPFFSB18, 24-27'BGS |
| SAMPLE DATE: | 08/02/00 | 08/02/00 | 08/02/00 | 08/02/00 |
| LABORATORY ID: | F7243-7 | F7243-6 | F7243-5 | F7243-4 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 95.1 % | 95.6 % | 95.4 % | 94.5 % |
| UNITS: | UG/KG | UG/KG | UG/KG | UG/KG |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,1,2-TRICHLOROETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,1-DICHLOROETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,1-DICHLOROETHENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,2 DICHLOROBENZENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,2-DICHLOROETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,2-DICHLOROPROPANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,3 DICHLOROBENZENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 1,4-DICHLOROBENZENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| 2-CHLOROETHYL VINYL ETHER | 10 | U | | 10 | U | | 11 | U | | 10 | U | |
| BENZENE | 11.5 | | | 10.6 | | | 5.3 | U | | 5.2 | U | |
| BROMODICHLOROMETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| BROMOFORM | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| BROMOMETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| CARBON TETRACHLORIDE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| CHLOROBENZENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| CHLOROETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| CHLOROFORM | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| CHLOROMETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| CIS-1,2-DICHLOROETHENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| CIS-1,3-DICHLOROPROPENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| DIBROMOCHLOROMETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| DICHLORODIFLUOROMETHANE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| ETHYLBENZENE | 14.6 | | | 8.7 | | | 5.3 | U | | 5.2 | U | |
| METHYL TERT-BUTYL ETHER | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| METHYLENE CHLORIDE | 10 | U | | 10 | U | | 11 | U | | 10 | U | |
| TETRACHLOROETHENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| TOLUENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| TRANS-1,2-DICHLOROETHENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |
| TRANS-1,3-DICHLOROPROPENE | 5.2 | U | | 5.2 | U | | 5.3 | U | | 5.2 | U | |

Tetra Tech NUS, Inc. Internal Correspondence

TO: Mr. Gerald Walker DATE: January 4, 2001

FROM: Suzanne I. Smith CC: File

SUBJECT: Inorganic Data Validation – Lead and Anions
CTO132 – NAS Pensacola
SDG 26211

SAMPLES: 3/Aqueous

NASPFFMW-11S NASPFFMW-21S
NASPFFMW-9S

## OVERVIEW

The sample set for CTO132, SDG 26211; Naval Air Station Pensacola, Pensacola, Florida consists of three (3) aqueous environmental samples. The environmental samples were analyzed for Lead and select Anions.

The samples were collected by Tetra Tech NUS on November 15, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 6010B (Lead), and EPA Methods 300/376.1 (Anions) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • Laboratory method/field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Lead Fraction

All quality control criteria were met for this fraction.

Anions Fraction

All quality control criteria were met for this fraction.

Executive Summary

**Laboratory performance:** All quality control criteria were met.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne L. Smith

Project Chemist
Tetra Tech NUS, Inc.

**CTO132-NAS PENSACOLA**
**WATER DATA**
**AAL**
**SDG: 26211**



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | | NASPFF MW-11S | | | NASPFF MW-21S | | | NASPFF MW-9S | | | | |
| SAMPLE DATE: | | 11/15/00 | | | 11/15/00 | | | 11/15/00 | | | / / | |
| LABORATORY ID: | | AC03322 | | | AC03323 | | | AC03321 | | | | |
| QC_TYPE: | | NORMAL | | | NORMAL | | | NORMAL | | | | |
| % SOLIDS: | | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | |
| UNITS: | | MG/L | | | MG/L | | | MG/L | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| INORGANICS | | | | | | | | | | | | | |
| LEAD | 0.010 | ∅ | U | | ∅ 0.010 | U | | ∅ 0.010 | U | | | | |

ARL

**SDG: 26211**

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFF MW-11S | NASPFF MW-21S | NASPFF MW-9S | |
| SAMPLE DATE: | 11/15/00 | 11/15/00 | 11/15/00 | / / |
| LABORATORY ID: | AC03322 | AC03323 | AC03321 | |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 100.0 % |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INORGANIC PARAMETERS** | | | | | | | | | | | | |
| NITRATE(MG/L) | 0.22 | | | 1.88 | | | 0.33 | | | | | |
| NITRITE(MG/L) | 0.01 | U | | 0.01 | U | | 0.01 | U | | | | |
| SULFATE(MG/L) | 8 | | | 11 | | | 7 | | | | | |
| SULFIDE(MG/L) | 1.0 | U | | 1.0 | U | | 1.0 | U | | | | |

WAY RESORE

**26211**

*HOLDING TIME*
*01/02/01*

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | M | 11/15/00 | 11/27/00 | 11/28/00 | 12 | 1 | 13 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | M | 11/15/00 | 11/27/00 | 11/29/00 | 12 | 2 | 14 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | M | 11/15/00 | 11/27/00 | 11/28/00 | 12 | 1 | 13 |
| UG/ML | NASPFF MW-11S | AC03322 | NORMAL | 26211 | METH | 11/15/00 | 11/21/00 | 11/21/00 | 6 | 0 | 6 |
| UG/ML | NASPFF MW-21S | AC03323 | NORMAL | 26211 | METH | 11/15/00 | 11/21/00 | 11/21/00 | 6 | 0 | 6 |
| UG/ML | NASPFF MW-9S | AC03321 | NORMAL | 26211 | METH | 11/15/00 | 11/21/00 | 11/21/00 | 6 | 0 | 6 |
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | NTA | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | NTA | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | NTA | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | NTI | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | NTI | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | NTI | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| UG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | OV | 11/15/00 | 11/16/00 | 11/16/00 | 1 | 0 | 1 |
| UG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | OV | 11/15/00 | 11/16/00 | 11/16/00 | 1 | 0 | 1 |
| UG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | OV | 11/15/00 | 11/16/00 | 11/16/00 | 1 | 0 | 1 |
| UG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | PAH | 11/15/00 | 11/17/00 | 11/20/00 | 2 | 3 | 5 |
| UG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | PAH | 11/15/00 | 11/17/00 | 11/20/00 | 2 | 3 | 5 |
| UG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | PAH | 11/15/00 | 11/20/00 | 11/21/00 | 5 | 1 | 6 |
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | SO4 | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | SO4 | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | SO4 | 11/15/00 | 11/16/00 | 11/17/00 | 1 | 1 | 2 |
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | SUL | 11/15/00 | 11/20/00 | 11/20/00 | 5 | 0 | 5 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | SUL | 11/15/00 | 11/20/00 | 11/20/00 | 5 | 0 | 5 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | SUL | 11/15/00 | 11/20/00 | 11/20/00 | 5 | 0 | 5 |

| | | | | | | | | | EXTR_DATE | ANAL_DATE | ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFF MW-11S | AC03322 | NORMAL | 26211 | TPH | 11/15/00 | 11/16/00 | 11/27/00 | 1 | 11 | 12 |
| MG/L | NASPFF MW-21S | AC03323 | NORMAL | 26211 | TPH | 11/15/00 | 11/16/00 | 11/27/00 | 1 | 11 | 12 |
| MG/L | NASPFF MW-9S | AC03321 | NORMAL | 26211 | TPH | 11/15/00 | 11/16/00 | 11/27/00 | 1 | 11 | 12 |

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03321** **Accura Project #: 26211**

Client: Tetra Tech Nus -Tallahassee
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
Client Sample ID: NASPFF MW-9S

Date Sampled: 11/15/00
Date Received: 11/16/00
Date Reported: 12/5/00
Sample Matrix: WATER

---

**ANALYSIS: Anions** Method Ref: 300.0

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.33 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 7 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

---

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.35JB | 1.0 |

ANALYSIS: Sulfide Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.81 J | 1.0 |
| Chloromethane | 0.56 J | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 0.58 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters — Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 87 | |
| Nitrobenzene-d5 (Range 37-104) | 87 | |
| p-Terphenyl-d14 (Range 15-132) | 87 | |

ANALYSIS: X PRO Sample Surrogates (Water) — Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.3 | |
| o-Terphenyl (Range 82-142) | 101 | |

ANALYSIS: X VOC Sample Surrogates-Waters — Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 81 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03322** **Accura Project #: 26211**

**Client: Tetra Tech Nus -Tallahassee** **Date Sampled: 11/15/00**
Client Contact: GERRY WALKER Date Received: 11/16/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-11S**

---

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.22 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 8 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 0.041 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

---

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.31JB | 1.0 |

ANALYSIS: Sulfide Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 0.81J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Water) Method Ref: 8270C

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 89 | |
| Nitrobenzene-d5 (Range 37-104) | 97 | |
| p-Terphenyl-d14 (Range 15-132) | 64 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 6.4 | |
| o-Terphenyl (Range 82-142) | 83 | |

ANALYSIS: X VOC Sample Surrogates-Water Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 83 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 90 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC03323** **Accura Project #: 26211**

**Client: Tetra Tech Nus -Tallahassee** **Date Sampled: 11/15/00**

**Client Contact: GERRY WALKER** **Date Received: 11/16/00**

**Client Project Number: CTO 132 / N0516** **Date Reported: 12/5/00**

**Client Project Name: FORMER SHERMAN FIELD FUEL FARM** **Sample Matrix: WATER**

**Client Sample ID: NASPFF MW-21S**

---

**ANALYSIS: Anions** **Method Ref: 300.0**

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 1.88 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 11 | 1 |

**ANALYSIS: EDB** **Method Ref: 504.1**

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** **Method Ref: 3010A/6010B**

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/29/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** **Method Ref: RSK-175M**

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** **Method Ref: 8270C**

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.31JB | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 0.68 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Water) Method Ref: 8270C

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 80 | |
| Nitrobenzene-d5 (Range 37-104) | 89 | |
| p-Terphenyl-d14 (Range 15-132) | 68 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 4.7 | |
| o-Terphenyl (Range 82-142) | 91 | |

ANALYSIS: X VOC Sample Surrogates-Water Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 81 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 94 | |

Accura Analytical Laboratory, Inc.

*Environmental Analytical Services*

# CHAIN OF CUSTODY

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Tetra Tech NUS
Address: 1401 Oven Park Dr. Tallahassee, FL
Report Sent to: (Client Contact): Gerry Walker
Contact Phone # 850 3859899 Fax # 850 3859860
Project Name: Former Sherman Field Fuel Farm
Project Number: N0516 CTO 132

Billing address:
Client P.O. #

Samplers: (signature) Dan Hartnett
Samplers: (printed) Dan Hartnett

| Sample ID # | Sample Date / Time | Comp | Grab | Matrix | Preserved | Sample Location: | No. of Containers | ANALYSIS: VOC 8021B | EDB 504.1 | Methane | PAH's 8310 | TRPH FL PRO | Pb | Sulfide | Anions | | Remarks | Accura Sample ID No. ~~AB~~ AC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NASPFFMW-9S | 11/15/00 1630 | | ✓ | A | ✓ | Former Sherman Field Fuel Farm | | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | | | [redacted] |
| NASPFF MW-11S | 11/15/00 1450 | | ✓ | A | ✓ | ↓ | | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | | | [redacted] |
| NASPFFMW-21S | 11/15/00 1205 | | ✓ | A | ✓ | ↓ | | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | | | [redacted] |
| Trip Blank | | | | A | ✓ | Accura | | 3 | | | | | | | | | NOT REC'D 11/16/00 | [redacted] |

| Relinquished By: | Date / Time | Received By: | Date / Time | Special Requirements Or Remarks: |
|---|---|---|---|---|
| Dan Hartnett | 11/15/00-1900 | FED EX | | |
| **Relinquished By:** | **Date / Time** | **Received By:** | **Date / Time** | **Turnaround Time Requested:** |
| FED EX | 11-16-00/0915 | Arnold B Leigh | 11-16-00/0915 | |

Matrix Guide: (S = Soil) (W = Water) (L = Liquid) (C = Cartridge) (SL = Sludge) (A = Air Sample) (F = Foods) (M = Miscellaneous)

COC97-1.XLS

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02868** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/05/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-18S**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 4.5 | 1.0 |
| 2-Methylnaphthalene | 3.3 | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 5.7 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.48JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | 3.1 | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | 0.54 J | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 7.7 | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 78 | |
| Nitrobenzene-d5 | (Range 37-104) | 77 | |
| p-Terphenyl-d14 | (Range 15-132) | 101 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 13 | |
| o-Terphenyl (Range 82-142) | 71 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 84 | |
| 4-Bromofluorobenzene (86-112) | 100 | |
| Toluene-d8 (84-108) | 99 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02869** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/05/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-19S**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.38JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.93 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 86 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 96 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 12 | |
| o-Terphenyl (Range 82-142) | 70 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 89 | |
| 4-Bromofluorobenzene (86-112) | 101 | |
| Toluene-d8 (84-108) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02870** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/05/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-20S**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/2000 Date Analyzed: 11/16/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.49JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | 1.6 | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 87 | |
| Nitrobenzene-d5 | (Range 37-104) | 90 | |
| p-Terphenyl-d14 | (Range 15-132) | 97 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/2000 Date Analyzed: 11/16/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 16 | |
| o-Terphenyl (Range 82-142) | 90 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 91 | |
| 4-Bromofluorobenzene (86-112) | 99 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02871** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/05/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-8S**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 16 | 1.0 |
| 2-Methylnaphthalene | 21 | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 30 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 4.6 | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/2000 Date Analyzed: 11/13/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 10 |
| 1,1,2,2-Tetrachloroethane | <RDL | 10 |
| 1,1,2-Trichloroethane | <RDL | 10 |
| 1,1-Dichloroethane | <RDL | 10 |
| 1,1-Dichloroethene | <RDL | 10 |
| 1,2-Dichloroethane | <RDL | 10 |
| 1,2-Dichloropropane | <RDL | 10 |
| 1,3-Dichloropropene | <RDL | 10 |
| 2-Chloroethylvinyl ether | <RDL | 100 |
| Acrolein | <RDL | 100 |
| Acrylonitrile | <RDL | 100 |
| Benzene | 39 | 10 |
| Bromodichloromethane | <RDL | 10 |
| Bromoform | <RDL | 50 |
| Bromomethane | <RDL | 10 |
| Carbon tetrachloride | <RDL | 10 |
| Chlorobenzene | <RDL | 10 |
| Chloroethane | <RDL | 10 |
| Chloroform | <RDL | 10 |
| Chloromethane | <RDL | 10 |
| Ethylbenzene | 100 | 10 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 100 |
| Methylene chloride | 7.1 J | 50 |
| Tetrachloroethene | <RDL | 10 |
| Toluene | <RDL | 10 |
| trans-1,2-Dichloroethene | <RDL | 10 |
| Trichloroethene | <RDL | 10 |
| Vinyl chloride | <RDL | 10 |
| Xylenes (Total) | 520 | 20 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 85 | |
| Nitrobenzene-d5 | (Range 37-104) | 88 | |
| p-Terphenyl-d14 | (Range 15-132) | 53 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 15 | |
| o-Terphenyl (Range 82-142) | 80 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/2000 Date Analyzed: 11/13/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 86 | |
| 4-Bromofluorobenzene (86-112) | 100 | |
| Toluene-d8 (84-108) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02872** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/06/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID:** NASPFF MW-5S

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 30 | 1.0 |
| 2-Methylnaphthalene | 48 | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 110 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.37JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 2.9 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 0.78 J | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 28 | |
| Nitrobenzene-d5 | (Range 37-104) | 26 | |
| p-Terphenyl-d14 | (Range 15-132) | 15 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 5.9 | |
| o-Terphenyl (Range 82-142) | 76 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 86 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02873** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
**Client Sample ID: NASPFF MW-7S**

Date Sampled: 11/06/2000
Date Received: 11/07/2000
Date Reported: 12/01/2000
Sample Matrix: WATER

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.37JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 1.8 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 80 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 84 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 25 | |
| o-Terphenyl (Range 82-142) | 88 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 83 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02874** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/06/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-23S**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.39JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.74 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 87 | |
| Nitrobenzene-d5 | (Range 37-104) | 84 | |
| p-Terphenyl-d14 | (Range 15-132) | 90 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 16 | |
| o-Terphenyl (Range 82-142) | 63 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 78 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02875** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/06/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-10R**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0072J | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.39JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.65 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 84 | |
| Nitrobenzene-d5 | (Range 37-104) | 83 | |
| p-Terphenyl-d14 | (Range 15-132) | 80 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 20 | |
| o-Terphenyl (Range 82-142) | 76 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 91 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02876** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/06/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-22S**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0067J | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/15/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 23 | 5.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | 3.8 | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | 110 | 25 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | 0.65 J | 1.0 |
| Ethylbenzene | 420 | 25 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | 2.8 | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 2900 | 50 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 85 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 81 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/15/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 15 | |
| o-Terphenyl (Range 82-142) | 86 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 88 | |
| 4-Bromofluorobenzene (86-112) | 107 | |
| Toluene-d8 (84-108) | 101 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02877** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
**Client Sample ID: NASPFF MW-17S**

Date Sampled: 11/06/2000
Date Received: 11/07/2000
Date Reported: 12/01/2000
Sample Matrix: WATER

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0047J | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/13/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.42JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 2.4 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 1.7 J | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/13/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 82 | |
| Nitrobenzene-d5 | (Range 37-104) | 73 | |
| p-Terphenyl-d14 | (Range 15-132) | 69 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/14/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(J9) (Range 42-193) | 21 | |
| o-Terphenyl (Range 82-142) | 91 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 87 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02878** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
**Client Sample ID: NASPEF MW DUP-1**

Date Sampled: 11/06/2000
Date Received: 11/07/2000
Date Reported: 12/01/2000
Sample Matrix: WATER

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0064J | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/13/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 37 | 1.0 |
| 2-Methylnaphthalene | 45 | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 120 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/15/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 22 | 5.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | 120 | 25 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | 0.64 J | 1.0 |
| Ethylbenzene | 450 | 25 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | 2.8 | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 3100 | 100 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/13/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 77 | |
| Nitrobenzene-d5 | (Range 37-104) | 84 | |
| p-Terphenyl-d14 | (Range 15-132) | 57 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/15/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 13 | |
| o-Terphenyl (Range 82-142) | 86 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 100 | |
| 4-Bromofluorobenzene (86-112) | 111 | |
| Toluene-d8 (84-108) | 100 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02879** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/05/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: TRIP BLANK**

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/13/2000 Date Analyzed: 11/13/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 2.1 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/2000 Date Analyzed: 11/13/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 88 | |
| 4-Bromofluorobenzene (86-112) | 99 | |
| Toluene-d8 (84-108) | 93 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02880** **Accura Project #: 26126**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/07/2000
Client Contact: GERRY WALKER Date Received: 11/07/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/01/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/23/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/13/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.41J | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X Base Neutral QC Surrogates (W** Method Ref: 8270C

Date Ext/Dig/Prep: 11/08/2000 Date Analyzed: 11/09/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 57-102) | 82 | |
| Nitrobenzene-d5 | (Range 50-103) | 82 | |
| p-Terphenyl-d14 | (Range 64-113) | 102 | |

**ANALYSIS: X PRO QC Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/13/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 17 | |
| o-Terphenyl (Range 82-142) | 72 | |

**ANALYSIS: X VOC QC Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/2000 Date Analyzed: 11/10/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 86 | |
| 4-Bromofluorobenzene (85-111) | 98 | |
| Toluene-d8 (88-106) | 99 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

**CASE NARRATIVE for Project Number: 26126**
**Client Project: Former Sherman Field Fuel Farm / CTO 132 / N0516**
**Task Order Manager: Gerry Walker**
**Samplers: Dan Hartnett / Gary Davis**

The following items were noted concerning this project:

1. The following samples were received by Accura Analytical Laboratory on 11/07/00 at 0910:

| Client I.D. | Laboratory I.D. |
|---|---|
| NASPFF MW-18S | AC02868 |
| NASPFF MW-19S | AC02869 |
| NASPFF MW-20S | AC02870 |
| NASPFF MW-8S | AC02871 |
| NASPFF MW-5S | AC02872 |
| NASPFF MW-7S | AC02873 |
| NASPFF MW-23S | AC02874 |
| NASPFF MW-10R | AC02875 |
| NASPFF MW-22S | AC02876 |
| NASPFF MW-17S | AC02877 |
| NASPFF DUP-1 | AC02878 |
| Trip Blank | AC02879 |

2. The sample cooler temperature was noted to be $2^{0}$C upon receipt.

3. Sample NASPFF MW-18S, submitted for metals analysis was preserved upon receipt in the laboratory with 3mL of $HNO_3$.

4. The pH for all samples submitted for VOC analyses was noted to be < 2 prior to analysis.

5. The J values noted for the Metals, VOC, and FL-PRO analyses indicate estimated values where the compounds are present at concentrations that are less than the quantitation limits, but above the method detection limits.

6. The "B" values noted for the FL-PRO analyses indicate that the analyte was detected in the Method Blank and the concentration in the sample was less than ten times the concentration in the Method Blank. The results for this analyte should be considered estimated due to Method Blank contamination.

7. The Trip Blank associated with the samples submitted for VOC analyses had a concentration of Methylene Chloride that was above the reporting limit.

8. The recovery of Nonatriacontane (C39), was outside the method specified limits for all samples and associated QC for the FL-PRO analyses. However, the recoveries were within historical in-house limits; therefore the data was accepted.

9. The recovery of ortho-Terphenyl was outside the method specified limits for the following samples:

Petroleum Range Organics FL-PRO
NASPFF MW-18S
NASPFF MW-19S
NASPFF MW-8S
NASPFF MW-5S
NASPFF MW-23S
NASPFF MW-10R
Method Blank

10. The following surrogates were outside the method specified limits for sample NASPFF MW-5S:

PAH SW-846-8270C
Nitrobenzene-d5
2-Fluorobiphenyl
Terphenyl-d14

The extraction procedure consumed all available sample for the analysis; therefore no re-extraction was performed. All PAH results for this sample should be considered estimated.

11. The following samples required dilution due to high analyte concentration and/or the nature of the matrix, resulting in elevated detection limits:

| Pertoleul Range Organics FL-PRO | VOC SW-846-8260B |
|---|---|
| NASPFF MW-22S | NASPFF MW-8S |
| NASPFF DUP-1 | NASPFF MW-22S |
| | NASPFF DUP-1 |

12. The Q.C. reported for the FL-PRO and PAH analyses represents batch Q.C. and consists of Laboratory Control Sample and Laboratory Control Sample Duplicate analyses.

_____

Laboratory Manager

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02910** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF EQB-1**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.88JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 86 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 106 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 14 | |
| o-Terphenyl (Range 82-142) | 98 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 85 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02911** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-13S**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.40JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 2.2 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 86 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 87 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 18 | |
| o-Terphenyl (Range 82-142) | 99 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 92 | |
| 4-Bromofluorobenzene (86-112) | 100 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02912** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
**Client Sample ID: NASPFF MW-15S**

Date Sampled: 11/7/00
Date Received: 11/8/00
Date Reported: 12/8/00
Sample Matrix: WATER

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.37JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 87 | |
| Nitrobenzene-d5 | (Range 37-104) | 84 | |
| p-Terphenyl-d14 | (Range 15-132) | 105 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 22 | |
| o-Terphenyl (Range 82-142) | 95 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 82 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 97 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02913** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-1S**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.09 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 6.3 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 54 | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | 68 | 1.0 |
| Acenaphthene | 0.80J | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | 1.1 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 130 | 1.0 |
| Phenanthrene | 0.78J | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 5.6 | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 25 |
| 1,1,2,2-Tetrachloroethane | <RDL | 25 |
| 1,1,2-Trichloroethane | <RDL | 25 |
| 1,1-Dichloroethane | <RDL | 25 |
| 1,1-Dichloroethene | <RDL | 25 |
| 1,2-Dichloroethane | 17 J | 25 |
| 1,2-Dichloropropane | <RDL | 25 |
| 1,3-Dichloropropene | <RDL | 25 |
| 2-Chloroethylvinyl ether | <RDL | 250 |
| Acrolein | <RDL | 250 |
| Acrylonitrile | <RDL | 250 |
| Benzene | 530 | 25 |
| Bromodichloromethane | <RDL | 25 |
| Bromoform | <RDL | 130 |
| Bromomethane | <RDL | 25 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 25 |
| Chlorobenzene | <RDL | 25 |
| Chloroethane | <RDL | 25 |
| Chloroform | <RDL | 25 |
| Chloromethane | <RDL | 25 |
| Ethylbenzene | 1300 | 50 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 250 |
| Methylene chloride | <RDL | 130 |
| Tetrachloroethene | <RDL | 25 |
| Toluene | <RDL | 25 |
| trans-1,2-Dichloroethene | <RDL | 25 |
| Trichloroethene | <RDL | 25 |
| Vinyl chloride | <RDL | 25 |
| Xylenes (Total) | 430 | 50 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 82 | |
| Nitrobenzene-d5 (Range 37-104) | 66 | |
| p-Terphenyl-d14 (Range 15-132) | 47 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 14 | |
| o-Terphenyl (Range 82-142) | 70 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 86 | |
| 4-Bromofluorobenzene (86-112) | 100 | |
| Toluene-d8 (84-108) | 98 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02914** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-5I**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.40JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 84 | |
| Nitrobenzene-d5 | (Range 37-104) | 82 | |
| p-Terphenyl-d14 | (Range 15-132) | 100 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 16 | |
| o-Terphenyl (Range 82-142) | 112 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 87 | |
| 4-Bromofluorobenzene (86-112) | 94 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02915** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-2S**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.01 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 1 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 2.5 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 50 | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | 63 | 1.0 |
| Acenaphthene | 2.2 | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | 2.0 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 110 | 1.0 |
| Phenanthrene | 2.0 | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 7.9 | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 5.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 5.0 |
| 1,1,2-Trichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethene | <RDL | 5.0 |
| 1,2-Dichloroethane | <RDL | 5.0 |
| 1,2-Dichloropropane | 3.6 J | 5.0 |
| 1,3-Dichloropropene | <RDL | 5.0 |
| 2-Chloroethylvinyl ether | <RDL | 50 |
| Acrolein | <RDL | 50 |
| Acrylonitrile | <RDL | 50 |
| Benzene | 55 | 5.0 |
| Bromodichloromethane | <RDL | 5.0 |
| Bromoform | <RDL | 25 |
| Bromomethane | <RDL | 5.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 5.0 |
| Chlorobenzene | <RDL | 5.0 |
| Chloroethane | <RDL | 5.0 |
| Chloroform | <RDL | 5.0 |
| Chloromethane | <RDL | 5.0 |
| Ethylbenzene | 1100 | 50 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 50 |
| Methylene chloride | <RDL | 25 |
| Tetrachloroethene | <RDL | 5.0 |
| Toluene | 10 | 5.0 |
| trans-1,2-Dichloroethene | <RDL | 5.0 |
| Trichloroethene | <RDL | 5.0 |
| Vinyl chloride | <RDL | 5.0 |
| Xylenes (Total) | 3100 | 100 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 78 | |
| Nitrobenzene-d5 | (Range 37-104) | 76 | |
| p-Terphenyl-d14 | (Range 15-132) | 46 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 24 | |
| o-Terphenyl (Range 82-142) | 95 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 93 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 98 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02916** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/7/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF DUP-2**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.37JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 82 | |
| Nitrobenzene-d5 | (Range 37-104) | 78 | |
| p-Terphenyl-d14 | (Range 15-132) | 105 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 14 | |
| o-Terphenyl (Range 82-142) | 96 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 87 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 94 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC02917** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/8/00
Client Contact: GERRY WALKER Date Received: 11/8/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/8/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.35J | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/9/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X Base Neutral QC Surrogates (W** Method Ref: 8270C

Date Ext/Dig/Prep: 11/8/00 Date Analyzed: 11/9/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 57-102) | 82 | |
| Nitrobenzene-d5 | (Range 50-103) | 82 | |
| p-Terphenyl-d14 | (Range 64-113) | 102 | |

**ANALYSIS: X PRO QC Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 18 | |
| o-Terphenyl (Range 82-142) | 89 | |

**ANALYSIS: X VOC QC Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 82 | |
| 4-Bromofluorobenzene (85-111) | 98 | |
| Toluene-d8 (88-106) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02922** **Accura Project #: 26137**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
**Client Sample ID: TRIP BLANK**

Date Sampled: 11/7/00
Date Received: 11/8/00
Date Reported: 12/8/00
Sample Matrix: WATER

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 94 | |
| 4-Bromofluorobenzene (86-112) | 99 | |
| Toluene-d8 (84-108) | 91 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

**CASE NARRATIVE for Project Number: 26137**
**Client Project: Former Sherman Field Fuel Farm / CTO 132 / N0516**
**CTO Manager: Gerry Walker**
**Samplers: Gary Davis / Dan Hartnett**

The following items were noted concerning this project:

1. The following samples were received by Accura Analytical Laboratory on 11/08/00 at 0915:

| Client I.D. | Laboratory I.D. |
|---|---|
| NASPFF EQB-1 | AC02910 |
| NASPFF MW-13S | AC02911 |
| NASPFF MW-15S | AC02912 |
| NASPFF MW-1S | AC02913 |
| NASPFF MW-5I | AC02914 |
| NASPFF MW-2S | AC02915 |
| NASPFF DUP-2 | AC02916 |
| Trip Blank | AC02922 |

2. The sample cooler temperature was noted to be $2^{0}$C upon receipt.

3. The pH for all VOC samples was noted to be less than 2 prior to analysis.

4. The "J" values noted for the FL-PRO, PAH and VOC analyses indicate estimated concentrations that were above the method detection limit but below the reporting limit.

5. The "B" values noted for the FL-PRO analyses indicate that the analyte was detected in the Method Blank at a concentration that was above the method detection limit and the concentration in the sample was less than ten times the concentration in the Method Blank. These results should be considered estimated due to Method Blank contamination.

6. The following samples required dilution due to high analyte concentration and/or the nature of the matrix, resulting in elevated detection limits:

| VOC SW-846-8260B | TRPH FL-PRO |
|---|---|
| NASPFF MW-1S | Matrix Spike |
| NASPFF MW-2S | Matrix Spike Duplicate |

7. The recoveries and RPD for the Matrix Spike and Matrix Spike Duplicate associated with the FL-PRO analyses was outside the method specified limits due to high sample concentration and dilution effect. The Laboratory Control Sample was within established in-house limits; therefore the data was accepted.
8. The recovery of Nonatriacontane (C39), was outside the method specified limits for the associated QC and all samples submitted for FL-PRO analyses. However, the recoveries were within established in-house limits; therefore the data was accepted.

9. The recovery of ortho-Terphenyl in sample NASPFF MW-1S submitted for FL-PRO analysis was outside the method specified limits but within established in-house limits; therefore the data was accepted.

10. A subcontract laboratory performed the following analyses:
    Anions EPA-300.0
    Methane RSK-175 Mod.

11. The Matrix Spike and/or Matrix Spike Duplicate recoveries were outside the method specified limit for the following analytes due to matrix interference:

| PAH SW-846-8270C | VOC SW-846-8260B |
|---|---|
| Benzo (a) pyrene | Acrolein |
| Benzo (b) fluoroanthene | |
| Benzo (g,h,i) perylene | |
| Benzo (k) fluoroanthene | |
| Chrysene | |
| Dibenzo (a,h) anthracene | |
| Indeno (1,2,3-c,d) pyrene | |

Laboratory Manager

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02994** **Accura Project #: 26150**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/8/00
Client Contact: GERRY WALKER Date Received: 11/9/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-16S**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.04 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 4 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.011 | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 2.9 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 29 | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | 37 | 1.0 |
| Acenaphthene | 0.44J | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | 0.44J | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | 0.27J | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | 0.42J | 1.0 |
| Indeno(1,2,3-cd)pyrene | 0.28J | 1.0 |
| Naphthalene | 75 | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 9.6 | 5.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 10 |
| 1,1,2,2-Tetrachloroethane | <RDL | 10 |
| 1,1,2-Trichloroethane | <RDL | 10 |
| 1,1-Dichloroethane | <RDL | 10 |
| 1,1-Dichloroethene | <RDL | 10 |
| 1,2-Dichloroethane | <RDL | 10 |
| 1,2-Dichloropropane | <RDL | 10 |
| 1,3-Dichloropropene | <RDL | 10 |
| 2-Chloroethylvinyl ether | <RDL | 100 |
| Acrolein | <RDL | 100 |
| Acrylonitrile | <RDL | 100 |
| Benzene | 32 | 10 |
| Bromodichloromethane | <RDL | 10 |
| Bromoform | <RDL | 50 |
| Bromomethane | <RDL | 10 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 10 |
| Chlorobenzene | <RDL | 10 |
| Chloroethane | <RDL | 10 |
| Chloroform | <RDL | 10 |
| Chloromethane | <RDL | 10 |
| Ethylbenzene | 330 | 10 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 100 |
| Methylene chloride | 13 J | 50 |
| Tetrachloroethene | <RDL | 10 |
| Toluene | 17 | 10 |
| trans-1,2-Dichloroethene | <RDL | 10 |
| Trichloroethene | <RDL | 10 |
| Vinyl chloride | <RDL | 10 |
| Xylenes (Total) | 2300 | 50 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 71 | |
| Nitrobenzene-d5 | (Range 37-104) | 85 | |
| p-Terphenyl-d14 | (Range 15-132) | 33 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/16/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 9.5 | |
| o-Terphenyl (Range 82-142) | 48 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/13/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 79 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 100 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC02995** **Accura Project #: 26150**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00
Client Contact: GERRY WALKER Date Received: 11/9/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/9/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.35J | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X Base Neutral QC Surrogates (W** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 57-102) | 78 | |
| Nitrobenzene-d5 | (Range 50-103) | 84 | |
| p-Terphenyl-d14 | (Range 64-113) | 92 | |

**ANALYSIS: X PRO QC Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 18 | |
| o-Terphenyl (Range 82-142) | 89 | |

**ANALYSIS: X VOC QC Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 86 | |
| 4-Bromofluorobenzene (85-111) | 98 | |
| Toluene-d8 (88-106) | 99 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

**CASE NARRATIVE for Project Number: 26150**
**Client Project: Former Sherman Field Fuel Farm / CTO 132 / N0516**
**CTO Manager: Gerry Walker**
**Samplers: Dan Hartnett**

The following items were noted concerning this project:

1. The following sample was received by Accura Analytical Laboratory on 11/09/00 at 0945:

| Client I.D. | Laboratory I.D. |
|---|---|
| NASPFF MW-16S | AC02994 |

2. The sample cooler temperature was noted to be $2^0$C upon receipt.

3. The pH of the VOC sample was noted to be less than 2 prior to analysis.

4. The "J" values noted for the FL-PRO, PAH and VOC analyses indicate estimated concentrations that were above the method detection limit but below the reporting limit.

5. The Method Blank associated with the FL-PRO analysis had a concentration that was above the method detection limit. However, the concentration in the sample submitted with this project was greater than ten times the concentration in the Method Blank; therefore the contamination was considered to be insignificant.

6. The following samples required dilution due to high analyte concentration and/or the nature of the matrix, resulting in elevated detection limits:

| VOC SW-846-8260B | TRPH FL-PRO |
|---|---|
| NASPFF MW-16S | NASPFF MW-16S |

7. The QC associated with the PAH and FL-PRO analyses represents batch QC and consists of a Laboratory Control Sample and Laboratory Control Sample Duplicate.

8. The spike recoveries associated with the FL-PRO analyses were outside the method specified limits. However, all recoveries were within established in-house limits; therefore the data was accepted.

9. The following surrogates were outside the method specified limits due to matrix interference:

VOC SW-856-8260B

| | |
|---|---|
| Toluene-d8 | (NASPFF MW-16S) |
| Bromofluorobenzene | (NASPFF MW-16S) |

10. The recovery of Nonatriacontane (C39), was outside the method specified limits for the associated QC and sample submitted for FL-PRO analysis. However, the recoveries were within established in-house limits; therefore the data was accepted.

11. The recovery of ortho-Terphenyl in sample NASPFF MW-16S submitted for FL-PRO analysis was outside the method specified limits but within established in-house limits; therefore the data was accepted.

12. A subcontract laboratory performed the following analyses:

Anions EPA-300.0
Methane RSK-175 Mod.

Laboratory Manager

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03083** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00
Client Contact: GERRY WALKER Date Received: 11/10/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-4S**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/11/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.86 | 0.01 |
| Nitrite by IC | 0.02 | 0.01 |
| Sulfate by IC | 5 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 0.21 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.41JB | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.63 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | 1.2 | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 1.9 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | 0.88 J | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 75 | |
| Nitrobenzene-d5 | (Range 37-104) | 82 | |
| p-Terphenyl-d14 | (Range 15-132) | 64 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 6.1 | |
| o-Terphenyl (Range 82-142) | 106 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 91 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 98 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03084** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
**Client Sample ID: NASPFF MW-3S**

Date Sampled: 11/9/00
Date Received: 11/10/00
Date Reported: 12/5/00
Sample Matrix: WATER

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/11/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | 0.08 | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 2.1 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 64 | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | 79 | 1.0 |
| Acenaphthene | 0.59J | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | 1.4 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 200 | 10 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/21/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 28 | 5.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 25 |
| 1,1,2,2-Tetrachloroethane | <RDL | 25 |
| 1,1,2-Trichloroethane | <RDL | 25 |
| 1,1-Dichloroethane | <RDL | 25 |
| 1,1-Dichloroethene | <RDL | 25 |
| 1,2-Dichloroethane | <RDL | 25 |
| 1,2-Dichloropropane | <RDL | 25 |
| 1,3-Dichloropropene | <RDL | 25 |
| 2-Chloroethylvinyl ether | <RDL | 250 |
| Acrolein | <RDL | 250 |
| Acrylonitrile | <RDL | 250 |
| Benzene | 280 | 25 |
| Bromodichloromethane | <RDL | 25 |
| Bromoform | <RDL | 130 |
| Bromomethane | <RDL | 25 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 25 |
| Chlorobenzene | <RDL | 25 |
| Chloroethane | <RDL | 25 |
| Chloroform | <RDL | 25 |
| Chloromethane | <RDL | 25 |
| Ethylbenzene | 1700 | 100 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 250 |
| Methylene chloride | <RDL | 130 |
| Tetrachloroethene | <RDL | 25 |
| Toluene | 16 J | 25 |
| trans-1,2-Dichloroethene | <RDL | 25 |
| Trichloroethene | <RDL | 25 |
| Vinyl chloride | <RDL | 25 |
| Xylenes (Total) | 4100 | 200 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 78 | |
| Nitrobenzene-d5 | (Range 37-104) | 75 | |
| p-Terphenyl-d14 | (Range 15-132) | 21 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.6 | |
| o-Terphenyl (Range 82-142) | 103 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 83 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 97 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03085** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00
Client Contact: GERRY WALKER Date Received: 11/10/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-13D**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.46JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | 2.0 | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | 0.89 J | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | 5.1 J | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 82 | |
| Nitrobenzene-d5 | (Range 37-104) | 90 | |
| p-Terphenyl-d14 | (Range 15-132) | 67 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.7 | |
| o-Terphenyl (Range 82-142) | 104 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 84 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 96 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03086** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/9/00
Client Contact: GERRY WALKER Date Received: 11/10/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: TRIP BLANK**

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 2.1 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X VOC Sample Surrogates-Waters

Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 81 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 93 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC03087** **Accura Project #: 26163**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/10/00
Client Contact: GERRY WALKER Date Received: 11/10/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/10/00 Date Analyzed: 11/10/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/13/00 Date Analyzed: 11/23/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.45J | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X Base Neutral QC Surrogates (W** Method Ref: 8270C

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/19/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 57-102) | 78 | |
| Nitrobenzene-d5 | (Range 50-103) | 84 | |
| p-Terphenyl-d14 | (Range 64-113) | 92 | |

**ANALYSIS: X PRO QC Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 9.4 | |
| o-Terphenyl (Range 82-142) | 101 | |

**ANALYSIS: X VOC QC Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/15/00 Date Analyzed: 11/15/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 80 | |
| 4-Bromofluorobenzene (85-111) | 98 | |
| Toluene-d8 (88-106) | 97 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

**CASE NARRATIVE for Project Number: 26163**
**Client Project: Former Sherman Field Fuel Farm / CTO 132 / N0516**
**CTO Manager: Gerry Walker**
**Samplers: D. Hartnett / G. Davis**

The following items were noted concerning this project:

1. The following samples were received by Accura Analytical Laboratory on 11/10/00 at 0920:

| Client I.D. | Laboratory I.D. |
|---|---|
| NASPFF MW-4S | AC03083 |
| NASPFF MW-3S | AC03084 |
| NASPFF MW-13D | AC03085 |
| Trip Blank | AC03086 |

2. The sample cooler temperature was noted to be $2^0$C upon receipt.

3. The pH of all VOC samples was noted to be less than 2 prior to analysis.

4. The "J" values noted for the FL-PRO, PAH and VOC analyses indicate estimated concentrations that were above the method detection limit but below the reporting limit.

5. The "B" values noted for the FL-PRO analyses indicate that the analyte was detected in the Method Blank at a concentration that was above the method detection limit and the concentration in the sample was less than ten times the concentration in the Method Blank. These results should be considered estimated due to Method Blank contamination.

6. The following samples required dilution due to high analyte concentration and/or the nature of the matrix, resulting in elevated detection limits:

| VOC SW-846-8260B | TRPH FL-PRO |
|---|---|
| NASPFF MW-3S | NASPFF MW-3S |

PAH SW-846-8270C
NASPFF MW-3S

7. The QC associated with the PAH and FL-PRO analyses represents batch QC and consists of a Laboratory Control Sample and Laboratory Control Sample Duplicate.

8. The recovery of Nonatriacontane (C39), was outside the method specified limits for the associated QC and all samples submitted for FL-PRO analyses. However, the recoveries were within established in-house limits; therefore the data was accepted.

9. The Trip Blank submitted with this project for VOC analysis had a concentration of Methylene Chloride that was above the method detection limit.

10. A subcontract laboratory performed the following analyses:
    Anions EPA-300.0
    Methane RSK-175 Mod.

Laboratory Manager

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03321** **Accura Project #: 26211**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FIELD FUEL FARM
**Client Sample ID: NASPFF MW-9S**

Date Sampled: 11/15/00
Date Received: 11/16/00
Date Reported: 12/5/00
Sample Matrix: WATER

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.33 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 7 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.35JB | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.81 J | 1.0 |
| Chloromethane | 0.56 J | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 0.58 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 87 | |
| Nitrobenzene-d5 | (Range 37-104) | 87 | |
| p-Terphenyl-d14 | (Range 15-132) | 87 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.3 | |
| o-Terphenyl (Range 82-142) | 101 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 81 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03322** **Accura Project #: 26211**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/15/00
Client Contact: GERRY WALKER Date Received: 11/16/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-11S**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.22 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 8 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 0.041 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.31JB | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 0.81J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 89 | |
| Nitrobenzene-d5 | (Range 37-104) | 97 | |
| p-Terphenyl-d14 | (Range 15-132) | 64 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 6.4 | |
| o-Terphenyl (Range 82-142) | 83 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 83 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 90 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03323** **Accura Project #: 26211**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/15/00
Client Contact: GERRY WALKER Date Received: 11/16/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFF MW-21S**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/17/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 1.88 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 11 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/29/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.31JB | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | 0.68 J | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 80 | |
| Nitrobenzene-d5 | (Range 37-104) | 89 | |
| p-Terphenyl-d14 | (Range 15-132) | 68 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 4.7 | |
| o-Terphenyl (Range 82-142) | 91 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 81 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 94 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03325** **Accura Project #: 26211**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/00
Client Contact: GERRY WALKER Date Received: 11/16/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/5/00
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/16/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0094J | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |

| | | |
|---|---|---|
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.43J | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |

| | | |
|---|---|---|
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X Base Neutral QC Surrogates (W** Method Ref: 8270C

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/20/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 57-102) | 83 | |
| Nitrobenzene-d5 | (Range 50-103) | 96 | |
| p-Terphenyl-d14 | (Range 64-113) | 94 | |

**ANALYSIS: X PRO QC Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/16/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 10 | |
| o-Terphenyl (Range 82-142) | 95 | |

**ANALYSIS: X VOC QC Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/17/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 82 | |
| 4-Bromofluorobenzene (85-111) | 94 | |
| Toluene-d8 (88-106) | 94 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

**CASE NARRATIVE for Project Number: 26211**
**Client Project: Former Sherman Field Fuel Farm / CTO 132 / N0516**
**CTO Manager: Gerry Walker**
**Samplers: Dan Hartnett**

The following items were noted concerning this project:

1. The following samples were received by Accura Analytical Laboratory on 11/16/00 at 0915:

| Client I.D. | Laboratory I.D. |
|---|---|
| NASPFF MW-9S | AC03321 |
| NASPFF MW-11S | AC03322 |
| NASPFF MW-21S | AC03323 |

2. The sample cooler temperature was noted to be $2^{0}$C upon receipt.

3. The pH of all VOC samples was noted to be less than 2 prior to analysis.

4. The "J" values noted for the FL-PRO, Metals and VOC analyses indicate estimated concentrations that were above the method detection limit but below the reporting limit.

5. The "B" values noted for the FL-PRO analyses indicate that the analyte was detected in the Method Blank at a concentration that was above the method detection limit and the concentration in the sample was less than ten times the concentration in the Method Blank. These results should be considered estimated due to Method Blank contamination.

6. The Method Blank associated with the Metals analyses had a concentration of Lead that was above the method detection limit. However, the concentration of Lead in all samples submitted with this project were less than the method detection limit; therefore the contamination was considered to be insignificant.

7. The QC associated with the PAH and FL-PRO analyses represent batch QC and consists of a Laboratory Control Sample and Laboratory Control Sample Duplicate.

8. The recovery of Nonatriacontane (C39), was outside the method specified limits for the associated QC and all samples submitted for FL-PRO analyses. However, the recoveries were within established in-house limits; therefore the data was accepted.

9. A subcontract laboratory performed the following analyses:
   Anions EPA-300.0
   Methane RSK-175 Mod.

_____

Laboratory Manager

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03414** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/00
Client Contact: GERRY WALKER Date Received: 11/17/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/12/00
Client Project Name: FORMER SHERMAN FEILD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFFEQB-2**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/00 Date Analyzed: 11/28/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/29/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.72JB | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 88 | |
| Nitrobenzene-d5 | (Range 37-104) | 91 | |
| p-Terphenyl-d14 | (Range 15-132) | 94 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 10 | |
| o-Terphenyl (Range 82-142) | 91 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 98 | |
| 4-Bromofluorobenzene (86-112) | 94 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03415** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/00
Client Contact: GERRY WALKER Date Received: 11/17/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/12/00
Client Project Name: FORMER SHERMAN FEILD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFFDUP-3**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/18/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.43 | 0.01 |
| Nitrite by IC | 0.01 | 0.01 |
| Sulfate by IC | 6 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/00 Date Analyzed: 11/28/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/29/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 4.8 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 53 | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | 67 | 1.0 |
| Acenaphthene | 1.2 | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | 0.59J | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | 1.7 | 1.0 |
| Fluorene | 1.3 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 130 | 1.0 |
| Phenanthrene | 2.5 | 1.0 |
| Pyrene | 0.94J | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 3.8 | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 5.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 5.0 |
| 1,1,2-Trichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethene | <RDL | 5.0 |
| 1,2-Dichloroethane | <RDL | 5.0 |
| 1,2-Dichloropropane | <RDL | 5.0 |
| 1,3-Dichloropropene | <RDL | 5.0 |
| 2-Chloroethylvinyl ether | <RDL | 50 |
| Acrolein | <RDL | 50 |
| Acrylonitrile | <RDL | 50 |
| Benzene | 560 | 25 |
| Bromodichloromethane | <RDL | 5.0 |
| Bromoform | <RDL | 25 |
| Bromomethane | <RDL | 5.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 5.0 |
| Chlorobenzene | <RDL | 5.0 |
| Chloroethane | <RDL | 5.0 |
| Chloroform | <RDL | 5.0 |
| Chloromethane | <RDL | 5.0 |
| Ethylbenzene | 550 | 25 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 50 |
| Methylene chloride | <RDL | 25 |
| Tetrachloroethene | <RDL | 5.0 |
| Toluene | 11 | 5.0 |
| trans-1,2-Dichloroethene | <RDL | 5.0 |
| Trichloroethene | <RDL | 5.0 |
| Vinyl chloride | <RDL | 5.0 |
| Xylenes (Total) | 320 | 10 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 86 | |
| Nitrobenzene-d5 (Range 37-104) | 90 | |
| p-Terphenyl-d14 (Range 15-132) | 35 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/28/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.9 | |
| o-Terphenyl (Range 82-142) | 87 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 92 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03416** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FEILD FUEL FARM
**Client Sample ID: NASPFFMW-12S**

Date Sampled: 11/16/00
Date Received: 11/17/00
Date Reported: 12/12/00
Sample Matrix: WATER

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/18/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.45 | 0.01 |
| Nitrite by IC | 0.02 | 0.01 |
| Sulfate by IC | 6 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/00 Date Analyzed: 11/28/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/29/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 4.4 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 52 | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | 65 | 1.0 |
| Acenaphthene | 1.4 | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | 0.64J | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | 1.7 | 1.0 |
| Fluorene | 1.5 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 130 | 1.0 |
| Phenanthrene | 2.6 | 1.0 |
| Pyrene | 0.97J | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 4.0 | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 5.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 5.0 |
| 1,1,2-Trichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethene | <RDL | 5.0 |
| 1,2-Dichloroethane | <RDL | 5.0 |
| 1,2-Dichloropropane | <RDL | 5.0 |
| 1,3-Dichloropropene | <RDL | 5.0 |
| 2-Chloroethylvinyl ether | <RDL | 50 |
| Acrolein | <RDL | 50 |
| Acrylonitrile | <RDL | 50 |
| Benzene | 590 | 25 |
| Bromodichloromethane | <RDL | 5.0 |
| Bromoform | <RDL | 25 |
| Bromomethane | <RDL | 5.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 5.0 |
| Chlorobenzene | <RDL | 5.0 |
| Chloroethane | <RDL | 5.0 |
| Chloroform | <RDL | 5.0 |
| Chloromethane | <RDL | 5.0 |
| Ethylbenzene | 550 | 25 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 50 |
| Methylene chloride | <RDL | 25 |
| Tetrachloroethene | <RDL | 5.0 |
| Toluene | 11 | 5.0 |
| trans-1,2-Dichloroethene | <RDL | 5.0 |
| Trichloroethene | <RDL | 5.0 |
| Vinyl chloride | <RDL | 5.0 |
| Xylenes (Total) | 320 | 10 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 84 | |
| Nitrobenzene-d5 (Range 37-104) | 87 | |
| p-Terphenyl-d14 (Range 15-132) | 36 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/28/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.6 | |
| o-Terphenyl (Range 82-142) | 91 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 96 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 94 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03417** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee**
Client Contact: GERRY WALKER
Client Project Number: CTO 132 / N0516
Client Project Name: FORMER SHERMAN FEILD FUEL FARM
**Client Sample ID: NASPFFMW-14S**

Date Sampled: 11/16/00
Date Received: 11/17/00
Date Reported: 12/12/00
Sample Matrix: WATER

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/18/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.38 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 9 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/00 Date Analyzed: 11/28/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/29/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/21/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.34JB | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 6.6 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 84 | |
| Nitrobenzene-d5 | (Range 37-104) | 90 | |
| p-Terphenyl-d14 | (Range 15-132) | 84 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/28/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 28 | |
| o-Terphenyl (Range 82-142) | 103 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 95 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

**Accura Sample ID #: AC03418** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/00
Client Contact: GERRY WALKER Date Received: 11/17/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/12/00
Client Project Name: FORMER SHERMAN FEILD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFFMW-14I**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/00 Date Analyzed: 11/28/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/29/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 1.1B | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.78 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 83 | |
| Nitrobenzene-d5 | (Range 37-104) | 87 | |
| p-Terphenyl-d14 | (Range 15-132) | 82 | |

**ANALYSIS: X PRO Sample Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/28/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 9.5 | |
| o-Terphenyl (Range 82-142) | 102 | |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 88 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 93 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03419** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/00
Client Contact: GERRY WALKER Date Received: 11/17/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/12/00
Client Project Name: FORMER SHERMAN FEILD FUEL FARM Sample Matrix: WATER
**Client Sample ID: TRIP BLANK**

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X VOC Sample Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 88 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 93 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


LABORATORY REPORT

**Accura Sample ID #: AC03420** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/17/00
Client Contact: GERRY WALKER Date Received: 11/17/00
Client Project Number: CTO 132 / N0516 Date Reported: 12/12/00
Client Project Name: FORMER SHERMAN FEILD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/17/00 Date Analyzed: 11/18/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/00 Date Analyzed: 11/28/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/28/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0094J | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |

| | | |
|---|---|---|
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/27/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.43J | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/20/00 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |

| | | |
|---|---|---|
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

**ANALYSIS: X Base Neutral QC Surrogates (W** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/00 Date Analyzed: 11/21/00 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 57-102) | 79 | |
| Nitrobenzene-d5 | (Range 50-103) | 80 | |
| p-Terphenyl-d14 | (Range 64-113) | 92 | |

**ANALYSIS: X PRO QC Surrogates (Water)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 10 | |
| o-Terphenyl (Range 82-142) | 95 | |

**ANALYSIS: X VOC QC Surrogates-Waters** Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/00 Date Analyzed: 11/27/00 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 90 | |
| 4-Bromofluorobenzene (85-111) | 95 | |
| Toluene-d8 (88-106) | 94 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

**CASE NARRATIVE for Project Number: 26225**
**Client Project: Former Sherman Field Fuel Farm / CTO 132 / N0516**
**Task Order Manager: Gerry Walker**
**Samplers: Dan Hartnett**

The following items were noted concerning this project:

1. The following samples were received at Accura Analytical Laboratory on 11/17/00 at 0900.

| Client I.D. | Laboratory I.D. |
|---|---|
| NASPFF EQB-2 | AC03414 |
| NASPFF DUP-3 | AC03415 |
| NASPFF MW-12S | AC03416 |
| NASPFF MW-14S | AC03417 |
| NASPFF MW-14I | AC03418 |
| Trip Blank | AC03419 |

2. The sample cooler temperature was noted to be $2^{0}$C upon receipt.

3. The pH of all samples submitted for VOC analyses was noted to be less than 2 prior to analysis.

4. Samples NASPFF DUP-3 and NASPFF EQB-2 submitted for Lead analyses, were preserved upon receipt in the laboratory with 3mL of HNO3.

5. The J values noted for the PRO, PAH's and VOC analyses indicate estimated values where the compounds are present at concentrations that are less than the quantitation limits, but above the method detection limits.

6. The B values noted for the PRO analyses indicate that the compound was present in the Method Blank and the concentratrion in the sample was less than ten times the concentration in the Method Blank. These results should be considered estimated due to Blank contamination.

7. A subcontract laboratory performed the following analyses:
   Anions EPA-300.0
   Methane RSK-175

8. The Method Blank associated with the Lead analyses had a concentration that was above the method detection limit. However, the concentration in the samples submitted with this project were less than the method detection limit; therefore the contamination was considered to be insignificant.

9. The QC associated with the PAH and FL-PRO analyses represent batch QC and consists of a Laboratory Control Sample and Laboratory Control Sample Duplicate.

10. The QC associated with the VOC analyses represents batch QC and consists of a Matrix Spike and Matrix Spike Duplicate.

11. The recovery of Nonatriacontane, (C39) surrogate, was outside the FL-PRO specified limit for the associated QC and all samples submitted with this project. However, all recoveries were within established in-house limits; therefore the data was accepted.

12. The following samples required dilution due to high analyte concentration resulting in elevated detection limits:
    VOC SW-846-8260B
    NASPFF DUP-3
    NASPFF MW-12S

Laboratory Manager

Tetra Tech NUS, Inc. Internal Correspondence

TO: Mr. Gerald Walker DATE: August 30, 2000

FROM: William Howard Engle CC: File

SUBJECT: Organic Data Validation – VOA, PAH, TRPH, and SPLP
CTO112 – NAS Pensacola
SDG F7243

SAMPLES: 7/Solids

NASPFFSB12, 20-24'BGS*
NASPFFSB17, 10-12'BGS*
NASPFFSB19, 20-24'BGS
NASPFFSB28, 7-11'BGS
NASPFFSB12, 6-8'BGS
NASPFFSB18, 24-27'BGS
NASPFFSB27, 6-8'BGS

1/Aqueous

Trip Blank

**OVERVIEW**

The sample set for CTO112, SDG F7243; Naval Air Station Pensacola, Pensacola, Florida consists of seven (7) solid environmental samples and one (1) trip blank. The environmental samples, with the exception of the trip blank, were analyzed for Volatile Organic Carbons (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), and Total Residual Petroleum Hydrocarbons (TRPHs). The trip blank was analyzed for VOCs only. The samples designated with a * were also extracted and analyzed by SPLP, followed by VOCs, PAHs, and TRPH analysis.

The samples were collected by Tetra Tech NUS on August 2, 2000 and analyzed by Accutest Southeast Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 8260B (VOCs), SW-846 method 8310 (PAHs), and FL-PRO (TRPHs) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • Laboratory method/field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Supporting documentation is presented in Appendix C. Qualified analytical results are presented in Appendix A. The original laboratory data is contained in Appendix B.

Volatile Fraction

The MS/MSD %R for several compounds was below the lower control limits. The LCS %R was acceptable. No action was taken since the sample spiked was not a sample from this SDG.

Polycylcic Aromatic Hydrocarbon Fraction

All quality control criteria were met for this fraction.

Total Residual Petroleum Fraction

All quality control criteria were met for this fraction.

Executive Summary

| | |
|---|---|
| **Laboratory performance:** | MS/MSD %Rs for several compounds was below the lower control limits. No action was taken. |
| **Other factors affecting data quality:** | None. |

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

William Howard Engle

Project Chemist
Tetra Tech NUS, Inc.

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech NUS, Inc.

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B – Results as reported by the laboratory
3. Appendix C – Supporting Documentation

**Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - Include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
O = Poor Instrument Performance (i.e., base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCB D% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = % Solid content is less than 30%

Tetra Tech NUS, Inc. Internal Correspondence

**TO:** Mr. Gerald Walker **DATE:** January 8, 2001

**FROM:** Suzanne I. Smith **CC:** File

**SUBJECT:** Inorganic Data Validation – Lead
CTO132 – NAS Pensacola
SDG 26126

**SAMPLES:** 11/Aqueous

| | | |
|---|---|---|
| NASPFF MW DUP-1 | NASPFF MW-10R | NASPFF MW-17S |
| NASPFF MW-18S | NASPFF MW-19S | NASPFF MW-20S |
| NASPFF MW-22S | NASPFF MW-23S | NASPFF MW-5S |
| NASPFF MW-7S | NASPFF MW-8S | |

**OVERVIEW**

The sample set for CTO132, SDG 26126; Naval Air Station Pensacola, Pensacola, Florida consists of eleven (11) aqueous environmental samples. The environmental samples were analyzed for Lead. One pair of duplicate samples was analyzed with this sample set: NASPFF MW-22S/NASPFF MW DUP-1.

The samples were collected by Tetra Tech NUS on November 5 and 6, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 6010B (Lead) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • Laboratory method/field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

**DATA QUALIFIER DEFINITIONS:**

U - Value is a nondetected result as reported by the laboratory and should not be considered present.

J - Positive result is estimated as a result of a value below the CRQL or a technical noncompliance.

UJ - Nondetected result is considered to be estimated as a result of technical noncompliances.

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | NASPFFSB18, 24-27'BGS | F7243-4 | NORMAL | F7243 | GRSZ | 08/02/00 | / / | 08/17/00 | 0 | 0 | 15 |
| MG/KG | NASPFFSB12, 20-24'BGS | F7243-7 | NORMAL | F7243 | M | 08/02/00 | 08/07/00 | 08/12/00 | 5 | 5 | 10 |
| MG/L | NASPFFSB17, 10-12'BGS | F7243-5A | NORMAL | F7243 | M | 08/02/00 | 08/16/00 | 08/21/00 | 14 | 5 | 19 |
| UG/KG | NASPFFSB12, 20-24'BGS | F7243-7 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/11/00 | 0 | 0 | 9 |
| UG/KG | NASPFFSB12, 6-8'BGS | F7243-6 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/10/00 | 0 | 0 | 8 |
| MG/L | NASPFFSB17, 10-12'BGS | F7243-5A | NORMAL | F7243 | OV | 08/02/00 | 08/10/00 | 08/19/00 | 8 | 9 | 17 |
| UG/KG | NASPFFSB18, 24-27'BGS | F7243-4 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/09/00 | 0 | 0 | 7 |
| UG/KG | NASPFFSB19, 20-24'BGS | F7243-3 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/09/00 | 0 | 0 | 7 |
| UG/KG | NASPFFSB27, 6-8'BGS | F7243-1 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/10/00 | 0 | 0 | 8 |
| UG/KG | NASPFFSB28, 7-11'BGS | F7243-2 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/11/00 | 0 | 0 | 9 |
| UG/L | TRIP BLANK | F7243-8 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/16/00 | 0 | 0 | 14 |
| MG/L | NASPFFSB12, 20-24'BGS | F7243-7A | NORMAL | F7243 | PAH | 08/02/00 | 08/14/00 | 08/15/00 | 12 | 1 | 13 |
| UG/KG | NASPFFSB12, 6-8'BGS | F7243-6 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB17, 10-12'BGS | F7243-5 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB18, 24-27'BGS | F7243-4 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB19, 20-24'BGS | F7243-3 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB27, 6-8'BGS | F7243-1 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB28, 7-11'BGS | F7243-2 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/15/00 | 5 | 8 | 13 |
| MG/L | NASPFFSB12, 20-24'BGS | F7243-7A | NORMAL | F7243 | TPH | 08/02/00 | 08/16/00 | 08/17/00 | 14 | 1 | 15 |
| MG/KG | NASPFFSB12, 6-8'BGS | F7243-6 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |
| MG/L | NASPFFSB17, 10-12'BGS | F7243-5A | NORMAL | F7243 | TPH | 08/02/00 | 08/16/00 | 08/17/00 | 14 | 1 | 15 |
| MG/KG | NASPFFSB18, 24-27'BGS | F7243-4 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |
| MG/KG | NASPFFSB19, 20-24'BGS | F7243-3 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |
| MG/KG | NASPFFSB27, 6-8'BGS | F7243-1 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |
| MG/KG | [redacted]FFSB28, 7-11'BGS | F7243-2 | NORMAL | F7243 | [redacted] | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | [redacted] 6 |

# APPENDIX A

## Qualified Analytical Results

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB18, 24-27'BGS | | |
| **Lab Sample ID:** | F7243-4 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 94.5 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 86% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 107% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 110% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86% | | 71-122% |

0072

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB19, 20-24'BGS | | |
| **Lab Sample ID:** | F7243-3 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 94.4 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008858.D | 1 | 08/09/00 | JG | n/a | n/a | VH122 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 5.5 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 5.5 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.5 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.5 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.5 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.5 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 11 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.5 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.5 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.5 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.5 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.5 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.5 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.5 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.5 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.5 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.5 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.5 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.5 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.5 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.5 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 5.5 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.5 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.5 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 11 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.5 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.5 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.5 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.5 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.5 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.5 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.5 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.5 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.5 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 16 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis

| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB19, 20-24'BGS | | |
| **Lab Sample ID:** | F7243-3 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 94.4 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 87% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 106% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 103% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB27, 6-8'BGS | | |
| **Lab Sample ID:** | F7243-1 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 96.0 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008870.D | 1 | 08/10/00 | JG | n/a | n/a | VH122 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 5.6 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 5.6 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.6 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.6 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.6 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.6 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 11 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.6 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.6 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.6 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.6 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.6 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.6 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.6 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.6 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.6 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.6 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.6 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.6 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.6 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.6 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 5.6 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.6 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.6 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 11 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.6 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.6 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.6 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.6 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.6 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.6 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.6 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.6 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.6 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 17 | ug/kg | |



ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis

| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB27, 6-8'BGS | | |
| **Lab Sample ID:** | F7243-1 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 96.0 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 85% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 108% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 103% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 83% | | 71-122% |

0050

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB28, 7-11'BGS | | |
| **Lab Sample ID:** | F7243-2 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 94.7 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008890.D | 250 | 08/11/00 | JG | n/a | n/a | VH122 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 1200 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 1200 | ug/kg | |
| 75-25-2 | Bromoform | ND | 1200 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 1200 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 1200 | ug/kg | |
| 67-66-3 | Chloroform | ND | 1200 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 2400 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 1200 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 1200 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 1200 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 1200 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 1200 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 1200 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 1200 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 1200 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 1200 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 1200 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 1200 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 1200 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 1200 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 1200 | ug/kg | |
| 100-41-4 | Ethylbenzene | 3410 | 1200 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 1200 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 1200 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 2400 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 1200 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 1200 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 1200 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 1200 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 1200 | ug/kg | |
| 108-88-3 | Toluene | ND | 1200 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 1200 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 1200 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 1200 | ug/kg | |
| 1330-20-7 | Xylene (total) | 30500 | 3600 | ug/kg | |

0056

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis

| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB28, 7-11'BGS | | |
| **Lab Sample ID:** | F7243-2 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 94.7 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 87% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 110% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 114% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 87% | | 71-122% |



ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F7243-8 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | AQ - Trip Blank Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | G0014082.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 1.0 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | ug/l | |
| 75-25-2 | Bromoform | ND | 2.0 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | ug/l | |
| 75-00-3 | Chloroethane | ND | 5.0 | ug/l | |
| 67-66-3 | Chloroform | ND | 2.0 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 5.0 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 2.0 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 2.0 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 2.0 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | ug/l | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.0 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 2.0 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 2.0 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 2.0 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 2.0 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 2.0 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 2.0 | ug/l | |
| 74-83-9 | Methyl bromide | ND | 5.0 | ug/l | |
| 74-87-3 | Methyl chloride | ND | 5.0 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 5.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 2.0 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 2.0 | ug/l | |
| 108-88-3 | Toluene | ND | 2.0 | ug/l | |
| 79-01-6 | Trichloroethylene | ND | 2.0 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.0 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 1.0 | ug/l | |
| 1330-20-7 | Xylene (total) | ND | 6.0 | ug/l | |

0101

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis

| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F7243-8 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | AQ - Trip Blank Soil | **Date Received:** | 08/03/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 90% | | 80-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 90% | | 69-128% |
| 2037-26-5 | Toluene-D8 | 93% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 104% | | 80-120% |

0102

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | NASPFFSB27, 6-8'BGS | | |
| Lab Sample ID: | F7243-5A | Date Sampled: | 08/02/00 |
| Matrix: | SO - Soil | Date Received: | 08/03/00 |
| Method: | SW846 8260B | Percent Solids: | 95.4 |
| Project: | NAS Pensacola | | |

VOA TCL List

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 93% | | 80-120% |
| 2037-26-5 | Toluene-D8 | 95% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 102% | | 80-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | | 69-128% |

(a) Suspected laboratory contaminant.

## 5035 Sample Prep Log

0303

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment |
|---|---|---|---|---|---|---|
| 9687 | F7289-11 | H325 | (H2O) / MeOH | 5.08 | for 8/3/00 | 11:20 |
| 88 | F7295-1 | M324 | H2O / (MeOH) | 5.32 | | High! |
| 89 | 1 | H325 | (H2O) / MeOH | 5.36 | | 11:40 |
| 90 | 1 | H326 | (H2O) / MeOH | 5.12 | | 13:00 |
| 91 | F7295-2 | M324 | H2O / (MeOH) | 4.51 | | High! |
| 92 | 2 | H326 | (H2O) / MeOH | 4.69 | | |
| 93 | 2 | H326 | (H2O) / MeOH | 4.61 | | |
| 94 | F7295-3 | M324 | H2O / (MeOH) | 4.81 | | High! |
| 95 | 3 | H326 | (H2O) / MeOH | 4.41 | | |
| 96 | 3 | H326 | (H2O) / MeOH | 4.61 | | 13:15 |
| 97 | F7294-1 | M324 | H2O / (MeOH) | 2.94 | 8/3/00 AP | MDO |
| 98 | F7294-2 | M324 | H2O / (MeOH) | 5.31 | | C |
| 99 | -3 | M324 | H2O / (MeOH) | 4.16 | | |
| 9700 | -4 | M321 | H2O / (MeOH) | 5.80 | | |
| 01 | -5 | M324 | H2O / (MeOH) | 3.07 | | |
| 02 | -6 | M324 | H2O / (MeOH) | 4.93 | | |
| 03 | -7 | M327 | H2O / (MeOH) | 5.98 | | 14:15 |
| 9704 | F7301-1 | M327 | H2O / (MeOH) | 5.02 | 8/3/00 | Preburn in jar - 1100 |
| 05 | F7308-1 | M327 | H2O / (MeOH) | 5.46 | | |
| 06 | -1 | H326 | (H2O) / MeOH | 5.24 | | |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

Sequence Name: C:\HPCHEM\1\SEQUENCE\081600.S
Comment:
Operator: RickW
Data Path: C:\HPCHEM\1\DATA\081600\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | BFB | 100 | G0014067 | BFB | BFB tune |
| 2 | DailyCal | 1 | G0014068 | 8260LL | CC390-20 |
| 3 | Spike | 2 | G0014069 | 8260LL | BS |
| 4 | Blank | 3 | G0014070 | 8260LL | MB |
| 5 | Sample | 4 | G0014071 | 8260LL | F7234-1,10mL |
| 6 | Sample | 5 | G0014072 | 8260LL | F7234-2,10mL |
| 7 | Sample | 6 | G0014073 | 8260LL | F7234-3,10mL |
| 8 | Sample | 7 | G0014074 | 8260LL | F7313-1,10mL |
| 9 | Sample | 8 | G0014075 | 8260LL | F7313-2,10mL |
| 10 | Sample | 9 | G0014076 | 8260LL | F7313-3,10mL |
| 11 | Sample | 10 | G0014077 | 8260LL | F7313-4,10mL |
| 12 | Sample | 11 | G0014078 | 8260LL | F7313-5,10mL |
| 13 | Sample | 12 | G0014079 | 8260LL | F7313-6,10mL |
| 14 | Sample | 13 | G0014080 | 8260LL | F7313-7,10mL |
| 15 | Sample | 14 | G0014081 | 8260LL | F7240-2,10mL |
| 16 | Sample | 15 | G0014082 | 8260LL | F7243-8,10ml |
| 17 | Sample | 16 | G0014083 | 8260LL | F7227-1,5ul |
| 18 | Sample | 17 | G0014084 | 8260LL | F7227-2,10ml |
| 19 | Duplicate | 18 | G0014085 | 8260LL | F7234-1dup,10ml |
| 20 | DailyCal | 19 | G0014086 | 8260LL | CC390-20,10ml |
| 21 | Spike | 20 | G0014087 | 8260LL | BS,10ml |
| 22 | Blank | 21 | G0014088 | 8260LL | MB,10ml |
| 23 | Spike | 22 | G0014089 | 8260LL | F7313-2ms,10ml |
| 24 | Duplicate | 22 | G0014090 | 8260LL | F7313-2msd,10ml |
| 25 | Sample | 23 | G0014091 | 8260LL | F7252-1,10ml |
| 26 | Sample | 24 | G0014092 | 8260LL | F7253-1,10ml |
| 27 | Sample | 25 | G0014093 | 8260LL | F7253-2,10ml |
| 28 | Sample | 26 | G0014094 | 8260LL | F7257-1,10ml |
| 29 | Sample | 27 | G0014095 | 8260LL | F7257-2,1ml |
| 30 | Sample | 28 | G0014096 | 8260LL | F7290-1,10ml |
| 31 | Sample | 29 | G0014097 | 8260LL | F7290-2,10ml |
| 32 | Sample | 30 | G0014098 | 8260LL | F7290-3,10ml |
| 33 | Sample | 31 | G0014099 | 8260LL | F7290-4,10ml |
| 34 | Sample | 32 | G0014100 | 8260LL | F7290-5,10ml |
| 35 | Sample | 33 | G0014101 | 8260LL | F7290-6,10ml |
| 36 | Sample | 34 | G0014102 | 8260LL | F7290-7,10ml |
| 37 | Sample | 35 | G0014103 | 8260LL | F7290-8,10ml |

Date: 8-16-00 Analyst Signature: [signature] Run Batch:

Analysis Method: 8260 Column: DB-624 Detector: 5970MSD

Method File: 8260LL Instrument ID: G Calibration Date: 8-13-00

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| G0014067 | BFB | | | | | | | | V1679 |
| 68 | CC390-20 | 10mL | W | | 1 | 1 | 8260 | | V1715, V1729, V1705, 1020 |
| 69 | BS | ↓ | | | 2 | | | | V1723, V1726, V1718 |
| 70 | MB | ↓ | | | 3 | | | | V1721 |
| 71 | F7234-1 | 10mL | | 1 | 4 | | | 1 | ✓ MS673, VG391 |
| 72 | -2 | | | 1 | 5 | | | 1 | ✓ |
| 73 | -3 | | | 1 | 6 | | | 1 | ✓ |
| 74 | F7313-1 | | | 7 | 7 | | | 2 | DH! ✓ ND |
| 75 | -2 | | | 7 | 8 | | | 2 | ✓ ND |
| 76 | -3 | | | 7 | 9 | | | 2 | ✓ ND |
| 77 | -4 | | | 8 | 10 | | | 2 | ✓ ND RR surrogate Failed |
| 78 | -5 | | | 8 | 11 | | | 2 | ✓ ND RR " |
| 79 | -6 | | | 8 | 12 | | | 2 | ✓ ND |
| 80 | -7 | | | 7 | 13 | | | 2 | ✓ ~~ND~~ |
| 81 | F7240-2 | | | 1 | 14 | | | 1 | H.S.! ND |
| 82 | F7243-8 | ↓ | ↓ | 1 | 15 | ↓ | ↓ | 1 | ✓ ND |
| 83 | F7247-1 | 5ml | ↓ | 6 | 16 | 10,000 | | 3 | ✓ TCE 35 |
| 84 | -1 | 10ml | ↓ | 1 | 17 | 1 | ↓ | 3 | ✓ ND |
| 85 | F7234-1DUP | | W | 1 | 18 | | 8260 | 2 | ✓ |
| 86 | CC390-20 | | | 7 | 19 | | | | ✓ |
| 87 | BS | | | 7 | 20 | | | | ✓ |
| 88 | MB | | | 7 | 21 | | | | ✓ TCE 61 |
| 89 | F7313-2MS | | | 7 | 23 | | | 2 | ✓ |
| 90 | -2MSD | | | 7 | 22 | | | 2 | ✓ |
| 91 | F7252-1 | | | 1 | 23 | | | 1 | ✓ 1,1 Dichloroethene ND MS678, VG392 |
| 92 | F7253-1 | | | 1 | 24 | | | 1 | ✓ Methylene Chloride |
| 93 | -2 | | | 1 | 25 | | | 1 | H.S.! ✓ ND |
| 94 | F7257-1 | ↓ | ↓ | 1 | 26 | ↓ | ↓ | 1 | ✓ |

Notes:

Matrix: Designate W for water, L for non-aqueous liquid, S for soil, SOL for solid, and TCLP or SPLP for leachates.

0305

# GC/MS Analysis Log

Date: 8-16-00 Analyst Signature: [signature] Run Batch: _____

Analysis Method: 8260 Column: DB-624 Detector: 5970MSD

Method File: 8260LL Instrument ID: G Calibration Date: 8-13-00

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| GOC14095 | F7257-2 | 1mL | W | 1 | 27 | 10 | 8260 | 1 | ✓ A.R. cis 5x |
| 96 | F7290-1 | 10mL | 1 | 7 | 28 | 1 | 1 | 1 | PH! ✓ |
| 97 | -2 | ↓ | ↓ | 7 | 29 | ↓ | ↓ | 1 | ✓ A.R. cis 5x |
| 98 | -3 | | | 8 | 30 | | | 1 | ✓ |
| 99 | -4 | | | 8 | 31 | | | 1 | ✓ |
| 100 | -5 | | | 8 | 32 | | | 1 | ✓ |
| 1 | -6 | | | 8 | 33 | | | 1 | ✓ A.R. 1x |
| 2 | -7 | | | 8 | 34 | | | 1 | ✓ A.R. 5x vinyl |
| 3 | -8 | ↓ | ↓ | 8 | 35 | ↓ | ↓ | 1 | ↓ ✓ |

RF

0306

equence Name: C:\HPCHEM\1\SEQUENCE\081300.S
Comment:
Operator: JuanG
Data Path: C:\HPCHEM\1\DATA\081300\
Pre-Seq Cmd:
Post-Seq Cmd:

ethod Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| ine | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | BFB | 100 | G0013986 | BFB | BFB tune |
| 2 | Calibration | 1 | G0013987 | 8260LL | IC389-1 |
| 3 | Calibration | 2 | G0013988 | 8260LL | IC389-5 |
| 4 | Calibration | 3 | G0013989 | 8260LL | IC389-10 |
| 5 | Calibration | 4 | G0013990 | 8260LL | ICC390-20 |
| 6 | Calibration | 5 | G0013991 | 8260LL | IC390-35 |
| 7 | Calibration | 6 | G0013992 | 8260LL | IC390-50 |
| 8 | DailyCal | 7 | G0013993 | 8260LL | CC390-20 |
| 9 | Spike | 8 | G0013994 | 8260LL | BS |
| 10 | Blank | 9 | G0013995 | 8260LL | MB |
| 11 | Sample | 10 | G0013996 | 8260LL | F7244-1,10ml |
| 12 | Sample | 11 | G0013997 | 8260LL | F7244-2,10ml |
| 13 | Sample | 12 | G0013998 | 8260LL | F7244-3,10ml |
| 14 | Sample | 13 | G0013999 | 8260LL | F7244-4,10ml |
| 15 | Sample | 14 | G0014000 | 8260LL | F7244-5,10ml |
| 16 | Sample | 15 | G0014001 | 8260LL | F7244-6,10ml |
| 17 | Sample | 16 | G0014002 | 8260LL | F7244-7,1ml |
| 18 | Sample | 17 | G0014003 | 8260LL | F7244-8,10ml |
| 19 | Sample | 18 | G0014004 | 8260LL | F7244-9,1ml |
| 20 | Sample | 19 | G0014005 | 8260LL | F7244-10,10ml |
| 21 | Sample | 20 | G0014006 | 8260LL | F7244-11,10ml |
| 22 | Sample | 21 | G0014007 | 8260LL | F7244-12,10ml |
| 23 | Sample | 22 | G0014008 | 8260LL | F7244-13,10ml |
| 24 | Sample | 23 | G0014009 | 8260LL | F7244-14,10ml |
| 25 | Sample | 24 | G0014010 | 8260LL | F7209-1,10ml |

Date: 8-13-99 Analyst Signature: [signature] Run Batch:

Analysis Method: 8260 Column: DB624 Detector: 5970MSD

Method File: 8260LL Instrument ID: G Calibration Date: 8-13-99

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 013986 | BFB | 2µl | | | | | | | V1679 |
| 87 | IC389-1 | 10ml | W | | 1 | 1x | 8260 | - | V1715, V1716, V1709, 1020 |
| 88 | 390-5 | | | | 2 | | | | V1660, V1726, V1718 |
| 89 | 389 -10 | | | | 3 | | | | |
| 90 | -20 | | | | 4 | | | | |
| 91 | -35 | | | | 5 | | | | |
| 92 | 390 -50 | | | | 6 | | | | |
| 93 | CC389-20 | | | | 7 | | | | |
| 94 | BS | | | | 8 | | | | |
| 95 | MB | | | | 9 | | | | V1721 |
| 96 | F7244-1 | 10ml | W | 1 | 10 | | | 1 | ✓ MS 672, |
| 97 | -2 | | | | 11 | | | | ✓ PR @ 5X V6390 |
| 98 | -3 | | | | 12 | | | | ✓ |
| 99 | -4 | | | | 13 | | | 1 | ✓ |
| 1400 | -5 | | | | 14 | | | 1 | ✓ |
| 01 | -6 | | | | 15 | | | 1 | ND |
| 02 | -7 | 1ml | | | 16 | 10x | | 1 | ND PR @ 1X |
| 03 | -8 | 10ml | | 3 | 17 | 1x | | 1 | PH ✓ |
| 04 | -9 | 1ml | | 1 | 18 | 10x | | 1 | ✓ RUN @ 2X |
| 05 | -10 | 10ml | | | 19 | 1x | | | ND |
| 06 | -11 | | | | 20 | | | | ✓ RUN @ 50X |
| 07 | -12 | | | | 21 | | | 2 | PR, C.D.-2 |
| 08 | -13 | | | | 22 | | | 2 | PH ✓ RUN @ 10X |
| 09 | -14 | | | | 23 | | | 1 | ND |
| 10 | F7209-1 | | | 1 | 24 | 1x10^4x | 1 | | product PR @ 100,000X |
| 11 | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

0308

t: Designate W for water, L for non-aqueous liquid, S for soil, SOL for solid, and TCLP or SPLP for leachates.

quence Name: C:\HPCHEM\1\SEQUENCE\080200.S
Comment:
Operator: JuanG
Data Path: C:\HPCHEM\1\DATA\080200\
Pre-Seq Cmd:
ost-Seq Cmd:

thod Sections To Run
X) Full Method
) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| ne Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|
| l BFB | 100 | H008740 | BFB | BFB |
| 2 Calibration | 1 | H008741 | 8260S | IC117-2 |
| 3 Calibration | 2 | H008742 | 8260S | IC117-10 |
| 4 Calibration | 3 | H008743 | 8260S | IC117-20 |
| 5 Calibration | 4 | H008744 | 8260S | ICC117-40 |
| 5 Calibration | 5 | H008745 | 8260S | IC119-70 |
| 7 Calibration | 6 | H008746 | 8260S | IC119-100 |
| 8 Calibration | 7 | H008747 | 8260S | CC119-40,5g |
| 9 Spike | 8 | H008748 | 8260S | BS,5g |
| 0 Blank | 9 | H008749 | 8260S | MB,5g |
| Sample | 10 | H008750 | 8260S | F7166-1,5.22g |
| Sample | 11 | H008751 | 8260S | F7114-3,5.19g |
| Sample | 12 | H008752 | 8260S | F7114-5,5.29g |
| Sample | 13 | H008753 | 8260S | F7114-7,5.42g |
| Sample | 14 | H008754 | 8260S | F7114-15,5.28g |
| Sample | 15 | H008755 | 8260S | F7114-16,5.69g |
| Sample | 16 | H008756 | 8260S | F7114-14,4.79g |
| Sample | 17 | H008757 | 8260S | F7114-17,5.54g |
| Sample | 18 | H008758 | 8260S | F7114-18,5.89g |
| Sample | 19 | H008759 | 8260S | F7114-19,5.85g |
| Sample | 20 | H008760 | 8260S | F7114-20,6.43g |
| Sample | 21 | H008761 | 8260S | F7114-21,5.12g |
| Sample | 22 | H008762 | 8260S | F7114-22,5.17g |
| Sample | 23 | H008763 | 8260S | F7114-23,5.80g |
| Sample | 24 | H008764 | 8260S | F7114-25,5.48g |

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | NASPFFSB27, 6-8'BGS | | |
| Lab Sample ID: | F7243-5A | Date Sampled: | 08/02/00 |
| Matrix: | SO - Soil | Date Received: | 08/03/00 |
| Method: | SW846 8260B | Percent Solids: | 95.4 |
| Project: | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | G0014169.D | 1 | 08/19/00 | RAW | 08/10/00 | MS682 | VG395 |
| Run #2 | | | | | | | |

VOA TCL List

| CAS No. | Compound | Result | HW# | MCL | RL | Units | Q |
|---|---|---|---|---|---|---|---|
| 67-64-1 | Acetone | ND | | | 0.050 | mg/l | |
| 71-43-2 | Benzene | ND | D018 | | 0.0020 | mg/l | |
| 75-27-4 | Bromodichloromethane | ND | | | 0.0020 | mg/l | |
| 75-25-2 | Bromoform | ND | | | 0.0020 | mg/l | |
| 108-90-7 | Chlorobenzene | ND | D021 | | 0.0020 | mg/l | |
| 75-00-3 | Chloroethane | ND | | | 0.0020 | mg/l | |
| 67-66-3 | Chloroform | ND | D022 | | 0.0020 | mg/l | |
| 75-15-0 | Carbon disulfide | ND | | | 0.010 | mg/l | |
| 56-23-5 | Carbon tetrachloride | ND | D019 | | 0.0020 | mg/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | | | 0.0020 | mg/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | D029 | | 0.0020 | mg/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | D028 | | 0.0020 | mg/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | | | 0.0020 | mg/l | |
| 124-48-1 | Dibromochloromethane | ND | | | 0.0020 | mg/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | | | 0.0020 | mg/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | | 0.0020 | mg/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | | 0.0020 | mg/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | | 0.0020 | mg/l | |
| 100-41-4 | Ethylbenzene | ND | | | 0.0020 | mg/l | |
| 591-78-6 | 2-Hexanone | ND | | | 0.010 | mg/l | |
| 108-10-1 | 4-Methyl-2-pentanone | ND | | | 0.010 | mg/l | |
| 74-83-9 | Methyl bromide | ND | | | 0.0050 | mg/l | |
| 74-87-3 | Methyl chloride | ND | | | 0.0050 | mg/l | |
| 75-09-2 | Methylene chloride [a] | 0.0262 | | | 0.0050 | mg/l | |
| 78-93-3 | Methyl ethyl ketone | ND | D035 | | 0.010 | mg/l | |
| 100-42-5 | Styrene | ND | | | 0.0020 | mg/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | | 0.0020 | mg/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | | 0.0020 | mg/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | | 0.0020 | mg/l | |
| 127-18-4 | Tetrachloroethylene | ND | D039 | | 0.0020 | mg/l | |
| 108-88-3 | Toluene | ND | | | 0.0020 | mg/l | |
| 79-01-6 | Trichloroethylene | ND | D040 | | 0.0020 | mg/l | |
| 75-01-4 | Vinyl chloride | ND | D043 | | 0.0050 | mg/l | |
| 1330-20-7 | Xylene (total) | ND | | | 0.0060 | mg/l | |

ND = Not detected
MCL = Maximum Contamination Level (not available)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

GC/MS Analysis Log

Date: 8-2-00 Analyst Signature: [signature] Run Batch:

Analysis Method: 8260 Column: DB624 Detector: 5970MSD

Method File: 8260S Instrument ID: H Calibration Date: 8-2-00

0310

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| H008740 | BFB | 2mL | W | - | - | 1X | 3ED | | 2 uL V1679 |
| 41 | IC119-2 | 5g | S | | 1 | 1X | 8260S | - | 5pt 80ppb V1693, V1703, V1692, 10 uL V1614 |
| 42 | -10 | | | | 2 | | | | |
| 43 | -20 | | | | 3 | | | | |
| 44 | ICC -40 | | | | 4 | | | | |
| 45 | -70 | | | | 5 | | | | |
| 46 | -100 | | | | 6 | | | | |
| 47 | CC119-40 | | | | 7 | | | | 20mL .... |
| 48 | BS | | | | 8 | | | | 12.5mL V1660, V1688, V1670 |
| 49 | MB | 5g | | | 9 | | | | ND |
| 50 | F7166-1 | 5.22 | | | 10 | | | 9462 | 88.50% MS 656 V1113 |
| 51 | F7114-3 | 5.19 | | | 11 | | | 9309 | 92.1% MS 659, V1119 |
| 52 | -5 | 5.29 | | | 12 | | | 9312 | ND |
| 53 | -7 | 5.42 | | | 13 | | | 9315 | ND |
| 54 | -15 | 5.28 | | | 14 | | | 9321 | ND 77.9 J. |
| 55 | -16 | 5.69 | | | 15 | | | 9322 | 83 J. |
| 56 | -14 | 4.79 | | | 16 | | | 9817 | ? |
| 57 | -17 | 5.54 | | | 17 | ↓ | | 9325 | 78 J ↓ IS/SS |
| 58 | -19 | 5.89 | | | 18 | 50X | | | MB-4/4a to 5pt - 80ppb D17 75% |
| 59 | -19 | 5.85 | | | 19 | 1X | | 9331 | 80.4 J. |
| 60 | -20 | 6.43 | | | 20 | 50X | | | 88.1 < 89.9 J. ↓ |
| 61 | -21 | 5.12 | | | 21 | 1X | | 9337 | 80.2 J. ↓ IS/SS |
| 62 | -22 | 5.17 | | | 22 | | | 9339 | 81.0 J. |
| 63 | -23 | 5.80 | | | 23 | | | 9342 | 81.0 J. ↓ IS/SS |
| 64 | -25 | 5.48 | | | 24 | | | 9346 | 76.3 |

Notes:

Matrix: Designate W for water, L for non-aqueous liquid, S for soil, SOL for solid, and TCLP or SPLP for leachates.

Sequence Name: C:\HPCHEM\1\SEQUENCE\081100.S
Comment:
Operator: JuanG
Data Path: C:\HPCHEM\1\DATA\081100\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | BFB | 100 | H008881 | BFB | BFB |
| 2 | DailyCal | 10 | H008882 | 8260S | CCI19-40 |
| 3 | Spike | 11 | H008883 | 8260S | BS |
| 4 | Blank | 12 | H008884 | 8260S | MB |
| 5 | Sample | 13 | H008885 | 8260S | F7235-7,5.48g (10uL) |
| 6 | Sample | 14 | H008886 | 8260S | F7240-1,5.00g (50uL) |
| 7 | Sample | 15 | H008887 | 8260S | F7220-1,2.20g (5uL) |
| 8 | Sample | 16 | H008888 | 8260S | F7260-1,5.31g (100uL) |
| 9 | Sample | 17 | H008889 | 8260S | F7279-3,4.29g (10uL) |
| 10 | Sample | 18 | H008890 | 8260S | F7243-2,5.48g (20uL) |
| 11 | Sample | 19 | H008891 | 8260S | F7301-1,5.02g (100uL) |
| 12 | Sample | 20 | H008892 | 8260S | F7316-6,3.89g |
| 13 | Sample | 21 | H008893 | 8260S | F7316-7,4.50g |
| 14 | Sample | 22 | H008894 | 8260S | F7316-8,4.23g |
| 15 | Sample | 23 | H008895 | 8260S | F7316-9,4.03g |
| 16 | Sample | 24 | H008896 | 8260S | F7316-10,4.01g |
| 17 | Sample | 25 | H008897 | 8260S | F7248-1,6.12g |

Date: 8-11-00 Analyst Signature: [signature] Run Batch: _____

Analysis Method: 8260 Column: DB 624 Detector: 5970MSD

Method File: 8260S Instrument ID: H Calibration Date: 8-2-00

0312

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| H008881 | BFB | | | | | | | | |
| 82 | CC119-40 | 5g | S | - | 10 | 1x | 8260 | - | ✓ V1679 |
| 83 | BS | | | | 11 | | | - | ✓ V1715, V1716, V1709, 1014 |
| 84 | MB sec | | | | 12 | | | - | V1660, V1706, V1718 |
| 85 | F7235-7 | 5.48 | | | 13 | 500 | | 9553 | ✓ ND |
| 86 | F7240-1 | 5.00 | | | 14 | 100 | | 9556 | ✓ |
| 87 | F7220-1 | 2.20 | | | 15 | 1000 | | 9511 | ✓ |
| 88 | F7260-1 | 5.31 | | | 16 | 50 | | 9605 | ✓ |
| 89 | F7279-3 | 4.29 | | | 17 | 500 | | 9661 | ✓ RR @ 1000x |
| 90 | F7243-2 | 5.48 | | | 18 | 250 | | 9560 | ✓ MS670 |
| 91 | F7301-1 | 5.02 | | | 19 | 50 | | 9704 | ✓ RR 1x only [illegible] out. VH 122 |
| 92 | F7316-6 | 3.89 | | | 20 | 1 | | 9731 | ND |
| 93 | -7 | 4.50 | | | 21 | | | 9734 | ND |
| 94 | -8 | 4.23 | | | 22 | | | 9737 | ND |
| 95 | -9 | 4.03 | | | 23 | | | 9741 | ND |
| 96 | -10 | 4.01 | | | 24 | | | 9743 | ND |
| 97 | F7248-1 | 6.12 | | | 25 | | | 9580 | ✓ ↑ High ↓ IS/SS |

Notes: _____

Matrix: Designate W for water, L for non-aqueous liquid, S for soil, SOL for solid, and TCLP or SPLP for leachates.

# ORGANICS RUN NARRATIVE

Instrument H Date 8-11-00

Initial Calibration or Initial Continuing Calibration Check met method criteria except as noted:
#8, #13, #14, #20, #35, #38, #51 non detect in samples

Continuing Calibration Check(s) met method criteria except as noted:
N/A

Acceptable Initial and Continuing Calibration Checks bracketed all samples with detected target analytes.
N/A

Method blank met method criteria except as noted:

QC Samples met method criteria except as noted:

Note any unusual run occurrences below:
F7248-1 ↓ IS/SS re analyze

## 5035 Sample Prep Log

0314

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment | |
|---|---|---|---|---|---|---|---|
| 9505 | F7211-1 | M315 | H2O / MeOH | 3.95 | 8-1-00 RS | H:gL | 9:25 AM |
| 9506 | -1 | H318 | H2O / MeOH | 3.32 | | ↓ | |
| 9507 | -1 | ↓ | H2O / MeOH | 4.35 | | | |
| 9508 | F7216-12 | M315 | H2O / MeOH | 4.76 | | | |
| 9509 | -12 | H318 | H2O / MeOH | 4.95 | | | |
| 9510 | -12 | ↓ | H2O / MeOH | 4.95 | | | |
| 9511 | F7220-1 | M315 | H2O / MeOH | 2.20 | | | 2:00 PM |
| 9512 | -1 | H318 | H2O / MeOH | 2.44 | | | |
| 9513 | -1 | ↓ | H2O / MeOH | 2.00 | ↓ | | |
| 9514 | F7222-1 | M315 | H2O / MeOH | 4.46 | 8-2-00 RS | | 9:55 AM |
| 9515 | -1 | H318 | H2O / MeOH | 4.16 | | | |
| 9516 | -1 | ↓ | H2O / MeOH | 4.31 | | | |
| 9517 | F7228-1 | M315 | H2O / MeOH | 4.49 | | 5030A | 1:43 PM |
| 9518 | -1 | H318 | H2O / MeOH | 4.88 | | ↓ | |
| 9519 | -1 | ↓ | H2O / MeOH | 5.20 | | | |
| 9520 | F7228-1 | M315 | H2O / MeOH | 5.18 | | | |
| 9521 | -1 | H318 | H2O / MeOH | 4.72 | | | |
| 9522 | -1 | ↓ | H2O / MeOH | 5.38 | | | |
| 9523 | F7228-2 | M315 | H2O / MeOH | 4.04 | | | |
| 9524 | -2 | H318 | H2O / MeOH | 4.17 | ↓ | | |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

## 5035 Sample Prep Log

0315

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment |
|---|---|---|---|---|---|---|
| 9545 | F7235-4 | M319 | H2O / MeOH | 5.40 | 8-3-00 RJT | 5030A |
| 9546 | -4 | " | H2O / MeOH | 5.02 | | |
| 9547 | F7235-5 | M315 | H2O / MeOH | 5.27 | | |
| 9548 | -5 | M319 | H2O / MeOH | 5.63 | | |
| 9549 | -5 | " | H2O / MeOH | 4.85 | | |
| 9550 | F7235-6 | M315 | H2O / MeOH | 4.98 | | High |
| 9551 | -6 | M319 | H2O / MeOH | 5.03 | | |
| 9552 | -6 | " | H2O / MeOH | 5.15 | | |
| 9553 | F7235-7 | M315 | H2O / MeOH | 5.48 | | High |
| 9554 | -7 | M319 | H2O / MeOH | 4.94 | | |
| 9555 | -7 | " | H2O / MeOH | 4.88 | | |
| 9556 | F7240-1 | M315 | H2O / MeOH | 500 | | High |
| 9557 | F7243-1 | M315 M319 | H2O / MeOH | 4.56 | | |
| 9558 | -1 | M319 " | H2O / MeOH | 4.66 | | |
| 9559 | -1 | M319 M315 | H2O / MeOH | 4.66 | | |
| 9560 | F7243-2 | M315 | H2O / MeOH | 4.58 | | High |
| 9561 | -2 | M319 | H2O / MeOH | 4.66 | | |
| 9562 | -2 | " | H2O / MeOH | 4.66 | | |
| 9563 | F7243-3 | M315 | H2O / MeOH | 4.18 | | |
| 9564 | -3 | M319 | H2O / MeOH | 4.83 | | |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

## 5035 Sample Prep Log

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment |
|---|---|---|---|---|---|---|
| 9565 | F7243-3 | H319 | H2O / MeOH | 4.79 | 8-3-00 RJ | |
| 9566 | F7243-4 | M315 | H2O / MeOH | 5.09 | | |
| 9567 | -4 | H320 | H2O / MeOH | 5.13 | | |
| 9568 | -4 | d | H2O / MeOH | 5.17 | | |
| 9569 | F7243-5 | M315 | H2O / MeOH | 5.01 | | |
| 9570 | -5 | H320 | H2O / MeOH | 4.82 | | |
| 9571 | -5 | d | H2O / MeOH | 4.95 | | |
| 9572 | F7243-6 | M315 | H2O / MeOH | 4.98 | | |
| 9573 | -6 | H320 | H2O / MeOH | 5.00 | | |
| 9574 | -6 | ↓ | H2O / MeOH | 4.96 | | |
| 9575 | F7243-7 | M327 M348 | H2O / MeOH | 5.09 | | P |
| 9576 | -7 | H320 | H2O / MeOH | 5.07 | | |
| 9577 | -7 | ↓ | H2O / MeOH | 4.90 | | |
| 9578 | F7248-1 | M322 | H2O / MeOH | 5.04 | | |
| 9579 | -1 | H320 | H2O / MeOH | 5.64 | | |
| 9580 | -1 | d | H2O / MeOH | 6.12 | | |
| 9581 | F7254-1 | M322 | H2O / MeOH | 5.05 | 8-4-00 | |
| 9582 | -1 | H320 | H2O / MeOH | 5.03 | | |
| 9583 | -1 | d | H2O / MeOH | 5.16 | | |
| 9584 | F7254-2 | M320 | H2O / MeOH | 4.58 | | Hgh |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

12:35 PM

0316

10:30 AM

## 5035 Sample Prep Log

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment |
|---|---|---|---|---|---|---|
| 9605 | F7260-1 | M322 | H2O / MeOH | 5.31 | 8500 PAM | 5030, light! 1237 |
| 9606 | -1 | H321 | H2O / MeOH | 4.67 | | |
| 9607 | -1 | ↓ | H2O / MeOH | 4.88 | | ↓ |
| 9608 | F7263-2 | M322 | H2O / MeOH | 4.67 | | light! |
| 9609 | -2 | H321 | H2O / MeOH | 4.69 | | ↓ |
| 9610 | -2 | H321 | H2O / MeOH | 4.65 | | |
| 11 | F7263-3 | M322 | H2O / MeOH | 4.60 | | |
| 12 | -3 | H321 | H2O / MeOH | 4.43 | | |
| 13 | -3 | H321 | H2O / MeOH | 4.79 | | P ↓ |
| 9614 | F7263-4 | M322 | H2O / MeOH | 4.69 | | light! |
| 15 | -4 | H321 | H2O / MeOH | 4.63 | | ↓ |
| 16 | -4 | ↓ | H2O / MeOH | 4.57 | | ↓ |
| 9617 | F7263-5 | M322 | H2O / MeOH | 4.40 | | light |
| 18 | -5 | H321 | H2O / MeOH | 4.48 | | |
| 19 | -5 | ↓ | H2O / MeOH | 4.43 | | ↓ |
| 9620 | F7263-6 | M322 | H2O / MeOH | 4.36 | | |
| 21 | -6 | H321 | H2O / MeOH | 4.87 | | |
| 22 | -6 | ↓ | H2O / MeOH | 4.34 | | ↓ |
| 9623 | F7263-7 | M322 | H2O / MeOH | 4.91 | | light |
| 24 | -7 | H321 | H2O / MeOH | 3.96 | | |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

0317

## 5035 Sample Prep Log

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment |
|---|---|---|---|---|---|---|
| 9647 | F7221-5 | H323 | (H2O) MeOH | 5.56 | 8/7/06 CP | P |
| 9648 | F7271-5 | H323 | (H2O) MeOH | 5.05 | | P |
| 49 | -5 | M324 | H2O / (MeOH) | 5.76 | | P |
| 50 | -5 | H323 | (H2O) MeOH | 5.01 | | P |
| 51 | -5 | H323 | (H2O) MeOH | 5.82 | | P |
| 52 | F7271-1 | M324 | H2O / (MeOH) | 5.18 | | P |
| 53 | ↓ | H323 | (H2O) MeOH | 5.12 | | P |
| 54 | ↓ | H323 | (H2O) MeOH | 4.69 | ↓ | P |
| 9655 | F7279-1 | M324 | H2O / (MeOH) | 4.12 | 8/8/06 RAM | Light smell / Red |
| 56 | -1 | H323 | (H2O) MeOH | 4.26 | | ↓ |
| 57 | -1 | H325 | (H2O) MeOH | 4.24 | | |
| 9658 | F7279-2 | M324 | H2O / (MeOH) | 4.16 | | |
| 59 | -2 | H325 | (H2O) MeOH | 4.52 | | |
| 60 | -2 | H325 | (H2O) MeOH | 4.29 | | ↓ |
| 9661 | F7279-3 | M324 | H2O / (MeOH) | 4.29 | | High! |
| 62 | -3 | H325 | (H2O) MeOH | 4.66 | | |
| 63 | -3 | ↓ | (H2O) MeOH | 4.55 | | ↓ |
| 9664 | F7284-1 | M324 | H2O / (MeOH) | 4.73 | | High |
| 65 | -1 | H325 | (H2O) MeOH | 4.80 | | |
| 66 | -1 | ↓ | (H2O) MeOH | 4.78 | ↓ | ↓ |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

16:15

0318

16:30

## 5035 Sample Prep Log

0319

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment |
|---|---|---|---|---|---|---|
| 9687 | F7289-11 | H325 | (H2O) / MeOH | 5.08 | CP 8/9/00 | 11:20 |
| 88 | F7295-1 | M324 | H2O / (MeOH) | 5.32 | | High ! |
| 89 | 1 | H325 | (H2O) / MeOH | 5.36 | | 11:40 13:00 |
| 90 | 1 | H326 | (H2O) / MeOH | 5.12 | | |
| 91 | F7295-2 | M324 | H2O / (MeOH) | 4.51 | | High! |
| 92 | 2 | H326 | (H2O) / MeOH | 4.69 | | |
| 93 | 2 | H326 | (H2O) / MeOH | 4.61 | | |
| 94 | F7295-3 | M324 | H2O / (MeOH) | 4.81 | | High! |
| 95 | 3 | H326 | (H2O) / MeOH | 4.41 | | |
| 96 | 3 | H326 | (H2O) / MeOH | 4.61 | | 13:15 HOD |
| 97 | F7294-1 | M324 | H2O / (MeOH) | 2.94 | 8/9/00 CP | |
| 98 | F7294-2 | M324 | H2O / (MeOH) | 5.31 | | C |
| 99 | -3 | M324 | H2O / (MeOH) | 4.16 | | |
| 9700 | -4 | M324 | H2O / (MeOH) | 5.80 | | |
| 01 | -5 | M324 | H2O / (MeOH) | 3.07 | | |
| 02 | -6 | M324 | H2O / (MeOH) | 4.93 | | |
| 03 | -7 | M327 | H2O / (MeOH) | 5.98 | | 14:15 |
| 9704 | F7301-1 | M327 | H2O / (MeOH) | 5.02 | 8/10/00 | Preburn in jar - F 1100 |
| 05 | F7309-1 | M327 | H2O / (MeOH) | 5.46 | | |
| 06 | -1 | H326 | (H2O) / MeOH | 5.24 | | |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

20

## 5035 Sample Prep Log

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment | |
|---|---|---|---|---|---|---|---|
| 9745 | F7316-10 | H328 | (H2O) / MeOH | 4.43 | 000 8/11/00 | P | 1125 |
| 46 | 10 | H328 | (H2O) / MeOH | 3.65 | | P | |
| 47 | 10 | H328 | (H2O) / MeOH | 3.40 | | PC | 1130 |
| 9748 | F7321-1 | M337 | H2O / (MeOH) | 6.17 | 81100 RAM | 5030A | 1200 |
| 49 | -1 | H328 | (H2O) / MeOH | 4.58 | | | |
| 50 | -1 | ↓ | (H2O) / MeOH | 5.79 | | ↓ | |
| 9751 | -2 | M327 | H2O / (MeOH) | 4.98 | | | |
| 52 | 2 | H328 | (H2O) / MeOH | 5.32 | | | |
| 53 | 2 | H328 | (H2O) / MeOH | 5.27 | | | |
| 54 | F7321-3 | M327 | H2O / (MeOH) | 5.43 | | P | |
| 55 | 3 | H328 | (H2O) / MeOH | 5.31 | | P | |
| 56 | 3 | H328 | (H2O) / MeOH | 5.11 | | PC | |
| 57 | F7321-4 | M327 | H2O / (MeOH) | 4.94 | | | |
| 58 | 4 | H328 | (H2O) / MeOH | 4.51 | | PC | |
| 59 | 4 | H328 | (H2O) / MeOH | 4.60 | | C | |
| 60 | F7321-5 | M327 | H2O / (MeOH) | 5.42 | 1 Encore Empty | C | |
| 61 | 5 | H328 | (H2O) / MeOH | 5.61 | | | |
| 62 | F7331-1 | M327 | H2O / (MeOH) | 4.61 | | | |
| 63 | -1 | H328 | (H2O) / MeOH | 4.43 | | | |
| 64 | -1 | H328 | (H2O) / MeOH | 4.47 | | | 1415 |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

## 5035 Sample Prep Log

0321

| Serial # | Sample # | Cont. Lot | Preserv. | Sample Wt. (g) | Date/Init. | Comment |
|---|---|---|---|---|---|---|
| 9725 | F7308 -8 | H326 | (H2O) / MeOH | 5.17 g | 8/11/00 RHH | high! |
| 26 | ↓ -8 | H328 | (H2O) / MeOH | 4.85 | | |
| 9727 | F7308-9 | M327 | H2O / (MeOH) | 5.04 | | |
| 28 | -9 | H328 | (H2O) / MeOH | 5.18 | | |
| 29 | ↓ -9 | ↓ | (H2O) / MeOH | 4.56 | ↓ | ↓ 1340 |
| 9730 | F7316 - 6 | M327 | H2O / (MeOH) | 4.13 | 8/11/00 CAP | PC 1045 |
| 31 | 6 | H328 | (H2O) / MeOH | 3.89 | | PC |
| 32 | ↓ 6 | H328 | (H2O) / MeOH | 1.15 | | PC |
| 33 | F7316 - 7 | M327 | H2O / (MeOH) | 4.56 | | P |
| 34 | 7 | H328 | (H2O) / MeOH | 4.60 | | P |
| 35 | ↓ 7 | H328 | (H2O) / MeOH | 3.54 | | P |
| 36 | F7316 - 8 | M327 | H2O / (MeOH) | 4.33 | | PC |
| 37 | 8 | H328 | (H2O) / MeOH | 4.23 | | P |
| 38 | ↓ 8 | H328 | (H2O) / MeOH | 4.07 | | PC |
| 39 | F7316 - 5 | M327 | H2O / (MeOH) | ~~4.01~~ 3.88 | | PC |
| 40 | 5 | H328 | (H2O) / MeOH | 3.67 | | PC |
| 41 | ↓ 5 | H328 | (H2O) / MeOH | 4.03 | | PC |
| 42 | F7316 - 10 | M327 | H2O / (MeOH) | 4.35 | | P |
| 43 | | H328 | (H2O) / MeOH | 4.01 | | PC |
| 44 | ↓ | H328 | (H2O) / MeOH | 3.51 | | P 1125 |

Comment: C for sampler incorrectly capped; P for plunger not locked for shipment; F for sampler not filled completely.

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F7243
**Account:** TETRFLTA Tetra-Tech, NUS
**Project:** NAS Pensacola

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F7313-2MS | G0014089.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |
| F7313-2MSD | G0014090.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |
| F7313-2 [a] | G0014075.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F7243-8

| CAS No. | Compound | F7313-2 ug/l | Q | Spike ug/l | MS ug/l | MS % | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | | 25 | 24.6 | 98 | 23.5 | [illegible] | [illegible] | 61-141/16 |
| 75-27-4 | Bromodichloromethane | ND | | 25 | 17.5 | 70* | 16.5 | [illegible] | [illegible] | 72-125/10 |
| 75-25-2 | Bromoform | ND | | 25 | 11.2 | 45* | 10.6 | [illegible] | [illegible] | 62-126/15 |
| 108-90-7 | Chlorobenzene | ND | | 25 | 22.0 | 88 | 21.6 | [illegible] | [illegible] | 75-125/10 |
| 75-00-3 | Chloroethane | ND | | 25 | 29.2 | 117 | 26.3 | [illegible] | [illegible] | 58-134/12 |
| 67-66-3 | Chloroform | ND | | 25 | 22.8 | 91 | 21.6 | [illegible] | [illegible] | 73-125/10 |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | | 125 | 110 | 88 | 101 | [illegible] | [illegible] | 5-191/73 |
| 56-23-5 | Carbon tetrachloride | ND | | 25 | 18.5 | 74 | 18.1 | [illegible] | [illegible] | 62-126/17 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 25 | 22.5 | 90 | 21.3 | [illegible] | [illegible] | 75-125/10 |
| 75-35-4 | 1,1-Dichloroethylene | ND | | 25 | 26.6 | 106 | 25.0 | [illegible] | [illegible] | 73-125/10 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 25 | 21.6 | 86 | 20.5 | [illegible] | [illegible] | 66-130/18 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 25 | 24.6 | 98 | 23.6 | [illegible] | [illegible] | 75-125/10 |
| 124-48-1 | Dibromochloromethane | ND | | 25 | 15.1 | 60* | 14.5 | [illegible] | [illegible] | 75-125/11 |
| 75-71-8 | Dichlorodifluoromethane | ND | | 25 | 31.4 | 126 | 28.9 | [illegible] | [illegible] | 22-165/23 |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | | 25 | 24.6 | 98 | 23.5 | [illegible] | [illegible] | 65-131/11 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 25 | 14.2 | 57* | 13.3 | [illegible] | [illegible] | 58-136/13 |
| 541-73-1 | m-Dichlorobenzene | ND | | 25 | 22.2 | 89 | 21.1 | [illegible] | [illegible] | 75-125/10 |
| 95-50-1 | o-Dichlorobenzene | ND | | 25 | 21.8 | 87 | 20.5 | [illegible] | [illegible] | 75-125/10 |
| 106-46-7 | p-Dichlorobenzene | ND | | 25 | 23.3 | 93 | 21.7 | [illegible] | [illegible] | 75-125/10 |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | 25 | 20.8 | 83 | 19.1 | [illegible] | [illegible] | 65-133/10 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 25 | 14.6 | 58 | 13.6 | [illegible] | [illegible] | 49-139/19 |
| 100-41-4 | Ethylbenzene | ND | | 25 | 25.5 | 102 | 24.5 | [illegible] | [illegible] | 67-128/10 |
| 74-83-9 | Methyl bromide | ND | | 25 | 17.6 | 70 | 17.1 | [illegible] | [illegible] | 32-149/27 |
| 74-87-3 | Methyl chloride | ND | | 25 | 30.4 | 122 | 27.0 | [illegible] | [illegible] | 59-143/18 |
| 75-09-2 | Methylene chloride | ND | | 25 | 23.4 | 94 | 22.1 | [illegible] | [illegible] | 73-125/11 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 25 | 21.4 | 86 | 20.0 | [illegible] | [illegible] | 72-125/14 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 25 | 22 | 88 | 21.6 | [illegible] | [illegible] | 72-125/10 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 25 | 23.5 | 94 | 22.0 | [illegible] | [illegible] | 68-125/12 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 25 | 21.7 | 87 | 21.7 | [illegible] | [illegible] | 75-125/12 |
| 127-18-4 | Tetrachloroethylene | ND | | 25 | 23.3 | 93 | 22.6 | [illegible] | [illegible] | 75-125/10 |
| 108-88-3 | Toluene | ND | | 25 | 24.0 | 96 | 23.5 | [illegible] | [illegible] | 72-125/10 |
| 79-01-6 | Trichloroethylene | ND | | 25 | 22.9 | 92 | 22.8 | [illegible] | [illegible] | 72-125/10 |
| 75-69-4 | Trichlorofluoromethane | ND | | 25 | 27.5 | 110 | 25.5 | [illegible] | [illegible] | 37-126/13 |
| 75-01-4 | Vinyl chloride | ND | | 25 | 31.9 | 128 | 28.2 | [illegible] | [illegible] | 63-138/17 |
| 1330-20-7 | Xylene (total) | ND | | 75 | 75.4 | 100 | 73.3 | [illegible] | [illegible] | 69-127/10 |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F7243
**Account:** TETRFLTA Tetra-Tech, NUS
**Project:** NAS Pensacola

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F7313-2MS | G0014089.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |
| F7313-2MSD | G0014090.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |
| F7313-2 [a] | G0014075.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F7243-8

| CAS No. | Surrogate Recoveries | MS | MSD | F7313-2 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 93% | 89% | 86% | 80-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 92% | 90% | 88% | 69-128% |
| 2037-26-5 | Toluene-D8 | 95% | 93% | 92% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 103% | 96% | 100% | 80-120% |

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.

# Blank Spike Summary



**Job Number:** F7243
**Account:** TETRFLTA Tetra-Tech, NUS
**Project:** NAS Pensacola

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VG391-BS3 | G0014069.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F7243-8

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 25 | 23.0 | 92 | 61-141 |
| 75-27-4 | Bromodichloromethane | 25 | 20.7 | 83 | 72-125 |
| 75-25-2 | Bromoform | 25 | 20.2 | 81 | 62-126 |
| 108-90-7 | Chlorobenzene | 25 | 23.2 | 93 | 75-125 |
| 75-00-3 | Chloroethane | 25 | 25.5 | 102 | 58-134 |
| 67-66-3 | Chloroform | 25 | 20.7 | 83 | 73-125 |
| 110-75-8 | 2-Chloroethyl vinyl ether | 125 | 99.5 | 80 | 5-191 |
| 56-23-5 | Carbon tetrachloride | 25 | 21.9 | 88 | 62-126 |
| 75-34-3 | 1,1-Dichloroethane | 25 | 20.6 | 82 | 75-125 |
| 75-35-4 | 1,1-Dichloroethylene | 25 | 22.7 | 91 | 73-125 |
| 107-06-2 | 1,2-Dichloroethane | 25 | 20.1 | 80 | 66-130 |
| 78-87-5 | 1,2-Dichloropropane | 25 | 23.2 | 93 | 75-125 |
| 124-48-1 | Dibromochloromethane | 25 | 20.7 | 83 | 75-125 |
| 75-71-8 | Dichlorodifluoromethane | 25 | 29.3 | 117 | 22-165 |
| 156-59-2 | cis-1,2-Dichloroethylene | 25 | 23.3 | 93 | 65-131 |
| 10061-01-5 | cis-1,3-Dichloropropene | 25 | 18.7 | 75 | 58-136 |
| 541-73-1 | m-Dichlorobenzene | 25 | 22.6 | 90 | 75-125 |
| 95-50-1 | o-Dichlorobenzene | 25 | 22.1 | 88 | 75-125 |
| 106-46-7 | p-Dichlorobenzene | 25 | 22.5 | 90 | 75-125 |
| 156-60-5 | trans-1,2-Dichloroethylene | 25 | 19.0 | 76 | 65-133 |
| 10061-02-6 | trans-1,3-Dichloropropene | 25 | 18.4 | 74 | 49-139 |
| 100-41-4 | Ethylbenzene | 25 | 24.3 | 97 | 67-128 |
| 74-83-9 | Methyl bromide | 25 | 22.3 | 89 | 32-149 |
| 74-87-3 | Methyl chloride | 25 | 27.0 | 108 | 59-143 |
| 75-09-2 | Methylene chloride | 25 | 20.7 | 83 | 73-125 |
| 1634-04-4 | Methyl Tert Butyl Ether | 25 | 19.6 | 78 | 72-125 |
| 71-55-6 | 1,1,1-Trichloroethane | 25 | 21.5 | 86 | 72-125 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 25 | 22.2 | 89 | 68-125 |
| 79-00-5 | 1,1,2-Trichloroethane | 25 | 21.1 | 84 | 75-125 |
| 127-18-4 | Tetrachloroethylene | 25 | 22.6 | 90 | 75-125 |
| 108-88-3 | Toluene | 25 | 24.2 | 97 | 72-125 |
| 79-01-6 | Trichloroethylene | 25 | 22.2 | 89 | 72-125 |
| 75-69-4 | Trichlorofluoromethane | 25 | 26.2 | 105 | 37-126 |
| 75-01-4 | Vinyl chloride | 25 | 29.3 | 117 | 63-138 |
| 1330-20-7 | Xylene (total) | 75 | 73.1 | 97 | 69-127 |

# Blank Spike Summary



**Job Number:** F7243
**Account:** TETRFLTA Tetra-Tech, NUS
**Project:** NAS Pensacola

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VG391-BS3 | G0014069.D | 1 | 08/16/00 | RAW | n/a | n/a | VG391 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F7243-8

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 88% | 80-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 88% | 69-128% |
| 2037-26-5 | Toluene-D8 | 97% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 80-120% |

Sequence: C:\HPCHEM\1\SEQUENCE\0727PAHA.S GAA108 

| Run | Vial | Method | Datafile | SeqTable | Calib:RF:RT | Sample Name |
|---|---|---|---|---|---|---|
| 1 | 1 | 8310_46 | AA003250 | 01:01 | | 8310 L1 STDs811 |
| 2 | 2 | 8310_46 | AA003251 | 02:01 | | 8310 L2 STD s810 |
| 3 | 3 | 8310_46 | AA003252 | 03:01 | | 8310 L3 STD s809 |
| 4 | 4 | 8310_46 | AA003253 | 04:01 | | 8310 L5 STD s808 |
| 5 | 5 | 8310_46 | AA003254 | 05:01 | | 8310 L5 STD s807 |
| 6 | 6 | 8310_46 | AA003255 | 06:01 | | 8310 L6 STD s806 |
| 7 | 7 | 8310_46 | AA003256 | 07:01 | | 8310 L4 STD s808 |
| 8 | 8 | 8310_46 | AA003257 | 08:01 | | 8310 20 ppm ICV |
| 9 | 9 | 8310_46 | AA003258 | 09:01 | | OP1872-MB |
| 10 | 10 | 8310_46 | AA003259 | 10:01 | | OP1872-BS |
| 11 | 11 | 8310_46 | AA003260 | 11:01 | | F7115-1 |
| 12 | 12 | 8310_46 | AA003261 | 12:01 | | F7120-1 |
| 13 | 13 | 8310_46 | AA003262 | 13:01 | | F7122-2 |
| 14 | 14 | 8310_46 | AA003263 | 14:01 | | F7122-5 |
| 15 | 15 | 8310_46 | AA003264 | 15:01 | | F7122-6 |
| 16 | 16 | 8310_46 | AA003265 | 16:01 | | F7122-7 |
| 17 | 17 | 8310_46 | AA003266 | 17:01 | | F7122-8 |
| 18 | 8 | 8310_46 | AA003267 | 18:01 | | 8310 20 ppm ICV |
| 19 | 18 | 8310_46 | AA003268 | 19:01 | | F7138-1 |
| 20 | 19 | 8310_46 | AA003269 | 20:01 | | F7138-1,4x |
| 21 | 20 | 8310_46 | AA003270 | 21:01 | | F7138-2,5x |
| 22 | 21 | 8310_46 | AA003271 | 22:01 | | F7138-3 |
| 23 | 22 | 8310_46 | AA003272 | 23:01 | | F7138-4 |
| 24 | 23 | 8310_46 | AA003273 | 24:01 | | F7138-5 |
| 25 | 24 | 8310_46 | AA003274 | 25:01 | | F7139-1,10x |
| 26 | 25 | 8310_46 | AA003275 | 26:01 | | F7139-2,5x |
| 27 | 8 | 8310_46 | AA003276 | 27:01 | | 8310 20 ppm ICV |
| 28 | 26 | 8310_46 | AA003277 | 28:01 | | F7139-3,10x |
| 29 | 27 | 8310_46 | AA003278 | 29:01 | | F7139-4,5x |
| 30 | 28 | 8310_46 | AA003279 | 30:01 | | F7139-5,5x |
| 31 | 29 | 8310_46 | AA003280 | 31:01 | | F7139-6,5x |
| 32 | 30 | 8310_46 | AA003281 | 32:01 | | F7139-7 |
| 33 | 31 | 8310_46 | AA003282 | 33:01 | | F7139-8 |
| 34 | 32 | 8310_46 | AA003283 | 34:01 | | OP1872-MS |
| 35 | 33 | 8310_46 | AA003284 | 35:01 | | OP1872-MSD |
| 36 | 8 | 8310_46 | AA003285 | 36:01 | | 8310 20 ppm ICV |

# HPLC ANALYSIS LOG

DATE: 07/27/00 A
COLUMN TYPE: Pinnacle PAH
INSTRUMENT: HPLC1

METHODS: 8310
METHOD FILE: 8310_46
CALIB. DATE: 07/27/00

ANALYST: Kelsey
RUN BATCH: GAA108
AMOUNT INJECTED: 15 ul

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| AA00 3250 | 1 | 8310 L1 STD | 8310 | | S811 | | 1.0 | ✓ | ✓ |
| 3251 | 2 | L2 | | | S810 | | | ✓ | ✓ |
| 3252 | 3 | L3 | | | S809 | | | ✓ | ✓ |
| 3253 | 4 | L5 | | | S808 | | | ✓ | ✓ |
| 3254 | 5 | L5 | | | S807 | | | ✓ | ✓ |
| 3255 | 6 | L6 | | | S806 | | | ✓ | ✓ |
| 3256 | 7 | L4 | | | S808 | | | ✓ | ✓ |
| 3257 | 8 | 8310 20 ppm ICV | | | S891 | | | ✓ | passes |
| 3258 | 9 | OP1872-MB | | 1000/1mL | W | OP1872 | | ✓ | BDL |
| 3259 | 10 | -BS | | ↓ | ↓ | ↓ | | ✓ | ✓ |
| 3260 | 11 | F7115-1 | | 990/1mL | | | | ✓ | BDL |
| 3261 | 12 | F7120-1 | | 910/1mL | | | | ✓ | |
| 3262 | 13 | F7122-2 | | 920/1mL | | | | ✓ | |
| 3263 | 14 | -5 | | 890/1mL | | | | ✓ | |
| 3264 | 15 | -6 | | 920/1mL | | | | ✓ | |
| 3265 | 16 | -7 | | 810/1mL | | | | ✓ | |
| 3266 | 17 | -8 | | 910/1mL | ↓ | | | ✓ | ↓ |
| 3267 | 8 | 8310 20 ppm ICV | | — | S891 | | | ✓ | Rerun sample |
| 3268 | 18 | F7138-1 | | 980/1mL | W | | ↓ | ✓ | ✓ |
| 3269 | 19 | -1,4x | | ↓ | ↓ | | 4.0 | ✓ | ✓ |
| 3270 | 20 | -2,5x | | ↓ | ↓ | | 5.0 | ✓ | RL @ 2x |
| 3271 | 21 | -3 | | ↓ | ↓ | | 1.0 | ✓ | BDL |
| 3272 | 22 | -4 | | 970/1mL | ↓ | | ↓ | ✓ | RL @ 2x |
| 3273 | 23 | -5 | ↓ | 980/1mL | ↓ | ↓ | ↓ | ✓ | BDL |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Analyst's Signature: [signature]

COLUMN TYPE: Pinnacle PAH
INSTRUMENT: HPLC1

METHOD FILE: [illegible]
CALIB. DATE: [illegible]

RUN LAT: [illegible]
AMOUNT INJECTED: [illegible]

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| AA00 3274 | 24 | F7139-1,10x | 8310 | 990/1mL | W | OP1872 | 10.0 | ✓ | RR @ 1x |
| 3275 | 25 | -2, 5x | ↓ | 980/1mL | ↓ | ↓ | 5.0 | ✓ | RR @ 4x |
| 3276 | 8 | 8310 20 ppm ICV | ↓ | — | S891 | ↓ | 1.0 | ✓ | Rerun samples |
| 3277 | 26 | F7139-3, 10x | ↓ | 980/1mL | W | ↓ | 10.0 | ✓ | RR @ 2x |
| 3278 | 27 | -4, 5x | ↓ | 990/1mL | ↓ | ↓ | 5.0 | ✓ | RR @ 3x |
| 3279 | 28 | -5, ↓ | ↓ | 950/1mL | ↓ | ↓ | ↓ | ✓ | RR @ 4x |
| 3280 | 29 | -6, ↓ | ↓ | 980/1mL | ↓ | ↓ | ↓ | ✓ | ✓ |
| 3281 | 30 | -7 | ↓ | 940/1mL | ↓ | ↓ | 1.0 | ✓ | BDL |
| 3282 | 31 | -8 | ↓ | 980/1mL | ↓ | ↓ | ↓ | ✓ | ✓ |
| 3283 | 32 | OP1872-MS | ↓ | 490/1mL | ↓ | ↓ | ↓ | ✓ | ✓ |
| 3284 | 33 | -MSD | ↓ | ↓ | ↓ | ↓ | ↓ | ✓ | ✓ |
| 3285 | 8 | 8310 20 ppm ICV | ↓ | — | S891 | ↓ | ↓ | ✓ | Rerun samples |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil
Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

Partial Sequence: C:\HPCHEM\1\SEQUENCE\0815PAH.S 

| Sel | Run | Vial | Method | Datafile | SeqTable | Calib:RF:RT | Sample Name |
|---|---|---|---|---|---|---|---|
| No | 1 | 1 | 8310_46 | AA003763 | 01:01 | | 8310 L4 CCV s808 |
| No | 2 | 2 | 8310_46 | AA003764 | 02:01 | | op1920-mb |
| No | 3 | 3 | 8310_46 | AA003765 | 03:01 | | f7243-2,5 |
| No | 4 | 4 | 8310_46 | AA003766 | 04:01 | | f7254-2,5 |
| No | 5 | 5 | 8310_46 | AA003767 | 05:01 | | f7254-4,5 |
| No | 6 | 6 | 8310_46 | AA003768 | 06:01 | | f7254-7,5 |
| No | 7 | 7 | 8310_46 | AA003769 | 07:01 | | f7254-8,10*2 |
| No | 8 | 8 | 8310_46 | AA003770 | 08:01 | | f7243-2 |
| No | 9 | 9 | 8310_46 | AA003771 | 09:01 | | f7254-2 |
| No | 10 | 10 | 8310_46 | AA003772 | 10:01 | | f7254-4,2 |
| No | 11 | 1 | 8310_46 | AA003773 | 11:01 | | ccv |
| No | 12 | 11 | 8310_46 | AA003774 | 12:01 | | op1933-mb |
| No | 13 | 12 | 8310_46 | AA003775 | 13:01 | | f7279-3,5 |
| No | 14 | 13 | 8310_46 | AA003776 | 14:01 | | f7263-2,20 |
| No | 15 | 14 | 8310_46 | AA003777 | 15:01 | | f7263-3,20 |
| No | 16 | 15 | 8310_46 | AA003778 | 16:01 | | f7263-6,2 |
| No | 17 | 16 | 8310_46 | AA003779 | 17:01 | | f7263-8,5 |
| No | 18 | 17 | 8310_46 | AA003780 | 18:01 | | f7263-9,2 |
| No | 19 | 18 | 8310_46 | AA003781 | 19:01 | | f7263-10,20 |
| No | 20 | 1 | 8310_46 | AA003782 | 20:01 | | ccv |
| No | 21 | 19 | 8310_46 | AA003783 | 21:01 | | f7284-1,20 |
| No | 22 | 20 | 8310_46 | AA003784 | 22:01 | | f7284-3 |
| No | 23 | 21 | 8310_46 | AA003785 | 23:01 | | f7284-4,4 |
| No | 24 | 22 | 8310_46 | AA003786 | 24:01 | | f7284-5,20 |
| No | 25 | 23 | 8310_46 | AA003787 | 25:01 | | f7263-8,2 |
| No | 26 | 1 | 8310_46 | AA003788 | 26:01 | | ccv |
| No | 27 | 1 | 8310_46 | AA003789 | 27:01 | | ccv |
| No | 28 | 24 | 8310_46 | AA003790 | 28:01 | | op1945-LBS |
| No | 29 | 25 | 8310_46 | AA003791 | 29:01 | | op1945-LB |
| No | 30 | 26 | 8310_46 | AA003792 | 30:01 | | f7243-5a |
| No | 31 | 27 | 8310_46 | AA003793 | 31:01 | | f7243-7a |
| No | 32 | 28 | 8310_46 | AA003794 | 32:01 | | op1945-LS |
| No | 33 | 1 | 8310_46 | AA003795 | 33:01 | | CCV |
| No | 34 | 29 | 8310_46 | AA003796 | 34:01 | | op1938-bs |
| No | 35 | 30 | 8310_46 | AA003797 | 35:01 | | op1938-mb |
| No | 36 | 31 | 8310_46 | AA003798 | 36:01 | | f7308-1 |
| No | 37 | 32 | 8310_46 | AA003799 | 37:01 | | f7308-2 |
| No | 38 | 33 | 8310_46 | AA003800 | 38:01 | | f7308-5 |
| No | 39 | 34 | 8310_46 | AA003801 | 39:01 | | f7308-6 |
| No | 40 | 2 | 8310_46 | AA003802 | 40:01 | | op1938-ms |
| No | 41 | 3 | 8310_46 | AA003803 | 41:01 | | op1938-msd |
| No | 42 | 1 | 8310_46 | AA003804 | 42:01 | | ccv |
| No | 43 | 4 | 8310_46 | AA003805 | 43:01 | | f7308-3,20*2 |
| No | 44 | 5 | 8310_46 | AA003806 | 44:01 | | f7308-4,20*2 |
| No | 45 | 6 | 8310_46 | AA003807 | 45:01 | | f7308-7,20*2 |
| No | 46 | 7 | 8310_46 | AA003808 | 46:01 | | f7308-8,20*2 |
| No | 47 | 8 | 8310_46 | AA003809 | 47:01 | | f7308-9,10 |
| No | 48 | 9 | 8310_46 | AA003810 | 48:01 | | f7295-1,10 |
| No | 49 | 10 | 8310_46 | AA003811 | 49:01 | | f7295-2,10 |
| No | 50 | 11 | 8310_46 | AA003812 | 50:01 | | f7295-3,10*2 |
| No | 51 | 1 | 8310_46 | AA003813 | 51:01 | | CCV |
| No | 52 | 1 | 8310_46 | AA003814 | 52:01 | | CCV |

UMN TYPE: Rtx PAH | METHOD FILE: 8310-46 | RUN BATCH: GAA120
RUMENT: HPLC1 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 15 ul

| A FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 03763 | 1 | LYCCV | 8310 | | | | | ✓ | Passed |
| 64 | 2 | OP1920-MB | | 30/5 | S | OP1920 | 1X | ✓ | ND |
| 65 | 3 | F7243-2 | | | | | 5X | MR | 1X |
| 66 | 4 | F7254-2 | | | | | 5X | MR | 1X |
| 67 | 5 | 4 | | | | | 5X | MR | 2X |
| 68 | 6 | 7 | | | | | 5X | ✓ | ✓ |
| 69 | 7 | 8 | | 30/10 | | | 10 (2) | ✓ | ✓ |
| 70 | 8 | F7243-2 | | 30/5 | | | 1X | ✓ | ✓ |
| 71 | 9 | F7254-2 | | | | | 1X | ✓ | ✓ |
| 72 | 10 | 4 | | | | | 2 | ✓ | ✓ |
| 73 | 1 | CCV | | | | | | ✓ | Passed |
| 74 | 11 | OP1933-MB | | 30/5 | S | OP1933 | 1X | ✓ | ND |
| 75 | 12 | F7279-3 | | | | | 5X | ✓ | ✓ PBAA 2X |
| 76 | 13 | F7263-2 | | | | | 20X | ✓ | ✓ |
| 77 | 14 | 3 | | | | | 20X | ✓ | ✓ |
| 78 | 15 | 6 | | | | | 2X | ✓ | ✓ |
| 79 | 16 | 8 | | | | | 5X | MR | 2X |
| 80 | 17 | 9 | | | | | 2X | ✓ | ✓ Double SS |
| 81 | 18 | 10 | | | | | 20X | ✓ | ✓ |
| 82 | 1 | CCV | | | | | | ✓ | Passed |
| 83 | 19 | F7284-1 | | | | | 20X | ✓ | ✓ |
| 84 | 20 | F7284-3 | | | | | 1X | ✓ | RPL |
| 85 | 21 | 4 | | | | | 4X | ✓ | ✓ |
| 86 | 22 | 5 | | | | | 20X | ✓ | ✓ |

ix: Designate "W" for Water, "S" for Soil, and "O" for Oil
ple Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: _____

# HPLC ANALYSIS LOG

| | | | |
|---|---|---|---|
| 8/15/00 | METHODS: 8310 | ANALYST: [illegible] | |
| IN TYPE: Pin PAH | METHOD FILE: 8310-46 | RUN BATCH: GAH120 | |
| UMENT: HPLC1 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 15 ul | |

| FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 287 | 23 | F7263-8 | 8310 | 30/5ml | S | OP1933 | 2x | ✓ | ✓ |
| 88 | 1 | CCV | | | | | | ✓ | Passed |
| 89 | 1 | CCV | | | | | | ✓ | " |
| 90 | 24 | OP1945-LBS | | 100/1ml | Leach | OP1945 | 1x | ✓ | ✓ |
| 91 | 25 | LB | | | | | | ✓ | ND |
| 92 | 26 | F7243-5a | | | | | | ✓ | ND |
| 93 | 27 | 7a | | | | | | ✓ | ND |
| 94 | 28 | OP1945-LS | | | | | | ✓ | ✓ |
| 95 | 1 | CCV | | | | | | ✓ | Passed |
| 96 | 29 | OP1938-BS | | | S | OP1938 | 1x | ✓ | ✓ |
| 97 | 30 | MB | | | | | | ✓ | ND |
| 98 | 31 | F7308-1 | | 30/5ml | | | | ✓ | ND |
| 99 | 32 | 2 | | | | | | ✓ | ND |
| 800 | 33 | 5 | | | | | | ✓ | ND |
| 01 | 34 | 6 | | | | | | ✓ | ND |
| 02 | 2 | OP1938-MS | | 30/5ml | | | | ✓ | ✓ |
| 03 | 3 | -MSD | | | | | | ✓ | ✓ |
| 04 | 1 | CCV | | | | | | ✓ | Passed |
| 05 | 4 | F7308-3 | | 30/10ml | | | (2)20x | [illegible] | 50x ↑ BAA to Chry |
| 06 | 5 | 4 | | 30/10ml | | | | ✓ | " " |
| 07 | 6 | 7 | | 30/10ml | | | | [illegible] | 50x ↑ BAA to Chry |
| 08 | 7 | 8 | | 30/10ml | | | | ✓ | ✓ Matrix ↑ BAA to Chry |
| 09 | 8 | 9 | | 30/5 | | | 10x | ✓ | ✓ ↑ BAA to Chry |
| 10 | 9 | ~~F7395~~ -1 F7295-1 | | | | | | [illegible] | 25x |

Designate "W" for Water, "S" for Soil, and "O" for Oil

Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| UMN TYPE: Pin PAH | | | METHOD FILE: 8310-70 | | | | RUN BATCH: [illegible] | | |
| RUMENT: HPLC1 | | | CALIB. DATE: 7/27/00 | | | | AMOUNT INJECTED: 15 ul | | |
| FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
| 03811 | 10 | F7295-2 | 8310 | 30/5 | S | OP1938 | 10 | ✓ | ✓ |
| 12 | 11 | 3 | | 30/10 | ↓ | ↓ | 10 (2) | ✓ | ✓ |
| 13 | 1 | CCV | ↓ | | | | | ✓ | Passed |
| 14 | 1 | CCV | | | | | | ✓ | Passed |

: Designate "W" for Water, "S" for Soil, and "O" for Oil

e Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

407

artial Sequence: C:\HPCHEM\1\SEQUENCE\0814PAH.S 

| Sel | Run | Vial | Method | Datafile | SeqTable | Calib:RF:RT | Sample Name |
|---|---|---|---|---|---|---|---|
| No | 1 | 1 | 8310_46 | AA003710 | 01:01 | | 8310 L4 CCV s808 |
| No | 2 | 2 | 8310_46 | AA003711 | 02:01 | | op1920-bs |
| No | 3 | 3 | 8310_46 | AA003712 | 03:01 | | op1920-mb |
| No | 4 | 4 | 8310_46 | AA003713 | 04:01 | | f7231-1 |
| No | 5 | 5 | 8310_46 | AA003714 | 05:01 | | f7243-1 |
| No | 6 | 6 | 8310_46 | AA003715 | 06:01 | | op1920-ms |
| No | 7 | 7 | 8310_46 | AA003716 | 07:01 | | op1920-msd |
| No | 8 | 8 | 8310_46 | AA003717 | 08:01 | | f7243-2,50 |
| No | 9 | 9 | 8310_46 | AA003718 | 09:01 | | f7243-3 |
| No | 10 | 10 | 8310_46 | AA003719 | 10:01 | | f7243-4 |
| No | 11 | 11 | 8310_46 | AA003720 | 11:01 | | f7243-5 |
| No | 12 | 1 | 8310_46 | AA003721 | 12:01 | | ccv |
| No | 13 | 12 | 8310_46 | AA003722 | 13:01 | | f7243-6 |
| No | 14 | 13 | 8310_46 | AA003723 | 14:01 | | f7243-7 |
| No | 15 | 14 | 8310_46 | AA003724 | 15:01 | | f7254-1 |
| No | 16 | 15 | 8310_46 | AA003725 | 16:01 | | f7254-2,50 |
| No | 17 | 16 | 8310_46 | AA003726 | 17:01 | | f7254-3 |
| No | 18 | 17 | 8310_46 | AA003727 | 18:01 | | f7254-4,50 |
| No | 19 | 18 | 8310_46 | AA003728 | 19:01 | | f7254-5 |
| No | 20 | 19 | 8310_46 | AA003729 | 20:01 | | f7254-6 |
| No | 21 | 20 | 8310_46 | AA003730 | 21:01 | | f7254-7,100 |
| No | 22 | 21 | 8310_46 | AA003731 | 22:01 | | f7254-8,100*2 |
| No | 23 | 1 | 8310_46 | AA003732 | 23:01 | | ccv |
| No | 24 | 1 | 8310_46 | AA003733 | 24:01 | | ccv |
| No | 25 | 22 | 8310_46 | AA003734 | 25:01 | | op1933-bs |
| No | 26 | 23 | 8310_46 | AA003735 | 26:01 | | op1933-mb |
| No | 27 | 24 | 8310_46 | AA003736 | 27:01 | | f7279-1 |
| No | 28 | 25 | 8310_46 | AA003737 | 28:01 | | f7279-2 |
| No | 29 | 26 | 8310_46 | AA003738 | 29:01 | | f7279-3,10 |
| No | 30 | 27 | 8310_46 | AA003739 | 30:01 | | f7289-9 |
| No | 31 | 28 | 8310_46 | AA003740 | 31:01 | | f7289-10 |
| No | 32 | 29 | 8310_46 | AA003741 | 32:01 | | f7289-11 |
| No | 33 | 30 | 8310_46 | AA003742 | 33:01 | | op1933-ms |
| No | 34 | 31 | 8310_46 | AA003743 | 34:01 | | op1933-msd |
| No | 35 | 1 | 8310_46 | AA003744 | 35:01 | | ccv |
| No | 36 | 32 | 8310_46 | AA003745 | 36:01 | | f7263-2,100 |
| No | 37 | 33 | 8310_46 | AA003746 | 37:01 | | f7263-3,100 |
| No | 38 | 34 | 8310_46 | AA003747 | 38:01 | | f7263-4 |
| No | 39 | 2 | 8310_46 | AA003748 | 39:01 | | f7263-5 |
| No | 40 | 3 | 8310_46 | AA003749 | 40:01 | | f7263-6,10 |
| No | 41 | 4 | 8310_46 | AA003750 | 41:01 | | f7263-7 |
| No | 42 | 5 | 8310_46 | AA003751 | 42:01 | | f7263-8,50 |
| No | 43 | 1 | 8310_46 | AA003752 | 43:01 | | ccv |
| No | 44 | 1 | 8310_46 | AA003753 | 44:01 | | ccv |
| No | 45 | 6 | 8310_46 | AA003754 | 45:01 | | f7263-9,20 |
| No | 46 | 7 | 8310_46 | AA003755 | 46:01 | | f7263-10,100 |
| No | 47 | 8 | 8310_46 | AA003756 | 47:01 | | f7284-1,100 |
| No | 48 | 9 | 8310_46 | AA003757 | 48:01 | | f7284-2 |
| No | 49 | 10 | 8310_46 | AA003758 | 49:01 | | f7284-3,10 |
| No | 50 | 11 | 8310_46 | AA003759 | 50:01 | | f7284-4,20 |
| No | 51 | 12 | 8310_46 | AA003760 | 51:01 | | f7284-5,100 |
| No | 52 | 1 | 8310_46 | AA003761 | 52:01 | | ccv |
| No | 53 | 1 | 8310_46 | AA003762 | 53:01 | | ccv |

UMN TYPE: RtxPAH | METHOD FILE: 8310-46 | RUN BATCH: 04#119
RUMENT: HPLC 1 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 15 ul

| A FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 073710 | 1 | CCV C4 | 8310 | | SOIL | | | ✓ | Passed |
| 11 | 2 | CP1920-BS | | 30/5ml | S | CP1920 | 1X | ✓ | ✓ |
| 12 | 3 | MB | | | | | | ✓ | " |
| 13 | 4 | F7231-1 | | | | | | ✓ | Tracy |
| 14 | 5 | ~~DUP~~ F7243-1 | | | | | | ✓ | " |
| 15 | 6 | CP1920-MS | | | | | | ✓ | ✓ |
| 16 | 7 | MSD | | | | | | ✓ | ✓ |
| 17 | 8 | F7243-2 | | | | | 50X | RR | 5X |
| 18 | 9 | 3 | | | | | 1X | ✓ | " |
| 19 | 10 | 4 | | | | | | ✓ | " |
| 20 | 11 | 5 | | ↓ | ↓ | ↓ | ↓ | ✓ | " |
| 21 | 1 | CCV | | | | | | ✓ | Passed |
| 22 | 12 | F7243-6 | | 30/5ml | S | CP1920 | 1X | ✓ | RAL |
| 23 | 13 | 7 | | | | | ↓ | ✓ | RAL |
| 24 | 14 | F7254-1 | | | | | | ✓ | RAL |
| 25 | 15 | 2 | | | | | 50X | RR | 5X |
| 26 | 16 | 3 | | | | | 1X | ✓ | RAL |
| 27 | 17 | 4 | | | | | 50X | RR | 5X |
| 28 | 18 | 5 | | | | | 1X | ✓ | RAL |
| 29 | 19 | 6 | | | | | 1X | ✓ | RAL |
| 30 | 20 | 7 | | ↓ | | | 100X | RR | 10X |
| 31 | 21 | 4 | | 30/10ml | ↓ | ↓ | (2X RE) 200X | RR | 20X |
| 32 | 1 | CCV | | | | | | ✓ | Passed |
| 33 | 1 | CCV | ↓ | | | | | ✓ | Passed |

x: Designate "W" for Water, "S" for Soil, and "O" for Oil

ple Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

5/14/00

METHODS: 8310

ANALYST:

MN TYPE: Pin PAH

METHOD FILE: 8310-46

RUN BATCH: 0-AB113

UMENT: HPLC1

CALIB. DATE: 4/27/00

AMOUNT INJECTED: 15 ul

| FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 3734 | 22 | OP1933-MS | 8310 | 30/5ml | S | OP1933 | 1x | ✓ | ✓ |
| 35 | 23 | MB | | | | | | ✓ | MB |
| 36 | 24 | F7279-1 | | | | | | ✓ | BDL |
| 37 | 25 | 2 | | | | | ↓ | ✓ | trace |
| 38 | 26 | 3 | | | | | 10x | ✓ | ✓ |
| 39 | 27 | F7284-9 | | | | | 1x | ✓ | ✓ |
| 40 | 28 | 10 | | | | | | ✓ | BDL |
| 41 | 29 | 11 | | | | | | ✓ | BDL |
| 42 | 30 | OP1933-MS | | | | | | ✓ | ✓ |
| 43 | 31 | MSD | | | | | ↓ | ✓ | ✓ |
| 44 | 1 | CCV | | | | | | ✓ | Passed |
| 45 | 32 | F7263-2 | | | | | 100x | RR | 20x |
| 46 | 33 | 3 | | | | | 100x | RR | 20x |
| 47 | 34 | 4 | | | | | 1x | ✓ | BDL |
| 48 | 2 | 5 | | | | | 1x | ✓ | ✓ |
| 49 | 3 | 6 | | | | | 10x | RR | 2x |
| 50 | 4 | 7 | | | | | 1x | ✓ | BDL |
| 51 | 5 | 8 | | | | | 50x | RR | 5x |
| 52 | 1 | CCV | | | | | | ✓ | Passed |
| 53 | 1 | CCV | | | | | | ✓ | Passed |
| 54 | 6 | F7263-9 | | | | | 20x | RR | 2x 11m6455 |
| 55 | 7 | 10 | | | | | 100x | RR | 20x |
| 56 | 8 | F7284-1 | | | | | 10x | RR | 20x |
| 57 | 9 | 2 | ↓ | ↓ | ↓ | ↓ | 1x | ✓ | BDL |

Designate "W" for Water, "S" for Soil, and "O" for Oil

Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature:

CALIB. DATE: 7/25/00 AMOUNT INJECTED: 15 ul

| FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 03758 | 10 | F725-3 | 8310 | 30/5ml | S | OP1933 | 10 x | RR | 1x |
| 59 | 11 | 4 | ↓ | ↓ | ↓ | ↓ | 20x | RR | 4x |
| 60 | 12 | 5 | | | | | 100x | RR | 20x |
| 61 | 1 | CCV | | | | | | ✓ | Passed |
| 62 | 1 | CCV | | | | | | ✓ | Passed |

411

: Designate "W" for Water, "S" for Soil, and "O" for Oil
e Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

# LIQUID SAMPLE PREP REPORT

Date: 8-14-00 Method*: 8310 Spyr Batch#: OP1945

Batch Started On: 8-14-00 Prior Number Of Samples In Batch: 0 Analyst: MS / [illegible]

| Sample ID | Bottle Number | Amount Extracted (ml) | Initial pH | Adjusted pH | Surrogate Amount | Spike Amount | Final Volume (ml) | Comments |
|---|---|---|---|---|---|---|---|---|
| OP 1945-LMB | – | 100/1000 ml | 4 | NA | 0.5 ml | | 1.0 ml | |
| OP -LBS | – | ↓ | 4 | ↓ | 0.5 ml | 0.5 ml | ↓ | |
| F7243-5A | – | ↓ | 5 | ↓ | ↓ | | ↓ | |
| -7A | – | ↓ | 9 | ↓ | ↓ | | ↓ | |
| OP1945-LS | – | ↓ | 5 | ↓ | ↓ | 0.5 ml | ↓ | F7243-5A |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| OP MS | | | | | | | | |
| OP MSD | | | | | | | | |
| OP DUP | | | | | | | | |

MS 8/14/00

Surrogate ID: E 699 Conc: 40 ppm Exp. Date: 1/31/01 Bath Temp.: 68°C

Spike ID: E 688 Conc: 40/20 ppm Exp. Date: 1/6/01 Bath Temp2.: —

verified by MY

CH2CL2 Lot # 003216 Hexane Lot # _____ Na2SO4 Lot# _____

Reagent # $CH_3CN$-003346 Reagent # _____ Reagent # _____

Comments: _____

Relinquished By: [illegible] Date: 8-15-00

# SOLID SAMPLE PREP REPORT

-7-00 Method#: 8310 PAH Batch#: OP1920

arted On: 8-7-00 Prior Number Of Samples In Batch: Φ Analyst: NT

| mple ID | Bottle Number | Amount Extracted (g) | Surrogate Amount | Spike Amount | Final Volume (ml) | Comments |
|---|---|---|---|---|---|---|
| 20 - MB | — | 30.0 | 0.5 mL | - | 5.0 mL | |
| - BS | - | 30.0 | | 0.5 mL | | |
| 31-1 | 7 | 30.0 | | | | |
| 43-1 | 6 | 30.0 | | | | |
| -2 | 6 | 30.0 | | | | |
| -3 | 6 | 30.0 | | | | |
| -4 | 6 | 30.0 | | | | |
| -5 | 6 | 30.0 | | | | |
| -6 | 6 | 30.1 | | | | |
| -7 | 6 | 30.0 | | | | |
| 254-1 | 6 | 30.0 | | | | |
| -2 | 7 | 30.0 | | | | |
| -3 | 6 | 30.1 | | | | |
| -4 | 5 | 30.0 | | | | |
| -5 | 5 | 30.0 | | | | |
| -6 | 6 | 30.0 | | | | |
| -7 | 7 | 29.9 | | | | |
| -8 | 5 | 29.9 | | | 10.0 ml | Sample would not blow down 10.0 ml final volume |
| | | | | | MS 8/7/00 | |
| | | | | | | |
| | | MS 8/7/00 | | | | |
| | | | | | | |
| 920 - MS | 6 | 30.0 | 0.5 mL | 0.5 mL | 5.0 mL | F7243-1 |
| - MSD | 6 | 30.0 | ↓ | ↓ | ↓ | ↓ |
| ~~DUP~~ | | | | | | |

ite ID: E682 Conc: 200 ppm Exp. Date: 12-26-00 Bath Temp.: 74°C

y E691 Conc: 200/200 ppm Exp. Date: 1-14-01 Bath Temp2.: —

2 Lot# 003216 Hexane Lot# — Na2SO4 Lot# 004853

t #: CH2CN-000931 Reagent #: — Reagent #: —

nts:

ished By: Michael Spinelli Date: 8/7/00

Sequence Name: C:\HPCHEM\2\SEQUENCE\0807PRO.S
Comment:
Operator: marke
Data Path: C:\HPCHEM\2\DATA\0807PRO\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | Sample | 1 | OP10021 | FL_PRO | 1020ppm TPHS ccv s885 |
| 2 | Sample | 2 | OP10022 | FL_PRO | 340ppm TPHS s887 |
| 3 | Sample | 3 | OP10023 | FL_PRO | solvent blank |
| 4 | Sample | 4 | OP10024 | FL_PRO | op1893-mb |
| 5 | Sample | 5 | OP10025 | FL_PRO | f7172-4,10 |
| 6 | Sample | 6 | OP10026 | FL_PRO | f7172-5 |
| 7 | Sample | 7 | OP10027 | FL_PRO | f7208-1,50 |
| 8 | Sample | 8 | OP10028 | FL_PRO | f7208-2,20 |
| 9 | Sample | 9 | OP10029 | FL_PRO | f7208-4,50 |
| 10 | Sample | 10 | OP10030 | FL_PRO | f7208-9,20 |
| 11 | Sample | 11 | OP10031 | FL_PRO | f7208-10,50 |
| 12 | Sample | 12 | OP10032 | FL_PRO | 1020ppm TPHS ccv |
| 13 | Sample | 13 | OP10033 | FL_PRO | op1917-mb |
| 14 | Sample | 14 | OP10034 | FL_PRO | op1917-bs |
| 15 | Sample | 15 | OP10035 | FL_PRO | f7231-1,10 |
| 16 | Sample | 16 | OP10036 | FL_PRO | f7235-1 |
| 17 | Sample | 17 | OP10037 | FL_PRO | f7235-2,10 |
| 18 | Sample | 18 | OP10038 | FL_PRO | f7235-3 |
| 19 | Sample | 19 | OP10039 | FL_PRO | f7235-4 |
| 20 | Sample | 20 | OP10040 | FL_PRO | f7235-5 |
| 21 | Sample | 21 | OP10041 | FL_PRO | f7235-6 |
| 22 | Sample | 22 | OP10042 | FL_PRO | f7235-7,10 |
| 23 | Sample | 23 | OP10043 | FL_PRO | 1020ppm TPHS ccv |
| 24 | Sample | 24 | OP10044 | FL_PRO | f7240-1,10 |
| 25 | Sample | 25 | OP10045 | FL_PRO | f7243-1 |
| 26 | Sample | 26 | OP10046 | FL_PRO | op1917-ms |
| 27 | Sample | 27 | OP10047 | FL_PRO | op1917-msd |
| 28 | Sample | 28 | OP10048 | FL_PRO | f7243-2 |
| 29 | Sample | 29 | OP10049 | FL_PRO | f7243-3 |
| 30 | Sample | 30 | OP10050 | FL_PRO | f7243-4 |
| 31 | Sample | 31 | OP10051 | FL_PRO | f7243-5 |
| 32 | Sample | 32 | OP10052 | FL_PRO | f7243-6 |
| 33 | Sample | 33 | OP10053 | FL_PRO | f7243-7 |
| 34 | Sample | 34 | OP10054 | FL_PRO | 1020ppm TPHS ccv |
| 35 | Sample | 35 | OP10055 | FL_PRO | op1894-mb2 |
| 36 | Sample | 36 | OP10056 | FL_PRO | op1894-bs2 |
| 37 | Sample | 37 | OP10057 | FL_PRO | f7216-12 |
| 38 | Sample | 38 | OP10058 | FL_PRO | f7197-2 |
| 39 | Sample | 39 | OP10059 | FL_PRO | 1020ppm TPHS ccv |
| 40 | Sample | 40 | OP10060 | FL_PRO | 340ppm TPHS ccv |
| 41 | Sample | 41 | OP10061 | FL_PRO | solvent blank |
| 42 | Sample | 42 | OP10062 | FL_PRO | f7231-1,2 |
| 43 | Sample | 43 | OP10063 | FL_PRO | f7235-2,4 |

:quence Name: C:\HPCHEM\2\SEQUENCE\0807PRO.S

| .ne | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 4 | Sample | 44 | OP10064 | FL_PRO | f7243-2,80 |
| 5 | Sample | 45 | OP10065 | FL_PRO | f7243-3 |
| 6 | Sample | 46 | OP10066 | FL_PRO | 1020ppm TPHS ccv |
| 7 | Sample | 47 | OP10067 | FL_PRO | op1910-mb |
| 8 | Sample | 48 | OP10068 | FL_PRO | op1910-bs |
| 9 | Sample | 49 | OP10069 | FL_PRO | f7205-1 |
| 0 | Sample | 50 | OP10070 | FL_PRO | op1910-ms |
| 1 | Sample | 51 | OP10071 | FL_PRO | op1910-msd |
| 2 | Sample | 52 | OP10072 | FL_PRO | f7205-2 |
| 3 | Sample | 53 | OP10073 | FL_PRO | f7205-3 |
| 4 | Sample | 54 | OP10074 | FL_PRO | f7205-4,4 |
| 5 | Sample | 55 | OP10075 | FL_PRO | f7205-5 |
| 6 | Sample | 56 | OP10076 | FL_PRO | 1020ppm TPHS ccv |
| 7 | Sample | 57 | OP10077 | FL_PRO | f7205-7 |
| 8 | Sample | 58 | OP10078 | FL_PRO | f7205-9 |
| 9 | Sample | 59 | OP10079 | FL_PRO | f7205-10 |
| 0 | Sample | 60 | OP10080 | FL_PRO | f7205-11 |
| 1 | Sample | 61 | OP10081 | FL_PRO | f7205-12 |
| 2 | Sample | 62 | OP10082 | FL_PRO | f7221-1 |
| 3 | Sample | 63 | OP10083 | FL_PRO | f7221-2,10 |
| 4 | Sample | 64 | OP10084 | FL_PRO | f7221-3,10 |
| 5 | Sample | 65 | OP10085 | FL_PRO | f7221-4 |
| 6 | Sample | 66 | OP10086 | FL_PRO | 1020ppm TPHS ccv |

# GC ANALYSIS LOG

| | | |
|---|---|---|
| ATE: 6/7/00 | METHODS: FLPAO | ANALYST: MF |
| OLUMN TYPE: DB-5/17 | METHOD FILE: FLPAO | RUN BATCH: GOP 420 |
| ISTRUMENT: FID2 | CALIB. DATE: 7/22/00 | AMOUNT INJECTED: 1 ul |

489

| ATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P10021 | 1 | 1020ppm TPHS ccv | FLPAO | | | | | — | S88S passed |
| 22 | 2 | 340ppm TPHS | | | | | | — | S88S passed |
| 23 | 3 | Solvent Blank | | | | | | — | BDL |
| 24 | 4 | OP1893-MB | | 1000ml/ml | W | OP1893 | x1 | — | BDL |
| 25 | 5 | F7172-4 | | 900ml/ml | | | x10 | — | TPH=1.0(10) |
| 26 | 6 | -5 | | 450ml/ml | | | x1 | — | TPH=0.48 |
| 27 | 7 | F7208-1 | | 960ml/ml | | | x40 | — | TPH=0.71(40) |
| 28 | 8 | -2 | | ↓ | | | x20 | — | TPH=0.89(20) |
| 29 | 9 | -4 | | 1000ml/ml | | | x50 | — | TPH=0.82(50) |
| 30 | 10 | -9 | | 1000ml/ml | | | x20 | — | TPH=1.0(20) |
| 31 | 11 | -10 | | 960ml/ml | ↓ | ↓ | x50 | — | TPH=0.92(50) |
| 32 | 12 | 1020ppm TPHS ccv | | | | | | — | S88S passed |
| 33 | 13 | OP1917-MB | | 30.0g/ml | S | OP1917 | x1 | — | BDL |
| 34 | 14 | -BS | | | | | ↓ | — | ✓ |
| 35 | 15 | F7231-1 | | | | | x10 | — | BMX2 |
| 36 | 16 | F7235-1 | | | | | x1 | — | BDL |
| 37 | 17 | -2 | | | | | x10 | — | BMX4 |
| 38 | 18 | -3 | | | | | x1 | — | BDL |
| 39 | 19 | -4 | | | | | | — | BDL |
| 40 | 20 | -5 | | | | | | — | BDL |
| 41 | 21 | -6 | | | | | ↓ | — | TPH=30 |
| 42 | 22 | -7 | | ↓ | ↓ | ↓ | x10 | — | TPH=27(0) |
| 43 | 23 | 1020ppm TPHS ccv | | | | | | — | S88S passed |
| 44 | 24 | F7240-1 | ↓ | 30.0g/ml | S | OP1917 | x10 | — | TPH=29(0) |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

030

COLUMN TYPE: DB-5/17 | METHOD FILE: FLPAO | RUN BATCH: OP1920
INSTRUMENT: FID2 | CALIB. DATE: 7/21/00 | AMOUNT INJECTED: 1 ul

490

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| OP10045 | 25 | F7243-1 | FLPAO | 30.0 g/ml | S | OP1917 | x1 | ✓ | BDL |
| 46 | 26 | OP1917-MS | | | | | | ✓ | ✓ |
| 47 | 27 | -MSD | | | | | | ✓ | ✓ |
| 48 | 28 | F7243-2 | | | | | | ✓ | BMX80 |
| 49 | 29 | -3 | | | | | | ✓ | BMtoconAlm |
| 50 | 30 | -4 | | | | | | ✓ | BDL |
| 51 | 31 | -5 | | | | | | ✓ | BDL |
| 52 | 32 | -6 | | | | | | ✓ | TPH=9.4 |
| 53 | 33 | -7 | | | | | | ✓ | TPH=10 |
| 54 | 34 | 1020ppm TPHS ccv | | | | | | ✓ | S885 passed |
| 55 | 35 | OP1894-MB2 | | 30.0 g/ml | S | OP1917 | x1 | ✓ | BDL |
| 56 | 36 | -BS2 | | | | | | ✓ | ✓ |
| 57 | 37 | F7216-12 | | | | | | ✓ | TPH=18 |
| 58 | 38 | F7197-2 | | | | | | ✓ | TPH=47 |
| 59 | 39 | 1020ppm TPHS ccv | | | | | | ✓ | S885 passed |
| 60 | 40 | 340ppm TPHS | | | | | | ✓ | S887 passed |
| 61 | 41 | solvent Blank | | | | | | ✓ | BDL |
| 62 | 42 | F7231-1 | | 30.0 g/ml | S | OP1917 | x2 | ✓ | TPH=18(2) |
| 63 | 43 | F7235-2 | | | | | x4 | ✓ | TPH=26(4) |
| 64 | 44 | F7243-2 | | | | | x80 | ✓ | TPH=25(80) |
| 65 | 45 | -3 | | | | | x1 | ✓ | TPH=9.5 |
| 66 | 46 | 1020ppm TPHS ccv | | | | | | ✓ | S885 passed |
| 67 | 47 | OP19110-MB | | 1000 ml/ml | W | OP1910 | x1 | ✓ | BDL |
| 68 | 48 | -MS | | | | | | ✓ | ✓ |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil
Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

# GC ANALYSIS LOG

| | | |
|---|---|---|
| DATE: 8/7/00 | METHODS: FLPAO | ANALYST: ME |
| COLUMN TYPE: DB-5/17 | METHOD FILE: FLPAO | RUN BATCH: GOP420 |
| INSTRUMENT: FID2 | CALIB. DATE: 7/21/00 | AMOUNT INJECTED: 1 |

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| OP10069 | 49 | F7205-1 | FLPAO | 950ml/ml | W | OP1910 | x1 | ✓ | BMX10 |
| 70 | 50 | OP1910-MS | | 910ml/ml | | | | ✓ | BMX10 |
| 71 | 51 | -MSD | | 970ml/ml | | | | ✓ | BMX10 |
| 72 | 52 | F7205-2 | | 960ml/ml | | | | ✓ | BMX5 |
| 73 | 53 | -3 | | 980ml/ml | | | ↓ | ✓ | BMX1 to cont. sm |
| 74 | 54 | -4 | | ↓ | | | x4 | ✓ | TPH=0.20(4) |
| 75 | 55 | -5 | | 890ml/ml | ↓ | ↓ | x1 | ✓ | TPH=0.70 |
| 76 | 56 | 1020ppm TPH5ccv | | | | | | ✓ | 5885 passed |
| 77 | 57 | F7205-7 | | 980ml/ml | W | OP1910 | x1 | ✓ | BDL |
| 78 | 58 | -9 | | ↓ | | | | ✓ | TPH=0.24 |
| 79 | 59 | -10 | | ↓ | | | | ✓ | BDL |
| 80 | 60 | -11 | | 990ml/ml | | | | ✓ | BDL |
| 81 | 61 | -12 | | 950ml/ml | | | | ✓ | BDL |
| 82 | 62 | F7221-1 | | 970ml/ml | | | ↓ | ✓ | BDL |
| 83 | 63 | -2 | | 900ml/ml | | | x10 | ✓ | BMX2 |
| 84 | 64 | -3 | | 960ml/ml | | | ↓ | ✓ | BMX4 |
| 85 | 65 | -4 | | 920ml/ml | ↓ | ↓ | x1 | ✓ | BDL |
| 86 | 66 | 1020ppm TPH5ccv | ↓ | | | | | ✓ | 5885 passed |

8/9/00

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

Sequence Name: C:\HPCHEM\2\SEQUENCE\0727PRO.S
Comment:
Operator: ChelseaJ
Data Path: C:\HPCHEM\2\DATA\0727PRO\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | Sample | 1 | OP09782 | FL_PRO | 340 ppm TPHS |
| 2 | Sample | 2 | OP09783 | FL_PRO | 680 ppm TPHS |
| 3 | Sample | 3 | OP09784 | FL_PRO | 1020 ppm TPHS |
| 4 | Sample | 4 | OP09785 | FL_PRO | 1360 ppm TPHS |
| 5 | Sample | 5 | OP09786 | FL_PRO | 1700 ppm TPHS |
| 6 | Sample | 6 | OP09787 | FL_PRO | SB |
| 7 | Sample | 7 | OP09788 | FL_PRO | OP1866-MB |
| 8 | Sample | 8 | OP09789 | FL_PRO | OP1866-BS |
| 9 | Sample | 9 | OP09790 | FL_PRO | F7110-1,20x |
| 10 | Sample | 10 | OP09791 | FL_PRO | F7110-2,10x |
| 11 | Sample | 11 | OP09792 | FL_PRO | F7125-1,10x |
| 12 | Sample | 12 | OP09793 | FL_PRO | F7098-1,4x |
| 13 | Sample | 13 | OP09794 | FL_PRO | F7098-2 |
| 14 | Sample | 14 | OP09795 | FL_PRO | F7098-3 |
| 15 | Sample | 15 | OP09796 | FL_PRO | F7098-5 |
| 16 | Sample | 16 | OP09797 | FL_PRO | F7098-7 |
| 17 | Sample | 17 | OP09798 | FL_PRO | 1020 ppm CCV |
| 18 | Sample | 18 | OP09799 | FL_PRO | F7098-8,20x |
| 19 | Sample | 19 | OP09800 | FL_PRO | F7098-9 |
| 20 | Sample | 20 | OP09801 | FL_PRO | F7098-10,10x |
| 21 | Sample | 21 | OP09802 | FL_PRO | F7114-3 |
| 22 | Sample | 22 | OP09803 | FL_PRO | F7114-22,20x |
| 23 | Sample | 23 | OP09804 | FL_PRO | F7114-24,20x |
| 24 | Sample | 24 | OP09805 | FL_PRO | F7121-1,4x |
| 25 | Sample | 25 | OP09806 | FL_PRO | F7133-1,50x |
| 26 | Sample | 26 | OP09807 | FL_PRO | OP1866-MS |
| 27 | Sample | 27 | OP09808 | FL_PRO | OP1866-MSD |
| 28 | Sample | 17 | OP09809 | FL_PRO | 1020 ppm CCV |
| 29 | Sample | 28 | OP09810 | FL_PRO | OP1864-MB |
| 30 | Sample | 29 | OP09811 | FL_PRO | OP1864-BS |
| 31 | Sample | 30 | OP09812 | FL_PRO | F7106-1 |
| 32 | Sample | 31 | OP09813 | FL_PRO | F7106-2 |
| 33 | Sample | 32 | OP09814 | FL_PRO | F7106-3,4x |
| 34 | Sample | 33 | OP09815 | FL_PRO | F7106-4,4x |
| 35 | Sample | 34 | OP09816 | FL_PRO | F7106-5 |
| 36 | Sample | 35 | OP09817 | FL_PRO | F7106-6 |
| 37 | Sample | 36 | OP09818 | FL_PRO | F7113-1 |
| 38 | Sample | 37 | OP09819 | FL_PRO | F7113-2,10x |
| 39 | Sample | 17 | OP09820 | FL_PRO | 1020 ppm CCV |
| 40 | Sample | 38 | OP09821 | FL_PRO | 340 ppm CCV |
| 41 | Sample | 39 | OP09822 | FL_PRO | SB |
| 42 | Sample | 40 | OP09823 | FL_PRO | 850 ppm ICV s858 |
| 43 | Sample | 41 | OP09824 | FL_PRO | F7110-1,10x |



Last Modified: Sat Jul 29 12:55:57 2000

Sequence Name: C:\HPCHEM\2\SEQUENCE\0727PRO.S

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 44 | Sample | 42 | OP09825 | FL_PRO | F7110-2 |
| 45 | Sample | 43 | OP09826 | FL_PRO | F7125-1 |
| 46 | Sample | 44 | OP09827 | FL_PRO | F7098-1 |
| 47 | Sample | 45 | OP09828 | FL_PRO | F7098-8,4x |
| 48 | Sample | 46 | OP09829 | FL_PRO | F7098-10,2x |
| 49 | Sample | 47 | OP09830 | FL_PRO | F7133-1,150x |
| 50 | Sample | 48 | OP09831 | FL_PRO | 1020 ppm CCV |
| 51 | Sample | 49 | OP09832 | FL_PRO | F7113-3,4x |
| 52 | Sample | 50 | OP09833 | FL_PRO | F7113-4,4x |
| 53 | Sample | 51 | OP09834 | FL_PRO | F7113-5,4x |
| 54 | Sample | 52 | OP09835 | FL_PRO | F7113-6,4x |
| 55 | Sample | 53 | OP09836 | FL_PRO | F7113-7,10x |
| 56 | Sample | 54 | OP09837 | FL_PRO | F7120-1 |
| 57 | Sample | 55 | OP09838 | FL_PRO | F7129-1,4x |
| 58 | Sample | 56 | OP09839 | FL_PRO | F7129-2 |
| 59 | Sample | 57 | OP09840 | FL_PRO | F7129-3,4x |
| 60 | Sample | 48 | OP09841 | FL_PRO | 1020 ppm CCV |
| 61 | Sample | 58 | OP09842 | FL_PRO | OP1864-MS,4x |
| 62 | Sample | 59 | OP09843 | FL_PRO | OP1864-MSD,4x |
| 63 | Sample | 60 | OP09844 | FL_PRO | F7106-3,2x |
| 64 | Sample | 61 | OP09845 | FL_PRO | F7106-4 |
| 65 | Sample | 48 | OP09846 | FL_PRO | 1020 ppm CCV |
| 66 | Sample | 62 | OP09847 | FL_PRO | OP1876-MB |
| 67 | Sample | 63 | OP09848 | FL_PRO | OP1876-BS |
| 68 | Sample | 64 | OP09849 | FL_PRO | F7122-1 |
| 69 | Sample | 65 | OP09850 | FL_PRO | F7122-2 |
| 70 | Sample | 66 | OP09851 | FL_PRO | F7122-3 |
| 71 | Sample | 67 | OP09852 | FL_PRO | F7122-4 |
| 72 | Sample | 68 | OP09853 | FL_PRO | F7122-5 |
| 73 | Sample | 69 | OP09854 | FL_PRO | F7122-6 |
| 74 | Sample | 48 | OP09855 | FL_PRO | 1020 ppm CCV |
| 75 | Sample | 70 | OP09856 | FL_PRO | F7122-7 |
| 76 | Sample | 71 | OP09857 | FL_PRO | F7122-8 |
| 77 | Sample | 72 | OP09858 | FL_PRO | F7139-3,20x |
| 78 | Sample | 73 | OP09859 | FL_PRO | F7139-4,5x |
| 79 | Sample | 74 | OP09860 | FL_PRO | F7148-1 |
| 80 | Sample | 75 | OP09861 | FL_PRO | F7148-2,4x |
| 81 | Sample | 76 | OP09862 | FL_PRO | F7148-3 |
| 82 | Sample | 48 | OP09863 | FL_PRO | 1020 ppm CCV |
| 83 | Sample | 77 | OP09864 | FL_PRO | 340 ppm CCV |
| 84 | Sample | 78 | OP09865 | FL_PRO | SB |
| 85 | Sample | 79 | OP09866 | FL_PRO | F7148-4 |
| 86 | Sample | 80 | OP09867 | FL_PRO | F7148-5,4x |
| 87 | Sample | 81 | OP09868 | FL_PRO | F7148-6,4x |

COLUMN TYPE: DB 5/17 | METHOD FILE: FL PRO | ANALYST: Khelen
INSTRUMENT: FID 2 | CALIB. DATE: 07/27/00 | RUN BATCH: GOP416
AMOUNT INJECTED: 1 ul



| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| OP 0 9782 | 1 | 340 ppm TPHS | FL PRO | | S857 | | 1.0 | ✓ | ✓ |
| 9783 | 2 | 680 | ↓ | | S856 | | ↓ | ✓ | ✓ |
| 9784 | 3 | 1020 | | | S855 | | | ✓ | ✓ |
| 9785 | 4 | 1360 | | | S854 | | | ✓ | ✓ |
| 9786 | 5 | 1700 ↓ | | | S853 | | | ✓ | ✓ |
| 9787 | 6 | SB | | | | | | ✓ | BDL |
| 9788 | 7 | OP1866-MB | | 30g/1mL | S | OP1866 | | ✓ | ↓ |
| 9789 | 8 | -BS | | ↓ | ↓ | ↓ | ↓ | ✓ | ✓ |
| 9790 | 9 | F7110-1, 20x | | | | | 20.0 | ✓ | RR C 10x |
| 9791 | 10 | -2, 10x | | | | | 10.0 | ✓ | RR C 1x |
| 9792 | 11 | F7125-1, ↓ | | | | | ↓ | ✓ | RR C 1x |
| 9793 | 12 | F7098-1, 4x | | | | | 4.0 | ✓ | RR C 1x |
| 9794 | 13 | -2 | | | | | 1.0 | ✓ | BDL |
| 9795 | 14 | -3 | | | | | | ✓ | ↓ |
| 9796 | 15 | -5 | | | | | | ✓ | |
| 9797 | 16 | -7 | | ↓ | ↓ | | ↓ | ✓ | passes |
| 9798 | 17 | 1020 ppm CCV | | — | S855 | | 20.0 | ✓ | RR C 4x |
| 9799 | 18 | F7098-8, 20x | | 30g/1mL | S | | 1.0 | ✓ | ✓ |
| 9800 | 19 | -9 | | | | | 10.0 | ✓ | RR C 2x |
| 9801 | 20 | -10, 10x | | | | | 1.0 | ✓ | ✓ |
| 9802 | 21 | F7114-3 | | | | | 20.0 | ✓ | ✓ |
| 9803 | 22 | -22, 20x | | | | | ↓ | ✓ | ✓ |
| 9804 | 23 | -24, 20x | | | | | 4.0 | ✓ | ✓ |
| 9805 | 24 | F7121-1, 4x | ↓ | ↓ | ↓ | ↓ | | | |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil
Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: Khelen

# GC ANALYSIS LOG

DATE: 07/27/00 cont'd | METHODS: FL Pro | ANALYST: Chelsea

COLUMN TYPE: DB 5/17 | METHOD FILE: FL Pro | RUN BATCH: GOP416 cont'd

INSTRUMENT: FID 2 | CALIB. DATE: 07/27/00 | AMOUNT INJECTED: 1 ul

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| GP0 9806 | 25 | F7133-1, 50x | FL Pro | 30g/1mL | S | OP1866 | 50.0 | ✓ | RRC 150x |
| 9807 | 26 | OP1866-MS | | ↓ | ↓ | ↓ | 1.0 | ✓ | ✓ |
| 9808 | 27 | -MSD | | | | | ↓ | ✓ | ✓ |
| 9809 | 17 | 1020 ppm CCV | | — | 5355 | | | ✓ | passes |
| 9810 | 28 | OP1864-MB | | 10g/1mL | W | OP1864 | | ✓ | BDL |
| 9811 | 29 | -BS | | ↓ | | | | ✓ | ✓ |
| 9812 | 30 | F7106-1 | | 870/1mL | | | | ✓ | BDL |
| 9813 | 31 | -2 | | 940/1mL | | | ↓ | ✓ | ✓ |
| 9814 | 32 | -3, 4x | | 970/1mL | | | 4.0 | ✓ | RRC 2x |
| 9815 | 33 | -4 ↓ | | ↓ | | | ↓ | ✓ | RRC 1x |
| 9816 | 34 | -5 | | 920/1mL | | | 1.0 | ✓ | BDL |
| 9817 | 35 | -6 | | 950/1mL | | | ↓ | ✓ | ↓ |
| 9818 | 36 | F7113-1 | | ↓ | | | ↓ | ✓ | ✓ |
| 9819 | 37 | -2, 10x | | 960/1mL | ↓ | ↓ | 10.0 | ✓ | ✓ |
| 9820 | 17 | 1020 ppm CCV | | — | 5855 | | 1.0 | ✓ | passes |
| 9821 | 38 | 340 ppm CCV | | — | 5857 | | ↓ | ✓ | passes |
| 9822 | 39 | SB | | | | | | ✓ | BDL |
| 9823 | 40 | 850 ppm ICV | | | 5858 | | ↓ | ✓ | passes |
| 9824 | 41 | F7110-1 10x | | 30g/1mL | S | OP1866 | 10.0 | ✓ | ✓ |
| 9825 | 42 | F7110-2 | | ↓ | ↓ | ↓ | 1.0 | ✓ | ✓ |
| 9826 | 43 | F7125-1 | | | | | ↓ | ✓ | ✓ |
| 9827 | 44 | F7098-1 | | | | | | ✓ | ✓ |
| 9828 | 45 | -8, 4x | | | | | 4.0 | ✓ | ✓ |
| 9829 | 46 | -10, 2x | ↓ | ↓ | ↓ | ↓ | 2.0 | ✓ | ✓ |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

| COLUMN TYPE: DB 5/17 | METHOD FILE: FL PRO | RUN BATCH: GAA GOP 4 6 |
|---|---|---|
| INSTRUMENT: FID 2 | CALIB. DATE: 07/27/00 | AMOUNT INJECTED: 1 ul |

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX S | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| OP 09830 | 47 | F7133-1, 150X | FL PRO | 3g/1ml | W | OP1866 | 150.0 | ✓ | ✓ |
| 9831 | 48 | 1020 ppm CCV | | — | S855 | | 1.0 | ✓ | passes |
| 9832 | 49 | F7113-4 (-3) 4x | | 980ml/ml | W | OP1864 | x4 | ✓ | BAx1 |
| 9833 | 50 | -5 (-4) 4x | | ↓ | | | | ✓ | BAx1 |
| 9834 | 51 | -6 (-5) 4x | | ↓ | | | | ✓ | TPH=0.55(4) |
| 9835 | 52 | -7 (-6) 4x | | 970ml/ml | | | ↓ | ✓ | TPH=0.66(4) |
| 9836 | 53 | F7113-7 | | 960ml/ml | | | x10 | ✓ | TPH=1.0(10) |
| 9837 | 54 | F7120-1 | | 910ml/ml | | | x1 | ✓ | TPH=0.26 |
| 9838 | 55 | F7129-1, 4x | | 800ml/ml | | | x4 | ✓ | BAx1 |
| 9839 | 56 | -2 | | 830ml/ml | | | x1 | ✓ | BDL |
| 9840 | 57 | -3, 4x | | 900ml/ml | ↓ | ↓ | x4 | ✓ | BAx1 |
| 9841 | 48 | 1020 ppm CCV | | — | S855 | | | ✓ | passed |
| 9842 | 58 | OP1864-MS, 4x | | 470ml/ml | W | OP1864 | x4 | ✓ | BAx1 |
| 9843 | 59 | -MSD, ↓ | | ↓ | | | ↓ | ✓ | BAx1 |
| 9844 | 60 | F7106-3, 2x | | 970ml/ml | | | x2 | ✓ | TPH=0.82(2) |
| 9845 | 61 | -4 | | ↓ | ↓ | ↓ | x1 | ✓ | TPH=0.46 |
| 9846 | 48 | 1020 ppm CCV | | — | S855 | | | ✓ | passed |
| 9847 | 62 | OP1876-MB | | 1000ml/ml | W | OP1876 | x1 | ✓ | BDL |
| 9848 | 63 | -BS | | ↓ | | | | ✓ | ✓ |
| 9849 | 64 | F7122-1 | | 940ml/ml | | | | ✓ | TPH=0.90 |
| 9850 | 65 | -2 | | 850ml/ml | | | | ✓ | BA tocont. surr. ↓ |
| 9851 | 66 | -3 | | 860ml/ml | | | | ✓ | TPH=0.57 |
| 9852 | 67 | -4 | | 850ml/ml | | | | ✓ | TPH=0.44 BA tocont. |
| 9853 | 68 | -5 | ↓ | 890ml/ml | ↓ | ↓ | ↓ | | TPH=0.38 ↓ |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

496

# GC ANALYSIS LOG

| | | | |
|---|---|---|---|
| DATE: 07/27/00 cntd | METHODS: FL PRO | ANALYST: [illegible] | |
| COLUMN TYPE: DB 5/17 | METHOD FILE: FL PRO | RUN BATCH: GOP416 cnt'd. | |
| INSTRUMENT: FID 2 | CALIB. DATE: 07/27/00 | AMOUNT INJECTED: 1 ul | |

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| OP 0 9854 | 69 | F7122-6 | FL PRO | 890ml/1ml | W | 01876 | x1 | – | BB to cont. |
| 9855 | 48 | 1020 ppm CCV | | — | S855 | | | – | passed |
| 9856 | 70 | F7122-7 | | 800ml/1ml | | | x1 | – | BDL BB |
| 9857 | 71 | -8 | | 920ml/1ml | | | ↓ | – | BDL |
| 9858 | 72 | F7139-3, 20x | | 980ml/1ml | | | x20 | – | BMX8 |
| 9859 | 73 | -4, 5x | | 1000ml/1ml | | | x5 | – | BMX5 |
| 9860 | 74 | F7148-1 | | 950ml/1ml | | | x1 | – | BMX2 |
| 9861 | 75 | -2, 4x | | ↓ | | | x4 | – | BMX2 |
| 9862 | 76 | -3 | | | | | x1 | – | BMX2 |
| 9863 | 48 | 1020 ppm CCV | | — | S855 | | | – | failed |
| 9864 | 77 | 340 ppm CCV | | | S857 | | | – | |
| 9865 | 78 | SB | | | | | | – | |
| 9866 | 79 | F7148-4 | | 950ml/1ml | | | x1 | – | BMX2 |
| 9867 | 80 | -5, 4x | | 890ml/1ml | | | x4 | – | BMX4 |
| 9868 | 81 | -6, | | ↓ | | | | – | BMX1 |
| 9869 | 82 | -7, | | 950ml/1ml | | | | | |
| 9870 | 83 | -8, | | 890ml/1ml | | | | | |
| 9871 | 84 | -9, 10x | | | | | | | |
| 9872 | 85 | OP1876-MS | | | | | | | |
| 9873 | 86 | -MSD | | | | | | | |
| 9874 | 48 | 1020 ppm CCV | | | | | | | |

7/29/00

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

497

## SOLID SAMPLE PREP REPORT

4.00 Method*: FL PRO Batch#: 02 1917

ted On: 8-4-00 Prior Number Of Samples In Batch : 9 Analyst: NJ/MN

| ple ID | Bottle Number | Amount Extracted (g) | Surrogate Amount | Spike Amount | Final Volume (ml) | Comments |
|---|---|---|---|---|---|---|
| 17- MB | — | 30.0 | 0.5 mL | - | 1.0 mL | |
| - BS | - | 30.0 | | 0.5 mL | | |
| 31-1 | 6 | 29.9 | | | | |
| 35-1 | 2 | 30.1 | | | | |
| -2 | 2 | 30.0 | | | | |
| -3 | 2 | 29.9 | | | | |
| -4 | 2 | 30.0 | | | | |
| -5 | 2 | 30.0 | | | | |
| -6 | 2 | 30.0 | | | | |
| -7 | 2 | 30.1 | | | | |
| 10-1 | 3 | 30.1 | | | | |
| 43.1 | 5 | 30.0 | | | | |
| -2 | 5 | 29.9 | | | | |
| -3 | 5 | 29.9 | | | | |
| -4 | 5 | 30.1 | | | | |
| -5 | 5 | 30.0 | | | | |
| -6 | 5 | 30.0 | | | | |
| -7 | 5 | 30.0 | ↓ | | ↓ | |
| | | | MS | | | |
| 17- MS | 5 | 30.0 | 0.5 mL | 0.5 mL | 1.0 mL | F7243-1 |
| -MSD | 5 | 30.0 | ↓ | ↓ | ↓ | ↓ |
| ~~DUP~~ | | | | | | |

ate ID: E700A Conc: 100ppm Exp. Date: 1/31/01 Bath Temp.: 70°C

D: E693 Conc: 100ppm Exp. Date: 1/20/01 Bath Temp2.: —

2 Lot# 003216 Hexane Lot#: — Na2SO4 Lot# 004858

nt #: silica gel 995185 Reagent #: — Reagent #: —

ents:

Michael A Apollo Date: 8/4/00

Tetra Tech NUS, Inc. Internal Correspondence

TO: Mr. Gerald Walker DATE: October 3, 2000

FROM: William Howard Engle CC: File

SUBJECT: Organic Data Validation – VOC, PAH, and TRPH
CTO112 – NAS Pensacola
SDG F7254

SAMPLES: 8/Solid

5+20 — NASP20SB-1, 6' NASP20SB-2, 6'
NASPFFDUP-1 NASPFFSB-11, 4-8'BGS
NASPFFSB-13, 14-16'BGS NASPFFSB-14, 24-27'BGS
NASPFFSB-15, 8-12'BGS NASPFFSB-16, 22-25'BGS

1/Aqueous

Trip Blank

## OVERVIEW

The sample set for CTO112, SDG F7254; Naval Air Station Pensacola, Pensacola, Florida consists of eight (8) solid environmental samples and one (1) trip blank. This SDG contains one (1) duplicate set: NASPFFDUP-1/NASPFFSB-14, 24-27'BGS. The environmental samples were analyzed for Volatile Organic Carbons (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), and Total Residual Petroleum Hydrocarbons (TRPHs). The trip blank was analyzed only for VOCs.

The samples were collected by Tetra Tech NUS on August 3, 2000 and analyzed by Accutest Southeast Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 8260B (VOCs), SW-846 method 8310 (PAHs), and FL-PRO (TRPHs) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • Laboratory method/field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Supporting documentation is presented in Appendix C. Qualified analytical results are presented in Appendix A. The original laboratory data is contained in Appendix B.

Volatile Fraction

The MS/MSD analyzed on 8/19/00 contained %Rs for 2-CEVE below the lower control limit. The sample spiked, NASPFFSB-16, 22-26'BGS, was qualified estimated "J" due to MS/MSD analysis noncompliance.

Polycyclic Aromatic Hydrocarbon Fraction

All quality control criteria were met for this fraction.

Total Residual Petroleum Fraction

All quality control criteria were met for this fraction.

Duplicate Summary

| Compound | NASPFFDUP-1 (ug/kg) | NASPFFSB-14, 24-27'BGS (ug/kg) | %D |
|---|---|---|---|
| | None Detected | None Detected | |

Executive Summary

**Laboratory performance:** The MS/MS %R for 2-CEVE was below the lower control limits. The spiked sample was qualified estimated "J", due to MS/MSD noncompliance.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

William Howard Engle

Project Chemist
Tetra Tech NUS, Inc.

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech NUS, Inc.

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B – Results as reported by the laboratory
3. Appendix C – Supporting Documentation

**lifier Codes:**

- = Lab Blank Contamination
- = Field Blank Contamination
- = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
- = MS/MSD Noncompliance
- = LCS/LCSD Noncompliance
- = Lab Duplicate Imprecision
- = Field Duplicate Imprecision
- = Holding Time Exceedance
- = ICP Serial Dilution Noncompliance
- = GFAA PDS - GFAA MSA's r < 0.995
- = ICP Interference - Include ICSAB % R's
- = Instrument Calibration Range Exceedance
- = Sample Preservation
- = Internal Standard Noncompliance
- = Poor Instrument Performance (i.e., base-line drifting)
- = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
- = Other problems (can encompass a number of issues)
- = Surrogates Recovery Noncompliance
- = Pesticide/PCB Resolution
- = % Breakdown Noncompliance for DDT and Endrin
- = Pest/PCB D% between columns for positive results
- = Non-linear calibrations, tuning r < 0.995 (correlation coefficient)
- = EMPC result
- = Signal to noise response drop
- = % Solid content is less than 30%

**DATA QUALIFIER DEFINITIONS:**

U - Value is a nondetected result as reported by the laboratory and should not be considered present.

J - Positive result is estimated as a result of a value below the CRQL or a technical noncompliance.

UJ - Nondetected result is considered to be estimated as a result of technical noncompliances.

# APPENDIX A

## Qualified Analytical Results

09/08/00

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | GRSZ | 08/03/00 | / / | 08/17/00 | 0 | 0 | 14 |
| MG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | HG | 08/03/00 | 08/11/00 | 08/14/00 | 8 | 3 | 11 |
| MG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | M | 08/03/00 | 08/10/00 | 08/14/00 | 7 | 4 | 11 |
| UG/KG | NASP20SB-1,6' | F7254-7 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/15/00 | 0 | 0 | 12 |
| UG/KG | NASP20SB-2,6' | F7254-8 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/15/00 | 0 | 0 | 12 |
| UG/KG | NASPFFDUP-1 | F7254-6 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/14/00 | 0 | 0 | 11 |
| UG/KG | NASPFFSB-11,4-8'BGS | F7254-4 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/15/00 | 0 | 0 | 12 |
| UG/KG | NASPFFSB-13,14-16'BGS | F7254-1 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/14/00 | 0 | 0 | 11 |
| UG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/14/00 | 0 | 0 | 11 |
| UG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/14/00 | 0 | 0 | 11 |
| UG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/15/00 | 0 | 0 | 12 |
| UG/L | TRIP BLANK | F7254-9 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/19/00 | 0 | 0 | 16 |
| UG/KG | NASP20SB-1,6' | F7254-7 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/15/00 | 4 | 8 | 12 |
| UG/KG | NASP20SB-2,6' | F7254-8 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/15/00 | 4 | 8 | 12 |
| UG/KG | NASPFFDUP-1 | F7254-6 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/14/00 | 4 | 7 | 11 |
| UG/KG | NASPFFSB-11,4-8'BGS | F7254-4 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/15/00 | 4 | 8 | 12 |
| UG/KG | NASPFFSB-13,14-16'BGS | F7254-1 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/14/00 | 4 | 7 | 11 |
| UG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/14/00 | 4 | 7 | 11 |
| UG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/14/00 | 4 | 7 | 11 |
| UG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/15/00 | 4 | 8 | 12 |
| MG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | TOC | 08/03/00 | 08/17/00 | 08/17/00 | 14 | 0 | 14 |
| MG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | TOC | 08/03/00 | 08/17/00 | 08/17/00 | 14 | 0 | 14 |
| MG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | TOX | 08/03/00 | 08/28/00 | 08/30/00 | 25 | 2 | 27 |
| MG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | TOX | 08/03/00 | 08/28/00 | 08/30/00 | 25 | 2 | 27 |
| MG/KG | NASP20SB-1,6' | F7254-7 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/12/00 | 5 | 4 | 9 |

| Units | [redacted]ple | Lab Id | Cc Type | Sdg | [redacted] | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | [redacted]P_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/KG | NASP20SB-2,6' | F7254-8 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/12/00 | 5 | 4 | 9 |
| MG/KG | NASPFFDUP-1 | F7254-6 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/11/00 | 5 | 3 | 8 |
| MG/KG | NASPFFSB-11,4-6'BGS | F7254-4 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/12/00 | 5 | 4 | 9 |
| MG/KG | NASPFFSB-13,14-16'BGS | F7254-1 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/10/00 | 5 | 2 | 7 |
| MG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/11/00 | 5 | 3 | 8 |
| MG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/11/00 | 5 | 3 | 8 |
| MG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/12/00 | 5 | 4 | 9 |

**SDG: F7254**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASP20SB-1,6' | | | NASP20SB-2,6' | | | NASPFFDUP-1 | | | NASPFFSB-11,4-8'BGS | | |
| SAMPLE DATE: | 08/03/00 | | | 08/03/00 | | | 08/03/00 | | | 08/03/00 | | |
| LABORATORY ID: | F7254-7 | | | F7254-8 | | | F7254-6 | | | F7254-4 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 95.0 % | | | 95.6 % | | | 96.2 % | | | 93.3 % | | |
| UNITS: | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| **VOLATILES** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** |
| 1,1,1-TRICHLOROETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,1,2-TRICHLOROETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,1-DICHLOROETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,1-DICHLOROETHENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,2 DICHLOROBENZENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,2-DICHLOROETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,2-DICHLOROPROPANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,3 DICHLOROBENZENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 1,4-DICHLOROBENZENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| 2-CHLOROETHYL VINYL ETHER | 560 | U | | 1200 | U | | 11 | U | | 1200 | U | |
| BENZENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| BROMODICHLOROMETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| BROMOFORM | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| BROMOMETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| CARBON TETRACHLORIDE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| CHLOROBENZENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| CHLOROETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| CHLOROFORM | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| CHLOROMETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| CIS-1,2-DICHLOROETHENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| CIS-1,3-DICHLOROPROPENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| DIBROMOCHLOROMETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| DICHLORODIFLUOROMETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| ETHYLBENZENE | 280 | U | | 252 | J | | 5.6 | U | | 5050 | | |
| METHYL TERT-BUTYL ETHER | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| METHYLENE CHLORIDE | 560 | U | | 1200 | U | | 11 | U | | 1200 | U | |
| TETRACHLOROETHENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| TOLUENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| TRANS-1,2-DICHLOROETHENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| TRANS-1,3-DICHLOROPROPENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| TRICHLOROETHENE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| TRICHLOROFLUOROMETHANE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASP20SB-1,6' | | | NASP20SB-2,6' | | | NASPFFDUP-1 | | | NASPFFSB-11,4-8'BGS | | |
| SAMPLE DATE: | 08/03/00 | | | 08/03/00 | | | 08/03/00 | | | 08/03/00 | | |
| LABORATORY ID: | F7254-7 | | | F7254-8 | | | F7254-6 | | | F7254-4 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 95.0 % | | | 95.6 % | | | 96.2 % | | | 93.3 % | | |
| UNITS: | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **VOLATILES** | | | | | | | | | | | | |
| VINYL CHLORIDE | 280 | U | | 580 | U | | 5.6 | U | | 600 | U | |
| XYLENES, TOTAL | 840 | U | | 1700 | U | | 17 | U | | 12300 | | |

**SDG: F7254**

| | NASPFFSB-13,14-16'BGS | NASPFFSB-14,24-27'BGS | NASPFFSB-15,8-12'BGS | NASPFFSB-16,22-26'BGS |
|---|---|---|---|---|
| SAMPLE NUMBER: | 08/03/00 | 08/03/00 | 08/03/00 | 08/03/00 |
| SAMPLE DATE: | F7254-1 | F7254-5 | F7254-3 | F7254-2 |
| LABORATORY ID: | NORMAL | NORMAL | NORMAL | NORMAL |
| QC_TYPE: | 93.5 % | 94.5 % | 86.5 % | 96.6 % |
| % SOLIDS: | UG/KG | UG/KG | UG/KG | UG/KG |
| UNITS: | | | | |
| FIELD DUPLICATE OF: | | | | |

| VOLATILES | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,1,2-TRICHLOROETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,1-DICHLOROETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,1-DICHLOROETHENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,2 DICHLOROBENZENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,2-DICHLOROETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,2-DICHLOROPROPANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,3 DICHLOROBENZENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 1,4-DICHLOROBENZENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| 2-CHLOROETHYL VINYL ETHER | 11 | U | | 11 | U | | 13 | U | | 1100 | U | |
| BENZENE | 1.8 | J | | 5.7 | U | | 6.4 | U | | 113 | J | |
| BROMODICHLOROMETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| BROMOFORM | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| BROMOMETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| CARBON TETRACHLORIDE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| CHLOROBENZENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| CHLOROETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| CHLOROFORM | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| CHLOROMETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| CIS-1,2-DICHLOROETHENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| CIS-1,3-DICHLOROPROPENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| DIBROMOCHLOROMETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| DICHLORODIFLUOROMETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| ETHYLBENZENE | 17.7 | | | 5.7 | U | | 6.4 | U | | 6700 | | |
| METHYL TERT-BUTYL ETHER | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| METHYLENE CHLORIDE | 11 | U | | 11 | U | | 13 | U | | 1100 | U | |
| TETRACHLOROETHENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| TOLUENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| TRANS-1,2-DICHLOROETHENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| TRANS-1,3-DICHLOROPROPENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| TRICHLOROETHENE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| TRICHLOROFLUOROMETHANE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB-13,14-16'BGS | | | NASPFFSB-14,24-27'BGS | | | NASPFFSB-15,8-12'BGS | | | NASPFFSB-16,22-26'BGS | | |
| SAMPLE DATE: | 08/03/00 | | | 08/03/00 | | | 08/03/00 | | | 08/03/00 | | |
| LABORATORY ID: | F7254-1 | | | F7254-5 | | | F7254-3 | | | F7254-2 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 93.5 % | | | 94.5 % | | | 86.5 % | | | 96.6 % | | |
| UNITS: | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| VOLATILES | | | | | | | | | | | | |
| VINYL CHLORIDE | 5.3 | U | | 5.7 | U | | 6.4 | U | | 560 | U | |
| XYLENES, TOTAL | 14.4 | J | | 17 | U | | 19 | U | | 13300 | | |

**SDG: F7254**

| | | | |
|---|---|---|---|
| SAMPLE NUMBER: | TRIP BLANK | / / | / / | / / |
| SAMPLE DATE: | 08/03/00 | | | |
| LABORATORY ID: | F7254-9 | | | |
| QC_TYPE: | NORMAL | | | |
| % SOLIDS: | 0.0 % | 100.0 % | 100.0 % | 100.0 % |
| UNITS: | UG/L | | | |
| FIELD DUPLICATE OF: | | | | |

| VOLATILES | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,1,2,2-TETRACHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,1,2-TRICHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,1-DICHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,1-DICHLOROETHENE | 2 | U | | | | | | | | | | |
| 1,2 DICHLOROBENZENE | 2 | U | | | | | | | | | | |
| 1,2-DICHLOROETHANE | 2 | U | | | | | | | | | | |
| 1,2-DICHLOROPROPANE | 2 | U | | | | | | | | | | |
| 1,3 DICHLOROBENZENE | 2 | U | | | | | | | | | | |
| 1,4-DICHLOROBENZENE | 2 | U | | | | | | | | | | |
| 2-CHLOROETHYL VINYL ETHER | 5 | U | | | | | | | | | | |
| ACROLEIN | 10 | U | | | | | | | | | | |
| ACRYLONITRILE | 10 | U | | | | | | | | | | |
| BENZENE | 1 | U | | | | | | | | | | |
| BROMODICHLOROMETHANE | 2 | U | | | | | | | | | | |
| BROMOFORM | 2 | U | | | | | | | | | | |
| BROMOMETHANE | 5 | U | | | | | | | | | | |
| CARBON TETRACHLORIDE | 2 | U | | | | | | | | | | |
| CHLOROBENZENE | 2 | U | | | | | | | | | | |
| CHLOROETHANE | 5 | U | | | | | | | | | | |
| CHLOROFORM | 2 | U | | | | | | | | | | |
| CHLOROMETHANE | 5 | U | | | | | | | | | | |
| CIS-1,3-DICHLOROPROPENE | 2 | U | | | | | | | | | | |
| DIBROMOCHLOROMETHANE | 2 | U | | | | | | | | | | |
| ETHYLBENZENE | 2 | U | | | | | | | | | | |
| METHYLENE CHLORIDE | 5 | U | | | | | | | | | | |
| TETRACHLOROETHENE | 2 | U | | | | | | | | | | |
| TOLUENE | 2 | U | | | | | | | | | | |
| TRANS-1,2-DICHLOROETHENE | 2 | U | | | | | | | | | | |
| TRANS-1,3-DICHLOROPROPENE | 2 | U | | | | | | | | | | |
| TRICHLOROETHENE | 2 | U | | | | | | | | | | |
| TRICHLOROFLUOROMETHANE | 5 | U | | | | | | | | | | |
| VINYL CHLORIDE | 1 | U | | | | | | | | | | |

| | | | |
|---|---|---|---|
| SAMPLE NUMBER: | TRIP BLANK | | |
| SAMPLE DATE: | 08/03/00 | / / | / / | / / |
| LABORATORY ID: | F7254-9 | | | |
| QC_TYPE: | NORMAL | | | |
| % SOLIDS: | 0.0 % | 100.0 % | 100.0 % | 100.0 % |
| UNITS: | UG/L | | | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILES** | | | | | | | | | | | | |
| XYLENES, TOTAL | 6 | U | | | | | | | | | | |

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASP20SB-1,6' | NASP20SB-2,6' | NASPFFDUP-1 | NASPFFSB-11,4-6'BGS |
| SAMPLE DATE: | 08/03/00 | 08/03/00 | 08/03/00 | 08/03/00 |
| LABORATORY ID: | F7254-7 | F7254-8 | F7254-6 | F7254-4 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 95.0 % | 95.6 % | 96.2 % | 93.3 % |
| UNITS: | UG/KG | UG/KG | UG/KG | UG/KG |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 3690 | | | 18200 | | | 350 | U | | 8650 | | |
| 2-METHYLNAPHTHALENE | 3910 | | | 24400 | | | 350 | U | | 9280 | | |
| ACENAPHTHENE | 3500 | U | | 14000 | U | | 690 | U | | 1400 | U | |
| ACENAPHTHYLENE | 3500 | U | | 14000 | U | | 690 | U | | 1400 | U | |
| ANTHRACENE | 1800 | U | | 7000 | U | | 350 | U | | 710 | U | |
| BENZO(A)ANTHRACENE | 685 | | | 1400 | U | | 69 | U | | 140 | U | |
| BENZO(A)PYRENE | 397 | | | 1400 | U | | 69 | U | | 140 | U | |
| BENZO(B)FLUORANTHENE | 486 | | | 1400 | U | | 69 | U | | 140 | U | |
| BENZO(G,H,I)PERYLENE | 270 | J | | 1400 | U | | 69 | U | | 140 | U | |
| BENZO(K)FLUORANTHENE | 269 | J | | 1400 | U | | 69 | U | | 140 | U | |
| CHRYSENE | 1800 | U | | 7000 | U | | 350 | U | | 710 | U | |
| DIBENZO(A,H)ANTHRACENE | 350 | U | | 1400 | U | | 69 | U | | 140 | U | |
| FLUORANTHENE | 1920 | | | 7000 | U | | 350 | U | | 710 | U | |
| FLUORENE | 1800 | U | | 3950 | J | | 350 | U | | 710 | U | |
| INDENO(1,2,3-CD)PYRENE | 445 | | | 1400 | U | | 69 | U | | 140 | U | |
| NAPHTHALENE | 1800 | U | | 5610 | J | | 350 | U | | 2850 | | |
| PHENANTHRENE | 2340 | | | 12500 | | | 350 | U | | 710 | U | |
| PYRENE | 1580 | J | | 7000 | U | | 350 | U | | 710 | U | |

| | | | |
|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB-13,14-16'BGS | NASPFFSB-14,24-27'BGS | NASPFFSB-15,6-12'BGS | NASPFFSB-16,22-26'BGS |
| SAMPLE DATE: | 08/03/00 | 08/03/00 | 08/03/00 | 08/03/00 |
| LABORATORY ID: | F7254-1 | F7254-5 | F7254-3 | F7254-2 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 93.5 % | 94.5 % | 86.5 % | 96.6 % |
| UNITS: | UG/KG | UG/KG | UG/KG | UG/KG |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 360 | U | | 350 | U | | 380 | U | | 2320 | | |
| 2-METHYLNAPHTHALENE | 360 | U | | 350 | U | | 380 | U | | 2700 | | |
| ACENAPHTHENE | 710 | U | | 700 | U | | 770 | U | | 690 | U | |
| ACENAPHTHYLENE | 710 | U | | 700 | U | | 770 | U | | 690 | U | |
| ANTHRACENE | 360 | U | | 350 | U | | 380 | U | | 340 | U | |
| BENZO(A)ANTHRACENE | 71 | U | | 70 | U | | 77 | U | | 69 | U | |
| BENZO(A)PYRENE | 71 | U | | 70 | U | | 77 | U | | 69 | U | |
| BENZO(B)FLUORANTHENE | 71 | U | | 70 | U | | 77 | U | | 69 | U | |
| BENZO(G,H,I)PERYLENE | 71 | U | | 70 | U | | 77 | U | | 69 | U | |
| BENZO(K)FLUORANTHENE | 71 | U | | 70 | U | | 77 | U | | 69 | U | |
| CHRYSENE | 360 | U | | 350 | U | | 380 | U | | 340 | U | |
| DIBENZO(A,H)ANTHRACENE | 71 | U | | 70 | U | | 77 | U | | 69 | U | |
| FLUORANTHENE | 360 | U | | 350 | U | | 380 | U | | 340 | U | |
| FLUORENE | 360 | U | | 350 | U | | 380 | U | | 340 | U | |
| INDENO(1,2,3-CD)PYRENE | 71 | U | | 70 | U | | 77 | U | | 69 | U | |
| NAPHTHALENE | 360 | U | | 350 | U | | 380 | U | | 566 | | |
| PHENANTHRENE | 360 | U | | 350 | U | | 380 | U | | 340 | U | |
| PYRENE | 360 | U | | 350 | U | | 380 | U | | 340 | U | |

SDG: F7254

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASP20SB-1,6' | | | NASP20SB-2,6' | | | NASPFFDUP-1 | | | NASPFFSB-11,4-8'BGS | | |
| SAMPLE DATE: | 08/03/00 | | | 08/03/00 | | | 08/03/00 | | | 08/03/00 | | |
| LABORATORY ID: | F7254-7 | | | F7254-8 | | | F7254-6 | | | F7254-4 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 95.0 % | | | 95.6 % | | | 96.2 % | | | 93.3 % | | |
| UNITS: | MG/KG | | | MG/KG | | | MG/KG | | | MG/KG | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| PETROLEUM HYDROCARBONS | | | | | | | | | | | | |
| TPH (C8-C40) | 10200 | | | 8520 | | | 8.6 | U | | 2530 | | |

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB-13,14-16'BGS | NASPFFSB-14,24-27'BGS | NASPFFSB-15,8-12'BGS | NASPFFSB-16,22-26'BGS |
| SAMPLE DATE: | 08/03/00 | 08/03/00 | 08/03/00 | 08/03/00 |
| LABORATORY ID: | F7254-1 | F7254-5 | F7254-3 | F7254-2 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 93.5 % | 94.5 % | 86.5 % | 96.6 % |
| UNITS: | MG/KG | MG/KG | MG/KG | MG/KG |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TPH (C8-C40) | 14.7 | | | 8.8 | U | | 9.6 | U | | 810 | | |

## APPENDIX B

Results as Reported by the Laboratory

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASP20SB-1,6' | | |
| **Lab Sample ID:** | F7254-7 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.0 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008945.D | 50 | 08/15/00 | JG | n/a | n/a | VH123 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 280 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 280 | ug/kg | |
| 75-25-2 | Bromoform | ND | 280 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 280 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 280 | ug/kg | |
| 67-66-3 | Chloroform | ND | 280 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 560 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 280 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 280 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 280 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 280 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 280 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 280 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 280 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 280 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 280 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 280 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 280 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 280 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 280 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 280 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 280 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 280 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 280 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 560 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 280 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 280 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 280 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 280 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 280 | ug/kg | |
| 108-88-3 | Toluene | ND | 280 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 280 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 280 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 280 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 840 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASP20SB-1,6' | | |
| **Lab Sample ID:** | F7254-7 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.0 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 88% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 106% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 111% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86% | | 71-122% |

(a) Dilution required due to matrix interference (non-target analytes present above calibration range).

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASP20SB-2,6' | | |
| **Lab Sample ID:** | F7254-8 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.6 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | H008946.D | 100 | 08/15/00 | JG | n/a | n/a | VH123 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 580 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 580 | ug/kg | |
| 75-25-2 | Bromoform | ND | 580 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 580 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 580 | ug/kg | |
| 67-66-3 | Chloroform | ND | 580 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 1200 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 580 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 580 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 580 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 580 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 580 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 580 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 580 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 580 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 580 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 580 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 580 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 580 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 580 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 580 | ug/kg | |
| 100-41-4 | Ethylbenzene | 252 | 580 | ug/kg | J |
| 74-83-9 | Methyl bromide | ND | 580 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 580 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 1200 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 580 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 580 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 580 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 580 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 580 | ug/kg | |
| 108-88-3 | Toluene | ND | 580 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 580 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 580 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 580 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 1700 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASP20SB-2,6' | | |
| **Lab Sample ID:** | F7254-8 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 95.6 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 88% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 106% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 112% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 86% | | 71-122% |

(a) Dilution required due to matrix interference (non-target analytes present above calibration range).

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bl
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFDUP-1 | | |
| **Lab Sample ID:** | F7254-6 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 96.2 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008925.D | 1 | 08/14/00 | JG | n/a | n/a | VH123 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 5.6 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 5.6 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.6 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.6 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.6 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.6 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 11 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.6 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.6 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.6 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.6 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.6 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.6 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.6 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.6 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.6 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.6 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.6 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.6 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.6 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.6 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 5.6 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.6 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.6 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 11 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.6 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.6 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.6 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.6 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.6 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.6 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.6 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.6 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.6 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 17 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFDUP-1 | | |
| **Lab Sample ID:** | F7254-6 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 96.2 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 97% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 106% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 101% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-11,4-8'BGS | | |
| **Lab Sample ID:** | F7254-4 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 93.3 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008934.D | 100 | 08/15/00 | JG | n/a | n/a | VH123 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 600 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 600 | ug/kg | |
| 75-25-2 | Bromoform | ND | 600 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 600 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 600 | ug/kg | |
| 67-66-3 | Chloroform | ND | 600 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 1200 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 600 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 600 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 600 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 600 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 600 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 600 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 600 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 600 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 600 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 600 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 600 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 600 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 600 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 600 | ug/kg | |
| 100-41-4 | Ethylbenzene | 5050 | 600 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 600 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 600 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 1200 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 600 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 600 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 600 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 600 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 600 | ug/kg | |
| 108-88-3 | Toluene | ND | 600 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 600 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 600 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 600 | ug/kg | |
| 1330-20-7 | Xylene (total) | 12300 | 1800 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-11,4-8'BGS | | |
| **Lab Sample ID:** | F7254-4 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 93.3 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 89% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 110% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 111% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 88% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bl
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-13,14-16'BGS | | |
| **Lab Sample ID:** | F7254-1 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 93.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008922.D | 1 | 08/14/00 | JG | n/a | n/a | VH123 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1.8 | 5.3 | ug/kg | J |
| 75-27-4 | Bromodichloromethane | ND | 5.3 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.3 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.3 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.3 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.3 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 11 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.3 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.3 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.3 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.3 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.3 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.3 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.3 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.3 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.3 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.3 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.3 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.3 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.3 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.3 | ug/kg | |
| 100-41-4 | Ethylbenzene | 17.7 | 5.3 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.3 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.3 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 11 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.3 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.3 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.3 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.3 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.3 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.3 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.3 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.3 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.3 | ug/kg | |
| 1330-20-7 | Xylene (total) | 14.4 | 16 | ug/kg | J |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-13,14-16'BGS | | |
| **Lab Sample ID:** | F7254-1 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 93.5 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 96% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 112% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 109% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-14,24-27'BGS | | |
| **Lab Sample ID:** | F7254-5 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 94.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008924.D | 1 | 08/14/00 | JG | n/a | n/a | VH123 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 5.7 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 5.7 | ug/kg | |
| 75-25-2 | Bromoform | ND | 5.7 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 5.7 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 5.7 | ug/kg | |
| 67-66-3 | Chloroform | ND | 5.7 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 11 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 5.7 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 5.7 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 5.7 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 5.7 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 5.7 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 5.7 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 5.7 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 5.7 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 5.7 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 5.7 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 5.7 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 5.7 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 5.7 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 5.7 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 5.7 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 5.7 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 5.7 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 11 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 5.7 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 5.7 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 5.7 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 5.7 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 5.7 | ug/kg | |
| 108-88-3 | Toluene | ND | 5.7 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 5.7 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.7 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 5.7 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 17 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-14,24-27'BGS | | |
| **Lab Sample ID:** | F7254-5 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 94.5 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 96% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 105% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 101% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 99% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bl
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-15,8-12'BGS | | |
| **Lab Sample ID:** | F7254-3 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 86.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008923.D | 1 | 08/14/00 | JG | n/a | n/a | VH123 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 6.4 | ug/kg | |
| 75-27-4 | Bromodichloromethane | ND | 6.4 | ug/kg | |
| 75-25-2 | Bromoform | ND | 6.4 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 6.4 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 6.4 | ug/kg | |
| 67-66-3 | Chloroform | ND | 6.4 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 13 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 6.4 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 6.4 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 6.4 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 6.4 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 6.4 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 6.4 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 6.4 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 6.4 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 6.4 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 6.4 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 6.4 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 6.4 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 6.4 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 6.4 | ug/kg | |
| 100-41-4 | Ethylbenzene | ND | 6.4 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 6.4 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 6.4 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 13 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 6.4 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 6.4 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 6.4 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 6.4 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 6.4 | ug/kg | |
| 108-88-3 | Toluene | ND | 6.4 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 6.4 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 6.4 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 6.4 | ug/kg | |
| 1330-20-7 | Xylene (total) | ND | 19 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-15,8-12'BGS | | |
| **Lab Sample ID:** | F7254-3 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 86.5 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 92% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 104% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 102% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 95% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bl
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-16,22-26'BGS | | |
| **Lab Sample ID:** | F7254-2 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 96.6 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | H008933.D | 100 | 08/15/00 | JG | n/a | n/a | VH123 |
| Run #2 | | | | | | | |

**VOA 8021 List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 113 | 560 | ug/kg | J |
| 75-27-4 | Bromodichloromethane | ND | 560 | ug/kg | |
| 75-25-2 | Bromoform | ND | 560 | ug/kg | |
| 108-90-7 | Chlorobenzene | ND | 560 | ug/kg | |
| 75-00-3 | Chloroethane | ND | 560 | ug/kg | |
| 67-66-3 | Chloroform | ND | 560 | ug/kg | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 1100 | ug/kg | |
| 56-23-5 | Carbon tetrachloride | ND | 560 | ug/kg | |
| 75-34-3 | 1,1-Dichloroethane | ND | 560 | ug/kg | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 560 | ug/kg | |
| 107-06-2 | 1,2-Dichloroethane | ND | 560 | ug/kg | |
| 78-87-5 | 1,2-Dichloropropane | ND | 560 | ug/kg | |
| 124-48-1 | Dibromochloromethane | ND | 560 | ug/kg | |
| 75-71-8 | Dichlorodifluoromethane | ND | 560 | ug/kg | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 560 | ug/kg | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 560 | ug/kg | |
| 541-73-1 | m-Dichlorobenzene | ND | 560 | ug/kg | |
| 95-50-1 | o-Dichlorobenzene | ND | 560 | ug/kg | |
| 106-46-7 | p-Dichlorobenzene | ND | 560 | ug/kg | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 560 | ug/kg | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 560 | ug/kg | |
| 100-41-4 | Ethylbenzene | 6700 | 560 | ug/kg | |
| 74-83-9 | Methyl bromide | ND | 560 | ug/kg | |
| 74-87-3 | Methyl chloride | ND | 560 | ug/kg | |
| 75-09-2 | Methylene chloride | ND | 1100 | ug/kg | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 560 | ug/kg | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 560 | ug/kg | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 560 | ug/kg | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 560 | ug/kg | |
| 127-18-4 | Tetrachloroethylene | ND | 560 | ug/kg | |
| 108-88-3 | Toluene | ND | 560 | ug/kg | |
| 79-01-6 | Trichloroethylene | ND | 560 | ug/kg | |
| 75-69-4 | Trichlorofluoromethane | ND | 560 | ug/kg | |
| 75-01-4 | Vinyl chloride | ND | 560 | ug/kg | |
| 1330-20-7 | Xylene (total) | 13300 | 1700 | ug/kg | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-16,22-26'BGS | | |
| **Lab Sample ID:** | F7254-2 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | 96.6 |
| **Project:** | NAS Pensacola | | |

**VOA 8021 List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 89% | | 71-122% |
| 2037-26-5 | Toluene-D8 | 113% | | 73-128% |
| 460-00-4 | 4-Bromofluorobenzene | 109% | | 53-158% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 90% | | 71-122% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bl
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F7254-9 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | G0014203.D | 1 | 08/19/00 | RAW | n/a | n/a | VG394 |
| Run #2 | | | | | | | |

**VOA PPL List**

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 107-02-8 | Acrolein | ND | 10 | ug/l | |
| 107-13-1 | Acrylonitrile | ND | 10 | ug/l | |
| 71-43-2 | Benzene | ND | 1.0 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | ug/l | |
| 75-25-2 | Bromoform | ND | 2.0 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | ug/l | |
| 75-00-3 | Chloroethane | ND | 5.0 | ug/l | |
| 67-66-3 | Chloroform | ND | 2.0 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 5.0 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 2.0 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 2.0 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 2.0 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 2.0 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 2.0 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 2.0 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 2.0 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 2.0 | ug/l | |
| 74-83-9 | Methyl bromide | ND | 5.0 | ug/l | |
| 74-87-3 | Methyl chloride | ND | 5.0 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 5.0 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 2.0 | ug/l | |
| 108-88-3 | Toluene | ND | 2.0 | ug/l | |
| 79-01-6 | Trichloroethylene | ND | 2.0 | ug/l | |
| 75-69-4 | Trichlorofluoromethane | ND | 5.0 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 1.0 | ug/l | |
| 1330-20-7 | Xylene (total) | ND | 6.0 | ug/l | |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis

| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F7254-9 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 08/04/00 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola | | |

**VOA PPL List**

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 98% | | 80-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101% | | 69-128% |
| 2037-26-5 | Toluene-D8 | 100% | | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 104% | | 80-120% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blan
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASP20SB-1,6' | | |
| **Lab Sample ID:** | F7254-7 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | EPA 8310 | **Percent Solids:** | 95.0 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | AA003768.D | 5 | 08/15/00 | NF | 08/07/00 | OP1920 | GAA120 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 3500 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 3500 | ug/kg | |
| 120-12-7 | Anthracene | ND | 1800 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 685 | 350 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 397 | 350 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 486 | 350 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 270 | 350 | ug/kg | J |
| 207-08-9 | Benzo(k)fluoranthene | 269 | 350 | ug/kg | J |
| 218-01-9 | Chrysene | ND | 1800 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 350 | ug/kg | |
| 206-44-0 | Fluoranthene | 1920 | 1800 | ug/kg | |
| 86-73-7 | Fluorene | ND | 1800 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 445 | 350 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 1800 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | 3690 | 1800 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 3910 | 1800 | ug/kg | |
| 85-01-8 | Phenanthrene | 2340 | 1800 | ug/kg | |
| 129-00-0 | Pyrene | 1580 | 1800 | ug/kg | J |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 136% [b] | | 22-130% |
| 92-94-4 | p-Terphenyl | 101% | | 53-130% |

(a) Dilution required due to matrix interference.
(b) Outside control limits due to matrix interference.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASP20SB-2,6' | | |
| **Lab Sample ID:** | F7254-8 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | EPA 8310 | **Percent Solids:** | 95.6 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 [a] | AA003769.D | 20 | 08/15/00 | NF | 08/07/00 | OP1920 | GAA120 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 14000 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 14000 | ug/kg | |
| 120-12-7 | Anthracene | ND | 7000 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 1400 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 1400 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 1400 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 1400 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 1400 | ug/kg | |
| 218-01-9 | Chrysene | ND | 7000 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 1400 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 7000 | ug/kg | |
| 86-73-7 | Fluorene | 3930 | 7000 | ug/kg | J |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 1400 | ug/kg | |
| 91-20-3 | Naphthalene | 5610 | 7000 | ug/kg | J |
| 90-12-0 | 1-Methylnaphthalene | 18200 | 7000 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 24450 | 7000 | ug/kg | |
| 85-01-8 | Phenanthrene | 12900 | 7000 | ug/kg | |
| 129-00-0 | Pyrene | ND | 7000 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% [b] | | 22-130% |
| 92-94-4 | p-Terphenyl | 0% [b] | | 53-130% |

(a) Dilution required due to matrix interference.
(b) Outside control limits due to dilution.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blar
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFDUP-1 | | |
| **Lab Sample ID:** | F7254-6 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | EPA 8310 | **Percent Solids:** | 96.2 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | AA003729.D | 1 | 08/14/00 | NF | 08/07/00 | OP1920 | GAA119 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 690 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 690 | ug/kg | |
| 120-12-7 | Anthracene | ND | 350 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 69 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 69 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 69 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 69 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 69 | ug/kg | |
| 218-01-9 | Chrysene | ND | 350 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 69 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 350 | ug/kg | |
| 86-73-7 | Fluorene | ND | 350 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 69 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 350 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | ND | 350 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 350 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 350 | ug/kg | |
| 129-00-0 | Pyrene | ND | 350 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 68% | | 22-130% |
| 92-94-4 | p-Terphenyl | 91% | | 53-130% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-11,4-8'BGS | | |
| **Lab Sample ID:** | F7254-4 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | EPA 8310 | **Percent Solids:** | 93.3 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | AA003772.D | 2 | 08/15/00 | NF | 08/07/00 | OP1920 | GAA120 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 1400 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 1400 | ug/kg | |
| 120-12-7 | Anthracene | ND | 710 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 140 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 140 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 140 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 140 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 140 | ug/kg | |
| 218-01-9 | Chrysene | ND | 710 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 140 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 710 | ug/kg | |
| 86-73-7 | Fluorene | ND | 710 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 140 | ug/kg | |
| 91-20-3 | Naphthalene | 2850 | 710 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | 8650 | 710 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 9280 | 710 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 710 | ug/kg | |
| 129-00-0 | Pyrene | ND | 710 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 119% | | 22-130% |
| 92-94-4 | p-Terphenyl | 88% | | 53-130% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-13,14-16'BGS | | |
| **Lab Sample ID:** | F7254-1 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | EPA 8310 | **Percent Solids:** | 93.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | AA003724.D | 1 | 08/14/00 | NF | 08/07/00 | OP1920 | GAA119 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 710 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 710 | ug/kg | |
| 120-12-7 | Anthracene | ND | 360 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 71 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 71 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 71 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 71 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 71 | ug/kg | |
| 218-01-9 | Chrysene | ND | 360 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 71 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 360 | ug/kg | |
| 86-73-7 | Fluorene | ND | 360 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 71 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 360 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | ND | 360 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 360 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 360 | ug/kg | |
| 129-00-0 | Pyrene | ND | 360 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 71% | | 22-130% |
| 92-94-4 | p-Terphenyl | 92% | | 53-130% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-14,24-27'BGS | | |
| **Lab Sample ID:** | F7254-5 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | EPA 8310 | **Percent Solids:** | 94.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | AA003728.D | 1 | 08/14/00 | NF | 08/07/00 | OP1920 | GAA119 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 700 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 700 | ug/kg | |
| 120-12-7 | Anthracene | ND | 350 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 70 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 70 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 70 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 70 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 70 | ug/kg | |
| 218-01-9 | Chrysene | ND | 350 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 70 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 350 | ug/kg | |
| 86-73-7 | Fluorene | ND | 350 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 70 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 350 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | ND | 350 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 350 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 350 | ug/kg | |
| 129-00-0 | Pyrene | ND | 350 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 68% | | 22-130% |
| 92-94-4 | p-Terphenyl | 94% | | 53-130% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-15,8-12'BGS | | |
| **Lab Sample ID:** | F7254-3 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | EPA 8310 | **Percent Solids:** | 86.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | AA003726.D | 1 | 08/14/00 | NF | 08/07/00 | OP1920 | GAA119 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 770 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 770 | ug/kg | |
| 120-12-7 | Anthracene | ND | 380 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 77 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 77 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 77 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 77 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 77 | ug/kg | |
| 218-01-9 | Chrysene | ND | 380 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 77 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 380 | ug/kg | |
| 86-73-7 | Fluorene | ND | 380 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 77 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 380 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | ND | 380 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 380 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 380 | ug/kg | |
| 129-00-0 | Pyrene | ND | 380 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 69% | | 22-130% |
| 92-94-4 | p-Terphenyl | 93% | | 53-130% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-16,22-26'BGS | | |
| **Lab Sample ID:** | F7254-2 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | EPA 8310 | **Percent Solids:** | 96.6 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | AA003771.D | 1 | 08/15/00 | NF | 08/07/00 | OP1920 | GAA120 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 690 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 690 | ug/kg | |
| 120-12-7 | Anthracene | ND | 340 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 69 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 69 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 69 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 69 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 69 | ug/kg | |
| 218-01-9 | Chrysene | ND | 340 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 69 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 340 | ug/kg | |
| 86-73-7 | Fluorene | ND | 340 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 69 | ug/kg | |
| 91-20-3 | Naphthalene | 566 | 340 | ug/kg | |
| 90-12-0 | 1-Methylnaphthalene | 2300 | 340 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 2700 | 340 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 340 | ug/kg | |
| 129-00-0 | Pyrene | ND | 340 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 105% | | 22-130% |
| 92-94-4 | p-Terphenyl | 91% | | 53-130% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASP20SB-1,6' | | |
| **Lab Sample ID:** | F7254-7 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | FLORIDA-PRO | **Percent Solids:** | 95.0 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP10164.D | 400 | 08/12/00 | ME | 08/08/00 | OP1924 | GOP423 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | TPH (C8-C40) | 10200 | 3500 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% a | | 40-140% |

(a) Outside control limits due to dilution.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASP20SB-2,6' | | |
| **Lab Sample ID:** | F7254-8 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | FLORIDA-PRO | **Percent Solids:** | 95.6 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP10165.D | 200 | 08/12/00 | ME | 08/08/00 | OP1924 | GOP423 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | TPH (C8-C40) | 6520 | 1700 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% a | | 40-140% |

(a) Outside control limits due to dilution.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFDUP-1 | | |
| **Lab Sample ID:** | F7254-6 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | FLORIDA-PRO | **Percent Solids:** | 96.2 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP10141.D | 1 | 08/11/00 | ME | 08/08/00 | OP1924 | GOP422 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | TPH (C8-C40) | ND | 8.6 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 106% | | 40-140% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-11,4-8'BGS | | |
| **Lab Sample ID:** | F7254-4 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | FLORIDA-PRO | **Percent Solids:** | 93.3 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP10163.D | 80 | 08/12/00 | ME | 08/08/00 | OP1924 | GOP423 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | TPH (C8-C40) | 2530 | 720 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% * | | 40-140% |

(a) Outside control limits due to dilution.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blar
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-13,14-16'BGS | | |
| **Lab Sample ID:** | F7254-1 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | FLORIDA-PRO | **Percent Solids:** | 93.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP10133.D | 1 | 08/10/00 | ME | 08/08/00 | OP1924 | GOP422 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | TPH (C8-C40) | 14.7 | 8.8 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 101% | | 40-140% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-14,24-27'BGS | | |
| **Lab Sample ID:** | F7254-5 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | FLORIDA-PRO | **Percent Solids:** | 94.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP10140.D | 1 | 08/11/00 | ME | 08/08/00 | OP1924 | GOP422 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | TPH (C8-C40) | ND | 8.8 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 93% | | 40-140% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bla
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-15,8-12'BGS | | |
| **Lab Sample ID:** | F7254-3 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | FLORIDA-PRO | **Percent Solids:** | 86.5 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP10137.D | 1 | 08/11/00 | ME | 08/08/00 | OP1924 | GOP422 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | TPH (C8-C40) | ND | 9.6 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 102% | | 40-140% |

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-16,22-26'BGS | | |
| **Lab Sample ID:** | F7254-2 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| **Method:** | FLORIDA-PRO | **Percent Solids:** | 96.6 |
| **Project:** | NAS Pensacola | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP10160.D | 25 | 08/12/00 | ME | 08/08/00 | OP1924 | GOP423 |
| Run #2 | | | | | | | |

| CAS No. | Compound | Result | RL | Units | Q |
|---|---|---|---|---|---|
| | TPH (C8-C40) | 810 | 220 | mg/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 0% * | | 40-140% |

(a) Outside control limits due to dilution.

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method bl
N = Indicates presumptive evidence of a compound

# APPENDIX C

## Support Documentation

ACCUTEST.

# Sample Summary

Tetra-Tech, NUS

**Job No:** F7254

NAS Pensacola
Project No: CTO#112, JOB#0401

| Sample Number | Collected Date | Time By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|
| F7254-1 | 08/03/00 | 08:00 DH | 08/04/00 | SO | Soil | NASPFFSB-13,14-16'BGS |
| F7254-2 | 08/03/00 | 09:00 DH | 08/04/00 | SO | Soil | NASPFFSB-16,22-26'BGS |
| F7254-3 | 08/03/00 | 09:30 DH | 08/04/00 | SO | Soil | NASPFFSB-15,8-12'BGS |
| F7254-4 | 08/03/00 | 09:55 DH | 08/04/00 | SO | Soil | NASPFFSB-11,4-8'BGS |
| F7254-5 | 08/03/00 | 10:30 DH | 08/04/00 | SO | Soil | NASPFFSB-14,24-27'BGS |
| F7254-6 | 08/03/00 | 00:00 DH | 08/04/00 | SO | Soil | NASPFFDUP-1 |
| F7254-7 | 08/03/00 | 15:00 DH | 08/04/00 | SO | Soil | NASP20SB-1,6' |
| F7254-8 | 08/03/00 | 15:45 DH | 08/04/00 | SO | Soil | NASP20SB-2,6' |
| F7254-9 | 08/03/00 | 00:00 DH | 08/04/00 | AQ | Trip Blank Water | TRIP BLANK |

# ACCUTEST.

# CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F7254
ACCUTEST QUOTE #:
0011

## CLIENT INFORMATION

TetraTech NUS
ADDRESS: 2 Oven Park Dr.
CITY: Tallahassee STATE: FL ZIP: 32301
REPORT TO: Gerry Walker
PHONE #: 850-385-9899

## FACILITY INFORMATION

NAS Pensacola
PROJECT NAME: Sherman Fuel Farm
LOCATION: 0401
PROJECT NO.: 0401
FAX #: 850-385-9860

## ANALYTICAL INFORMATION

## MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

| ITEST PLE # | FIELD ID / POINT OF COLLECTION | COLLECTION DATE | TIME | SAMPLED BY: | MATRIX | # OF BOTTLES | PRESERVATION HCl | HNO3 | H2SO4 | NaOH | None | VOC (Env.A) 8021 | PAH (4 oz) | TRPH (4 oz) | SVOA (8 oz) SPLP | 8 RCRA (4 oz) | TOC/TOX (4 oz) | Grain Size (8 oz) | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | Trip Blank | 7/27/00 | 1030 | | W | 2 | ✓ | | | | | | | | | | | | |
| 1 | NASPFFSB-13, 14-16' BGS | 8/3/00 | 0800 | DH | SO | 6 | | | | | | 3 | 1 | 1 | 1 | | | | |
| 2 | NASPFFSB-16, 22-26' BGS | " | 0900 | DH | SO | 6 | | | | | | 3 | 1 | 1 | | 1 | | | Hot |
| 3 | NASPFFSB-15, 8-12' BGS | " | 0930 | DH | SO | 9 | | | | | | 3 | 1 | 1 | | | 3 | 1 | |
| 4 | NASPFFSB-11, 4-8' BGS | " | 0955 | DH | SO | 6 | | | | | | 3 | 1 | 1 | 1 | | | | Hot |
| 5 | NASPFFSB-14, 24-27' BGS | " | 1030 | DH | SO | 8 | | | | | | 3 | 1 | 1 | | | 3 | | |
| 6 | NASPFF DUP-1 | " | — | DH | SO | 5 | | | | | | 3 | 1 | 1 | | | | | |

## DATA TURNAROUND INFORMATION

STANDARD
HOUR RUSH
HOUR EMERGENCY
OTHER
APPROVED BY:

GENCY OR RUSH IS FAX DATA
ES PREVIOUSLY APPROVED

## DATA DELIVERABLE INFORMATION

☑ STANDARD
☐ COMMERCIAL "B"
☐ DISK DELIVERABLE
☐ STATE FORMS
☐ OTHER (SPECIFY)

## COMMENTS/REMARKS

## SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

| RELINQUISHED BY SAMPLER: | DATE/TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE/TIME: | RECEIVED BY: |
|---|---|---|---|---|---|
| Dan Hartnett | 8/3/00 1815 | 1. | 2. | | 2. |
| RELINQUISHED BY: | DATE/TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE/TIME: | RECEIVED BY: |
| | | 8/4 0900 | 4 | | 4 |

TEL: 407-425-6700 • FAX: 407-425-0707

REQUEST QUOTE #: / 0

## CLIENT INFORMATION

AS Pensacola
etra Tech NUS
RESS
to1 Oven Park Dr.
Tallahassee STATE FL ZIP 32301
REPORT TO: Gerry Walker
NE # 850-385-9899

## FACILITY INFORMATION

PROJECT NAME: Nas Pensacola
LOCATION: Site 20
PROJECT NO.: 0401
FAX # 850-385-9860

## ANALYTICAL INFORMATION

VOC (encore)
PAH (4 oz)
TRPH (4 oz)

## MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

LAB USE ONLY

| UTEST IPLE # | FIELD ID / POINT OF COLLECTION | COLLECTION DATE | COLLECTION TIME | SAMPLED BY: | MATRIX | # OF BOTTLES | PRESERVATION HCl | PRESERVATION HNO3 | PRESERVATION H2SO4 | PRESERVATION NONE | VOC (encore) | PAH (4 oz) | TRPH (4 oz) | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 7 | NASP20SB-1, 6' | 8/3/00 | 1500 | DH | SO | 5 | | | | | 3 | 1 | 1 | HOT |
| 8 | NASP20SB-2, 6' | 8/3/00 | 1545 | DH | SO | 5 | | | | | 3 | 1 | 1 | |

## DATA TURNAROUND INFORMATION

STANDARD
48 HOUR RUSH
24 HOUR EMERGENCY
OTHER
APPROVED BY:
RGENCY OR RUSH IS FAX DATA
SES PREVIOUSLY APPROVED

## DATA DELIVERABLE INFORMATION

☒ STANDARD
☐ COMMERCIAL "B"
☐ DISK DELIVERABLE
☐ STATE FORMS
☐ OTHER (SPECIFY)

## COMMENTS/REMARKS

## SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

| RELINQUISHED BY SAMPLER | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
|---|---|---|---|---|---|
| Sam Hunt | 8/3/00 1815 | 1. [illegible] 8/4 0900 | 2. | | 2. |
| RELINQUISHED BY: | DATE TIME: | RECEIVED BY: 3. | RELINQUISHED BY: 4. | DATE TIME: | RECEIVED BY: 4. |
| RELINQUISHED BY: | DATE TIME: | RECEIVED BY: 5. | SEAL # | PRESERVE WHERE APPLICABLE ☐ | ON ICE ☐ TEMPERATURE 2.0 C |

ACCUTEST. SO

# CHAIN OF CUSTODY

4405 VINELAND ROAD, SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST QUOTE #:

9043

**CLIENT INFORMATION**

ALSE

E

NESS

STATE ZIP

REPORT TO:

NE #

**FACILITY INFORMATION**

F7254

PROJECT NAME

LOCATION

PROJECT NO.

FAX #

**ANALYTICAL INFORMATION**

TOC

**MATRIX CODES**

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

**LAB USE ONLY**

| JTEST PLE # | FIELD ID / POINT OF COLLECTION | COLLECTION DATE | TIME | SAMPLED BY: | MATRIX | # OF BOTTLES | PRESERVATION HCl | NaOH | HNO3 | H2SO4 | NONE | TOC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F7254-3 | 8/3/00 | | TT | SO | 1 | | | | | | X |
| | F7254-5 | " | | " | " | 1 | | | | | | X |

(TW)

**DATA TURNAROUND INFORMATION**

TANDARD
8 HOUR RUSH
4 HOUR EMERGENCY
THER 14 DAY

APPROVED BY:

GENCY OR RUSH IS FAX DATA
SS PREVIOUSLY APPROVED

**DATA DELIVERABLE INFORMATION**

- ☐ STANDARD
- ☐ COMMERCIAL "B"
- ☐ DISK DELIVERABLE
- ☐ STATE FORMS
- ☒ OTHER (SPECIFY) FTI

**COMMENTS/REMARKS**

NJ

**SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY**

| UISHED BY SAMPLER: | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
|---|---|---|---|---|---|
| Mike Finell | 8/8/00 1450 | 1. FED EX | 2. FED EX | 8-9-00 1030 | 2. |
| UISHED BY: | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
| | | 3. | 4. | | 4. |

SEAL # PRESERVE WHERE APPLICABLE ON ICE TEMPERATURE

# Accutest Laboratories Southeast
# Case Narrative

Job (SDG) No.:_____

Samples: _____

Analysis Performed: _____

1) Sample Receipt Conformance / Non-Conformance Summary

| | | |
|---|---|---|
| Custody Seals on Coolers? | Yes ( ) | No ( ) |
| Custody Seals in Tact? | Yes ( ) | No ( ) |
| Chain of Custody Sealed in Plastic? | Yes ( ) | No ( ) |
| Chain of Custody Filled out Properly? | Yes ( ) | No ( ) |
| Enough ice and Packing material? | Yes ( ) | No ( ) |
| All Bottles Sealed? | Yes ( ) | No ( ) |
| Any Bottles Broken? | Yes ( ) | No ( ) |
| Labels in good condition? | Yes ( ) | No ( ) |
| Labels agree with chain of custody? | Yes ( ) | No ( ) |
| Correct Containers Used? | Yes ( ) | No ( ) |
| Preserved Properly? | Yes ( ) | No ( ) |
| Sufficient Sample? | Yes ( ) | No ( ) |

Comments: _____

## da Williams

n: Linda Williams
t: Monday, August 07, 2000 10:34 AM
Heather Wendrey
Harry Behzadi
ject: FW: FTL54

ther

you please cancel the SPLP analysis per email below?

ks
a R. Williams
ct Manager
test Laboratories, SE
07-425-6700
407-425-0707
: lindaw@accutest.com

iginal Message—
: Walker, Gerald [SMTP:WalkerG@tinus.com]
Monday, August 07, 2000 9:14 AM
Linda Williams
ct: RE:

:
scussing the SPLP analysis we decided that the analysis may be
ature. At this time we don't want to extract or analyze the samples
cted for SPLP. If SPLP analysis is required in the future, we will
lect the required sample. Sorry for the inconvenience and confusion.

/

-Original Message—
m: Linda Williams [SMTP:LindaW@Accutest.com]
nt: Friday, August 04, 2000 12:53 PM
: Gerry Walker (E-mail)
bject: FW:
portance: High

rry

n you please help me out with this, so I can get the samples logged in?

anks
da R. Williams
ject Manager
utest Laboratories, SE
: 407-425-6700
c 407-425-0707
ail: lindaw@accutest.com

—Original Message—
rom: Linda Williams
ent: Friday, August 04, 2000 11:56 AM
o: Howard Engle (E-mail)
ubject:

loward

/e received some samples in today from NAS Pensacola. On the chain of

> > custody it just states SPLP. We need to know what analysis you are
> > requesting SPLPs on. I am faxing the COC over to you. Please list the
> > requested analysis for SPLP on the COC and fax it back to us.
> >
> > Also, if there is anyway possible can you please have the field crew
> list
> > the requested analysis for SPLP clearly (i.e. SPLP-PAH, SPLP-8260,
> SPLP-FL
> > PRO etc.). This will aid in the job being logged in more efficiently
> and
> > correctly.
> >
> > Thanks
> > Linda R. Williams
> > Project Manager
> > Accutest Laboratories, SE
> > Ph: 407-425-6700
> > Fax: 407-425-0707
> > email: lindaw@accutest.com
> >

equence Name: C:\HPCHEM\1\SEQUENCE\081400.S
Comment:
Operator: JuanG
Data Path: C:\HPCHEM\1\DATA\081400\
Pre-Seq Cmd:
Post-Seq Cmd:

ethod Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| ne | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | BFB | 100 | H008917 | BFB | BFB |
| 2 | DailyCal | 1 | H008918 | 8260S | CC119-40 |
| 3 | Spike | 2 | H008919 | 8260S | BS |
| 4 | Blank | 3 | H008920 | 8260S | MB |
| 5 | Sample | 4 | H008921 | 8260S | F7248-1,5.04g |
| 6 | Sample | 5 | H008922 | 8260S | F7254-1,5.03g |
| 7 | Sample | 6 | H008923 | 8260S | F7254-3,4.52g |
| 8 | Sample | 7 | H008924 | 8260S | F7254-5,4.62g |
| 9 | Sample | 8 | H008925 | 8260S | F7254-6,4.64g |
| 0 | Sample | 9 | H008926 | 8260S | F7254-7,4.97g |
| 1 | Sample | 10 | H008927 | 8260S | F7331-1,4.43g |
| 2 | Sample | 11 | H008928 | 8260S | F7331-2,4.19g |
| 3 | Sample | 12 | H008929 | 8260S | F7331-3,4.39g |
| 4 | Sample | 13 | H008930 | 8260S | F7331-4,4.57g |
| 5 | Sample | 14 | H008931 | 8260S | F7321-5MS,5.01g |
| 6 | Sample | 15 | H008932 | 8260S | F7321-5MSD,5.03g |
| 7 | Sample | 16 | H008933 | 8260S | F7254-2,4.58g (50uL) |
| 8 | Sample | 17 | H008934 | 8260S | F7254-4,4.49g (50uL) |
| 9 | Sample | 18 | H008935 | 8260S | F7254-8,4.54g (50uL) |

# GC/MS Analysis Log

0246

Date: 8-14-00 Analyst Signature: [signature] Run Batch: _____

Analysis Method: 8260 Column: DB624 Detector: 5970MSD

Method File: 8260S Instrument ID: H Calibration Date: 8-2-00

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| H008917 | BFB | 2 ul | – | – | – | – | BFB | – | V1679 |
| 18 | CC119-40 | 5g | S | – | 1 | 1 | 8260S | – | V1715, V1716, V1709, 1020 |
| 19 | BS | ↓ | ↓ | ↓ | 2 | | ↓ | – | V1660, V1706, V1718 |
| 20 | MB | ↓ | ↓ | ↓ | 3 | | ↓ | – | ND |
| 21 | F7248-1 | 5.04 g | ↓ | ↓ | 4 | 1000 | ↓ | 9578 | ND MS670, VH122 |
| 22 | F7254-1 | 5.03 | ↓ | ↓ | 5 | 1 | ↓ | 9582 | ✓ MS671, VH123 |
| 23 | -3 | 4.32 | ↓ | ↓ | 6 | ↓ | ↓ | | ✓ |
| 24 | -5 | 4.62 | ↓ | ↓ | 7 | ↓ | ↓ | 9595 | ND |
| 25 | -6 | 4.64 | ↓ | ↓ | 8 | ↓ | ↓ | 9597 | ✓ |
| 26 | -7 | 4.97 | ↓ | ↓ | 9 | ↓ | ↓ | 9600 | ✓ RR 3 sox ↑D/SS |
| 27 | F7331-1 | 4.43 | ↓ | ↓ | 10 | ↓ | ↓ | 9763 | ND MS674, VH124 |
| 28 | -2 | 4.19 | ↓ | ↓ | 11 | ↓ | ↓ | 9767 | ND |
| 29 | -3 | 4.39 | ↓ | ↓ | 12 | ↓ | ↓ | 9770 | ND |
| 30 | -4 | 4.57 | ↓ | ↓ | 13 | ↓ | ↓ | 9773 | ND |
| 31 | F7321-5MS | 5.01 | ↓ | ↓ | 14 | ↓ | ↓ | – | ✓ MS671, VH123 |
| 32 | -5MSD | 5.03 | ↓ | ↓ | 15 | ↓ | ↓ | – | ✓ ↓ |
| 33 | F7254-2 | 4.58 | ↓ | ↓ | 16 | 100x | ↓ | 9584 | ✓ |
| 34 | -4 | 4.49 | ↓ | ↓ | 17 | ↓ | ↓ | 9590 | ✓ |
| 35 | -8 | 4.54 | ↓ | ↓ | 18 | ↓ | ↓ | 9602 | ✓ RR 50x |
| 3 | | | | | | | | | |

[signature]

Notes:

equence Name: C:\HPCHEM\1\OLDDATA\081500.S
Comment:
Operator: JuanG
Data Path: C:\HPCHEM\1\DATA\081500\
Pre-Seq Cmd:
Post-Seq Cmd:

ethod Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| ine | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | BFB | 100 | H008936 | BFB | BFB |
| 2 | DailyCal | 1 | H008937 | 8260S | CC119-40 |
| 3 | Spike | 2 | H008938 | 8260S | BS |
| 4 | Blank | 3 | H008939 | 8260S | MB |
| 5 | Sample | 4 | H008940 | 8260S | T750-1,4.02g (100uL) |
| 6 | Sample | 5 | H008941 | 8260S | T750-2,4.88g (50uL) |
| 7 | Sample | 6 | H008942 | 8260S | T750-3,5.73g (100uL) |
| 8 | Sample | 7 | H008943 | 8260S | T750-4,5.11g (100uL) |
| 9 | Sample | 8 | H008944 | 8260S | T750-1,4.12g |
| 10 | Sample | 9 | H008945 | 8260S | F7254-7,4.72g (100uL) |
| 11 | Sample | 10 | H008946 | 8260S | F7254-8,4.54g (50uL) |
| 12 | Sample | 11 | H008947 | 8260S | F7331-5,4.62g |
| 13 | Sample | 12 | H008948 | 8260S | F7331-6,4.35g |
| 14 | Sample | 13 | H008949 | 8260S | F7331-7,4.06g |
| 15 | Sample | 14 | H008950 | 8260S | F7331-8,5.22g |
| 16 | Sample | 15 | H008951 | 8260S | F7331-9,4.57g |
| 17 | Sample | 16 | H008952 | 8260S | F7331-10,4.09g |
| 18 | Sample | 17 | H008953 | 8260S | T750-3,3.77g |
| 19 | Sample | 18 | H008954 | 8260S | T750-4,4.86g |
| 20 | Sample | 19 | H008955 | 8260S | T750-2,4.88g (100uL) |

Date: 8-15-00 Analyst Signature: [signature] Run Batch:

Analysis Method: 8260 Column: DB624 Detector: 5970MSD

Method File: 8260 S Instrument ID: H Calibration Date: 8-2-00

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| H00 8936 | BFB | | | | | | BFB | | V1679 |
| 37 | CC119-40 | 5g | S | — | 1 | 1 | 8260 | — | V1715, V1716, V1709, 1020 |
| 38 | BS | | | | 2 | | ! | — | V1660, V1706, V1717 |
| 39 | MB | | | | 3 | | | — | |
| 40 | T750-1 | 4.02 | | | 4 | 50X | | — | ✓ RR 1X MS624 VH124 |
| 41 | -2 | 4.88 | | | 5 | 100X | | 9802 | ✓ RR 50X |
| 42 | -3 | 5.73 | | | 6 | 50X | | 9801 | ✓ RR 1X |
| 43 | -4 | 5.11 | | | 7 | 50X | | 9803 | ✓ RR 1X |
| 44 | -1 | 4.12 | | | 8 | 1X | | 9801 | ✓ |
| 45 | F7254-7 | 4.72 | | | 9 | 50X | | 9799 | ✓ |
| 46 | -8 | 4.54 | | | 10 | 100X | | 9754 | ✓ 9602 |
| 47 | F7331-5 | 4.62 | | | 11 | 1X | | 9777 | ND |
| 48 | -6 | 4.32 | | | 12 | ↓ | | 9778 | ND |
| 49 | -7 | 4.06 | | | 13 | | | 9782 | ND |
| 50 | -8 | 5.22 | | | 14 | | | 9785 | ND |
| 51 | -9 | 4.57 | | | 15 | | | 9787 | ND |
| 52 | -10 | 4.09 | | | 16 | | | 9779 | ND |
| 53 | T750-3 | 3.77 | | | 17 | | | 9804 | ✓ |
| 54 | -4 | 4.86 | ↓ | ↓ | 18 | ↓ | ↓ | 9810 | ✓ |
| | 2 | | | | | | | | |

Notes:

Matrix: Designate W for water, L for non-aqueous liquid, S for soil, SOL for solid, and TCLP or SPLP for leachates.

Sequence Name: C:\HPCHEM\1\SEQUENCE\081900.S
Comment:
Operator: RickW
Data Path: C:\HPCHEM\1\DATA\081900\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | BFB | 100 | G0014182 | BFB | BFB tune |
| 2 | Calibration | 1 | G0014183 | 8260LL | IC393-1 |
| 3 | Calibration | 2 | G0014184 | 8260LL | IC393-5 |
| 4 | Calibration | 3 | G0014185 | 8260LL | IC393-10 |
| 5 | Calibration | 4 | G0014186 | 8260LL | ICC393-20 |
| 6 | Calibration | 5 | G0014187 | 8260LL | IC393-35 |
| 7 | Calibration | 6 | G0014188 | 8260LL | IC393-50 |
| 8 | Blank | 7 | G0014189 | 8260LL | MB |
| 9 | Calibration | 8 | G0014190 | 8260LL | IC393-1 |
| 10 | DailyCal | 9 | G0014191 | 8260LL | CC393-20 |
| 11 | Spike | 10 | G0014192 | 8260LL | BS |
| 12 | Blank | 11 | G0014193 | 8260LL | MB |
| 13 | Sample | 12 | G0014194 | 8260LL | WP-66,10mL |
| 14 | Sample | 13 | G0014195 | 8260LL | F7334-2,200uL |
| 15 | Sample | 14 | G0014196 | 8260LL | F7286-1,10mL |
| 16 | Sample | 15 | G0014197 | 8260LL | F7286-2,10mL |
| 17 | Sample | 16 | G0014198 | 8260LL | F7286-3,10mL |
| 18 | Sample | 17 | G0014199 | 8260LL | F7286-4,10mL |
| 19 | Spike | 18 | G0014200 | 8260LL | LBS,10mL |
| 20 | Spike | 19 | G0014201 | 8260LL | F7243-7ams,10mL |
| 21 | Sample | 20 | G0014202 | 8260LL | F7303-1,10mL |
| 22 | Sample | 21 | G0014203 | 8260LL | F7254-9,10mL |
| 23 | Sample | 22 | G0014204 | 8260LL | F7263-1,10mL |
| 24 | Sample | 23 | G0014205 | 8260LL | F7304-2,10mL |
| 25 | Sample | 24 | G0014206 | 8260LL | F7304-1,0.1g/10mL-100uL |
| 26 | Blank | 25 | G0014207 | 8260LL | blank,10mL |
| 27 | Sample | 26 | G0014208 | 8260LL | F7294-8,10mL |
| 28 | Sample | 27 | G0014209 | 8260LL | F7289-15,500uL |
| 29 | Sample | 28 | G0014210 | 8260LL | F7289-16,500uL |
| 30 | Sample | 29 | G0014211 | 8260LL | F7289-17,10mL |

Date: 8-19-00 Analyst Signature: [signature] Run Batch: _____

Analysis Method: 8260/624 Column: DB-624 Detector: 5970MSD

Method File: 826CLL Instrument ID: G Calibration Date: 8-19-00

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| G0014182 | BFB | | | | | | | | |
| 83 | IC393-1 | 10mL | W | 7 | 1 | 1 | | | V1715, V1729, V1733, 1020 |
| 84 | -5 | | | | 2 | | | | |
| 85 | -10 | | | | 3 | | | | |
| 86 | -20 | | | | 4 | | | | |
| 87 | -35 | | | | 5 | | | | |
| 88 | -50 | | | | 6 | | | | |
| 89 | MB | | | | 7 | | | | |
| 90 | IC393-1 | | | | 8 | | | | |
| ~~91~~ | ~~BS~~ | | | | ~~9~~ | | | | ~~V1723, V1722, V1718~~ |
| ~~92~~ | ~~MB~~ | | | | ~~10~~ | | | | ~~V1731~~ |
| ~~93~~ | ~~F7334-2~~ | ~~200uL~~ | | | ~~11~~ | ~~50~~ | ~~8260~~ | ~~3~~ | ~~MS679, VG393~~ } Raw |
| 91 | CC393-20 | 10mL | W | | 9 | 1 | | | ✓ |
| 92 | BS | | | | 10 | | | | ✓ V1723, V1722, V1718 |
| 93 | MB | | | | 11 | | | | ND V1731 |
| ~~94~~ | ~~F7334-2~~ | ~~200uL~~ | | ~~7~~ | ~~12~~ | ~~50~~ | ~~8260~~ | ~~3~~ | ~~MS679, VG393~~ Raw |
| 94 | WP-66 | 10mL | W | 7 | 12 | 1 | | | ✓ |
| 95 | F7334-2 | 200uL | | 7 | 13 | 50 | 8260 | 3 | PH! ✓E MS679, VG393 |
| 96 | F7286-1 | 10mL | | 1 | 14 | 1 | | 1 | ✓ |
| 97 | -2 | | | 7 | 15 | | | 1 | PH! ND |
| 98 | -3 | | | 1 | 16 | | | 1 | ND |
| 99 | -4 | | | 7 | 17 | | | 1 | PH! ND |
| 200 | LBS | | | | 18 | | | | ✓ MS682, VG395 |
| 1 | F7243-7ANS | | | | 19 | | | | ✓ |
| 2 | F7303-1 | | | 1 | 20 | | | 1 | ND MS681, VG394 |
| 3 | F7254-9 | | | 1 | 21 | | | 1 | ND |
| 4 | F7263-1 | | | 1 | 22 | | | 1 | ND |
| 5 | F7304-2 | | | 1.5 | 23 | | | 1 | ND |

Notes: _____

Matrix: Designate W for water, L for non-aqueous liquid, S for soil, SOL for solid, and TCLP or SPLP for leachates.

# GC/MS Analysis Log

Date: 8-19-00 Analyst Signature: [signature] Run Batch: _____

Analysis Method: 8260/624 Column: DB-624 Detector: 5970MSD

Method File: 8260LL Instrument ID: G Calibration Date: 8-19-00

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 0014206 | F7304-1 | 10mL | O | | 24 | 50K | 8260 | 1 | ND RUN @ 5,000X |
| 7 | BLANK | ↓ | W | 7 | 25 | 1 | | | ND |
| 8 | F7294-8 | ↓ | ↓ | 1 | 26 | 1 | ↓ | 1 | ✓ MS ET1 VG393 |
| 9 | F7289-15 | 500mL | ↓ | 1 | 27 | 20 | 624 | 1 | ✓ RUN @ 1X MS 683 VG396 |
| 10 | -16 | 500mL | ↓ | 1 | 28 | 20 | ↓ | 1 | ✓ RUN @ 100X? |
| 11 | -17 | 10mL | V | 1 | 29 | 1 | ↓ | 1 | ✓ |
| | | | | | | | RUN | | |

Notes: _____

0251

ence Name: C:\MSDCHEM\1\SEQUENCE\080200.S
Comment:
Operator: RickW
Data Path: C:\MSDCHEM\1\data\080200\
e-Seq Cmd:
t-Seq Cmd:

iod Sections To Run
Full Method
Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| | e Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| | BFB | 100 | B001497 | BFB | BFB tune |
| | Calibration | 1 | B001498 | 8260LL | IC48-1 |
| | Calibration | 2 | B001499 | 8260LL | IC48-5 |
| | Calibration | 3 | B001500 | 8260LL | IC48-20 |
| | Calibration | 4 | B001501 | 8260LL | ICC48-40 |
| | Calibration | 5 | B001502 | 8260LL | IC48-70 |
| | Calibration | 6 | B001503 | 8260LL | IC48-100 |
| | DailyCal | 7 | B001504 | 8260LL | CC48-40 |
| ) | Spike | 8 | B001505 | 8260LL | BS,5mL |
| ) | Blank | 9 | B001506 | 8260LL | MB,5mL |
| . | Sample | 10 | B001507 | 8260LL | F7089-2,100uL |
| 2 | Sample | 11 | B001508 | 8260LL | F7089-11,5mL |
| 3 | Sample | 12 | B001509 | 8260LL | F7089-12,5mL |
| 4 | Sample | 13 | B001510 | 8260LL | F7092-1,5mL |
| 5 | Spike | 14 | B001511 | 8260LL | F7089-1ms,5mL |
| 6 | Duplicate | 14 | B001512 | 8260LL | F7089-1msd,5mL |
| 7 | Sample | 15 | B001513 | 8260LL | F7135-1,5mL |
| 8 | Sample | 16 | B001514 | 8260LL | F7135-2,5mL |
| 9 | Sample | 17 | B001515 | 8260LL | F7135-5,1mL |
| 0 | Pause | - F7135-5,1mL | | | |
| 1 | Sample | 18 | B001516 | 8260LL | F7135-7,1mL |
| 2 | Sample | 19 | B001517 | 8260LL | F7100-1,5mL |
| 3 | Sample | 20 | B001518 | 8260LL | F7100-2,5mL |
| 4 | Sample | 21 | B001519 | 8260LL | F7100-3,5mL |
| 5 | Sample | 22 | B001520 | 8260LL | F7100-4,5mL |
| 6 | Sample | 23 | B001521 | 8260LL | F7100-5,5mL |
| 7 | Sample | 24 | B001522 | 8260LL | F7135-8,500uL |
| 8 | Sample | 25 | B001523 | 8260LL | F7135-9,500uL |
| 9 | Sample | 26 | B001524 | 8260LL | F7135-10,5mL |
| 30 | Sample | 27 | B001525 | 8260LL | F7135-11,5mL |
| 31 | Sample | 28 | B001526 | 8260LL | F7135-14,5mL |
| 32 | Sample | 29 | B001527 | 8260LL | F7135-13,5mL |
| 33 | Sample | 30 | B001528 | 8260LL | F7135-12,500uL |
| 34 | Sample | 31 | B001529 | 8260LL | F7077-1,1mL |
| 35 | Sample | 32 | B001530 | 8260LL | F7077-1,1mL |

# GC/MS Analysis Log

Date: 8-2-00 Analyst Signature: [signature] Run Batch: _____

Analysis Method: 624 / 8260 Column: DB-624 Detector: HP5970MSD

Method File: 8260LL Instrument ID: HP B (5890) Calibration Date: 8-2-00

| Data File | Sample ID | Sample Amt. | Matrix | PH | ALS # | Dil. | Method | Vial # | Comments |
|---|---|---|---|---|---|---|---|---|---|
| B001497 | BFB | | | | | | | | V1679 |
| 98 | ICAL5-1 | 5mL | W | 7 | 1 | 1 | | | V1693, V1703, V1692 |
| 99 | -5 | | | | 2 | | | | low |
| 500 | -20 | | | | 3 | | | | |
| 1 | -40 | | | | 4 | | | | |
| 2 | -70 | | | | 5 | | | | |
| 3 | -100 | | | | 6 | | | | |
| 4 | CCAL5-40 | | | | 7 | | | | |
| 5 | BFB | | | | 8 | | | | V1692, V1688, V1670 |
| 6 | MB | ↓ | | ↓ | 9 | ↓ | | | V1683 |
| 7 | F7089-2 | 100mL | | 1 | 10 | 50 | 8260 | 2 | ✓ MS650 |
| 8 | -11 | 5mL | | 1 | 11 | 1 | | 1 | ✓ VBHS |
| 9 | -12 | | | 1 | 12 | | | 2 | ✓ |
| 10 | F7092-1 | | | 1 | 13 | | | 4 | ND |
| 11 | F7089-1MS | | | | 14 | | | 2 | ✓ |
| 12 | -1MSD | | | | 14 | | | 2 | ✓ |
| 13 | F7135-1 | | | 1 | 15 | | | 1 | ✓ MS655 |
| 14 | -2 | ↓ | | 1 | 16 | ↓ | | 2 | ✓ VBHB |
| 15 | -5 | 1mL | | 1 | 17 | 5 | | 1 | ✓ |
| 16 | -7 | 1mL | | 6 | 18 | 5 | | 2 | HS, PH! ✓ RUN 10X |
| 17 | F7100-1 | 5mL | | 1 | 19 | 1 | | 1 | ✓ ND |
| 18 | -2 | | | 1 | 20 | | | 1 | ND |
| 19 | -3 | | | 1 | 21 | | | 1 | ✓ |
| 20 | -4 | | | 1 | 22 | | | 1 | ✓ RUN 5X |
| 21 | -5 | ↓ | | 1 | 23 | ↓ | | 1 | ✓ |
| 22 | F7135-8 | 500mL | | 1 | 24 | 10 | | 1 | ✓ RUN 1X |
| 23 | -9 | 500mL | | 1 | 25 | 10 | | 1 | ✓ RUN 1X |
| 24 | -10 | 5mL | | 1 | 26 | 1 | | 1 | ✓ |
| 25 | -11 | | | 1 | 27 | | | 1 | ✓ |
| 26 | -14 | | | 1 | 28 | | | 1 | ✓ |
| 27 | -13 | ↓ | | 1 | 29 | ↓ | | 1 | ✓ |
| 28 | -12 | 500mL | | 1 | 30 | 10 | | 1 | ND RUN 1X |
| 29 | F7077-1 | 1mL | | | 31 | 5 | | 1 | CR ✓ |
| 30 | -1 | 1mL | ↓ | | 32 | 5 | ↓ | 2 | CR ✓ |

RUN

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F7254
**Account:** TETRFLTA Tetra-Tech, NUS
**Project:** NAS Pensacola

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F7262-3MS | G0014171.D | 1 | 08/19/00 | RAW | n/a | n/a | VG394 |
| F7262-3MSD | G0014172.D | 1 | 08/19/00 | RAW | n/a | n/a | VG394 |
| F7262-3 | G0014147.D | 1 | 08/18/00 | RAW | n/a | n/a | VG394 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F7254-9

| CAS No. | Compound | F7262-3 ug/l | Q | Spike ug/l | MS ug/l | MS % | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| 107-02-8 | Acrolein | ND | | 125 | 90.8 | 73 | 108 | [illegible] | [illegible] | 5-187/24 |
| 107-13-1 | Acrylonitrile | ND | | 125 | 136 | 109 | 139 | [illegible] | [illegible] | 5-178/15 |
| 71-43-2 | Benzene | ND | | 25 | 24.7 | 99 | 23.6 | [illegible] | [illegible] | 61-141/16 |
| 75-27-4 | Bromodichloromethane | ND | | 25 | 23.8 | 95 | 22.5 | [illegible] | [illegible] | 72-125/10 |
| 75-25-2 | Bromoform | ND | | 25 | 21.2 | 85 | 21.3 | [illegible] | [illegible] | 62-126/15 |
| 108-90-7 | Chlorobenzene | ND | | 25 | 23.9 | 96 | 23.4 | [illegible] | [illegible] | 75-125/10 |
| 75-00-3 | Chloroethane | ND | | 25 | 28.6 | 114 | 30.0 | [illegible] | [illegible] | 58-134/12 |
| 67-66-3 | Chloroform | ND | | 25 | 23.4 | 94 | 22.2 | [illegible] | [illegible] | 73-125/10 |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | | 120 | ND | 0* | ND | [illegible] | [illegible] | 5-191/73 |
| 56-23-5 | Carbon tetrachloride | ND | | 25 | 24.9 | 100 | 24.4 | [illegible] | [illegible] | 62-126/17 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 25 | 24.5 | 98 | 24.4 | [illegible] | [illegible] | 75-125/10 |
| 75-35-4 | 1,1-Dichloroethylene | ND | | 25 | 25.6 | 102 | 27.3 | [illegible] | [illegible] | 73-125/10 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 25 | 23.8 | 95 | 23.1 | [illegible] | [illegible] | 66-130/18 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 25 | 26.7 | 107 | 25.5 | [illegible] | [illegible] | 75-125/10 |
| 124-48-1 | Dibromochloromethane | ND | | 25 | 23.7 | 95 | 22.4 | [illegible] | [illegible] | 75-125/11 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 25 | 20.7 | 83 | 19.9 | [illegible] | [illegible] | 58-136/13 |
| 541-73-1 | m-Dichlorobenzene | ND | | 25 | 22.4 | 90 | 21.7 | [illegible] | [illegible] | 75-125/10 |
| 95-50-1 | o-Dichlorobenzene | ND | | 25 | 22.2 | 89 | 21.4 | [illegible] | [illegible] | 75-125/10 |
| 106-46-7 | p-Dichlorobenzene | ND | | 25 | 22.0 | 88 | 22.0 | [illegible] | [illegible] | 75-125/10 |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | 25 | 21.2 | 85 | 21.2 | [illegible] | [illegible] | 65-133/10 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 25 | 19.8 | 79 | 19.2 | [illegible] | [illegible] | 49-139/19 |
| 100-41-4 | Ethylbenzene | ND | | 25 | 25.0 | 100 | 25.4 | [illegible] | [illegible] | 67-128/10 |
| 74-83-9 | Methyl bromide | ND | | 25 | 11.4 | 46 | 15.6 | [illegible] | [illegible] | 32-149/27 |
| 74-87-3 | Methyl chloride | ND | | 25 | 32.2 | 129 | 33.0 | [illegible] | [illegible] | 59-143/18 |
| 75-09-2 | Methylene chloride | ND | | 25 | 24.1 | 96 | 23.7 | [illegible] | [illegible] | 73-125/11 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 25 | 24.8 | 99 | 23.2 | [illegible] | [illegible] | 72-125/10 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 25 | 26.1 | 104 | 23.8 | [illegible] | [illegible] | 68-125/12 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 25 | 25.1 | 100 | 23.3 | [illegible] | [illegible] | 75-125/12 |
| 127-18-4 | Tetrachloroethylene | ND | | 25 | 24.0 | 96 | 24.8 | [illegible] | [illegible] | 75-125/10 |
| 108-88-3 | Toluene | ND | | 25 | 24.8 | 99 | 24.0 | [illegible] | [illegible] | 72-125/10 |
| 79-01-6 | Trichloroethylene | ND | | 25 | 25.2 | 101 | 22.8 | [illegible] | [illegible] | 72-125/10 |
| 75-69-4 | Trichlorofluoromethane | ND | | 25 | 27.9 | 112 | 29.2 | [illegible] | [illegible] | 37-126/13 |
| 75-01-4 | Vinyl chloride | ND | | 25 | 32.4 | 130 | 33.7 | [illegible] | [illegible] | 63-138/17 |
| 1330-20-7 | Xylene (total) | ND | | 75 | 77.3 | 103 | 76.9 | [illegible] | [illegible] | 69-127/10 |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F7254
**Account:** TETRFLTA Tetra-Tech, NUS
**Project:** NAS Pensacola

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F7262-3MS | G0014171.D | 1 | 08/19/00 | RAW | n/a | n/a | VG394 |
| F7262-3MSD | G0014172.D | 1 | 08/19/00 | RAW | n/a | n/a | VG394 |
| F7262-3 | G0014147.D | 1 | 08/18/00 | RAW | n/a | n/a | VG394 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F7254-9

| CAS No. | Surrogate Recoveries | MS | MSD | F7262-3 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 100% | 98% | 88% | 80-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 104% | 100% | 90% | 69-128% |
| 2037-26-5 | Toluene-D8 | 103% | 96% | 92% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 107% | 99% | 99% | 80-120% |

# Blank Spike Summary



**Job Number:** F7254
**Account:** TETRFLTA Tetra-Tech, NUS
**Project:** NAS Pensacola

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VG394-BS3 | G0014192.D | 1 | 08/19/00 | RAW | n/a | n/a | VG394 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F7254-9

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 107-02-8 | Acrolein | 125 | 98.8 | 79 | 5-187 |
| 107-13-1 | Acrylonitrile | 125 | 117 | 94 | 5-178 |
| 71-43-2 | Benzene | 25 | 23.9 | 96 | 61-141 |
| 75-27-4 | Bromodichloromethane | 25 | 22.6 | 90 | 72-125 |
| 75-25-2 | Bromoform | 25 | 23.0 | 92 | 62-126 |
| 108-90-7 | Chlorobenzene | 25 | 23.5 | 94 | 75-125 |
| 75-00-3 | Chloroethane | 25 | 26.4 | 106 | 58-134 |
| 67-66-3 | Chloroform | 25 | 23.3 | 93 | 73-125 |
| 110-75-8 | 2-Chloroethyl vinyl ether | 125 | 110 | 88 | 5-191 |
| 56-23-5 | Carbon tetrachloride | 25 | 23.0 | 92 | 62-126 |
| 75-34-3 | 1,1-Dichloroethane | 25 | 23.7 | 95 | 75-125 |
| 75-35-4 | 1,1-Dichloroethylene | 25 | 23.7 | 95 | 73-125 |
| 107-06-2 | 1,2-Dichloroethane | 25 | 22.7 | 91 | 66-130 |
| 78-87-5 | 1,2-Dichloropropane | 25 | 25.1 | 100 | 75-125 |
| 124-48-1 | Dibromochloromethane | 25 | 23.1 | 92 | 75-125 |
| 10061-01-5 | cis-1,3-Dichloropropene | 25 | 22.8 | 91 | 58-136 |
| 541-73-1 | m-Dichlorobenzene | 25 | 22.5 | 90 | 75-125 |
| 95-50-1 | o-Dichlorobenzene | 25 | 22.2 | 89 | 75-125 |
| 106-46-7 | p-Dichlorobenzene | 25 | 21.0 | 84 | 75-125 |
| 156-60-5 | trans-1,2-Dichloroethylene | 25 | 22.6 | 90 | 65-133 |
| 10061-02-6 | trans-1,3-Dichloropropene | 25 | 24.6 | 98 | 49-139 |
| 100-41-4 | Ethylbenzene | 25 | 24.1 | 96 | 67-128 |
| 74-83-9 | Methyl bromide | 25 | 26.9 | 108 | 32-149 |
| 74-87-3 | Methyl chloride | 25 | 27.1 | 108 | 59-143 |
| 75-09-2 | Methylene chloride | 25 | 22.5 | 90 | 73-125 |
| 71-55-6 | 1,1,1-Trichloroethane | 25 | 23.7 | 95 | 72-125 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 25 | 22.8 | 91 | 68-125 |
| 79-00-5 | 1,1,2-Trichloroethane | 25 | 24.9 | 100 | 75-125 |
| 127-18-4 | Tetrachloroethylene | 25 | 24.5 | 98 | 75-125 |
| 108-88-3 | Toluene | 25 | 25.0 | 100 | 72-125 |
| 79-01-6 | Trichloroethylene | 25 | 24.0 | 96 | 72-125 |
| 75-69-4 | Trichlorofluoromethane | 25 | 24.8 | 99 | 37-126 |
| 75-01-4 | Vinyl chloride | 25 | 27.9 | 112 | 63-138 |
| 1330-20-7 | Xylene (total) | 75 | 73.6 | 98 | 69-127 |

# Blank Spike Summary



**Job Number:** F7254
**Account:** TETRFLTA Tetra-Tech, NUS
**Project:** NAS Pensacola

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VG394-BS3 | G0014192.D | 1 | 08/19/00 | RAW | n/a | n/a | VG394 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F7254-9

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | 80-120% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 100% | 69-128% |
| 2037-26-5 | Toluene-D8 | 102% | 80-120% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | 80-120% |

Sequence: C:\HPCHEM\1\SEQUENCE\0815PAH.S 

| Run | Vial | Method | Datafile | SeqTable | Calib:RF:RT | Sample Name |
|---|---|---|---|---|---|---|
| 1 | 1 | 8310_46 | AA003763 | 01:01 | | 8310 L4 CCV s808 |
| 2 | 2 | 8310_46 | AA003764 | 02:01 | | op1920-mb |
| 3 | 3 | 8310_46 | AA003765 | 03:01 | | f7243-2,5 |
| 4 | 4 | 8310_46 | AA003766 | 04:01 | | f7254-2,5 |
| 5 | 5 | 8310_46 | AA003767 | 05:01 | | f7254-4,5 |
| 6 | 6 | 8310_46 | AA003768 | 06:01 | | f7254-7,5 |
| 7 | 7 | 8310_46 | AA003769 | 07:01 | | f7254-8,10*2 |
| 8 | 8 | 8310_46 | AA003770 | 08:01 | | f7243-2 |
| 9 | 9 | 8310_46 | AA003771 | 09:01 | | f7254-2 |
| 10 | 10 | 8310_46 | AA003772 | 10:01 | | f7254-4,2 |
| 11 | 1 | 8310_46 | AA003773 | 11:01 | | ccv |
| 12 | 11 | 8310_46 | AA003774 | 12:01 | | op1933-mb |
| 13 | 12 | 8310_46 | AA003775 | 13:01 | | f7279-3,5 |
| 14 | 13 | 8310_46 | AA003776 | 14:01 | | f7263-2,20 |
| 15 | 14 | 8310_46 | AA003777 | 15:01 | | f7263-3,20 |
| 16 | 15 | 8310_46 | AA003778 | 16:01 | | f7263-6,2 |
| 17 | 16 | 8310_46 | AA003779 | 17:01 | | f7263-8,5 |
| 18 | 17 | 8310_46 | AA003780 | 18:01 | | f7263-9,2 |
| 19 | 18 | 8310_46 | AA003781 | 19:01 | | f7263-10,20 |
| 20 | 1 | 8310_46 | AA003782 | 20:01 | | ccv |
| 21 | 19 | 8310_46 | AA003783 | 21:01 | | f7284-1,20 |
| 22 | 20 | 8310_46 | AA003784 | 22:01 | | f7284-3 |
| 23 | 21 | 8310_46 | AA003785 | 23:01 | | f7284-4,4 |
| 24 | 22 | 8310_46 | AA003786 | 24:01 | | f7284-5,20 |
| 25 | 23 | 8310_46 | AA003787 | 25:01 | | f7263-8,2 |
| 26 | 1 | 8310_46 | AA003788 | 26:01 | | ccv |
| 27 | 1 | 8310_46 | AA003789 | 27:01 | | ccv |
| 28 | 24 | 8310_46 | AA003790 | 28:01 | | op1945-LBS |
| 29 | 25 | 8310_46 | AA003791 | 29:01 | | op1945-LB |
| 30 | 26 | 8310_46 | AA003792 | 30:01 | | f7243-5a |
| 31 | 27 | 8310_46 | AA003793 | 31:01 | | f7243-7a |
| 32 | 28 | 8310_46 | AA003794 | 32:01 | | op1945-LS |
| 33 | 1 | 8310_46 | AA003795 | 33:01 | | CCV |
| 34 | 29 | 8310_46 | AA003796 | 34:01 | | op1938-bs |
| 35 | 30 | 8310_46 | AA003797 | 35:01 | | op1938-mb |
| 36 | 31 | 8310_46 | AA003798 | 36:01 | | f7308-1 |
| 37 | 32 | 8310_46 | AA003799 | 37:01 | | f7308-2 |
| 38 | 33 | 8310_46 | AA003800 | 38:01 | | f7308-5 |
| 39 | 34 | 8310_46 | AA003801 | 39:01 | | f7308-6 |
| 40 | 2 | 8310_46 | AA003802 | 40:01 | | op1938-ms |
| 41 | 3 | 8310_46 | AA003803 | 41:01 | | op1938-msd |
| 42 | 1 | 8310_46 | AA003804 | 42:01 | | ccv |
| 43 | 4 | 8310_46 | AA003805 | 43:01 | | f7308-3,20*2 |
| 44 | 5 | 8310_46 | AA003806 | 44:01 | | f7308-4,20*2 |
| 45 | 6 | 8310_46 | AA003807 | 45:01 | | f7308-7,20*2 |
| 46 | 7 | 8310_46 | AA003808 | 46:01 | | f7308-8,20*2 |
| 47 | 8 | 8310_46 | AA003809 | 47:01 | | f7308-9,10 |
| 48 | 9 | 8310_46 | AA003810 | 48:01 | | f7395-1,10 |
| 49 | 10 | 8310_46 | AA003811 | 49:01 | | f7395-2,10 |
| 50 | 11 | 8310_46 | AA003812 | 50:01 | | f7395-3,10*2 |
| 51 | 1 | 8310_46 | AA003813 | 51:01 | | CCV |
| 52 | 1 | 8310_46 | AA003814 | 52:01 | | CCV |

# HPLC ANALYSIS LOG

E: 8/16/00 | METHODS: 8310 | ANALYST:
LUMN TYPE: Vin PAH | METHOD FILE: 8310-46 | RUN BATCH: GAA120
TRUMENT: HPLC1 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 15 ul

| A FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 003763 | 1 | LYCCV | 8310 | | | | | ✓ | Passed |
| 64 | 2 | OP1920-MB | | 30/5 | S | OP1920 | 1x | ✓ | ND |
| 65 | 3 | F7243-2 | | | | | 5x | MR | 1x |
| 66 | 4 | F7254-2 | | | | | 5x | MR | 1x |
| 67 | 5 | 4 | | | | | 5x | MR | 2x |
| 68 | 6 | 7 | | | | | 5x | ✓ | ✓ |
| 69 | 7 | 8 | | 30/10 | | | 10 (2) | ✓ | ✓ 1 |
| 70 | 8 | F7243-2 | | 30/5 | | | 1x | ✓ | ✓ |
| 71 | 9 | F7254-2 | | | | | 1x | ✓ | ✓ |
| 72 | 10 | 4 | | | | | 2 | ✓ | ✓ |
| 73 | 1 | CCV | | | | | | ✓ | Passed |
| 74 | 11 | OP1933-MB | | 30/5 | S | OP1933 | 1x | ✓ | ND |
| 75 | 12 | F7279-3 | | | | | 5x | ✓ | ✓ PAAA 2x |
| 76 | 13 | F7263-2 | | | | | 20x | ✓ | ✓ |
| 77 | 14 | 3 | | | | | 20x | ✓ | ✓ |
| 78 | 15 | 6 | | | | | 2x | ✓ | ✓ |
| 79 | 16 | 8 | | | | | 5x | MR | 2x |
| 80 | 17 | 9 | | | | | 2x | ✓ | ✓ Double SS |
| 81 | 18 | 10 | | | | | 20x | ✓ | ✓ |
| 82 | 1 | CCV | | | | | | ✓ | Passed |
| 83 | 19 | F7284-1 | | | | | 20x | ✓ | ✓ |
| 84 | 20 | F7284-3 | | | | | 1x | ✓ | MDL |
| 85 | 21 | 4 | | | | | 4x | ✓ | ✓ |
| 86 | 22 | 5 | | | | | 20x | ✓ | ✓ |

rix: Designate "W" for Water, "S" for Soil, and "O" for Oil

mple Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature:

LUMN TYPE: Pin PAH | METHOD FILE: 8310-45 | RUN BATCH: [illegible]

STRUMENT: HPLC1 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 15 ul

| TA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 003287 | 23 | F7263-5 | 8310 | 30/5ml | S | OP1933 | 2x | ✓ | ✓ |
| 88 | 1 | CCV | | | | | | ✓ | Passed |
| 89 | 1 | CCV | | | | | | ✓ | " |
| 90 | 24 | OP1945-LBS | | 100/1ml | Leach | OP1945 | 1x | ✓ | ✓ |
| 91 | 25 | LB | | | | | | ✓ | ND |
| 92 | 26 | F7243-5a | | | | | | ✓ | ND |
| 93 | 27 | 7a | | | | | | ✓ | ND |
| 94 | 28 | OP1945-LS | | | | | | ✓ | ✓ |
| 95 | 1 | CCV | | | | | | ✓ | Passed |
| 96 | 29 | OP1938-BS | | | S | OP1938 | 1x | ✓ | ✓ |
| 97 | 30 | MB | | | | | | ✓ | ND |
| 98 | 31 | F7308-1 | | 30/5ml | | | | ✓ | ND |
| 99 | 32 | 2 | | | | | | ✓ | ND |
| 003800 | 33 | 5 | | | | | | ✓ | ND |
| 01 | 34 | 6 | | | | | | ✓ | ND |
| 02 | 2 | OP1938-MS | | 30/5ml | | | | ✓ | ✓ |
| 03 | 3 | -MSD | | | | | | ✓ | ✓ |
| 04 | 1 | CCV | | | | | | ✓ | Passed |
| 05 | 4 | F7308-3 | | 30/10ml | | | (2)20x | ~~NBA~~ | 50x ↑ BAA to Chry |
| 06 | 5 | 4 | | 30/10ml | | | | ✓ | " " |
| 07 | 6 | 7 | | 30/10ml | | | | ~~NBA~~ | 50x ↑ BAA to Chry |
| 08 | 7 | 8 | | 30/10ml | | | | ✓ | ✓ Matrix ↑ BAA to Chry |
| 09 | 8 | 9 | | 30/5 | | | 10x | ✓ | ✓ ↑ BAA to Chry |
| 10 | 9 | ~~F7395~~ - F7295-1 | | | | | | ~~NBA~~ | 25x |

atrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

ample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature:_____

| | | | |
|---|---|---|---|
| E: 8[redacted]-CC | METHODS: 5310 | | ANALYST: |
| UMN TYPE: PinPAH | METHOD FILE: 0310_46 | | RUN BATCH: 0AA120 |
| RUMENT: HPLC1 | CALIB. DATE: 7/27/00 | | AMOUNT INJECTED: 15 ul |

| A FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 03811 | 10 | A7255-2 | 5310 | 30/5 | S | 0019 38 | 10 | ✓ | ✓ |
| 12 | 11 | 3 | | 30/10 | ↓ | ↓ | 10 (2) | ✓ | ✓ |
| 13 | 1 | CCV | ↓ | | | | | ✓ | Passed |
| 14 | 1 | CCV | | | | | | ✓ | Passed |

rix: Designate "W" for Water, "S" for Soil, and "O" for Oil
nple Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [redacted]

Sequence: C:\HPCHEM\1\SEQUENCE\0814PAH.S 

| Run | Vial | Method | Datafile | SeqTable | Calib:RF:RT | Sample Name |
|---|---|---|---|---|---|---|
| 1 | 1 | 8310_46 | AA003710 | 01:01 | | 8310 L4 CCV s808 |
| 2 | 2 | 8310_46 | AA003711 | 02:01 | | op1920-bs |
| 3 | 3 | 8310_46 | AA003712 | 03:01 | | op1920-mb |
| 4 | 4 | 8310_46 | AA003713 | 04:01 | | f7231-1 |
| 5 | 5 | 8310_46 | AA003714 | 05:01 | | f7243-1 |
| 6 | 6 | 8310_46 | AA003715 | 06:01 | | op1920-ms |
| 7 | 7 | 8310_46 | AA003716 | 07:01 | | op1920-msd |
| 8 | 8 | 8310_46 | AA003717 | 08:01 | | f7243-2,50 |
| 9 | 9 | 8310_46 | AA003718 | 09:01 | | f7243-3 |
| 10 | 10 | 8310_46 | AA003719 | 10:01 | | f7243-4 |
| 11 | 11 | 8310_46 | AA003720 | 11:01 | | f7243-5 |
| 12 | 1 | 8310_46 | AA003721 | 12:01 | | ccv |
| 13 | 12 | 8310_46 | AA003722 | 13:01 | | f7243-6 |
| 14 | 13 | 8310_46 | AA003723 | 14:01 | | f7243-7 |
| 15 | 14 | 8310_46 | AA003724 | 15:01 | | f7254-1 |
| 16 | 15 | 8310_46 | AA003725 | 16:01 | | f7254-2,50 |
| 17 | 16 | 8310_46 | AA003726 | 17:01 | | f7254-3 |
| 18 | 17 | 8310_46 | AA003727 | 18:01 | | f7254-4,50 |
| 19 | 18 | 8310_46 | AA003728 | 19:01 | | f7254-5 |
| 20 | 19 | 8310_46 | AA003729 | 20:01 | | f7254-6 |
| 21 | 20 | 8310_46 | AA003730 | 21:01 | | f7254-7,100 |
| 22 | 21 | 8310_46 | AA003731 | 22:01 | | f7254-8,100*2 |
| 23 | 1 | 8310_46 | AA003732 | 23:01 | | ccv |
| 24 | 1 | 8310_46 | AA003733 | 24:01 | | ccv |
| 25 | 22 | 8310_46 | AA003734 | 25:01 | | op1933-bs |
| 26 | 23 | 8310_46 | AA003735 | 26:01 | | op1933-mb |
| 27 | 24 | 8310_46 | AA003736 | 27:01 | | f7279-1 |
| 28 | 25 | 8310_46 | AA003737 | 28:01 | | f7279-2 |
| 29 | 26 | 8310_46 | AA003738 | 29:01 | | f7279-3,10 |
| 30 | 27 | 8310_46 | AA003739 | 30:01 | | f7289-9 |
| 31 | 28 | 8310_46 | AA003740 | 31:01 | | f7289-10 |
| 32 | 29 | 8310_46 | AA003741 | 32:01 | | f7289-11 |
| 33 | 30 | 8310_46 | AA003742 | 33:01 | | op1933-ms |
| 34 | 31 | 8310_46 | AA003743 | 34:01 | | op1933-msd |
| 35 | 1 | 8310_46 | AA003744 | 35:01 | | ccv |
| 36 | 32 | 8310_46 | AA003745 | 36:01 | | f7263-2,100 |
| 37 | 33 | 8310_46 | AA003746 | 37:01 | | f7263-3,100 |
| 38 | 34 | 8310_46 | AA003747 | 38:01 | | f7263-4 |
| 39 | 2 | 8310_46 | AA003748 | 39:01 | | f7263-5 |
| 40 | 3 | 8310_46 | AA003749 | 40:01 | | f7263-6,10 |
| 41 | 4 | 8310_46 | AA003750 | 41:01 | | f7263-7 |
| 42 | 5 | 8310_46 | AA003751 | 42:01 | | f7263-8,50 |
| 43 | 1 | 8310_46 | AA003752 | 43:01 | | ccv |
| 44 | 1 | 8310_46 | AA003753 | 44:01 | | ccv |
| 45 | 6 | 8310_46 | AA003754 | 45:01 | | f7263-9,20 |
| 46 | 7 | 8310_46 | AA003755 | 46:01 | | f7263-10,100 |
| 47 | 8 | 8310_46 | AA003756 | 47:01 | | f7284-1,100 |
| 48 | 9 | 8310_46 | AA003757 | 48:01 | | f7284-2 |
| 49 | 10 | 8310_46 | AA003758 | 49:01 | | f7284-3,10 |
| 50 | 11 | 8310_46 | AA003759 | 50:01 | | f7284-4,20 |
| 51 | 12 | 8310_46 | AA003760 | 51:01 | | f7284-5,100 |
| 52 | 1 | 8310_46 | AA003761 | 52:01 | | ccv |
| 53 | 1 | 8310_46 | AA003762 | 53:01 | | ccv |

| | | | |
|---|---|---|---|
| E: 8[illegible]4/00 | METHODS: 8310 | ANALYST: [illegible] | |
| UMN TYPE: PinPAH | METHOD FILE: 8310-46 | RUN BATCH: 0-AA119 | |
| RUMENT: HP2C1 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 15 ul | |

| A FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 03710 | 1 | CCV L4 | 8310 | | S805 | | | ✓ | Passed |
| 11 | 2 | OP1920-BS | | 30/5ml | S | OP1920 | 1x | ✓ | ✓ |
| 12 | 3 | MB | | | | | | ✓ | [illegible] |
| 13 | 4 | F7231-1 | | | | | | ✓ | Trace |
| 14 | 5 | ~~[illegible]~~ F7243-1 | | | | | | ✓ | [illegible] |
| 15 | 6 | OP1920-MS | | | | | | ✓ | ✓ |
| 16 | 7 | MSD | | | | | | ✓ | ✓ |
| 17 | 8 | F7243-2 | | | | | 50x | RR | 5x |
| 18 | 9 | 3 | | | | | 1x | ✓ | [illegible] |
| 19 | 10 | 4 | | | | | | ✓ | [illegible] |
| 20 | 11 | 5 | | | | | | ✓ | [illegible] |
| 21 | 1 | CCV | | | | | | ✓ | Passed |
| 22 | 12 | F7243-6 | | 30/5ml | S | OP1920 | 1x | ✓ | BDL |
| 23 | 13 | 7 | | | | | | ✓ | BDL |
| 24 | 14 | F7254-1 | | | | | | ✓ | BDL |
| 25 | 15 | 2 | | | | | 50x | RR | 5x |
| 26 | 16 | 3 | | | | | 1x | ✓ | BDL |
| 27 | 17 | 4 | | | | | 50x | RR | 5x |
| 28 | 18 | 5 | | | | | 1x | ✓ | BDL |
| 29 | 19 | 6 | | | | | 1x | ✓ | BDL |
| 30 | 20 | 7 | | | | | 100x | RR | 10x |
| 31 | 21 | 8 | | 30/10ml | | | (2x100) 200x | RR | 20x |
| 32 | 1 | CCV | | | | | | ✓ | Passed |
| 33 | 1 | CCV | | | | | | ✓ | Passed |

c: Designate "W" for Water, "S" for Soil, and "O" for Oil

ple Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

RUMENT: HPLC1 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 15 ul

| A FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 003734 | 22 | OP1933-BS | 8310 | 30/5ml | S | OP1933 | 1x | ✓ | ✓ |
| 35 | 23 | MB | | | | | | ✓ | ND |
| 36 | 24 | F7229-1 | | | | | | ✓ | BDL |
| 37 | 25 | 2 | | | | | ↓ | ✓ | trace |
| 38 | 26 | 3 | | | | | 10x | ✓ | ✓ |
| 39 | 27 | F7284-9 | | | | | 1x | ✓ | ✓ |
| 40 | 28 | 10 | | | | | | ✓ | BDL |
| 41 | 29 | 11 | | | | | | ✓ | BDL |
| 42 | 30 | OP1933-MS | | | | | | ✓ | ✓ |
| 43 | 31 | MSD | | | | | ↓ | ✓ | ✓ |
| 44 | 1 | CCV | | | | | | ✓ | Passed |
| 45 | 32 | F7263-2 | | | | | 100x | RR | 20x |
| 46 | 33 | 3 | | | | | 100x | RR | 20x |
| 47 | 34 | 4 | | | | | 1) | ✓ | BDL |
| 48 | 2 | 5 | | | | | 1x | ✓ | ✓ |
| 49 | 3 | 6 | | | | | 10x | RR | 2x |
| 50 | 4 | 7 | | | | | 1x | ✓ | BDL |
| 51 | 5 | 8 | | | | | 50x | RR | 5x |
| 52 | 1 | CCV | | | | | | ✓ | Passed |
| 53 | 1 | CCV | | | | | | ✓ | Passed |
| 54 | 6 | F7263-9 | | | | | 20x | RR | 2x 12m6455 |
| 55 | 7 | 10 | | | | | 100x | RR | 20x |
| 56 | 8 | F7284-1 | | | | | 10x | RR | 20x |
| 57 | 9 | 2 | ↓ | ↓ | ↓ | ↓ | 1x | ✓ | BDL |

rix: Designate "W" for Water, "S" for Soil, and "O" for Oil

nple Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: _____

| | | | |
|---|---|---|---|
| : 8[illegible]4-00 | METHODS: 8310 | ANALYST: [illegible] | |
| MN TYPE: Min PAH | METHOD FILE: 8310-46 | RUN BATCH: GAA119 | |
| RUMENT: 17PCC1 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 15 ul | |

| FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 03758 | 10 | F724-3 | 8310 | 30/5ml | S | OP1933 | 10 x | RR | 1x |
| 59 | 11 | 4 | ↓ | ↓ | ↓ | ↓ | 20 x | RR | 4x |
| 60 | 12 | 5 | ↓ | ↓ | ↓ | ↓ | 100 x | RR | 20x |
| 61 | 1 | CCV | ↓ | | | | | ✓ | Passed |
| 62 | 1 | CCV | ↓ | | | | | ✓ | Passed |

: Designate "W" for Water, "S" for Soil, and "O" for Oil

le Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

ial Sequence: C:\HPCHEM\1\SEQUENCE\0727PAHA.S GAA108 

| Sel | Run | Vial | Method | Datafile | SeqTable | Calib:RF:RT | Sample Name |
|---|---|---|---|---|---|---|---|
| No | 1 | 1 | 8310_46 | AA003250 | 01:01 | | 8310 L1 STDs811 |
| No | 2 | 2 | 8310_46 | AA003251 | 02:01 | | 8310 L2 STD s810 |
| No | 3 | 3 | 8310_46 | AA003252 | 03:01 | | 8310 L3 STD s809 |
| No | 4 | 4 | 8310_46 | AA003253 | 04:01 | | 8310 L5 STD s808 |
| No | 5 | 5 | 8310_46 | AA003254 | 05:01 | | 8310 L5 STD s807 |
| No | 6 | 6 | 8310_46 | AA003255 | 06:01 | | 8310 L6 STD s806 |
| No | 7 | 7 | 8310_46 | AA003256 | 07:01 | | 8310 L4 STD s808 |
| No | 8 | 8 | 8310_46 | AA003257 | 08:01 | | 8310 20 ppm ICV |
| No | 9 | 9 | 8310_46 | AA003258 | 09:01 | | OP1872-MB |
| No | 10 | 10 | 8310_46 | AA003259 | 10:01 | | OP1872-BS |
| No | 11 | 11 | 8310_46 | AA003260 | 11:01 | | F7115-1 |
| No | 12 | 12 | 8310_46 | AA003261 | 12:01 | | F7120-1 |
| No | 13 | 13 | 8310_46 | AA003262 | 13:01 | | F7122-2 |
| No | 14 | 14 | 8310_46 | AA003263 | 14:01 | | F7122-5 |
| No | 15 | 15 | 8310_46 | AA003264 | 15:01 | | F7122-6 |
| No | 16 | 16 | 8310_46 | AA003265 | 16:01 | | F7122-7 |
| No | 17 | 17 | 8310_46 | AA003266 | 17:01 | | F7122-8 |
| No | 18 | 8 | 8310_46 | AA003267 | 18:01 | | 8310 20 ppm ICV |
| No | 19 | 18 | 8310_46 | AA003268 | 19:01 | | F7138-1 |
| No | 20 | 19 | 8310_46 | AA003269 | 20:01 | | F7138-1,4x |
| No | 21 | 20 | 8310_46 | AA003270 | 21:01 | | F7138-2,5x |
| No | 22 | 21 | 8310_46 | AA003271 | 22:01 | | F7138-3 |
| No | 23 | 22 | 8310_46 | AA003272 | 23:01 | | F7138-4 |
| No | 24 | 23 | 8310_46 | AA003273 | 24:01 | | F7138-5 |
| No | 25 | 24 | 8310_46 | AA003274 | 25:01 | | F7139-1,10x |
| No | 26 | 25 | 8310_46 | AA003275 | 26:01 | | F7139-2,5x |
| No | 27 | 8 | 8310_46 | AA003276 | 27:01 | | 8310 20 ppm ICV |
| No | 28 | 26 | 8310_46 | AA003277 | 28:01 | | F7139-3,10x |
| No | 29 | 27 | 8310_46 | AA003278 | 29:01 | | F7139-4,5x |
| No | 30 | 28 | 8310_46 | AA003279 | 30:01 | | F7139-5,5x |
| No | 31 | 29 | 8310_46 | AA003280 | 31:01 | | F7139-6,5x |
| No | 32 | 30 | 8310_46 | AA003281 | 32:01 | | F7139-7 |
| No | 33 | 31 | 8310_46 | AA003282 | 33:01 | | F7139-8 |
| No | 34 | 32 | 8310_46 | AA003283 | 34:01 | | OP1872-MS |
| No | 35 | 33 | 8310_46 | AA003284 | 35:01 | | OP1872-MSD |
| No | 36 | 8 | 8310_46 | AA003285 | 36:01 | | 8310 20 ppm ICV |

HPLC ANALY[illegible] LOG

| | | |
|---|---|---|
| DATE: 07/[illegible]/00 A | METHODS: 8310 | ANALYST: Phelan |
| COLUMN TYPE: Pinnacle PAH | METHOD FILE: 8310_46 | RUN BATCH: GAA108 |
| INSTRUMENT: HPLC1 | CALIB. DATE: 07/27/00 | AMOUNT INJECTED: 15 ul |

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| A00 3250 | 1 | 8310 L1 STD | 8310 | | S811 | | 1.0 | ✓ | ✓ |
| 3251 | 2 | L2 | | | S810 | | | ✓ | ✓ |
| 3252 | 3 | L3 | | | S809 | | | ✓ | ✓ |
| 3253 | 4 | L5 | | | S808 | | | ✓ | ✓ |
| 3254 | 5 | L5 | | | S807 | | | ✓ | ✓ |
| 3255 | 6 | L6 | | | S806 | | | ✓ | ✓ |
| 3256 | 7 | L4 | | | S808 | | | ✓ | ✓ |
| 3257 | 8 | 8310 20 ppm ICV | | | S891 | | | ✓ | passes |
| 3258 | 9 | OP1872 - MB | | 1000/1mL | W | OP1872 | | ✓ | BDL |
| 3259 | 10 | - BS | | | | | | ✓ | ✓ |
| 3260 | 11 | F7115-1 | | 990/1mL | | | | ✓ | BDL |
| 3261 | 12 | F7120-1 | | 910/1mL | | | | ✓ | |
| 3262 | 13 | F7122-2 | | 920/1mL | | | | ✓ | |
| 3263 | 14 | -5 | | 890/1mL | | | | ✓ | |
| 3264 | 15 | -6 | | 920/1mL | | | | ✓ | |
| 3265 | 16 | -7 | | 810/1mL | | | | ✓ | |
| 3266 | 17 | -8 | | 910/1mL | | | | ✓ | |
| 3267 | 8 | 8310 20 ppm ICV | | — | S891 | | | ✓ | Rerun samples |
| 3268 | 18 | F7138-1 | | 980/1mL | W | | | ✓ | ✓ |
| 3269 | 19 | -1, 4x | | | | | 4.0 | ✓ | ✓ |
| 3270 | 20 | -2, 5x | | | | | 5.0 | ✓ | RR @ 2X |
| 3271 | 21 | -3 | | | | | 1.0 | ✓ | BDL |
| 3272 | 22 | -4 | | 970/1mL | | | | ✓ | RR @ 2X |
| 3273 | 23 | -5 | | 980/1mL | | | | ✓ | BDL |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: Phelan

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 0002274 | 24 | F7139-1,10x | 8310 | 990/1mL | W | OP1872 | 10.0 | ✓ | RERUN |
| 3275 | 25 | -2,5x | ↓ | 980/1mL | ↓ | ↓ | 5.0 | ✓ | RERUN |
| 3276 | 8 | 8310 20 ppm ICV | | — | S891 | | 1.0 | ✓ | Rerun samples |
| 3277 | 26 | F7139-3,10x | | 980/1mL | W | | 10.0 | ✓ | RERUN |
| 3278 | 27 | -4, 5x | | 990/1mL | ↓ | | 5.0 | ✓ | RERUN |
| 3279 | 28 | -5, ↓ | | 950/1mL | | | ↓ | ✓ | RERUN |
| 3280 | 29 | -6, ↓ | | 980/1mL | | | ↓ | ✓ | ✓ |
| 3281 | 30 | -7 | | 940/1mL | | | 1.0 | ✓ | BDL |
| 3282 | 31 | -8 | | 980/1mL | | | ↓ | ✓ | ✓ |
| 3283 | 32 | OP1872-MS | | 990/1mL | | | ↓ | ✓ | ✓ |
| 3284 | 33 | -MSD | | ↓ | ↓ | ↓ | ↓ | ✓ | ✓ |
| 3285 | 8 | 8310 20 ppm ICV | ↓ | — | S891 | | ↓ | ✓ | Rerun samples |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil
Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: Chelsea

# SOLID SAMPLE PREP REPORT

8-7-00 Method*: 8310 PAH Batch#: OP1920

tch Started On: 8-7-00 Prior Number Of Samples in Batch: Φ Analyst: NJ

| Sample ID | Bottle Number | Amount Extracted (g) | Surrogate Amount | Spike Amount | Final Volume (ml) | Comments |
|---|---|---|---|---|---|---|
| P 1920 - MB | — | 30.0 | 0.5 mL | - | 5.0 mL | |
| P - BS | — | 30.0 | | 0.5 mL | | |
| F7231-1 | 7 | 30.0 | | | | |
| F7243-1 | 6 | 30.0 | | | | |
| -2 | 6 | 30.0 | | | | |
| -3 | 6 | 30.0 | | | | |
| -4 | 6 | 30.0 | | | | |
| -5 | 6 | 30.0 | | | | |
| -6 | 6 | 30.1 | | | | |
| -7 | 6 | 30.0 | | | | |
| F7254-1 | 6 | 30.0 | | | | |
| -2 | 7 | 30.0 | | | | |
| -3 | 6 | 30.1 | | | | |
| -4 | 5 | 30.0 | | | | |
| -5 | 5 | 30.0 | | | | |
| -6 | 6 | 30.0 | | | | |
| -7 | 7 | 29.9 | | | | |
| -8 | 5 | 29.9 | | | 10.0 ml | Sample would not blow down 10.0 ml final volume |
| | | | | | MS-8/7/00 | |
| | | | | | | |
| | | MS 8/7/00 | | | | |
| | | | | | | |
| P 1920 - MS | 6 | 30.0 | 0.5 mL | 0.5 mL | 5.0 mL | F7243-1 |
| P - MSD | 6 | 30.0 | ↓ | ↓ | ↓ | ↓ |
| P ~~DUP~~ | | | | | | |

urrogate ID: E682 Conc: 200 ppm Exp. Date: 12-26-00 Bath Temp.: 74°C

pike ID: E691 Conc: 200/200 ppm Exp. Date: 1-14-01 Bath Temp2.: —

H2CL2 Lot# 003216 Hexane Lot# — Na2SO4 Lot# 004853

ent #: CH2CN-000931 Reagent #: — Reagent #: —

omments:

equence Name: C:\HPCHEM\2\SEQUENCE\0812PRO.S
Comment:
Operator: marke
Data Path: C:\HPCHEM\2\DATA\0812PRO\
Pre-Seq Cmd:
Post-Seq Cmd:

ethod Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| ine | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | Sample | 1 | OP10156 | FL_PRO | 1020ppm TPHS ccv s885 |
| 2 | Sample | 2 | OP10157 | FL_PRO | 340ppm TPHS s887 |
| 3 | Sample | 3 | OP10158 | FL_PRO | solvent blank |
| 4 | Sample | 4 | OP10159 | FL_PRO | op1924-mb |
| 5 | Sample | 5 | OP10160 | FL_PRO | f7254-2,25 |
| 6 | Sample | 6 | OP10161 | FL_PRO | op1924-ms,25 |
| 7 | Sample | 7 | OP10162 | FL_PRO | op1924-msd,25 |
| 8 | Sample | 8 | OP10163 | FL_PRO | f7254-4,80 |
| 9 | Sample | 9 | OP10164 | FL_PRO | f7254-7,400 |
| 10 | Sample | 10 | OP10165 | FL_PRO | f7254-8,200 |
| 11 | Sample | 11 | OP10166 | FL_PRO | 1020ppm TPHS ccv |
| 12 | Sample | 12 | OP10167 | FL_PRO | f7263-2,200 |
| 13 | Sample | 13 | OP10168 | FL_PRO | f7263-3,200 |
| 14 | Sample | 14 | OP10169 | FL_PRO | f7263-6,200 |
| 15 | Sample | 15 | OP10170 | FL_PRO | f7263-7 |
| 16 | Sample | 16 | OP10171 | FL_PRO | f7263-8,100 |
| 17 | Sample | 17 | OP10172 | FL_PRO | f7263-9,40 |
| 18 | Sample | 18 | OP10173 | FL_PRO | f7263-10,200 |
| 19 | Sample | 19 | OP10174 | FL_PRO | 1020ppm TPHS ccv |
| 20 | Sample | 20 | OP10175 | FL_PRO | op1936-mb |
| 21 | Sample | 21 | OP10176 | FL_PRO | op1936-bs |
| 22 | Sample | 22 | OP10177 | FL_PRO | f7301-1,200 |
| 23 | Sample | 23 | OP10178 | FL_PRO | f7308-1 |
| 24 | Sample | 24 | OP10179 | FL_PRO | f7308-2 |
| 25 | Sample | 25 | OP10180 | FL_PRO | f7308-3,200 |
| 26 | Sample | 26 | OP10181 | FL_PRO | f7308-4,200 |
| 27 | Sample | 27 | OP10182 | FL_PRO | solvent blank |
| 28 | Sample | 28 | OP10183 | FL_PRO | 1020ppm TPHS ccv |
| 29 | Sample | 29 | OP10184 | FL_PRO | f7308-5 |
| 30 | Sample | 30 | OP10185 | FL_PRO | f7308-6 |
| 31 | Sample | 31 | OP10186 | FL_PRO | f7308-7,200 |
| 32 | Sample | 32 | OP10187 | FL_PRO | f7308-8,200 |
| 33 | Sample | 33 | OP10188 | FL_PRO | f7308-9,200 |
| 34 | Sample | 34 | OP10189 | FL_PRO | f7321-1 |
| 35 | Sample | 35 | OP10190 | FL_PRO | f7321-2 |
| 36 | Sample | 36 | OP10191 | FL_PRO | 1020ppm TPHS ccv |
| 37 | Sample | 37 | OP10192 | FL_PRO | f7321-3 |
| 38 | Sample | 38 | OP10193 | FL_PRO | f7321-4 |
| 39 | Sample | 39 | OP10194 | FL_PRO | f7321-5 |
| 40 | Sample | 40 | OP10195 | FL_PRO | f7322-1,4 |
| 41 | Sample | 41 | OP10196 | FL_PRO | f7322-2,4 |
| 42 | Sample | 42 | OP10197 | FL_PRO | op1936-ms |
| 43 | Sample | 43 | OP10198 | FL_PRO | op1936-msd |

Sequence Name: C:\HPCHEM\2\SEQUENCE\0812PRO.S

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 44 | Sample | 44 | OP10199 | FL_PRO | 1020ppm TPHS ccv |

COLUMN TYPE: DB-5/17
INSTRUMENT: FID2

METHOD FILE: FCPHO
CALIB. DATE: 7/27/00

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX |
|---|---|---|---|---|---|
| 2R10156 | 1 | 1020ppmTPHSccw | FCPHO | | |
| 57 | 2 | 340ppmTPHS | | | |
| 58 | 3 | Solvent Blank | | | |
| 59 | 4 | OP1924-MB | | 30.0g/1ml | S |
| 60 | 5 | F7254-2 | | | |
| 61 | 6 | OP1924-MS | | | |
| 62 | 7 | -MSD | | | |
| 63 | 8 | F7254-4 | | | |
| 64 | 9 | -7 | | | |
| 65 | 10 | -8 | | | |
| 66 | 11 | 1020ppmTPHSccw | | | |
| 67 | 12 | F7263-2 | | 30.0g/1ml | S |
| 68 | 13 | -3 | | | |
| 69 | 14 | -6 | | | |
| 70 | 15 | -7 | | | |
| 71 | 16 | -8 | | | |
| 72 | 17 | -9 | | | |
| 73 | 18 | -10 | | | |
| 74 | 19 | 1020ppmTPHSccw | | | |
| 75 | 20 | OP1936-MB | | 30.0g/1ml | S |
| 76 | 21 | -MS | | | |
| 77 | 22 | F7301-1 | | 30.0g/5ml | |
| 78 | 23 | F7308-1 | | 30.0g/1ml | |
| 79 | 24 | -2 | | | |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil
Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

GC ANALYSIS[illegible]G

0418

| | | |
|---|---|---|
| ATE: 8/2/00 | METHODS: FLPAO | ANALYST: ME |
| OLUMN TYPE: AA-5/17 | METHOD FILE: FLPAO | RUN BATCH: Gol 423 |
| STRUMENT: FID2 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 1 ul |

| ATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 10180 | 25 | F7308-3 | FLPAO | 30.0g/15ml | S | 011936 | x20 (40ml) | – | MAX500 |
| 81 | 26 | -4 | ↓ | ↓ | ↓ | ↓ | ↓ | – | TPH=50/200 |
| 82 | 27 | solvent blank | | | | | | – | BPL |
| 83 | 28 | 1020ppm TPHS ccv | | | | | | – | SBSS passed |
| 84 | 29 | F7308-5 | | 30.0g/1ml | S | 011936 | x1 | – | BPL |
| 85 | 30 | -6 | | ↓ | | | ↓ | – | BPL |
| 86 | 31 | -7 | | 30.0g/15ml | | | x20 (40ml) | – | MAX500 |
| 87 | 32 | -8 | | | | | | – | MAX400 |
| 88 | 33 | -9 | | ↓ | | | ↓ | – | TPH=26/200 |
| 89 | 34 | F7321-1 | | 30.0g/1ml | | | x1 | – | BPL |
| 90 | 35 | -2 | | ↓ | ↓ | ↓ | ↓ | – | BPL |
| 91 | 36 | 1020ppm TPHS ccv | | | | | | – | SBSS passed |
| 92 | 37 | F7321-3 | | 30.0g/1ml | S | 011936 | x1 | – | TPH=11 |
| 93 | 38 | -4 | | | | | | – | BPL |
| 94 | 39 | -5 | | | | | ↓ | – | BPL |
| 95 | 40 | F7322-1 | | | | | x4 | – | MAX1 |
| 96 | 41 | -2 | | | | | ↓ | – | MAX1 |
| 97 | 42 | 011936-MS | | | | | x1 | – | ✓ |
| 98 | 43 | -MSD | | ↓ | ↓ | ↓ | ↓ | – | ✓ |
| 99 | 44 | 1020ppm TPHS ccv | ↓ | | | | | – | SBSS passed |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | 8/3/00 | | | | | |
| | | | | [illegible] | | | | | |

[illegible] Designate "W" for Water, "S" for Soil, and "O" for Oil
[illegible] Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

```
quence Name: C:\HPCHEM\2\SEQUENCE\0810PRO.S
     Comment:
    Operator: marke
   Data Path: C:\HPCHEM\2\DATA\0810PRO\
 Pre-Seq Cmd:
ost-Seq Cmd:

thod Sections To Run      On A Barcode Mismatch
(X) Full Method             (X) Inject Anyway
( ) Reprocessing Only       ( ) Don't Inject
```

| ine | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | Sample | 1 | OP10117 | FL_PRO | 1020ppm TPHS ccv s885 |
| 2 | Sample | 2 | OP10118 | FL_PRO | 340ppm TPHS s887 |
| 3 | Sample | 3 | OP10119 | FL_PRO | solvent blank |
| 4 | Sample | 4 | OP10120 | FL_PRO | op1905-mb |
| 5 | Sample | 5 | OP10121 | FL_PRO | f7194-1,10 |
| 6 | Sample | 6 | OP10122 | FL_PRO | f7194-2,10 |
| 7 | Sample | 7 | OP10123 | FL_PRO | f7194-6,10 |
| 8 | Sample | 8 | OP10124 | FL_PRO | f7194-8 |
| 9 | Sample | 9 | OP10125 | FL_PRO | f7194-9,2 |
| 10 | Sample | 10 | OP10126 | FL_PRO | f7194-10,2 |
| 11 | Sample | 11 | OP10127 | FL_PRO | op1905-ms,2 |
| 12 | Sample | 12 | OP10128 | FL_PRO | op1905-msd,2 |
| 13 | Sample | 13 | OP10129 | FL_PRO | f7194-15,2 |
| 14 | Sample | 14 | OP10130 | FL_PRO | 1020ppm TPHS ccv |
| 15 | Sample | 15 | OP10131 | FL_PRO | op1924-mb |
| 16 | Sample | 16 | OP10132 | FL_PRO | op1924-bs |
| 17 | Sample | 17 | OP10133 | FL_PRO | f7254-1 |
| 18 | Sample | 18 | OP10134 | FL_PRO | f7254-2 |
| 19 | Sample | 19 | OP10135 | FL_PRO | op1924-ms |
| 20 | Sample | 20 | OP10136 | FL_PRO | op1924-msd |
| 21 | Sample | 21 | OP10137 | FL_PRO | f7254-3 |
| 22 | Sample | 22 | OP10138 | FL_PRO | 1020ppm TPHS ccv |
| 23 | Sample | 23 | OP10139 | FL_PRO | f7254-4,4 |
| 24 | Sample | 24 | OP10140 | FL_PRO | f7254-5 |
| 25 | Sample | 25 | OP10141 | FL_PRO | f7254-6 |
| 26 | Sample | 26 | OP10142 | FL_PRO | f7254-7,40 |
| 27 | Sample | 27 | OP10143 | FL_PRO | f7254-8,40 |
| 28 | Sample | 28 | OP10144 | FL_PRO | f7263-2,40 |
| 29 | Sample | 29 | OP10145 | FL_PRO | f7263-3,40 |
| 30 | Sample | 30 | OP10146 | FL_PRO | 1020ppm TPHS ccv |
| 31 | Sample | 31 | OP10147 | FL_PRO | f7263-4 |
| 32 | Sample | 32 | OP10148 | FL_PRO | f7263-5,4 |
| 33 | Sample | 33 | OP10149 | FL_PRO | f7263-6,20 |
| 34 | Sample | 34 | OP10150 | FL_PRO | op1924-mb |
| 35 | Sample | 35 | OP10151 | FL_PRO | f7263-7,10 |
| 36 | Sample | 36 | OP10152 | FL_PRO | f7263-8,40 |
| 37 | Sample | 37 | OP10153 | FL_PRO | f7263-9,10 |
| 38 | Sample | 38 | OP10154 | FL_PRO | f7263-10,40 |
| 39 | Sample | 39 | OP10155 | FL_PRO | 1020ppm TPHS ccv |

GC ANALYSIS

| | | |
|---|---|---|
| DATE: 8/10/00 | METHODS: FLPHO | ANALYST: ME |
| COLUMN TYPE: DB-5/17 | METHOD FILE: FLPHO | RUN BATCH: GOP422 |
| INSTRUMENT: FID2 | CALIB. DATE: 7/27/00 | AMOUNT INJECTED: 1 ul |

0420

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P1017 | 1 | 1020ppm TPHSCW | FLPHO | | | | | ✓ | SSBS passed |
| 18 | 2 | 340ppm TPHS | | | | | | ✓ | SSBS passed |
| 19 | 3 | Solvent Blank | | | | | | ✓ | BAL |
| 20 | 4 | OP1905-MB | | 1000ml/ml | W | OP1905 | x1 | ✓ | BAL |
| 21 | 5 | F7194-1 | | 980ml/ml | | | x10 | ✓ | TPH=0.87(10) |
| 22 | 6 | -2 | | ↓ | | | | ✓ | TPH=1.0(10) |
| 23 | 7 | -6 | | 990ml/ml | | | ↓ | ✓ | TPH=1.3(10) |
| 24 | 8 | -8 | | 950ml/ml | | | x1 | ✓ | TPH=1.0 |
| 25 | 9 | -9 | | 980ml/ml | | | x2 | ✓ | TPH=0.92(2) |
| 26 | 10 | -10 | | 1000ml/ml | | | | ✓ | TPH=0.98(2) |
| 27 | 11 | OP1905-MS | | 500ml/ml | | | | ✓ | ✓ |
| 28 | 12 | -MSD | | ↓ | | | | ✓ | ✓ |
| 29 | 13 | F7194-1S | | 980ml/ml | ↓ | ↓ | ↓ | ✓ | TPH=1.0(2) |
| 30 | 14 | 1020ppm TPHSCW | | | | | | ✓ | SSBS passed |
| 31 | 15 | OP1924-MB | | 300g/ml | S | OP1924 | x1 | ✓ | Ah to confirm |
| 32 | 16 | -BS | | | | | | ✓ | ✓ |
| 33 | 17 | F7254-1 | | | | | | ✓ | TPH=14 |
| 34 | 18 | -2 | | | | | | ✓ | MAX25 |
| 35 | 19 | OP1924-MS | | | | | | ✓ | MAX25 |
| 36 | 20 | -MSD | | | | | | ✓ | MAX25 |
| 37 | 21 | F7254-3 | | ↓ | ↓ | ↓ | ↓ | ✓ | BAL |
| 38 | 22 | 1020ppm TPHSCW | | | | | | ✓ | SSBS passed |
| 39 | 23 | F7254-4 | ↓ | 300g/ml | S | OP1924 | x4 | ✓ | MAX80 |
| 40 | 24 | -5 | ↓ | ↓ | ↓ | ↓ | x1 | ✓ | BAL |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

COLUMN TYPE: DB-5 | METHOD FILE: FLPAD | RUN BATCH: FOP422

INSTRUMENT: FID2 | CALIB. DATE: 7/20/00 | AMOUNT INJECTED: 1 ul

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| OP10141 | 25 | F7254-6 | FLPAD | 30g/1ml | S | OP1924 | x1 | — | blk |
| 42 | 26 | -7 | | | | | x40 | — | MAX400 |
| 43 | 27 | -8 | | | | | | — | MAX200 |
| 44 | 28 | F7263-2 | | | | | | — | MAX200 |
| 45 | 29 | -3 | | | | | | — | MAX200 |
| 46 | 30 | 102ppm TPH ccv | | | | | | — | SSBS passed |
| 47 | 31 | F72634 | | 30g/1ml | S | OP1924 | x1 | — | TPH=8.3 |
| 48 | 32 | -5 | | | | | x4 | — | TPH=24/4 |
| 49 | 33 | -6 | | | | | x20 | — | MAX200 |
| 50 | 34 | -7 OP1924-mb | | | | | x1 | — | blk |
| 51 | 35 | F7263-7 | | | | | x10 | — | MAX10 |
| 52 | 36 | -9 -8 | | | | | x40 | — | MAX400 |
| 53 | 37 | F -9 | | | | | x10 | — | MAX10 |
| 54 | 38 | -10 | | | | | x40 | — | MAX400 |
| 55 | 39 | 102ppm TPH ccv | | | | | | — | SSBS passed |

8/1/00

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature:

0421

036

Sequence Name: C:\HPCHEM\2\SEQUENCE\0727PRO.S
Comment:
Operator: ChelseaJ
Data Path: C:\HPCHEM\2\DATA\0727PRO\
Pre-Seq Cmd:
Post-Seq Cmd:

Method Sections To Run
(X) Full Method
( ) Reprocessing Only

On A Barcode Mismatch
(X) Inject Anyway
( ) Don't Inject

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1 | Sample | 1 | OP09782 | FL_PRO | 340 ppm TPHS |
| 2 | Sample | 2 | OP09783 | FL_PRO | 680 ppm TPHS |
| 3 | Sample | 3 | OP09784 | FL_PRO | 1020 ppm TPHS |
| 4 | Sample | 4 | OP09785 | FL_PRO | 1360 ppm TPHS |
| 5 | Sample | 5 | OP09786 | FL_PRO | 1700 ppm TPHS |
| 6 | Sample | 6 | OP09787 | FL_PRO | SB |
| 7 | Sample | 7 | OP09788 | FL_PRO | OP1866-MB |
| 8 | Sample | 8 | OP09789 | FL_PRO | OP1866-BS |
| 9 | Sample | 9 | OP09790 | FL_PRO | F7110-1,20x |
| 10 | Sample | 10 | OP09791 | FL_PRO | F7110-2,10x |
| 11 | Sample | 11 | OP09792 | FL_PRO | F7125-1,10x |
| 12 | Sample | 12 | OP09793 | FL_PRO | F7098-1,4x |
| 13 | Sample | 13 | OP09794 | FL_PRO | F7098-2 |
| 14 | Sample | 14 | OP09795 | FL_PRO | F7098-3 |
| 15 | Sample | 15 | OP09796 | FL_PRO | F7098-5 |
| 16 | Sample | 16 | OP09797 | FL_PRO | F7098-7 |
| 17 | Sample | 17 | OP09798 | FL_PRO | 1020 ppm CCV |
| 18 | Sample | 18 | OP09799 | FL_PRO | F7098-8,20x |
| 19 | Sample | 19 | OP09800 | FL_PRO | F7098-9 |
| 20 | Sample | 20 | OP09801 | FL_PRO | F7098-10,10x |
| 21 | Sample | 21 | OP09802 | FL_PRO | F7114-3 |
| 22 | Sample | 22 | OP09803 | FL_PRO | F7114-22,20x |
| 23 | Sample | 23 | OP09804 | FL_PRO | F7114-24,20x |
| 24 | Sample | 24 | OP09805 | FL_PRO | F7121-1,4x |
| 25 | Sample | 25 | OP09806 | FL_PRO | F7133-1,50x |
| 26 | Sample | 26 | OP09807 | FL_PRO | OP1866-MS |
| 27 | Sample | 27 | OP09808 | FL_PRO | OP1866-MSD |
| 28 | Sample | 17 | OP09809 | FL_PRO | 1020 ppm CCV |
| 29 | Sample | 28 | OP09810 | FL_PRO | OP1864-MB |
| 30 | Sample | 29 | OP09811 | FL_PRO | OP1864-BS |
| 31 | Sample | 30 | OP09812 | FL_PRO | F7106-1 |
| 32 | Sample | 31 | OP09813 | FL_PRO | F7106-2 |
| 33 | Sample | 32 | OP09814 | FL_PRO | F7106-3,4x |
| 34 | Sample | 33 | OP09815 | FL_PRO | F7106-4,4x |
| 35 | Sample | 34 | OP09816 | FL_PRO | F7106-5 |
| 36 | Sample | 35 | OP09817 | FL_PRO | F7106-6 |
| 37 | Sample | 36 | OP09818 | FL_PRO | F7113-1 |
| 38 | Sample | 37 | OP09819 | FL_PRO | F7113-2,10x |
| 39 | Sample | 17 | OP09820 | FL_PRO | 1020 ppm CCV |
| 40 | Sample | 38 | OP09821 | FL_PRO | 340 ppm CCV |
| 41 | Sample | 39 | OP09822 | FL_PRO | SB |
| 42 | Sample | 40 | OP09823 | FL_PRO | 850 ppm ICV s858 |
| 43 | Sample | 41 | OP09824 | FL_PRO | F7110-1,10x |

uence Name: C:\HPCHEM\2\SEQUENCE\0727PRO.S

| e Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|
| Sample | 42 | OP09825 | FL_PRO | F7110-2 |
| Sample | 43 | OP09826 | FL_PRO | F7125-1 |
| Sample | 44 | OP09827 | FL_PRO | F7098-1 |
| Sample | 45 | OP09828 | FL_PRO | F7098-8,4x |
| Sample | 46 | OP09829 | FL_PRO | F7098-10,2x |
| Sample | 47 | OP09830 | FL_PRO | F7133-1,150x |
| Sample | 48 | OP09831 | FL_PRO | 1020 ppm CCV |
| Sample | 49 | OP09832 | FL_PRO | F7113-3,4x |
| Sample | 50 | OP09833 | FL_PRO | F7113-4,4x |
| Sample | 51 | OP09834 | FL_PRO | F7113-5,4x |
| Sample | 52 | OP09835 | FL_PRO | F7113-6,4x |
| Sample | 53 | OP09836 | FL_PRO | F7113-7,10x |
| Sample | 54 | OP09837 | FL_PRO | F7120-1 |
| Sample | 55 | OP09838 | FL_PRO | F7129-1,4x |
| Sample | 56 | OP09839 | FL_PRO | F7129-2 |
| Sample | 57 | OP09840 | FL_PRO | F7129-3,4x |
| Sample | 48 | OP09841 | FL_PRO | 1020 ppm CCV |
| Sample | 58 | OP09842 | FL_PRO | OP1864-MS,4x |
| Sample | 59 | OP09843 | FL_PRO | OP1864-MSD,4x |
| Sample | 60 | OP09844 | FL_PRO | F7106-3,2x |
| Sample | 61 | OP09845 | FL_PRO | F7106-4 |
| Sample | 48 | OP09846 | FL_PRO | 1020 ppm CCV |
| Sample | 62 | OP09847 | FL_PRO | OP1876-MB |
| Sample | 63 | OP09848 | FL_PRO | OP1876-BS |
| Sample | 64 | OP09849 | FL_PRO | F7122-1 |
| Sample | 65 | OP09850 | FL_PRO | F7122-2 |
| Sample | 66 | OP09851 | FL_PRO | F7122-3 |
| Sample | 67 | OP09852 | FL_PRO | F7122-4 |
| Sample | 68 | OP09853 | FL_PRO | F7122-5 |
| Sample | 69 | OP09854 | FL_PRO | F7122-6 |
| Sample | 48 | OP09855 | FL_PRO | 1020 ppm CCV |
| Sample | 70 | OP09856 | FL_PRO | F7122-7 |
| Sample | 71 | OP09857 | FL_PRO | F7122-8 |
| Sample | 72 | OP09858 | FL_PRO | F7139-3,20x |
| Sample | 73 | OP09859 | FL_PRO | F7139-4,5x |
| Sample | 74 | OP09860 | FL_PRO | F7148-1 |
| Sample | 75 | OP09861 | FL_PRO | F7148-2,4x |
| Sample | 76 | OP09862 | FL_PRO | F7148-3 |
| Sample | 48 | OP09863 | FL_PRO | 1020 ppm CCV |
| Sample | 77 | OP09864 | FL_PRO | 340 ppm CCV |
| Sample | 78 | OP09865 | FL_PRO | SB |
| Sample | 79 | OP09866 | FL_PRO | F7148-4 |
| Sample | 80 | OP09867 | FL_PRO | F7148-5,4x |
| Sample | 81 | OP09868 | FL_PRO | F7148-6,4x |

# GC ANALYSIS LOG

ATE: 07/27/00
OLUMN TYPE: DB 5/17
STRUMENT: FID 2

METHODS: FL PRO
METHOD FILE: FL PRO
CALIB. DATE: 07/27/00

ANALYST: Thelen
RUN BATCH: GOP416
AMOUNT INJECTED: 1 ul

| ATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR. | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| P0 9782 | 1 | 340 ppm TPHs | FL PRO | | S857 | | 1.0 | ✓ | ✓ |
| 9783 | 2 | 680 | | | S856 | | | ✓ | ✓ |
| 9784 | 3 | 1020 | | | S855 | | | ✓ | ✓ |
| 9785 | 4 | 1360 | | | S854 | | | ✓ | ✓ |
| 9786 | 5 | 1700 | | | S853 | | | ✓ | ✓ |
| 9787 | 6 | SB | | | | | | ✓ | BDL |
| 9788 | 7 | OP1866-MB | | 30g/1mL | S | OP1866 | | ✓ | ↓ |
| 9789 | 8 | -BS | | | | | | ✓ | ✓ |
| 9790 | 9 | F7110-1, 20x | | | | | 20.0 | ✓ | RRC 10x |
| 9791 | 10 | -2, 10x | | | | | 10.0 | ✓ | RRC 1x |
| 9792 | 11 | F7125-1, ↓ | | | | | ↓ | ✓ | RRC 1x |
| 9793 | 12 | F7098-1, 4x | | | | | 4.0 | ✓ | RRC 1x |
| 9794 | 13 | -2 | | | | | 1.0 | ✓ | BDL |
| 9795 | 14 | -3 | | | | | | ✓ | |
| 9796 | 15 | -5 | | | | | | ✓ | |
| 9797 | 16 | -7 | | ↓ | ↓ | | | ✓ | ↓ |
| 4798 | 17 | 1020 ppm CCV | | — | S855 | | | ✓ | passed |
| 9799 | 18 | F7098-8, 20x | | 30g/1mL | S | | 20.0 | ✓ | RRC 4x |
| 9800 | 19 | -9 | | | | | 1.0 | ✓ | ✓ |
| 9801 | 20 | -10, 10x | | | | | 10.0 | ✓ | RRC 2x |
| 9802 | 21 | F7114-3 | | | | | 1.0 | ✓ | ✓ |
| 9803 | 22 | -22, 20x | | | | | 20.0 | ✓ | ✓ |
| 9804 | 23 | -24, 20x | | | | | ↓ | ✓ | ✓ |
| 9805 | 24 | F7121-1, 4x | ↓ | ↓ | ↓ | ↓ | 4.0 | ✓ | ✓ |

0425

| | | | |
|---|---|---|---|
| DATE: 07/27/00 cntd | METHODS: FL PRO | ANALYST: Chelsea | |
| COLUMN TYPE: DB 5/17 | METHOD FILE: FL PRO | RUN BATCH: GOP416 cntd | |
| INSTRUMENT: FID 2 | CALIB. DATE: 07/27/00 | AMOUNT INJECTED: 1 ul | |

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| OPO 9806 | 25 | F7133-1, 50x | FL PRO | 30g/1mL | S | OP1866 | 50.0 | ✓ | RR @ 150x |
| 9807 | 26 | OP1866-MS | ↓ | ↓ | ↓ | ↓ | 1.0 | ✓ | ✓ |
| 9808 | 27 | -MSD | | | | | ↓ | ✓ | ✓ |
| 9809 | 17 | 1020 ppm CCV | | — | S855 | | | ✓ | passes |
| 9810 | 28 | OP1864-MB | | 100/1mL | W | OP1864 | | ✓ | BDL |
| 9811 | 29 | -BS | | ↓ | ↓ | ↓ | | ✓ | ✓ |
| 9812 | 30 | F7106-1 | | 870/1mL | | | | ✓ | BDL |
| 9813 | 31 | -2 | | 940/1mL | | | ↓ | ✓ | ✓ |
| 9814 | 32 | -3, 4x | | 970/1mL | | | 4.0 | ✓ | RR @ 2x |
| 9815 | 33 | -4, ↓ | | ↓ | | | ↓ | ✓ | RR @ 1x |
| 9816 | 34 | -5 | | 920/1mL | | | 1.0 | ✓ | BDL |
| 9817 | 35 | -6 | | 950/1mL | | | ↓ | ✓ | ↓ |
| 9818 | 36 | F7113-1 | | ↓ | | | ↓ | ✓ | ↓ |
| 9819 | 37 | -2, 10x | | 960/1mL | ↓ | ↓ | 10.0 | ✓ | ✓ |
| 9820 | 17 | 1020 ppm CCV | | — | S855 | | 1.0 | ✓ | passes |
| 9821 | 38 | 340 ppm CCV | | — | S857 | | ↓ | ✓ | passes |
| 9822 | 39 | SB | | | | | | ✓ | BDL |
| 9823 | 40 | 850 ppm ICV | | | S858 | | ↓ | ✓ | passes |
| 9824 | 41 | F7110-1 10x | | 30g/1mL | S | OP1866 | 10.0 | ✓ | ✓ |
| 9825 | 42 | F7110-2 | | ↓ | ↓ | ↓ | 1.0 | ✓ | ✓ |
| 9826 | 43 | F7125-1 | | | | | ↓ | ✓ | ✓ |
| 9827 | 44 | F7098-1 | | | | | | ✓ | ✓ |
| 9828 | 45 | -8, 4x | | | | | 4.0 | ✓ | ✓ |
| 9829 | 46 | -10, 2x | ↓ | ↓ | ↓ | ↓ | 2.0 | ✓ | ✓ |

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: Chelsea

# GC ANALYSIS LOG

DATE: 7/27/00 cont'd
COLUMN TYPE: DB 5/17
INSTRUMENT: FID 2

METHODS: FL Pro
METHOD FILE: FL Pro
CALIB. DATE: 7/27/00

ANALYST: Phil
RUN BATCH: Shaw GOP 4766
AMOUNT INJECTED: 1 ul

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX Shaw S | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| JB 09830 | 47 | F7133-1 1SDX | FL Pro | 30/1ml | W | OP1866 | 150.0 | ✓ | ✓ |
| 9831 | 48 | 1020 ppm CCV | | — | S855 | | 1.0 | ✓ | passed |
| 9832 | 49 | F7113-3 4x | | 80ml/ml | W | OP1864 | x4 | ✓ | (MAX1) |
| 9833 | 50 | -4 4x | | ↓ | | | | ✓ | (MAX1) |
| 9834 | 51 | -5 4x | | ↓ | | | | ✓ | TPH=0.55(4) |
| 9835 | 52 | -6 4x | | 970ml/ml | | | ↓ | ✓ | TPH=0.66(4) |
| 9836 | 53 | F7113-7 | | 960ml/ml | | | x10 | ✓ | TPH=1.0(10) |
| 9837 | 54 | F7120-1 | | 910ml/ml | | | x1 | ✓ | TPH=0.26 |
| 9838 | 55 | F7129-1 4x | | 800ml/ml | | | x4 | ✓ | (MAX1) |
| 9839 | 56 | -2 | | 830ml/ml | | | x1 | ✓ | BDL |
| 9840 | 57 | -3, 4x | | 900ml/ml | ↓ | ↓ | x4 | ✓ | (MAX1) |
| 9841 | 48 | 1020 ppm CCV | | — | S855 | | | ✓ | passed |
| 9842 | 58 | OP1864-MS, 4x | | 470ml/ml | W | OP1864 | x4 | ✓ | (MAX1) |
| 9843 | 59 | -MSD, ↓ | | ↓ | | | ↓ | ✓ | (MAX1) |
| 9844 | 60 | F7106-3, 2x | | 970ml/ml | | | x2 | ✓ | TPH=0.82(2) |
| 9845 | 61 | -4 | | ↓ | ↓ | ↓ | x1 | ✓ | TPH=0.46 |
| 9846 | 48 | 1020 ppm CCV | | — | S855 | | | ✓ | passed |
| 9847 | 62 | OP1876-MB | | 1000ml/ml | W | OP1876 | x1 | ✓ | BDL |
| 9848 | 63 | -BS | | ↓ | | | | ✓ | ✓ |
| 9849 | 64 | F7122-1 | | 940ml/ml | | | | ✓ | TPH=0.90 |
| 9850 | 65 | -2 | | 850ml/ml | | | | ✓ | (MA)Isomers, Surr. ↓ |
| 9851 | 66 | -3 | | 860ml/ml | | | | ✓ | TPH=8.5 |
| 9852 | 67 | -4 | | 850ml/ml | | | ↓ | ✓ | TPH=0.44 (MA)Isomers |
| 9853 | 68 | -5 | ↓ | 890ml/ml | ↓ | ↓ | | | TPH=0.38 ↓ |

| | | |
|---|---|---|
| DATE: 07/27/00 cont'd | METHODS: FL PRO | ANALYST: [illegible] |
| COLUMN TYPE: DB 5/17 | METHOD FILE: FL PRO | RUN BATCH: GOP416 cont'd |
| INSTRUMENT: FID 2 | CALIB. DATE: 07/27/00 | AMOUNT INJECTED: 1 ul |

| DATA FILE | ALS # | SAMPLE ID | SAMPLE METHOD | SAMPLE AMOUNT | MATRIX | EXT. BATCH | DILUTION FACTOR | RUN OK | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| OP 0 9854 | 69 | F7122-6 | FL PRO | 890ml/ml | W | 01x76 | x1 | / | (BR to cont.) |
| 9855 | 48 | 1020 ppm CCV | | — | S855 | | | / | passed |
| 9856 | 70 | F7122-7 | | 800ml/ml | | | x1 | / | BDL BR |
| 9857 | 71 | -8 | | 970ml/ml | | | ↓ | / | BDL |
| 9858 | 72 | F7139-3, 20x | | 980ml/ml | | | x20 | / | (BMX5) |
| 9859 | 73 | -4, 5x | | 1000ml/ml | | | x5 | / | (BMX5) |
| 9860 | 74 | F7148-1 | | 950ml/ml | | | x1 | / | (BMX2) |
| 9861 | 75 | -2, 4x | | ↓ | | | x4 | / | (BMX2) |
| 9862 | 76 | -3 | | | | | x1 | / | (BMX2) ↓ |
| 9863 | 48 | 1020 ppm CCV | | — | S855 | | | / | failed |
| 9864 | 77 | 340 ppm CCV | | | S857 | | | / | |
| 9865 | 78 | SB | | | | | | / | |
| 9866 | 79 | F7148-4 | | 950ml/ml | | | x1 | / | (BMX2) |
| 9867 | 80 | -5, 4x | | 880ml/ml | | | x4 | / | (BMX4) |
| 9868 | 81 | -6, | | ↓ | | | | / | (BMX1) |
| 9869 | 82 | -7, | | 950ml/ml | | | | | |
| 9870 | 83 | -8, ↓ | | 890ml/ml | | | | | |
| 9871 | 84 | -9, 10x | | | | | | | |
| 9872 | 85 | OP1876-MS | | | | | | | |
| 9873 | 86 | -MSD | | | | | | | |
| 9874 | 48 | 1020 ppm CCV | | | | | | | |

7/29/00

Matrix: Designate "W" for Water, "S" for Soil, and "O" for Oil

Sample Amount: Initial Sample Weight (g) or Volume (ml) / Final Volume (ml)

Analyst's Signature: [signature]

# SOLID SAMPLE PREP REPORT

8-8-00 Method*: FL PRO Batch#: 081924

atch Started On: 8-8-00 Prior Number Of Samples In Batch: 0 Analyst: NJ/KP

| Sample ID | Bottle Number | Amount Extracted (g) | Surrogate Amount | Spike Amount | Final Volume (ml) | Comments |
|---|---|---|---|---|---|---|
| P 1924- MB | – | 30.0 | 0.5 mL | – | 1.0 mL | |
| P - BS | – | 30.0 | | 0.5 mL | | |
| F7254-1 | 6 | 30.0 | | | | |
| -2 | 7 | 30.0 | | | | |
| -3 | 6 | 30.0 | | | | |
| -4 | 5 | 30.0 | | | | |
| -5 | 5 | 30.0 | | | | |
| -6 | 6 | 30.1 | | | | |
| -7 | 6 | 30.0 | | | | |
| -8 | 5 | 30.0 | | | | |
| F7263-2 | 5 | 30.0 | | | | |
| -3 | 5 | 30.1 | | | | |
| -4 | 6 | 30.1 | | | | |
| -5 | 5 | 30.0 | | | | |
| -6 | 6 | 29.9 | | | | |
| -7 | 6 | 30.1 | | | | |
| -8 | 6 | 30.1 | | | | |
| -9 | 5 | 30.0 | | | | |
| -10 | 7 | 30.0 | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| P 1924-MS | 7 | 30.0 | 0.5 mL | 0.5 mL | 1.0 mL | F7254-2 |
| P _MSD | 7 | 30.0 | ✓ | ✓ | ✓ | ✓ |
| ~~P DUP~~ | | | | | | |

urrogate ID: E700A Conc: 100ppm Exp. Date: 1-31-01 Bath Temp.: 70°C
NJ verified

pike ID: E693 Conc: 100ppm Exp. Date: 1-20-01 Bath Temp2.: —
NJ verified

H2CL2 Lot# 003216 Hexane Lot# — Na2SO4 Lot# 004858

gent #: silicagel: 995185 Reagent #: — Reagent #: —

mments:

# FOLID SAMPLE PREP REPORT

-11-00 Method*: FL. PRO Batch#: OP1936

ted On: 8-11-00 Prior Number Of Samples in Batch: Ø Analyst: NJ / RL

| ple ID | Bottle Number | Amount Extracted (g) | Surrogate Amount | Spike Amount | Final Volume (ml) | Comments |
|---|---|---|---|---|---|---|
| 6 - MB | - | 30.0 | 0.5 ml | - | 1.0 ml | |
| - BS | - | 30.0 | | 0.5 ml | | |
| 1-1 | 1 | 30.0 | | | | Final Vol. 5.0 ml |
| 8-1 | 7 | 30.0 | | | | |
| -2 | 7 | 29.9 | | | | |
| -3 | 7 | 30.0 | | | | Final Vol. 5.0 ml |
| -4 | 7 | 30.0 | | | | ↓ |
| -5 | 7 | 30.0 | | | | |
| -6 | 7 | 30.0 | | | | |
| -7 | 7 | 30.1 | | | | Final Vol. 5.0 ml |
| -8 | 7 | 30.0 | | | | |
| -9 | 7 | 30.1 | | | | ↓ |
| -1-1 | 3 | 30.1 | | | | |
| -2 | 2 | 29.9 | | | | |
| -3 | 5 | 30.0 | | | | |
| -4 | 5 | 30.1 | | | | |
| 2-1 | 2 | 30.0 | | | | |
| -2 | 2 | 30.1 | | | | |
| 1-5 | 5 | 29.9 | ↓ | | ↓ | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| 36 - MS | 7 | 30.0 | 0.5 ml | 0.5 ml | 1.0 ml | F7308-5 |
| - MSD | 7 | 30.0 | ↓ | ↓ | ↓ | ↓ |
| ~~DUP~~ | | | | | | |

ID: E700B Conc: 100ppm Exp. Date: 1/31/01 Bath Temp.: 74°C

E707 Conc: 100ppm Exp. Date: 2/9/01 Bath Temp2.:

Lot# 003216 Hexane Lot# Na2SO4 Lot# 005399

#: Silica - 995135 Reagent #: Reagent #:

ls:

**Tetra Tech NUS, Inc.** **Internal Correspondence**

| | | |
|---|---|---|
| **TO:** | **Mr. Gerald Walker** | **DATE: January 8, 2001** |
| **FROM:** | **Suzanne I. Smith** | **CC: File** |
| **SUBJECT:** | **Inorganic Data Validation – Lead and Anions**<br>**CTO132 – NAS Pensacola**<br>**SDG 26225** | |
| **SAMPLES:** | **5/Aqueous** | |

| | | |
|---|---|---|
| **NASPFFDUP-3** | **NASPFFEQB-2** | **NASPFFMW-12S** |
| **NASPFF MW-14I** | **NASPFF MW-14S** | **TRIP BLANK** |

**OVERVIEW**

The sample set for CTO132, SDG 26225; Naval Air Station Pensacola, Pensacola, Florida consists of four (4) aqueous environmental samples, and one (1) equipment blank. The environmental samples and equipment blank were analyzed for Lead. Only NASPFFMW-12S, NASPFFMW-14S, and NASPFFDUP-3 were analyzed for Anions. One pair of duplicate samples was analyzed with this sample set: NASPFFMW-12S/NASPFFDUP-3.

The samples were collected by Tetra Tech NUS on November 16, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 6010B (VOCs) and EPA Methods 300 and 376.1 (Anions) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
  • Laboratory method/field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Lead Fraction

Laboratory Blank Analysis

Affected samples: none

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| Lead | 0.0094 | 0.047 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors and sample aliquots were taken into account when evaluating for blank contamination. No lead was detected in the associated samples therefore no action was taken.

All other quality control criteria were met for this fraction.

Anion Fraction

All quality control criteria were met for this fraction.

Field Duplicate Summary

| Analyte | NASPFFMW-12S(ug/L) | NASPFFDUP-3(ug/L) | %RPD |
|---|---|---|---|
| Nitrate | 0.45 | 0.43 | 4.5 |
| Nitrite | 0.02 | 0.01 | 67 |
| Sulfate | 6 | 6 | 0 |

Detects for Nitrite in samples NASPFFMW-12S and NASPFFDUP-3 were qualified as estimated "J" due to field duplicate imprecision.

Executive Summary

**Laboratory performance:** Detects for Nitrite in samples NASPFFMW-12S and NASPFFDUP-3 were qualified as estimated "J" due to field duplicate imprecision.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne J. Smith

Project Chemist
Tetra Tech NUS, Inc.

# CTO132- NAS PENSACOLA
## WATER DATA
## AAL
## SDG: 26225



| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFDUP-3 | | | NASPFFEQB-2 | | | NASPFFMW-12S | | | NASPFFMW-14I | | |
| SAMPLE DATE: | 11/16/00 | | | 11/16/00 | | | 11/16/00 | | | 11/16/00 | | |
| LABORATORY ID: | AC03415 | | | AC03414 | | | AC03416 | | | AC03418 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| INORGANICS | | | | | | | | | | | | |
| LEAD | 0.010 | U | | 0.010 | U | | 0.010 | U | | 0.010 | U | |

AAL

**SDG: 26225**

| | | | | | |
|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFMW-14S | | | | |
| SAMPLE DATE: | 11/16/00 | / / | / / | / / | |
| LABORATORY ID: | AC03417 | | | | |
| QC_TYPE: | NORMAL | | | | |
| % SOLIDS: | 0.0 % | 100.0 % | 100.0 % | 100.0 % | |
| UNITS: | MG/L | | | | |
| FIELD DUPLICATE OF: | | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INORGANICS** | | | | | | | | | | | | |
| LEAD | 0.010 | U | | | | | | | | | | |

# CTO132- NAS PENSACOLA
**WATER DATA**
**AAL**
**SDG: 26225**



| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFDUP-3 | NASPFFMW-12S | NASPFFMW-14S | |
| SAMPLE DATE: | 11/16/00 | 11/16/00 | 11/16/00 | / / |
| LABORATORY ID: | AC03415 | AC03416 | AC03417 | |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 100.0 % |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MISCELLANEOUS PARAMETERS** | | | | | | | | | | | | |
| NITRATE(MG/L) | 0.43 | | | 0.45 | | | 0.38 | | | | | |
| NITRITE(MG/L) | 0.01 | J | G | 0.02 | J | G | 0.01 | U | | | | |
| SULFATE(MG/L) | 6 | | | 6 | | | 9 | | | | | |
| SULFIDE(MG/L) | 1.0 | U | | 1.0 | U | | 1.0 | U | | | | |

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DAT TO ANAL_DAT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| MG/L | NASPFFEQB-2 | AC03414 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| MG/L | NASPFFMW-14I | AC03418 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| UG/ML | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | METH | 11/16/00 | 11/21/00 | 11/21/00 | 5 | 0 | 5 |
| UG/ML | NASPFFMW-12S | AC03416 | NORMAL | 26225 | METH | 11/16/00 | 11/21/00 | 11/21/00 | 5 | 0 | 5 |
| UG/ML | NASPFFMW-14S | AC03417 | NORMAL | 26225 | METH | 11/16/00 | 11/21/00 | 11/21/00 | 5 | 0 | 5 |
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | NTA | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | NTA | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | NTA | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | NTI | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | NTI | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | NTI | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| UG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | OV | 11/16/00 | 11/28/00 | 11/28/00 | 12 | 0 | 12 |
| UG/L | NASPFFEQB-2 | AC03414 | NORMAL | 26225 | OV | 11/16/00 | 11/28/00 | 11/28/00 | 12 | 0 | 12 |
| UG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | OV | 11/16/00 | 11/27/00 | 11/27/00 | 11 | 0 | 11 |
| UG/L | NASPFFMW-14I | AC03418 | NORMAL | 26225 | OV | 11/16/00 | 11/28/00 | 11/28/00 | 12 | 0 | 12 |
| UG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | OV | 11/16/00 | 11/28/00 | 11/28/00 | 12 | 0 | 12 |
| UG/L | TRIP BLANK | AC03419 | NORMAL | 26225 | OV | 11/16/00 | 11/27/00 | 11/27/00 | 11 | 0 | 11 |
| UG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | PAH | 11/16/00 | 11/20/00 | 11/21/00 | 4 | 1 | 5 |
| UG/L | NASPFFEQB-2 | AC03414 | NORMAL | 26225 | PAH | 11/16/00 | 11/20/00 | 11/21/00 | 4 | 1 | 5 |
| UG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | PAH | 11/16/00 | 11/20/00 | 11/21/00 | 4 | 1 | 5 |
| UG/L | NASPFFMW-14I | AC03418 | NORMAL | 26225 | PAH | 11/16/00 | 11/20/00 | 11/21/00 | 4 | 1 | 5 |
| UG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | PAH | 11/16/00 | 11/20/00 | 11/21/00 | 4 | 1 | 5 |

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | SO4 | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | SO4 | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | SO4 | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | SUL | 11/16/00 | 11/20/00 | 11/20/00 | 4 | 0 | 4 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | SUL | 11/16/00 | 11/20/00 | 11/20/00 | 4 | 0 | 4 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | SUL | 11/16/00 | 11/20/00 | 11/20/00 | 4 | 0 | 4 |
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/28/00 | 5 | 7 | 12 |
| MG/L | NASPFFEQB-2 | AC03414 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/27/00 | 5 | 6 | 11 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/28/00 | 5 | 7 | 12 |
| MG/L | NASPFFMW-14I | AC03418 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/28/00 | 5 | 7 | 12 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/28/00 | 5 | 7 | 12 |

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

## LABORATORY REPORT

**Accura Sample ID #: AC03414** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/2000
Client Contact: GERRY WALKER Date Received: 11/17/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/27/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFFEQB-2**

---

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/2000 Date Analyzed: 11/28/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/29/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/27/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.72JB | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 88 | |
| Nitrobenzene-d5 | (Range 37-104) | 91 | |
| p-Terphenyl-d14 | (Range 15-132) | 94 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 10 | |
| o-Terphenyl (Range 82-142) | 91 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 98 | |
| 4-Bromofluorobenzene (86-112) | 94 | |
| Toluene-d8 (84-108) | 92 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

## LABORATORY REPORT

**Accura Sample ID #: AC03415** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/2000
Client Contact: GERRY WALKER Date Received: 11/17/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/27/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFFDUP-3**

---

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/17/2000 Date Analyzed: 11/18/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.43 | 0.01 |
| Nitrite by IC | 0.01 | 0.01 |
| Sulfate by IC | 6 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/2000 Date Analyzed: 11/28/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/29/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/21/2000 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 4.8 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 53 | 1.0 |
| 2-Methylnaphthalene | 67 | 1.0 |
| Acenaphthene | 1.2 | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | 0.59J | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | 1.7 | 1.0 |

| | | |
|---|---|---|
| Fluorene | 1.3 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 130 | 1.0 |
| Phenanthrene | 2.5 | 1.0 |
| Pyrene | 0.94J | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/28/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 3.8 | 1.0 |

ANALYSIS: Sulfide Method Ref: 376.1
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/20/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 5.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 5.0 |
| 1,1,2-Trichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethene | <RDL | 5.0 |
| 1,2-Dichloroethane | <RDL | 5.0 |
| 1,2-Dichloropropane | <RDL | 5.0 |
| 1,3-Dichloropropene | <RDL | 5.0 |
| 2-Chloroethylvinyl ether | <RDL | 50 |
| Acrolein | <RDL | 50 |
| Acrylonitrile | <RDL | 50 |
| Benzene | 560 | 25 |
| Bromodichloromethane | <RDL | 5.0 |
| Bromoform | <RDL | 25 |
| Bromomethane | <RDL | 5.0 |
| Carbon tetrachloride | <RDL | 5.0 |
| Chlorobenzene | <RDL | 5.0 |
| Chloroethane | <RDL | 5.0 |
| Chloroform | <RDL | 5.0 |
| Chloromethane | <RDL | 5.0 |
| Ethylbenzene | 550 | 25 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 50 |
| Methylene chloride | <RDL | 25 |
| Tetrachloroethene | <RDL | 5.0 |
| Toluene | 11 | 5.0 |
| trans-1,2-Dichloroethene | <RDL | 5.0 |
| Trichloroethene | <RDL | 5.0 |
| Vinyl chloride | <RDL | 5.0 |
| Xylenes (Total) | 320 | 10 |

ANALYSIS: X_B/N Sample Surrogates (Waters Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 86 | |

| | | |
|---|---|---|
| Nitrobenzene-d5 | (Range 37-104) | 90 |
| p-Terphenyl-d14 | (Range 15-132) | 35 |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/28/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.9 | |
| o-Terphenyl (Range 82-142) | 87 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 92 | |
| 4-Bromofluorobenzene (86-112) | 95 | |
| Toluene-d8 (84-108) | 95 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

**LABORATORY REPORT**

**Accura Sample ID #: AC03416** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/2000
Client Contact: GERRY WALKER Date Received: 11/17/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/27/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFFMW-12S**

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/17/2000 Date Analyzed: 11/18/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.45 | 0.01 |
| Nitrite by IC | 0.02 | 0.01 |
| Sulfate by IC | 6 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/2000 Date Analyzed: 11/28/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/29/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/21/2000 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | 4.4 | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | 52 | 1.0 |
| 2-Methylnaphthalene | 65 | 1.0 |
| Acenaphthene | 1.4 | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | 0.64J | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | 1.7 | 1.0 |

| | | |
|---|---|---|
| Fluorene | 1.5 | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | 130 | 1.0 |
| Phenanthrene | 2.6 | 1.0 |
| Pyrene | 0.97J | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/28/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 4.0 | 1.0 |

**ANALYSIS: Sulfide** Method Ref: 376.1
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/20/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

**ANALYSIS: VOC's - CTO 132 (25 ml purge)** Method Ref: 8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 5.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 5.0 |
| 1,1,2-Trichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethane | <RDL | 5.0 |
| 1,1-Dichloroethene | <RDL | 5.0 |
| 1,2-Dichloroethane | <RDL | 5.0 |
| 1,2-Dichloropropane | <RDL | 5.0 |
| 1,3-Dichloropropene | <RDL | 5.0 |
| 2-Chloroethylvinyl ether | <RDL | 50 |
| Acrolein | <RDL | 50 |
| Acrylonitrile | <RDL | 50 |
| Benzene | 590 | 25 |
| Bromodichloromethane | <RDL | 5.0 |
| Bromoform | <RDL | 25 |
| Bromomethane | <RDL | 5.0 |
| Carbon tetrachloride | <RDL | 5.0 |
| Chlorobenzene | <RDL | 5.0 |
| Chloroethane | <RDL | 5.0 |
| Chloroform | <RDL | 5.0 |
| Chloromethane | <RDL | 5.0 |
| Ethylbenzene | 550 | 25 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 50 |
| Methylene chloride | <RDL | 25 |
| Tetrachloroethene | <RDL | 5.0 |
| Toluene | 11 | 5.0 |
| trans-1,2-Dichloroethene | <RDL | 5.0 |
| Trichloroethene | <RDL | 5.0 |
| Vinyl chloride | <RDL | 5.0 |
| Xylenes (Total) | 320 | 10 |

**ANALYSIS: X B/N Sample Surrogates (Waters** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 84 | |

| | | |
|---|---|---|
| Nitrobenzene-d5 | (Range 37-104) | 87 |
| p-Terphenyl-d14 | (Range 15-132) | 36 |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/28/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 7.6 | |
| o-Terphenyl (Range 82-142) | 91 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 96 | |
| 4-Bromofluorobenzene (86-112) | 97 | |
| Toluene-d8 (84-108) | 94 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved


## LABORATORY REPORT

**Accura Sample ID #: AC03417** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/2000

Client Contact: GERRY WALKER Date Received: 11/17/2000

Client Project Number: CTO 132 / N0516 Date Reported: 12/27/2000

Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER

**Client Sample ID: NASPFFMW-14S**

---

**ANALYSIS: Anions** Method Ref: 300.0

Date Ext/Dig/Prep: 11/17/2000 Date Analyzed: 11/18/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | 0.38 | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | 9 | 1 |

**ANALYSIS: EDB** Method Ref: 504.1

Date Ext/Dig/Prep: 11/28/2000 Date Analyzed: 11/28/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B

Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/29/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M

Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/21/2000 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C

Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |

| | | |
|---|---|---|
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/28/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.34JB | 1.0 |

ANALYSIS: Sulfide Method Ref: 376.1
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/20/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 6.6 | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 43-111) | 84 | |

| | | |
|---|---|---|
| Nitrobenzene-d5 | (Range 37-104) | 90 |
| p-Terphenyl-d14 | (Range 15-132) | 84 |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

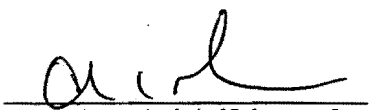
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/28/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 28 | |
| o-Terphenyl (Range 82-142) | 103 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 95 | |
| 4-Bromofluorobenzene (86-112) | 98 | |
| Toluene-d8 (84-108) | 92 | |



Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

**LABORATORY REPORT**

**Accura Sample ID #: AC03418** **Accura Project #: 26225**

Client: **Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/2000
Client Contact: GERRY WALKER Date Received: 11/17/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/27/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: NASPFFMW-14I**

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/2000 Date Analyzed: 11/28/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/29/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

**ANALYSIS: Petroleum Range Organics (PRO)** Method Ref: FL-PRO
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/28/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 1.1B | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | 0.78 J | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X B/N Sample Surrogates (Waters Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: %

| Analyte Name | | Analytical Results | Reported Detection Limits |
|---|---|---|---|
| 2-Fluorobiphenyl | (Range 43-111) | 83 | |
| Nitrobenzene-d5 | (Range 37-104) | 87 | |
| p-Terphenyl-d14 | (Range 15-132) | 82 | |

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/28/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 9.5 | |
| o-Terphenyl (Range 82-142) | 102 | |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 88 | |
| 4-Bromofluorobenzene (86-112) | 96 | |
| Toluene-d8 (84-108) | 93 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

## LABORATORY REPORT

**Accura Sample ID #: AC03419** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/16/2000
Client Contact: GERRY WALKER Date Received: 11/17/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/27/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: TRIP BLANK**

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X VOC Sample Surrogates-Waters Method Ref: 5030B/8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-128) | 88 | |
| 4-Bromofluorobenzene (86-112) | 95 | |

| | | |
|---|---|---|
| Toluene-d8 (84-108) | 93 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30017, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

## LABORATORY REPORT

**Accura Sample ID #: AC03420** **Accura Project #: 26225**

**Client: Tetra Tech Nus -Tallahassee** Date Sampled: 11/17/2000
Client Contact: GERRY WALKER Date Received: 11/17/2000
Client Project Number: CTO 132 / N0516 Date Reported: 12/27/2000
Client Project Name: FORMER SHERMAN FIELD FUEL FARM Sample Matrix: WATER
**Client Sample ID: METHOD BLANK**

---

**ANALYSIS: Anions** Method Ref: 300.0
Date Ext/Dig/Prep: 11/17/2000 Date Analyzed: 11/18/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Nitrate by IC | <RDL | 0.01 |
| Nitrite by IC | <RDL | 0.01 |
| Sulfate by IC | <RDL | 1 |

**ANALYSIS: EDB** Method Ref: 504.1
Date Ext/Dig/Prep: 11/28/2000 Date Analyzed: 11/28/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dibromoethane (EDB) | <RDL | 0.05 |

**ANALYSIS: Metals - Lead** Method Ref: 3010A/6010B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/28/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Lead | 0.0094J | 0.010 |

**ANALYSIS: Methane** Method Ref: RSK-175M
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/20/2000 Result Units: ug/ml

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Methane | <RDL | 0.010 |

**ANALYSIS: PAH's - Low Level** Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1-Methylnaphthalene | <RDL | 1.0 |
| 2-Methylnaphthalene | <RDL | 1.0 |
| Acenaphthene | <RDL | 1.0 |
| Acenaphthylene | <RDL | 1.0 |
| Anthracene | <RDL | 1.0 |
| Benzo(a)anthracene | <RDL | 1.0 |
| Benzo(a)pyrene | <RDL | 1.0 |
| Benzo(b)fluoranthene | <RDL | 1.0 |
| Benzo(g,h,i)perylene | <RDL | 1.0 |
| Benzo(k)fluoranthene | <RDL | 1.0 |
| Chrysene | <RDL | 1.0 |
| Dibenz(a,h)anthracene | <RDL | 1.0 |
| Fluoranthene | <RDL | 1.0 |

---

| | | |
|---|---|---|
| Fluorene | <RDL | 1.0 |
| Indeno(1,2,3-cd)pyrene | <RDL | 1.0 |
| Naphthalene | <RDL | 1.0 |
| Phenanthrene | <RDL | 1.0 |
| Pyrene | <RDL | 1.0 |

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO
Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/27/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Petroleum Range Organics (PRO) | 0.43J | 1.0 |

ANALYSIS: Sulfide Method Ref: 376.1
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/20/2000 Result Units: mg/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| Sulfide | <RDL | 1.0 |

ANALYSIS: VOC's - CTO 132 (25 ml purge) Method Ref: 8260B
Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: ug/L

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,1,1-Trichloroethane | <RDL | 1.0 |
| 1,1,2,2-Tetrachloroethane | <RDL | 1.0 |
| 1,1,2-Trichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethane | <RDL | 1.0 |
| 1,1-Dichloroethene | <RDL | 1.0 |
| 1,2-Dichloroethane | <RDL | 1.0 |
| 1,2-Dichloropropane | <RDL | 1.0 |
| 1,3-Dichloropropene | <RDL | 1.0 |
| 2-Chloroethylvinyl ether | <RDL | 10 |
| Acrolein | <RDL | 10 |
| Acrylonitrile | <RDL | 10 |
| Benzene | <RDL | 1.0 |
| Bromodichloromethane | <RDL | 1.0 |
| Bromoform | <RDL | 5.0 |
| Bromomethane | <RDL | 1.0 |
| Carbon tetrachloride | <RDL | 1.0 |
| Chlorobenzene | <RDL | 1.0 |
| Chloroethane | <RDL | 1.0 |
| Chloroform | <RDL | 1.0 |
| Chloromethane | <RDL | 1.0 |
| Ethylbenzene | <RDL | 1.0 |
| Methyl-tert-butyl ether (MTBE) | <RDL | 10 |
| Methylene chloride | <RDL | 5.0 |
| Tetrachloroethene | <RDL | 1.0 |
| Toluene | <RDL | 1.0 |
| trans-1,2-Dichloroethene | <RDL | 1.0 |
| Trichloroethene | <RDL | 1.0 |
| Vinyl chloride | <RDL | 1.0 |
| Xylenes (Total) | <RDL | 2.0 |

ANALYSIS: X Base Neutral OC Surrogates (W Method Ref: 8270C
Date Ext/Dig/Prep: 11/20/2000 Date Analyzed: 11/21/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 2-Fluorobiphenyl (Range 57-102) | 79 | |

| | | |
|---|---|---|
| Nitrobenzene-d5 | (Range 50-103) | 80 |
| p-Terphenyl-d14 | (Range 64-113) | 92 |

ANALYSIS: X PRO QC Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 11/21/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| C(39) (Range 42-193) | 10 | |
| o-Terphenyl (Range 82-142) | 95 | |

ANALYSIS: X VOC QC Surrogates-Waters Method Ref: 5030B/8260B

Date Ext/Dig/Prep: 11/27/2000 Date Analyzed: 11/27/2000 Result Units: %

| Analyte Name | Analytical Results | Reported Detection Limits |
|---|---|---|
| 1,2-Dichloroethane-d4 (78-114) | 90 | |
| 4-Bromofluorobenzene (85-111) | 95 | |
| Toluene-d8 (88-106) | 94 | |

Accura Analytical Laboratory, Inc.

# ACCURA ANALYTICAL LABORATORY, INC.

*Environmental Analytical Services*

27542

## CHAIN OF CUSTODY

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Tetra Tech NUS
Billing address:
Address: 1401 Oven Park Dr. Tallahassee, FL
Client P.O. #
Report Sent to: (Client Contact): Gerry Walker
Contact Phone # 8503859899 Fax # 8503859860
Project Name: Farmer Sherman Field Fuel Farm
Project Number: NO516 CTO132

Samplers: (signature): Dan Hartnett
Samplers: (printed): Dan Hartnett

| Sample ID # | Sample Date / Time | Comp | Grab | Matrix | Preserved | Sample Location: | No. of Containers | ANALYSIS: VOC | EDB Methods | PAH's | TRPH | Pb | Sulfide | Anions | Remarks | Accura Sample ID No. A-B AC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| NASPFFEQB-2 | 11/16/00 0800 | | ✓ | A | ✓ | Former Sherman Field Fuel Farm | 11 | 3 | 3 | | 2 | 2 | 1 | | | |
| NASPFFDUP-3 | 11/16/00 | | ✓ | A | ✓ | ↓ | 16 | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | |
| NASPFF MW-12S | 11/16/00 1000 | | ✓ | A | ✓ | | | 3 | 3 | 3 | 2 | 2 | 1 | 1 | 1 | |
| NASPFF MW-14S | 11/16/00 1300 | | ✓ | A | ✓ | | | 3 | 3 | 3 | 3 | 3 | 1 | 1 | 1 | |
| NASPFFMW-14D | 11/16/00 1555 | | ✓ | A | ✓ | ↓ | | 3 | 3 | | 2 | 2 | 1 | | | |
| Trip Blank | | | ✓ | A | ✓ | Accura | | 3 | | | | | | | | |
| | | | | | | | | DC 11/17/00 | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

Relinquished By: [signature]
Date / Time: 11/16/00 1800
Received By: Fedex
Date / Time:
Special Requirements Or Remarks:

Tetra Tech NUS, Inc. Internal Correspondence

**TO:** Mr. Gerald Walker **DATE:** January 8, 2001

**FROM:** Suzanne I. Smith **CC:** File

**SUBJECT:** Organic Data Validation – VOC, EDB, Methane, PAH, and TRPH
CTO132 – NAS Pensacola
SDG 26225

**SAMPLES:** 6/Aqueous

| | | |
|---|---|---|
| NASPFFDUP-3 | NASPFFEQB-2 | NASPFFMW-12S |
| NASPFF MW-14I | NASPFF MW-14S | TRIP BLANK |

**OVERVIEW**

The sample set for CTO132, SDG 26225; Naval Air Station Pensacola, Pensacola, Florida consists of four (4) aqueous environmental samples, one (1) equipment blank, and one (1) trip blank. The environmental samples and equipment blank were analyzed for Volatile Organic Carbons (VOCs), Ethylene Dibromide (EDB), Polycyclic Aromatic Hydrocarbons (PAHs), and Total Residual Petroleum Hydrocarbons (TRPHs). Only NASPFFMW-12S, NASPFFMW-14S, and NASPFFDUP-3 were analyzed for Methane. The trip blank was only analyzed for VOCs. One pair of duplicate samples was analyzed with this sample set: NASPFFMW-12S/NASPFFDUP-3.

The samples were collected by Tetra Tech NUS on November 16, 2000 and analyzed by Accura Analytical Laboratory. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 8260B (VOCs), EPA Method 504.1 (EDB), RSK-175 (Methane), SW-846 Method 8270C (PAHs), and FL-PRO (TRPHs) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

* * Data Completeness
* * Holding Times
- Laboratory method/field quality control blank results
- Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter.

Volatile Fraction

All quality control criteria were met for this fraction.

EDB Fraction

All quality control criteria were met for this fraction.

Methane Fraction

All quality control criteria were met for this fraction.

Polycyclic Aromatic Hydrocarbon Fraction

All other quality control criteria were met for this fraction.

Total Residual Petroleum Fraction

Laboratory Blank Analysis

Affected samples: NASPFFEQB-2, NASPFFMW-14I, and NASPFFMW-14S

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| TRPH | 0.43 | 2.15 |

An action level of 5X the maximum concentration has been used to evaluate the sample for contamination in preparation blanks. Dilution factors and sample aliquots were taken into account when evaluating for blank contamination. Results less than the action level and reporting limit (RL) were reported as a nondetect at the RL value. Results less than the action limit were reported as nondetects.

The equipment blank also had low level TRPH contamination, but all affected samples were modified due to laboratory blank contamination so no further action was taken.

All other quality control criteria were met for this fraction.

Field Duplicate Summary

| Analyte | NASPFFMW-12S(ug/L) | NASPFFDUP-3(ug/L) | %RPD |
|---|---|---|---|
| Benzene | 590 | 560 | 5.2 |
| Ethylbenzene | 550 | 550 | 0 |
| Toluene | 11 | 11 | 0 |
| Xylenes, total | 320 | 320 | 0 |
| 1-Methylnaphthalene | 52 | 53 | 1.9 |
| 2-Methylnaphthalene | 65 | 67 | 3.0 |
| Acenaphthene | 1.4 | 1.2 | 15 |
| Anthracene | 0.64 | 0.59 | 8.1 |
| Fluoranthene | 1.7 | 1.7 | 0 |
| Fluorene | 1.5 | 1.3 | 14 |
| Naphthalene | 130 | 130 | 0 |
| Phenanthrene | 2.6 | 2.5 | 3.9 |
| Pyrene | 0.97 | 0.94 | 3.1 |
| TRPH | 4 | 3.8 | 5.1 |
| Methane | 4.4 | 4.8 | 8.7 |

Executive Summary

**Laboratory performance:** Detects for TRPH less than the action level were reported as nondetects.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (February, 1996), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Suzanne I. Smith

Project Chemist
Tetra Tech NUS, Inc.

CTO132-NA[redacted]ENSACOLA
WATER DATA
AAL
SDG: 26225



| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFDUP-3 | NASPFFDUP-3 | NASPFFEQB-2 | NASPFFMW-12S |
| SAMPLE DATE: | 11/16/00 | 11/16/00 | 11/16/00 | 11/16/00 |
| LABORATORY ID: | AC03415 | AC03415 | AC03414 | AC03416 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | UG/L | UG/ML | UG/L | UG/L |
| FIELD DUPLICATE OF: | MW-12S | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOLATILES | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 5.0 | U | | 0 | U | | 1.0 | U | | 5.0 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 5.0 | U | | 0 | U | | | U | | | U | |
| 1,1,2-TRICHLOROETHANE | 5.0 | U | | 0 | U | | | U | | | U | |
| 1,1-DICHLOROETHANE | 5.0 | U | | 0 | U | | | U | | | U | |
| 1,1-DICHLOROETHENE | 5.0 | U | | 0 | U | | | U | | | U | |
| 1,2-DIBROMOETHANE | 0.05 | U | | 0 | U | | 0.05 | U | | 0.05 | U | |
| 1,2-DICHLOROETHANE | 5.0 | U | | 0 | U | | 1.0 | U | | 5.0 | U | |
| 1,2-DICHLOROPROPANE | 5.0 | U | | 0 | U | | | U | | | U | |
| 1,3-DICHLOROPROPENE | 5.0 | U | | 0 | U | | | U | | | U | |
| 2-CHLOROETHYL VINYL ETHER | 50 | U | | 0 | U | | 10 | U | | 50 | U | |
| ACROLEIN | 50 | U | | 0 | U | | 10 | U | | | U | |
| ACRYLONITRILE | 50 | U | | 0 | U | | 10 | U | | | U | |
| BENZENE | 560 | | | 560 | | | 1.0 | U | | 590 | | |
| BROMODICHLOROMETHANE | 5.0 | U | | 0 | U | | | U | | 5.0 | U | |
| BROMOFORM | 25 | U | | 0 | U | | 5.0 | U | | 25 | U | |
| BROMOMETHANE | 5.0 | U | | 0 | U | | 1.0 | U | | 5.0 | U | |
| CARBON TETRACHLORIDE | 5.0 | U | | 0 | U | | | U | | | U | |
| CHLOROBENZENE | 5.0 | U | | 0 | U | | | U | | | U | |
| CHLOROETHANE | 5.0 | U | | 0 | U | | | U | | | U | |
| CHLOROFORM | 5.0 | U | | 0 | U | | | U | | | U | |
| CHLOROMETHANE | 5.0 | U | | 0 | U | | | U | | | U | |
| ETHYLBENZENE | 550 | | | 550 | | | | U | | 550 | | |
| ~~METHANE~~ | ~~4.8~~ | | | ~~4.8~~ | | | | | | ~~4.4~~ | | |
| METHYL TERT-BUTYL ETHER | 50 | U | | 0 | U | | 10 | U | | 50 | U | |
| METHYLENE CHLORIDE | 25 | U | | 0 | U | | 5.0 | U | | 25 | U | |
| TETRACHLOROETHENE | 5.0 | U | | 0 | U | | 1.0 | U | | 5.0 | U | |
| TOLUENE | 11 | | | 11 | | | | U | | 11 | | |
| TRANS-1,2-DICHLOROETHENE | 5.0 | U | | 0 | U | | | U | | 5.0 | U | |
| TRICHLOROETHENE | 5.0 | U | | 0 | U | | | U | | | U | |
| VINYL CHLORIDE | 5.0 | U | | 0 | U | | | U | | | U | |
| XYLENES, TOTAL | 320 | | | 320 | | | 2.0 | U | | 320 | | |

**SDG: 26225**

| SAMPLE NUMBER: | NASPFFMW-12S | | | NASPFFMW-14I | | | NASPFFMW-14S | | | NASPFFMW-14S | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE DATE: | 11/16/00 | | | 11/16/00 | | | 11/16/00 | | | 11/16/00 | | |
| LABORATORY ID: | AC03416 | | | AC03418 | | | AC03417 | | | AC03417 | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | NORMAL | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 0.0 % | | |
| UNITS: | UG/ML | | | UG/L | | | UG/L | | | UG/ML | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 0 | U | | 1.0 | U | | 1.0 | U | | 0 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0 | U | | | U | | | U | | 0 | U | |
| 1,1,2-TRICHLOROETHANE | 0 | U | | | U | | | U | | 0 | U | |
| 1,1-DICHLOROETHANE | 0 | U | | | U | | | U | | 0 | U | |
| 1,1-DICHLOROETHENE | 0 | U | | | U | | | U | | 0 | U | |
| 1,2-DIBROMOETHANE | 0 | U | | 0.05 | U | | 0.05 | U | | 0 | U | |
| 1,2-DICHLOROETHANE | 0 | U | | 1.0 | U | | 1.0 | U | | 0 | U | |
| 1,2-DICHLOROPROPANE | 0 | U | | | U | | | U | | 0 | U | |
| 1,3-DICHLOROPROPENE | 0 | U | | | U | | | U | | 0 | U | |
| 2-CHLOROETHYL VINYL ETHER | 0 | U | | 10 | U | | 10 | U | | 0 | U | |
| ACROLEIN | 0 | U | | | U | | | U | | 0 | U | |
| ACRYLONITRILE | 0 | U | | | U | | | U | | 0 | U | |
| BENZENE | 590 | | | 1.0 | U | | 1.0 | U | | 0 | U | |
| BROMODICHLOROMETHANE | 0 | U | | | U | | | U | | 0 | U | |
| BROMOFORM | 0 | U | | 5.0 | U | | 5.0 | U | | 0 | U | |
| BROMOMETHANE | 0 | U | | 1.0 | U | | 1.0 | U | | 0 | U | |
| CARBON TETRACHLORIDE | 0 | U | | | U | | | U | | 0 | U | |
| CHLOROBENZENE | 0 | U | | | U | | | U | | 0 | U | |
| CHLOROETHANE | 0 | U | | | U | | | U | | 0 | U | |
| CHLOROFORM | 0 | U | | 0.78 | J | P | 6.6 | | | 6.6 | | |
| CHLOROMETHANE | 0 | U | | 1.0 | U | | 1.0 | U | | 0 | U | |
| ETHYLBENZENE | 550 | | | | U | | | U | | 0 | U | |
| ~~METHANE~~ | ~~44~~ | | | | | | | | | 0 | U | |
| METHYL TERT-BUTYL ETHER | 0 | U | | 10 | U | | 10 | U | | 0 | U | |
| METHYLENE CHLORIDE | 0 | U | | 5.0 | U | | 5.0 | U | | 0 | U | |
| TETRACHLOROETHENE | 0 | U | | 1.0 | U | | 1.0 | U | | 0 | U | |
| TOLUENE | 1 | | | | U | | | U | | 0 | U | |
| TRANS-1,2-DICHLOROETHENE | 0 | U | | | U | | | U | | 0 | U | |
| TRICHLOROETHENE | 0 | U | | | U | | | U | | 0 | U | |
| VINYL CHLORIDE | 0 | U | | | U | | | U | | 0 | U | |
| XYLENES, TOTAL | 320 | | | 2.0 | U | | 2.0 | U | | 0 | U | |

| | | | |
|---|---|---|---|
| SAMPLE NUMBER: | TRIP BLANK | | |
| SAMPLE DATE: | 11/16/00 | / / | / / | / / |
| LABORATORY ID: | AC03419 | | | |
| QC_TYPE: | NORMAL | | | |
| % SOLIDS: | 0.0 % | 100.0 % | 100.0 % | 100.0 % |
| UNITS: | UG/L | | | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **VOLATILES** | | | | | | | | | | | | |
| 1,1,1-TRICHLOROETHANE | 1.0 | U | | | | | | | | | | |
| 1,1,2,2-TETRACHLOROETHANE | 1.0 | U | | | | | | | | | | |
| 1,1,2-TRICHLOROETHANE | 1.0 | U | | | | | | | | | | |
| 1,1-DICHLOROETHANE | 1.0 | U | | | | | | | | | | |
| 1,1-DICHLOROETHENE | 1.0 | U | | | | | | | | | | |
| 1,2-DICHLOROETHANE | 1.0 | U | | | | | | | | | | |
| 1,2-DICHLOROPROPANE | 1.0 | U | | | | | | | | | | |
| 1,3-DICHLOROPROPENE | 1.0 | U | | | | | | | | | | |
| 2-CHLOROETHYL VINYL ETHER | 10 | U | | | | | | | | | | |
| ACROLEIN | 10 | U | | | | | | | | | | |
| ACRYLONITRILE | 10 | U | | | | | | | | | | |
| BENZENE | 1.0 | U | | | | | | | | | | |
| BROMODICHLOROMETHANE | 1.0 | U | | | | | | | | | | |
| BROMOFORM | 5.0 | U | | | | | | | | | | |
| BROMOMETHANE | 1.0 | U | | | | | | | | | | |
| CARBON TETRACHLORIDE | 1.0 | U | | | | | | | | | | |
| CHLOROBENZENE | 1.0 | U | | | | | | | | | | |
| CHLOROETHANE | 1.0 | U | | | | | | | | | | |
| CHLOROFORM | 1.0 | U | | | | | | | | | | |
| CHLOROMETHANE | 1.0 | U | | | | | | | | | | |
| ETHYLBENZENE | 1.0 | U | | | | | | | | | | |
| METHYL TERT-BUTYL ETHER | 10 | U | | | | | | | | | | |
| METHYLENE CHLORIDE | 5.0 | U | | | | | | | | | | |
| TETRACHLOROETHENE | 1.0 | U | | | | | | | | | | |
| TOLUENE | 1.0 | U | | | | | | | | | | |
| TRANS-1,2-DICHLOROETHENE | 1.0 | U | | | | | | | | | | |
| TRICHLOROETHENE | 1.0 | U | | | | | | | | | | |
| VINYL CHLORIDE | 1.0 | U | | | | | | | | | | |
| XYLENES, TOTAL | 2.0 | U | | | | | | | | | | |

**AAL**
**SDG: 26225**

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFDUP-3 | NASPFFEQB-2 | NASPFFMW-12S | NASPFFMW-14I |
| SAMPLE DATE: | 11/16/00 | 11/16/00 | 11/16/00 | 11/16/00 |
| LABORATORY ID: | AC03415 | AC03414 | AC03416 | AC03418 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | UG/L | UG/L | UG/L | UG/L |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 53 | | | 0 1.0 | U | | 52 | | | 0 1.0 | U | |
| 2-METHYLNAPHTHALENE | 67 | | | 0 | U | | 65 | | | 0 | U | |
| ACENAPHTHENE | 1.2 | | | 0 | U | | 1.4 | | | 0 | U | |
| ACENAPHTHYLENE | 1.0 | U | | 0 | U | | 0 1.0 | U | | 0 | U | |
| ANTHRACENE | 0.59 | J | P | 0 | U | | 0.64 | J | P | 0 | U | |
| BENZO(A)ANTHRACENE | 1.0 | U | | 0 | U | | 0 1.0 | U | | 0 | U | |
| BENZO(A)PYRENE | 1.0 | U | | 0 | U | | 0 | U | | 0 | U | |
| BENZO(B)FLUORANTHENE | 1.0 | U | | 0 | U | | 0 | U | | 0 | U | |
| BENZO(G,H,I)PERYLENE | 1.0 | U | | 0 | U | | 0 | U | | 0 | U | |
| BENZO(K)FLUORANTHENE | 1.0 | U | | 0 | U | | 0 | U | | 0 | U | |
| CHRYSENE | 1.0 | U | | 0 | U | | 0 | U | | 0 | U | |
| DIBENZO(A,H)ANTHRACENE | 1.0 | U | | 0 | U | | 0 | U | | 0 | U | |
| FLUORANTHENE | 1.7 | | | 0 | U | | 1.7 | | | 0 | U | |
| FLUORENE | 1.3 | | | 0 | U | | 1.5 | | | 0 | U | |
| INDENO(1,2,3-CD)PYRENE | 1.0 | U | | 0 | U | | 0 1.0 | U | | 0 | U | |
| NAPHTHALENE | 130 | | | 0 | U | | 130 | | | 0 | U | |
| PHENANTHRENE | 2.5 | | | 0 | U | | 2.6 | | | 0 | U | |
| PYRENE | 0.94 | J | P | 0 | U | | 0.97 | J | P | 0 | U | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFMW-14S | | | | | | | | | | | |
| SAMPLE DATE: | 11/16/00 | | | / / | | | / / | | | / / | | |
| LABORATORY ID: | AC03417 | | | | | | | | | | | |
| QC_TYPE: | NORMAL | | | | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 100.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | UG/L | | | | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **POLYNUCLEAR AROMATIC HYDROCARBONS** | | | | | | | | | | | | |
| 1-METHYLNAPHTHALENE | 0 | 1.0 U | | | | | | | | | | |
| 2-METHYLNAPHTHALENE | 0 | U | | | | | | | | | | |
| ACENAPHTHENE | 0 | U | | | | | | | | | | |
| ACENAPHTHYLENE | 0 | U | | | | | | | | | | |
| ANTHRACENE | 0 | U | | | | | | | | | | |
| BENZO(A)ANTHRACENE | 0 | U | | | | | | | | | | |
| BENZO(A)PYRENE | 0 | U | | | | | | | | | | |
| BENZO(B)FLUORANTHENE | 0 | U | | | | | | | | | | |
| BENZO(G,H,I)PERYLENE | 0 | U | | | | | | | | | | |
| BENZO(K)FLUORANTHENE | 0 | U | | | | | | | | | | |
| CHRYSENE | 0 | U | | | | | | | | | | |
| DIBENZO(A,H)ANTHRACENE | 0 | U | | | | | | | | | | |
| FLUORANTHENE | 0 | U | | | | | | | | | | |
| FLUORENE | 0 | U | | | | | | | | | | |
| INDENO(1,2,3-CD)PYRENE | 0 | U | | | | | | | | | | |
| NAPHTHALENE | 0 | U | | | | | | | | | | |
| PHENANTHRENE | 0 | U | | | | | | | | | | |
| PYRENE | 0 | U | | | | | | | | | | |

**SDG: 26225**

| SAMPLE NUMBER: | NASPFFDUP-3 | NASPFFEQB-2 | NASPFFMW-12S | NASPFFMW-14I |
|---|---|---|---|---|
| SAMPLE DATE: | 11/16/00 | 11/16/00 | 11/16/00 | 11/16/00 |
| LABORATORY ID: | AC03415 | AC03414 | AC03416 | AC03418 |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | NORMAL |
| % SOLIDS: | 0.0 % | 0.0 % | 0.0 % | 0.0 % |
| UNITS: | MG/L | MG/L | MG/L | MG/L |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 3.8 | | | 0.72 1.0 JB U | | | 4 | | | 1.1 | U JB | |

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFMW-14S | | | |
| SAMPLE DATE: | 11/16/00 | / / | / / | / / |
| LABORATORY ID: | AC03417 | | | |
| QC_TYPE: | NORMAL | | | |
| % SOLIDS: | 0.0 % | 100.0 % | 100.0 % | 100.0 % |
| UNITS: | MG/L | | | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PETROLEUM HYDROCARBONS** | | | | | | | | | | | | |
| TOTAL PETROLEUM HYDROCARBONS | 0.84 1.0 | U | | | | | | | | | | |

AAL

SDG: 26225

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFDUP-3 | | | NASPFFMW-12S | | | NASPFFMW-14S | | | | | |
| SAMPLE DATE: | 11/16/00 | | | 11/16/00 | | | 11/16/00 | | | / / | | |
| LABORATORY ID: | AC03415 | | | AC03416 | | | AC03417 | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | NORMAL | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 0.0 % | | | 100.0 % | | |
| UNITS: | UG/ML | | | UG/ML | | | UG/ML | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
| **DISSOLVED GASES** | | | | | | | | | | | | |
| METHANE | 4.8 | | | 4.4 | | | 0.010 | U | | | | |

6225

HOLDING TIME

01/02/01

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| MG/L | NASPFFEQB-2 | AC03414 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| MG/L | NASPFFMW-14I | AC03418 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | M | 11/16/00 | 11/27/00 | 11/29/00 | 11 | 2 | 13 |
| UG/ML | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | METH | 11/16/00 | 11/21/00 | 11/21/00 | 5 | 0 | 5 |
| UG/ML | NASPFFMW-12S | AC03416 | NORMAL | 26225 | METH | 11/16/00 | 11/21/00 | 11/21/00 | 5 | 0 | 5 |
| UG/ML | NASPFFMW-14S | AC03417 | NORMAL | 26225 | METH | 11/16/00 | 11/21/00 | 11/21/00 | 5 | 0 | 5 |
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | NTA | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | NTA | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | NTA | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | NTI | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | NTI | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | NTI | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| UG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | OV | 11/16/00 | 11/28/00 | 11/28/00 | 12 | 0 | 12 |
| UG/L | NASPFFEQB-2 | AC03414 | NORMAL | 26225 | OV | 11/16/00 | 11/28/00 | 11/28/00 | 12 | 0 | 12 |
| UG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | OV | 11/16/00 | 11/27/00 | 11/27/00 | 11 | 0 | 11 |
| UG/L | NASPFFMW-14I | AC03418 | NORMAL | 26225 | OV | 11/16/00 | 11/28/00 | 11/28/00 | 12 | 0 | 12 |
| UG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | OV | 11/16/00 | 11/28/00 | 11/28/00 | 12 | 0 | 12 |
| UG/L | TRIP BLANK | AC03419 | NORMAL | 26225 | OV | 11/16/00 | 11/27/00 | 11/27/00 | 11 | 0 | 11 |
| UG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | PAH | 11/16/00 | 11/20/00 | 11/21/00 | 4 | 1 | 5 |
| UG/L | NASPFFEQB-2 | AC03414 | NORMAL | 26225 | PAH | 11/16/00 | 11/20/00 | 11/21/00 | 4 | 1 | 5 |
| UG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | PAH | 11/16/00 | 11/20/00 | 11/21/00 | 4 | 1 | 5 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | SO4 | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | SO4 | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | SO4 | 11/16/00 | 11/17/00 | 11/18/00 | 1 | 1 | 2 |
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | SUL | 11/16/00 | 11/20/00 | 11/20/00 | 4 | 0 | 4 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | SUL | 11/16/00 | 11/20/00 | 11/20/00 | 4 | 0 | 4 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | SUL | 11/16/00 | 11/20/00 | 11/20/00 | 4 | 0 | 4 |
| MG/L | NASPFFDUP-3 | AC03415 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/28/00 | 5 | 7 | 12 |
| MG/L | NASPFFEQB-2 | AC03414 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/27/00 | 5 | 6 | 11 |
| MG/L | NASPFFMW-12S | AC03416 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/28/00 | 5 | 7 | 12 |
| MG/L | NASPFFMW-14I | AC03418 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/28/00 | 5 | 7 | 12 |
| MG/L | NASPFFMW-14S | AC03417 | NORMAL | 26225 | TPH | 11/16/00 | 11/21/00 | 11/28/00 | 5 | 7 | 12 |

Tetra Tech NUS, Inc. Internal Correspondence

TO: Mr. Gerald Walker DATE: August 30, 2000

FROM: William Howard Engle CC: File

SUBJECT: Inorganic Data Validation – RCRA Metals, SPLP, and Grain Size
CTO112 – NAS Pensacola
SDG F7243

SAMPLES: 3/Solids

NASPFFSB12, 20-24'BGS NASPFFSB12, 20-24'BGS*
NASPFFSB17, 10-12'BGS* NASPFFSB18, 24-27'BGS**

**OVERVIEW**

The sample set for CTO112, SDG F7243; Naval Air Station Pensacola, Pensacola, Florida consists of three (2) solid environmental samples. The environmental sample not designated with a * was analyzed for RCRA Metals. The environmental samples designated with a * were extracted and analyzed by SPLP, followed by metals analysis. The environmental sample designated with a ** was analyzed for grain size.

The samples were collected by Tetra Tech NUS on August 2, 2000 and analyzed by Accutest Southeast Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 6010A (RCRA Metals), SW-846 Method 1311 (SPLP), and ASTM E422-63 (Grain Size) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

- * Data Completeness
- * Holding Times
- * Initial/continuing calibrations
- Laboratory method/field quality control blank results
- * Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Supporting documentation is presented in Appendix C. Qualified analytical results are presented in Appendix A. The original laboratory data is contained in Appendix B.

An action level of 5x the maximum concentration has been used to evaluate the sample for contamination in continuing calibration blank. Dilution factors and sample aliquots were taken into consideration when evaluating for blank contamination. Positive results < action level for iron were qualified nondetected "U" due to blank contamination.

All other quality control criteria were met for this fraction.

Grain Size Fraction

All quality control criteria were met for this fraction.

Executive Summary

| | |
|---|---|
| **Laboratory performance:** | Iron was detected in the calibration blanks for the SPLP analysis. One sample was qualified for blank contamination. |
| **Other factors affecting data quality:** | None. |

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Inorganic Data Validation (February, 1994), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1998). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

William Howard Engle

Project Chemist
Tetra Tech NUS, Inc.

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech NUS, Inc.

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B – Results as reported by the laboratory
3. Appendix C – Supporting Documentation

ualifier Codes:

= Lab Blank Contamination
= Field Blank Contamination
= Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
= MS/MSD Noncompliance
= LCS/LCSD Noncompliance
= Lab Duplicate Imprecision
= Field Duplicate Imprecision
= Holding Time Exceedance
= ICP Serial Dilution Noncompliance
= GFAA PDS - GFAA MSA's r < 0.995
= ICP Interference - Include ICSAB % R's
= Instrument Calibration Range Exceedance
= Sample Preservation
= Internal Standard Noncompliance
= Poor Instrument Performance (i.e., base-time drifting)
= Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
= Other problems (can encompass a number of issues)
= Surrogates Recovery Noncompliance
= Pesticide/PCB Resolution
= % Breakdown Noncompliance for DDT and Endrin
= Pest/PCB D% between columns for positive results
= Non-linear calibrations, tuning r < 0.995 (correlation coefficient)
= EMPC result
= Signal to noise response drop
= % Solid content is less than 30%

**DATA QUALIFIER DEFINITIONS:**

U - Value is a nondetected result as reported by the laboratory and should not be considered present.

J - Positive result is estimated as a result of a value below the CRQL or a technical noncompliance.

UJ - Nondetected result is considered to be estimated as a result of technical noncompliances.

# APPENDIX A

## Qualified Analytical Results

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | NASPFFSB18, 24-27'BGS | F7243-4 | NORMAL | F7243 | GRSZ | 08/02/00 | / / | 08/17/00 | 0 | 0 | 15 |
| MG/KG | NASPFFSB12, 20-24'BGS | F7243-7 | NORMAL | F7243 | M | 08/02/00 | 08/07/00 | 08/12/00 | 5 | 5 | 10 |
| MG/L | NASPFFSB17, 10-12'BGS | F7243-5A | NORMAL | F7243 | M | 08/02/00 | 08/16/00 | 08/21/00 | 14 | 5 | 19 |
| UG/KG | NASPFFSB12, 20-24'BGS | F7243-7 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/11/00 | 0 | 0 | 9 |
| UG/KG | NASPFFSB12, 6-8'BGS | F7243-6 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/10/00 | 0 | 0 | 8 |
| MG/L | NASPFFSB17, 10-12'BGS | F7243-5A | NORMAL | F7243 | OV | 08/02/00 | 08/10/00 | 08/19/00 | 8 | 9 | 17 |
| UG/KG | NASPFFSB18, 24-27'BGS | F7243-4 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/09/00 | 0 | 0 | 7 |
| UG/KG | NASPFFSB19, 20-24'BGS | F7243-3 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/09/00 | 0 | 0 | 7 |
| UG/KG | NASPFFSB27, 6-8'BGS | F7243-1 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/10/00 | 0 | 0 | 8 |
| UG/KG | NASPFFSB28, 7-11'BGS | F7243-2 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/11/00 | 0 | 0 | 9 |
| UG/L | TRIP BLANK | F7243-6 | NORMAL | F7243 | OV | 08/02/00 | / / | 08/16/00 | 0 | 0 | 14 |
| MG/L | NASPFFSB12, 20-24'BGS | F7243-7A | NORMAL | F7243 | PAH | 08/02/00 | 08/14/00 | 08/15/00 | 12 | 1 | 13 |
| UG/KG | NASPFFSB12, 6-8'BGS | F7243-6 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB17, 10-12'BGS | F7243-5 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB18, 24-27'BGS | F7243-4 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB19, 20-24'BGS | F7243-3 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB27, 6-8'BGS | F7243-1 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/14/00 | 5 | 7 | 12 |
| UG/KG | NASPFFSB28, 7-11'BGS | F7243-2 | NORMAL | F7243 | PAH | 08/02/00 | 08/07/00 | 08/15/00 | 5 | 8 | 13 |
| MG/L | NASPFFSB12, 20-24'BGS | F7243-7A | NORMAL | F7243 | TPH | 08/02/00 | 08/16/00 | 08/17/00 | 14 | 1 | 15 |
| MG/KG | NASPFFSB12, 6-8'BGS | F7243-6 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |
| MG/L | NASPFFSB17, 10-12'BGS | F7243-5A | NORMAL | F7243 | TPH | 08/02/00 | 08/16/00 | 08/17/00 | 14 | 1 | 15 |
| MG/KG | NASPFFSB18, 24-27'BGS | F7243-4 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |
| MG/KG | NASPFFSB19, 20-24'BGS | F7243-3 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |
| MG/KG | NASPFFSB27, 6-8'BGS | F7243-1 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |
| MG/KG | NASPFFSB28, 7-11'BGS | F7243-2 | NORMAL | F7243 | TPH | 08/02/00 | 08/04/00 | 08/08/00 | 2 | 4 | 6 |

**NAS PEN[redacted]OLA**
**SOIL DATA**
**Accutest, NJ**
**SDG: F7243**



| | | | |
|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | / / | / / | / / |
| SAMPLE DATE: | 08/02/00 | | | |
| LABORATORY ID: | F7243-7 | | | |
| QC_TYPE: | NORMAL | | | |
| % SOLIDS: | 95.1 % | 100.0 % | 100.0 % | 100.0 % |
| UNITS: | MG/KG | | | |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INORGANICS** | | | | | | | | | | | | |
| ARSENIC | 0.35 | U | | | | | | | | | | |
| BARIUM | 5.7 | B | | | | | | | | | | |
| CADMIUM | 0.03 | U | | | | | | | | | | |
| CHROMIUM | 4.3 | | | | | | | | | | | |
| LEAD | 1.1 | B | | | | | | | | | | |
| MERCURY | 0.05 | B | | | | | | | | | | |
| SELENIUM | 0.29 | B | | | | | | | | | | |
| SILVER | 0.15 | B | | | | | | | | | | |

**SDG: F7243**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB12, 20-24'BGS | | | NASPFFSB17, 10-12'BGS | | | / / | | | / / | | |
| SAMPLE DATE: | 08/02/00 | | | 08/02/00 | | | | | | | | |
| LABORATORY ID: | F7243-7A | | | F7243-5A | | | | | | | | |
| QC_TYPE: | NORMAL | | | NORMAL | | | | | | | | |
| % SOLIDS: | 0.0 % | | | 0.0 % | | | 100.0 % | | | 100.0 % | | |
| UNITS: | MG/L | | | MG/L | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | | |
| **INORGANICS** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** | **RESULT** | **QUAL** | **CODE** |
| ALUMINUM | 0.03 | U | | 0.03 | U | | | | | | | |
| ANTIMONY | 0.00239 | U | | 0.00239 | U | | | | | | | |
| ARSENIC | 0.00345 | U | | 0.00345 | U | | | | | | | |
| BARIUM | 0.00039 | U | | 0.00039 | U | | | | | | | |
| BERYLLIUM | 0.00036 | U | | 0.00036 | U | | | | | | | |
| CADMIUM | 0.00033 | U | | 0.00033 | U | | | | | | | |
| CALCIUM | 0.0195 | U | | 0.0195 | U | | | | | | | |
| CHROMIUM | 0.00063 | U | | 0.00063 | U | | | | | | | |
| COBALT | 0.00079 | U | | 0.00079 | U | | | | | | | |
| COPPER | 0.00074 | U | | 0.00074 | U | | | | | | | |
| IRON | 0.1 | U | | 0.032 | U | | | | | | | |
| LEAD | 0.00159 | U | | 0.00159 | U | | | | | | | |
| MAGNESIUM | 0.0176 | U | | 0.0176 | U | | | | | | | |
| MANGANESE | 0.00016 | U | | 0.00016 | U | | | | | | | |
| MERCURY | 0.012 | | | 0.0028 | | | | | | | | |
| MOLYBDENUM | 0.00068 | U | | 0.00068 | U | | | | | | | |
| NICKEL | 0.001 | U | | 0.001 | U | | | | | | | |
| POTASSIUM | 0.0282 | U | | 0.0282 | U | | | | | | | |
| SELENIUM | 0.00204 | U | | 0.00204 | U | | | | | | | |
| SILVER | 0.00096 | U | | 0.00096 | U | | | | | | | |
| SODIUM | 0.153 | U | | 0.153 | U | | | | | | | |
| THALLIUM | 0.00269 | U | | 0.00269 | U | | | | | | | |
| TIN | 0.00223 | U | | 0.00223 | U | | | | | | | |
| VANADIUM | 0.00071 | U | | 0.00071 | U | | | | | | | |
| ZINC | 0.00083 | U | | 0.00083 | U | | | | | | | |

**NAS PENSACOLA**
**SOIL DATA**
**Accutest, NJ**
**SDG: F7243**



| | | | |
|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB18, 24-27'BGS | / / | / / | / / |
| SAMPLE DATE: | 08/02/00 | | | |
| LABORATORY ID: | F7243-4 | | | |
| QC_TYPE: | NORMAL | | | |
| % SOLIDS: | 94.5 % | 100.0 % | 100.0 % | 100.0 % |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MISCELLANEOUS PARAMETERS** | | | | | | | | | | | | |
| NO. 10 SIEVE(%) | 100 | | | | | | | | | | | |
| NO. 120 SIEVE(%) | 1.4 | | | | | | | | | | | |
| NO. 18 SIEVE(%) | 100 | | | | | | | | | | | |
| NO. 230 SIEVE(%) | 1.1 | | | | | | | | | | | |
| NO. 4 SIEVE(%) | 100 | | | | | | | | | | | |
| NO. 40 SIEVE(%) | 83.4 | | | | | | | | | | | |
| NO. 60 SIEVE(%) | 15.6 | | | | | | | | | | | |

## APPENDIX B

**Results as Reported by the Laboratory**

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB12, 20-24'BGS | | |
| **Lab Sample ID:** | F7243-7 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| | | **Percent Solids:** | 95.1 |
| **Project:** | NAS Pensacola | | |

**Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.35 U | 0.51 | mg/kg | 1 | 08/07/00 | 08/12/00 | SJL | SW846 6010A |
| Barium | 5.7 B | 20.4 | mg/kg | 1 | 08/07/00 | 08/12/00 | SJL | SW846 6010A |
| Cadmium | 0.03 U | 0.41 | mg/kg | 1 | 08/07/00 | 08/12/00 | SJL | SW846 6010A |
| Chromium | 4.3 | 1.0 | mg/kg | 1 | 08/07/00 | 08/12/00 | SJL | SW846 6010A |
| Lead | 1.1 B | 10.2 | mg/kg | 1 | 08/07/00 | 08/12/00 | SJL | SW846 6010A |
| Mercury | 0.05 B | 0.16 | mg/kg | 1 | 08/10/00 | 08/10/00 | BP | SW846 7471A |
| Selenium | 0.29 B | 10.2 | mg/kg | 1 | 08/07/00 | 08/12/00 | SJL | SW846 6010A |
| Silver | 0.15 B | 1.0 | mg/kg | 1 | 08/07/00 | 08/12/00 | SJL | SW846 6010A |

RL = Reporting Limit

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB27, 6-8'BGS | | |
| **Lab Sample ID:** | F7243-5A | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| | | **Percent Solids:** | 95.4 |
| **Project:** | NAS Pensacola | | |

**Metals Analysis, SPLP Leachate**

| Analyte | Result | HW# | MCL | RL | Units | DF | Prep | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | <0.20 | | | 0.20 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Antimony | <0.20 | | | 0.20 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Arsenic | <0.50 | D004 | | 0.50 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Barium | <1.0 | D005 | | 1.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Beryllium | <0.0050 | | | 0.0050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Cadmium | <0.050 | D006 | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Calcium | <5.0 | | | 5.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Chromium | <0.050 | D007 | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Cobalt | <0.050 | | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Copper | <0.025 | | | 0.025 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Iron | <0.10 | | | 0.10 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Lead | <0.50 | D008 | | 0.50 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Magnesium | <5.0 | | | 5.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Manganese | <0.015 | | | 0.015 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Mercury | 0.0028 | D009 | | 0.0020 | mg/l | 1 | 08/16/00 | 08/17/00 | BP | SW846 7470A |
| Molybdenum | <0.050 | | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Nickel | <0.040 | | | 0.040 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Potassium | <5.0 | | | 5.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Selenium | <0.50 | D010 | | 0.50 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Silver | <0.050 | D011 | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Sodium | <5.0 | | | 5.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Thallium | <0.50 | | | 0.50 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Tin | <0.050 | | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Vanadium | <0.050 | | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Zinc | <0.020 | | | 0.020 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |

RL = Reporting Limit
MCL = Maximum Contamination Level (not available)

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB27, 6-8'BGS | | |
| **Lab Sample ID:** | F7243-7A | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| | | **Percent Solids:** | 95.1 |
| **Project:** | NAS Pensacola | | |

**Metals Analysis, SPLP Leachate**

| Analyte | Result | HW# | MCL | RL | Units | DF | Prep | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | <0.20 | | | 0.20 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Antimony | <0.20 | | | 0.20 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Arsenic | <0.50 | D004 | | 0.50 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Barium | <1.0 | D005 | | 1.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Beryllium | <0.0050 | | | 0.0050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Cadmium | <0.050 | D006 | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Calcium | <5.0 | | | 5.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Chromium | <0.050 | D007 | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Cobalt | <0.050 | | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Copper | <0.025 | | | 0.025 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Iron | 0.10 | | | 0.10 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Lead | <0.50 | D008 | | 0.50 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Magnesium | <5.0 | | | 5.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Manganese | <0.015 | | | 0.015 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Mercury | 0.012 | D009 | | 0.0020 | mg/l | 1 | 08/16/00 | 08/17/00 | BP | SW846 7470A |
| Molybdenum | <0.050 | | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Nickel | <0.040 | | | 0.040 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Potassium | <5.0 | | | 5.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Selenium | <0.50 | D010 | | 0.50 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Silver | <0.050 | D011 | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Sodium | <5.0 | | | 5.0 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Thallium | <0.50 | | | 0.50 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Tin | <0.050 | | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Vanadium | <0.050 | | | 0.050 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |
| Zinc | <0.020 | | | 0.020 | mg/l | 1 | 08/16/00 | 08/21/00 | JK | SW846 6010A |

RL = Reporting Limit
MCL = Maximum Contamination Level (not available)

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB18, 24-27'BGS | | |
| **Lab Sample ID:** | F7243-4 | **Date Sampled:** | 08/02/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/03/00 |
| | | **Percent Solids:** | 94.5 |
| **Project:** | NAS Pensacola | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| **Sieve Test - Particle Sizing** | | | | | | | |
| No. 4 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM E422-63 |
| No. 10 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM E422-63 |
| No. 18 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM E422-63 |
| No. 40 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM E422-63 |
| No. 60 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM E422-63 |
| No. 120 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM E422-63 |
| No. 230 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM E422-63 |
| Solids, Percent | 94.5 | | % | 1 | 08/10/00 | BP | EPA 160.3 M |

RL = Reporting Limit

**APPENDIX C**

**Support Documentation**

ACCUTEST.

# Sample Summary

Tetra-Tech, NUS

**Job No:** F7243

NAS Pensacola
Project No: CTO#112, JOB#0401

| Sample Number | Collected Date | Time By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|
| F7243-1 | 08/02/00 | 08:05 DH | 08/03/00 | SO | Soil | NASPFFSB27, 6-8'BGS |
| F7243-2 | 08/02/00 | 08:35 DH | 08/03/00 | SO | Soil | NASPFFSB28, 7-11'BGS |
| F7243-3 | 08/02/00 | 09:55 DH | 08/03/00 | SO | Soil | NASPFFSB19, 20-24'BGS |
| F7243-4 | 08/02/00 | 11:20 DH | 08/03/00 | SO | Soil | NASPFFSB18, 24-27'BGS |
| F7243-5 | 08/02/00 | 15:35 DH | 08/03/00 | SO | Soil | NASPFFSB17, 10-12'BGS |
| F7243-6 | 08/02/00 | 16:10 DH | 08/03/00 | SO | Soil | NASPFFSB12, 6-8'BGS |
| F7243-7 | 08/02/00 | 16:45 DH | 08/03/00 | SO | Soil | NASPFFSB12, 20-24'BGS |
| F7243-8 | 08/02/00 | 00:00 DH | 08/03/00 | AQ | Trip Blank Soil | TRIP BLANK |
| F7243-5A | 08/02/00 | 15:35 DH | 08/03/00 | SO | Soil | NASPFFSB27, 6-8'BGS |
| F7243-7A | 08/02/00 | 16:45 DH | 08/03/00 | SO | Soil | NASPFFSB27, 6-8'BGS |

ACCUTEST.

# CHAIN OF CUSTODY

4405 VINELAND RO[illegible] SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST QUOTE #: F7243

## CLIENT INFORMATION

NAME: Tetra Tech NUS
ADDRESS: 401 Oven Park Dr.
CITY: Tallahassee STATE: FL ZIP: 32301
REPORT TO: Gerry Walker
PHONE #: 850-385-9899

## FACILITY INFORMATION

PROJECT NAME: NAS Pensacola, Sherman Field Fuel Farm
LOCATION: Pensacola, FL
PROJECT NO.: 0401
FAX #: 850-385-9860

## ANALYTICAL INFORMATION

| ACCUTEST SAMPLE # | FIELD ID / POINT OF COLLECTION | COLLECTION DATE | COLLECTION TIME | SAMPLED BY: | MATRIX | # OF BOTTLES | PRESERVATION HCl | PRESERVATION NaOH | PRESERVATION HNO3 | PRESERVATION H2SO4 | PRESERVATION NONE | VOC Excore | PAH (% solid) | TRPH (4oz) | % Sol (4oz) | Grain Size (8oz) | SPLP (8oz) | 8 RCRA (4oz) | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | NASPFFSB27, 6-8' BGS | 8/2/00 | 0805 | DH | SO | 6 | | | | | ✓ | 3 | 1 | 1 | 1 | | | | |
| 2 | NASPFFSB-28, 7-11' " | " | 0835 | DH | SO | 6 | | | | | ✓ | 3 | 1 | 1 | 1 | | DH | | |
| 3 | NASPFFSB-19, 20-24' " | " | 0955 | DH | SO | 5 | | | | | ✓ | 3 | 1 | 1 | | X | | | |
| 4 | NASPFFSB-18, 24-27' BGS | " | 1120 | DH | SO | 6 | | | | | ✓ | 3 | 1 | 1 | | 1 | | | |
| 5 | NASPFFSB-17, 10-12' BGS | " | 1535 | DH | SO | 6 | | | | | ✓ | 3 | 1 | 1 | | | 1 | | |
| 6 | NASPFFSB-[illegible]12, 6-8' BGS | " | 1610 | DH | SO | 5 | | | | | ✓ | 3 | 1 | 1 | | | | | |
| 7 | NASPFFSB-12, 20-24' BGS | " | 1645 | DH | SO | 7 | | | | | ✓ | 3 | 1 | 1 | | | 1 | 1 | |
| 8 | Trip Blank | 7/22/00 | 1030 | | W | 2 | ✓ | | | | | 2 | | | | | | | |

MATRIX CODES: DW - DRINKING WATER; GW - GROUND WATER; WW - WASTE WATER; SO - SOIL; SL - SLUDGE; OI - OIL; LIQ - OTHER LIQUID; SOL - OTHER SOLID

## DATA TURNAROUND INFORMATION

- STANDARD
- 48 HOUR RUSH
- 24 HOUR EMERGENCY
- OTHER

APPROVED BY: _____

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

## DATA DELIVERABLE INFORMATION

- ☐ STANDARD
- ☐ COMMERCIAL "B"
- ☐ DISK DELIVERABLE
- ☐ STATE FORMS
- ☐ OTHER (SPECIFY) _____

## COMMENTS/REMARKS

0045

## SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

| RELINQUISHED BY SAMPLER: | DATE/TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE/TIME: | RECEIVED BY: |
|---|---|---|---|---|---|
| Sam Hartsell | 8/2/00 1830 | 1. [illegible] 8/3 0800 | 2. | | 2. |
| RELINQUISHED BY: | DATE/TIME: | RECEIVED BY: 3. | RELINQUISHED BY: 4. | DATE/TIME: | RECEIVED BY: 4. |

TEMPERATURE

# Accutest Laboratories Southeast
# Case Narrative

Job (SDG) No.:_____

Samples: _____

Analysis Performed: _____

1) Sample Receipt Conformance / Non-Conformance Summary

| | | |
|---|---|---|
| Custody Seals on Coolers? | Yes ( ) | No ( ) |
| Custody Seals in Tact? | Yes ( ) | No ( ) |
| Chain of Custody Sealed in Plastic? | Yes ( ) | No ( ) |
| Chain of Custody Filled out Properly? | Yes ( ) | No ( ) |
| Enough ice and Packing material? | Yes ( ) | No ( ) |
| All Bottles Sealed? | Yes ( ) | No ( ) |
| Any Bottles Broken? | Yes ( ) | No ( ) |
| Labels in good condition? | Yes ( ) | No ( ) |
| Labels agree with chain of custody? | Yes ( ) | No ( ) |
| Correct Containers Used? | Yes ( ) | No ( ) |
| Preserved Properly? | Yes ( ) | No ( ) |
| Sufficient Sample? | Yes ( ) | No ( ) |

Comments: _____

MP 2927

# Metals Digestion Log: Soil

Digestion: 3050B Temp: 95 Thermometer ID#: 36

| $HNO_3$ | HCl | $H_2O_2$ |
|---|---|---|
| Fischer | Fischer | Fischer |
| 110010 | 419100 | 983019 |

| | Wt | Final Vol | % Solid | Digestion Factor | Date | Comments |
|---|---|---|---|---|---|---|
| F7194-13 -DUP | 1.10 | 100ml | | | 8-7-00 | |
| -13 -MS | 1.04 | ↓ | | | ↓ | spiked with 2.0 mL ACC 195F74 1:N HNO3 + 0.5 mL ACC 182 HNO3 and HCl |
| -13 MSD | 1.05 | | | | | same as MS |
| F7194-14 | 0.96 | | | | | |
| F7166-1 | 1.19 | | | | | |
| F7220-1 | 1.00 | | | | | |
| F7232-1 | 1.22 | | | | | |
| F7240-1 | 1.09 | | | | | |
| F7243-7 | 1.03 | | | | | |
| F7248-1 | 1.04 | | | | | |
| F7194-13 | 1.21 | ✓ | | | ↓ | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| LCSB | | | | | | |
| LCSB | | | | | | same as MS |

Analyst's Signature: Emily M. Mayo Date: 8-7-00

QC Review: Date:

① wrong entry ② wrong page

MP 29

# Mercury Digestion Log: Water and Soil

Method Of Digestion: SW 846 7471A  Pressure ~~Temp~~: 15psi @ 15min

Analyst: AM  Thermometer #: ——

Time Started: _____  Time Ended: _____

| Reagents Added: | HNO3 | HCL | H2SO4 | Pot. Perm. | Pot. Persulfate |
|---|---|---|---|---|---|
| | | | | | |
| Mfg: Fischer | | | | | |
| Lot#: | 1100010 | 419100 | 318084 | GN1517 | |

| Sample # | Wt(g) | Init.Vol.(ml) | Final Vol.(ml) | Date | Comments |
|---|---|---|---|---|---|
| F7114 -17 Dup | 0.65 | | 100 mL | 8-9-00 | |
| -18 MS | 0.70 | | | | |
| 1 -19 MSD | 0.61 | | | | |
| 2 -25 | 0.72 | | | | |
| 3 -26 | 0.69 | | | | |
| 4 -27 | 0.70 | | | | |
| 5 -28 | 0.71 | | | | |
| 6 F7136 -14 | 0.63 | | | | |
| 7 F7140 -1 | 0.65 | | | | |
| 8 -2 | 0.70 | | | | |
| 9 -3 | 0.61 | | | | |
| 10 -4 | 0.64 | | | | |
| 11 -5 | 0.62 | | | | |
| 12 -6 | 0.61 | | | | |
| 13 -7 | 0.61 | | | | |
| 14 -8 | 0.60 | | | | |
| 15 F7220-1 | 0.59 | | | | |
| 16 F7240-1 | 0.62 | | | | |
| 17 F7194-13 | 0.64 | | | | |
| 18 -14 | 0.64 | | | | |
| 19 F7243-7 | 0.64 | | | | |
| 20 F7114-17 | 0.64 | | | | |
| MB | | | | | |
| SB | | | | | |

Analyst's Signature: Emily A. Mangi  Date: 8-9-00

MP2966

# Metals Digestion Log: Water

Method Of Digestion: SW 846 3010A Temp: _____ Thermometer ID#: _____

| | $HNO_3$ | HCl | $H_2O_2$ |
|---|---|---|---|
| Added: | — | — | — |
| Mfg: | Fisher → | | |
| Lot #: | 1100010 | 419107 | |

| Sample # | Init. Vol / Wt | Final Vol / Wt | Date | Comments |
|---|---|---|---|---|
| F7243-5A DUP | 50 | 50 | 8-16-00 | |
| -5A MS | ↓ | ↓ | ↓ | spiked w/ 1.0mL ICC 203+ 0.5mL QN 1485 + 0.25mL ICC 182 |
| 1- -MSD | | | | Same as MS |
| 2- F7243-5A | | | | |
| 3- -7A | ↓ | ↓ | ↓ | |
| 4- | | | | |
| 5- | | | | |
| 6- | | | | |
| 7- | | | | |
| 8- | | | | |
| 9- | | | | |
| 10- | | | | |
| 11- | | | | |
| 12- | | | | |
| 13- | | | | |
| 14- | | | | |
| 15- | | | | |
| 16- | | | | |
| 17- | | | | |
| 18- | | | | |
| 19- | | | | |
| 20- | | | | |
| (MB)/SB MB2 | ↓ | ↓ | ↓ | |
| MB/(SB) | | | | Same as MS |

Analyst's Signature: Timothy M. Mayo Date: 8-16-00

QC Review: Date:

MP2964

# Mercury Digestion Log (TCLP) Water and Soil

Method Of Digestion:_____ Temp:_____

Analyst:_____ Thermometer #:_____

Time Started:_____ Time Ended:_____

| Reagents Added: | HNO3 | HCL | H2SO4 | Pot. Perm. | Pot. Persulfate |
|---|---|---|---|---|---|
| | | | | | |
| Mfg: | | | | | |
| Lot#: | | | | | |

| Sample # | Wt(g) | Init.Vol.(ml) | Final Vol.(ml) | Date | Comments |
|---|---|---|---|---|---|
| F7243-5A Dup | | 100 mL | 100mL | | |
| -5A MS | | | | | |
| 1 F7243 -5AMSD | | | | | |
| 2 F7243 -5A | | | | | |
| 3 F7243 -7A | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |
| 11 | | | | | |
| 12 | | | | | |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| MB, MBa | | | | | |
| SB | | | | | |

Analyst's Signature: Emily M. Mayo Date: 8-16-00

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0821M1.ASC Date Analyzed: 08/21/00 Methods: SW846 6010A
Analyst: JK Run ID: MA1999
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Tl,Sn,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:02 | MA1999-ICV1 | 1 | | |
| 10:16 | MA1999-ICB1 | 1 | | |
| 10:31 | MA1999-CCV1 | 1 | | |
| 10:36 | MA1999-CCB1 | 1 | | |
| 10:42 | MA1999-CRI1 | 1 | | |
| 10:47 | MA1999-CRIA1 | 1 | | |
| 10:56 | MA1999-ICSA1 | 1 | | |
| 11:03 | MA1999-ICSAB1 | 1 | | |
| 11:12 | MA1999-CCV2 | 1 | | |
| 11:20 | MA1999-CCB2 | 1 | | |
| 11:29 | MP2965-MB1 | 1 | | |
| 11:34 | MP2965-B1 | 1 | | |
| 11:39 | MP2965-D1 | 1 | | |
| 11:45 | F7335-2 | 1 | | (sample used for QC only; not part of login F7243) |
| 11:50 | MP2965-S1 | 1 | | |
| 11:55 | MP2965-S2 | 1 | | |
| 12:00 | MP2965-SD1 | 5 | | |
| 12:05 | ZZZZZZ | 1 | | |
| 12:10 | ZZZZZZ | 1 | | |
| 12:16 | MA1999-CCV3 | 1 | | |
| 12:21 | MA1999-CCB3 | 1 | | |
| 12:26 | MP2966-MB1 | 1 | | |
| 12:31 | MP2966-B1 | 1 | | |
| 12:36 | MP2966-D1 | 1 | | |
| 12:41 | F7243-5A | 1 | | |
| 12:46 | MP2966-S1 | 1 | | |
| 12:51 | MP2966-S2 | 1 | | |
| 12:56 | MP2966-SD1 | 5 | | |
| 13:01 | F7243-7A | 1 | | |
| 13:06 | MP2966-MB2 | 1 | | |
| 13:11 | MA1999-CCV4 | 1 | | |
| 13:16 | MA1999-CCB4 | 1 | | |
| 13:21 | MP2973-MB1 | 1 | | |

57

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0821M1.ASC Date Analyzed: 08/21/00 Methods: SW846 6010A
Analyst: JK Run ID: MA1999
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Tl,Sn,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:26 | MP2973-B1 | 1 | | |
| 13:31 | MP2973-D1 | 1 | | |
| 13:36 | F7336-17A | 1 | | (sample used for QC only; not part of login F7243) |
| 13:41 | MP2973-S1 | 1 | | |
| 13:47 | ZZZZZZ | 1 | | |
| 13:52 | ZZZZZZ | 1 | | |
| 13:57 | ZZZZZZ | 1 | | |
| 14:01 | ZZZZZZ | 1 | | |
| 14:06 | ZZZZZZ | 1 | | |
| 14:14 | MA1999-CCV5 | 1 | | |
| 14:19 | MA1999-CCB5 | 1 | | |
| 14:27 | MA1999-CCB6 | 1 | | |
| 14:38 | MP2973-S2 | 1 | | |
| 14:43 | MP2973-SD1 | 5 | | |
| 14:48 | ZZZZZZ | 1 | | |
| 14:53 | MP2955-MB1 | 1 | | |
| 14:58 | MP2955-B1 | 1 | | |
| 15:03 | MA1999-CCV6 | 1 | | |
| 15:08 | MA1999-CCB7 | 1 | | |
| 15:11 | MP2955-D1 | 1 | | |
| 15:18 | F7341-2 | 1 | | (sample used for QC only; not part of login F7243) |
| 15:23 | MP2955-S1 | 1 | | |
| 15:28 | MP2955-S2 | 1 | | |
| 15:33 | MP2955-SD1 | 5 | | |
| 15:38 | ZZZZZZ | 1 | | |
| 15:43 | ZZZZZZ | 1 | | |
| 15:48 | ZZZZZZ | 1 | | |
| 15:53 | ZZZZZZ | 1 | | |
| 15:58 | MA1999-CCV7 | 1 | | |
| 16:03 | MA1999-CCB8 | 1 | | |
| 16:08 | ZZZZZZ | 1 | | |
| 16:13 | ZZZZZZ | 1 | | |
| 16:18 | ZZZZZZ | 1 | | |

574

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0821M1.ASC Date Analyzed: 08/21/00 Methods: SW846 6010A
Analyst: JK Run ID: MA1999
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Tl,Sn,V,Zn

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 16:23 | ZZZZZZ | 1 | | |
| 16:28 | ZZZZZZ | 1 | | |
| 16:33 | ZZZZZZ | 1 | | |
| 16:38 | MA1999-CCV8 | 1 | | |
| 16:43 | MA1999-CCB9 | 1 | | |
| 16:48 | ZZZZZZ | 1 | | |
| 16:53 | ZZZZZZ | 1 | | |
| 16:58 | ZZZZZZ | 1 | | |
| 17:03 | ZZZZZZ | 1 | | |
| 17:08 | ZZZZZZ | 1 | | |
| 17:15 | ZZZZZZ | 1 | | |
| 17:20 | ZZZZZZ | 1 | | |
| 17:25 | MA1999-CCV9 | 1 | | |
| 17:30 | MA1999-CCB10 | 1 | | |
| 17:35 | ZZZZZZ | 1 | | |
| 17:41 | ZZZZZZ | 1 | | |
| 17:46 | ZZZZZZ | 1 | | |
| 17:51 | ZZZZZZ | 1 | | |
| 17:56 | ZZZZZZ | 1 | | |
| 18:01 | MA1999-CCV10 | 1 | | |
| 18:06 | MA1999-CCB11 | 1 | | |
| 18:11 | ZZZZZZ | 1 | | |
| 18:16 | ZZZZZZ | 1 | | |
| 18:21 | ZZZZZZ | 1 | | |
| 18:26 | ZZZZZZ | 1 | | |
| 18:31 | ZZZZZZ | 1 | | |
| 18:36 | ZZZZZZ | 1 | | |
| 18:41 | ZZZZZZ | 1 | | |
| 18:46 | MA1999-CCV11 | 1 | | |
| 18:51 | MA1999-CCB12 | 1 | | |

Refer to raw data for calibration curve and standards.

5

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: HG0817W1.HGX  Date Analysed: 08/17/00  Methods: EPA 245.1, SW846 7470A
Analyst: BP  Run ID: MA1993
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 00:00 | MA1993-ICV1 | 1 | | |
| 00:00 | MA1993-ICB1 | 1 | | |
| 00:00 | MA1993-CCV1 | 1 | | |
| 00:00 | MA1993-CCB1 | 1 | | |
| 00:00 | MA1993-CRI1 | 1 | | |
| 00:00 | MP2953-MB1 | 1 | | |
| 00:00 | MP2953-B1 | 1 | | |
| 00:00 | MP2953-S1 | 1 | | |
| 00:00 | MP2953-S2 | 1 | | |
| 00:00 | MP2953-D1 | 1 | | |
| 00:00 | F7335-2 | 1 | | (sample used for QC only; not part of login F7243) |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | MA1993-CCV2 | 1 | | |
| 00:00 | MA1993-CCB2 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | MA1993-CCV3 | 1 | | |
| 00:00 | MA1993-CCB3 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 5 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: HG0817W1.HGX  Date Analyzed: 08/17/00  Methods: EPA 245.1, SW846 7470A
Analyst: BP  Run ID: MA1993
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 00:00 | MP2959-MB1 | 1 | | |
| 00:00 | MP2959-B1 | 1 | | |
| 00:00 | MA1993-CCV4 | 1 | | |
| 00:00 | MA1993-CCB4 | 1 | | |
| 00:00 | F7187-1 | 1 | | (sample used for QC only; not part of login F7243) |
| 00:00 | MP2959-D1 | 1 | | |
| 00:00 | MP2964-MB1 | 1 | | |
| 00:00 | MP2964-B1 | 1 | | |
| 00:00 | F7243-5A | 1 | | |
| 00:00 | MP2964-S1 | 1 | | |
| 00:00 | MP2964-S2 | 1 | | |
| 00:00 | MP2964-D1 | 1 | | |
| 00:00 | F7243-7A | 1 | | |
| 00:00 | MA1993-CCV5 | 1 | | |
| 00:00 | MA1993-CCB5 | 1 | | |

Refer to raw data for calibration curve and standards.

5

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0812M1.ASC  Date Analyzed: 08/12/00  Methods: SW846 6010A
Analyst: SJL  Run ID: MA1985
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 08:34 | MA1985-ICV1 | 1 | | |
| 08:38 | MA1985-ICB1 | 1 | | |
| 08:43 | MA1985-CCV1 | 1 | | |
| 08:50 | MA1985-CCB1 | 1 | | |
| 08:56 | MA1985-CRI1 | 1 | | |
| 09:01 | MA1985-CRIA1 | 1 | | |
| 09:07 | MA1985-CRIA2 | 1 | | |
| 09:16 | MA1985-ICSA1 | 1 | | |
| 09:28 | MA1985-ICSAB1 | 1 | | |
| 09:33 | MA1985-CCV2 | 1 | | |
| 09:38 | MA1985-CCB2 | 1 | | |
| 09:43 | MP2912-MB1 | 1 | | |
| 09:48 | MP2912-B1 | 1 | | |
| 09:53 | MP2912-D1 | 1 | | |
| 09:58 | F7156-2 | 1 | | (sample used for QC only; not part of login F7243) |
| 10:03 | MP2912-S1 | 1 | | |
| 10:08 | MP2912-S2 | 1 | | |
| 10:13 | MP2927-SD1 | 5 | | |
| 10:18 | ZZZZZZ | 1 | | |
| 10:23 | ZZZZZZ | 1 | | |
| 10:28 | MA1985-CCV3 | 1 | | |
| 10:33 | MA1985-CCB3 | 1 | | |
| 10:37 | ZZZZZZ | 1 | | |
| 10:42 | ZZZZZZ | 1 | | |
| 10:47 | ZZZZZZ | 1 | | |
| 10:52 | ZZZZZZ | 1 | | |
| 10:57 | ZZZZZZ | 1 | | |
| 11:02 | ZZZZZZ | 1 | | |
| 11:07 | ZZZZZZ | 1 | | |
| 11:12 | ZZZZZZ | 1 | | |
| 11:17 | ZZZZZZ | 1 | | |
| 11:22 | MA1985-CCV4 | 1 | | |
| 11:27 | MA1985-CCB4 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0812M1.ASC  Date Analyzed: 08/12/00  Methods: SW846 6010A
Analyst: SJL  Run ID: MA1985
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 11:32 | ZZZZZZ | 1 | | |
| 11:36 | ZZZZZZ | 1 | | |
| 11:41 | ZZZZZZ | 1 | | |
| 11:46 | ZZZZZZ | 1 | | |
| 11:51 | ZZZZZZ | 1 | | |
| 11:56 | ZZZZZZ | 1 | | |
| 12:01 | ZZZZZZ | 1 | | |
| 12:06 | ZZZZZZ | 1 | | |
| 12:11 | MP2927-MB1 | 1 | | |
| 12:16 | MA1985-CCV5 | 1 | | |
| 12:21 | MA1985-CCB5 | 1 | | |
| 12:26 | MP2927-B1 | 1 | | |
| 12:31 | MP2927-D1 | 1 | | |
| 12:35 | F7194-13 | 1 | | (sample used for QC only; not part of login F7243) |
| 12:40 | MP2927-S1 | 1 | | |
| 12:45 | MP2927-S2 | 1 | | |
| 12:50 | MP2927-SD1 | 5 | | |
| 12:55 | ZZZZZZ | 1 | | |
| 13:00 | ZZZZZZ | 1 | | |
| 13:05 | ZZZZZZ | 1 | | |
| 13:10 | MA1985-CCV6 | 1 | | |
| 13:15 | MA1985-CCB6 | 1 | | |
| 13:20 | ZZZZZZ | 1 | | |
| 13:25 | F7243-7 | 1 | | |
| 13:30 | ZZZZZZ | 1 | | |
| 13:34 | ZZZZZZ | 1 | | |
| 13:39 | MA1985-CCV7 | 1 | | |
| 13:44 | MA1985-CCB7 | 1 | | |

Refer to raw data for calibration curve and standards.

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: HG0810S1.HGX  Date Analyzed: 08/10/00  Methods: SW846 7471A
Analyst: BP  Run ID: MA1981
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 00:00 | MA1981-ICV1 | 1 | | |
| 00:00 | MA1981-ICB1 | 1 | | |
| 00:00 | MA1981-CCV1 | 1 | | |
| 00:00 | MA1981-CCB1 | 1 | | |
| 00:00 | MA1981-CRI1 | 1 | | |
| 00:00 | MP2937-MB1 | 1 | | |
| 00:00 | MP2937-B1 | 1 | | |
| 00:00 | MP2937-D1 | 1 | | |
| 00:00 | MP2937-S1 | 1 | | |
| 00:00 | MP2937-S2 | 1 | | |
| 00:00 | F7105-15 | 1 | | (sample used for QC only; not part of login F7243) |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | MA1981-CCV2 | 1 | | |
| 00:00 | MA1981-CCB2 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | MP2939-MB1 | 1 | | |
| 00:00 | MP2939-B1 | 1 | | |
| 00:00 | MA1981-CCV3 | 1 | | |
| 00:00 | MA1981-CCB3 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | MP2939-D1 | 1 | | |
| 00:00 | MP2939-S1 | 1 | | |
| 00:00 | MP2939-S2 | 1 | | |
| 00:00 | F7114-17 | 1 | | (sample used for QC only; not part of login F7243) |
| 00:00 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: HG0810S1.HGX  Date Analyzed: 08/10/00  Methods: SW846 7471A
Analyst: BP  Run ID: MA1981
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | MA1981-CCV4 | 1 | | |
| 00:00 | MA1981-CCB4 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | MA1981-CCV5 | 1 | | |
| 00:00 | MA1981-CCB5 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | F7243-7 | 1 | | |
| 00:00 | MA1981-CCV6 | 1 | | |
| 00:00 | MA1981-CCB6 | 1 | | |

Refer to raw data for calibration curve and standards.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0812M1.ASC  Date Analyzed: 08/12/00  Methods: SW846 6010A
QC Limits: result < RL  Run ID: MA1985  Units: ug/l

| Metal | RL | IDL | ICB raw | ICB final | CCB raw | CCB final | CCB raw | CCB final | CCB raw | CCB final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 30 | anr | | | | | | | |
| Antimony | 5.0 | 2.39 | anr | | | | | | | |
| Arsenic | 10 | 3.4 | 1.8 | <10 | -0.83 | <10 | -0.52 | <10 | -0.47 | <10 |
| Barium | 200 | .39 | 1.6 | <200 | 1.0 | <200 | 0.73 | <200 | 0.71 | <200 |
| Beryllium | 5.0 | .36 | anr | | | | | | | |
| Cadmium | 5.0 | .33 | 1.8 | <5.0< | 1.2 | <5.0< | 0.65 | <5.0 | 0.54 | <5.0 |
| Calcium | 1000 | 19.5 | anr | | | | | | | |
| Chromium | 10 | .637 | 1.3 | <10 | 0.74 | <10 | 0.92 | <10 | 0.59 | <10 |
| Cobalt | 50 | .797 | anr | | | | | | | |
| Copper | 25 | .747 | anr | | | | | | | |
| Iron | 300 | 32 | anr | | | | | | | |
| Lead | 5.0 | 1.59 | 2.3 | <5.0 | 1.6 | <5.0 | 1.5 | <5.0 | 1.2 | <5.0 |
| Magnesium | 5000 | 17.6 | anr | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .68 | | | | | | | | |
| Nickel | 40 | 1 | anr | | | | | | | |
| Potassium | 5000 | 28.2 | anr | | | | | | | |
| Selenium | 10 | 2 | 5.0 | <10 | 3.0 | <10 | 3.7 | <10 | 3.4 | <10 |
| Silver | 10 | .96 | 0.72 | <10 | 0.44 | <10 | 0.98 | <10 | 1.0 | <10 |
| Sodium | 5000 | 153 | anr | | | | | | | |
| Thallium | 10 | 2.69 | anr | | | | | | | |
| Tin | 50 | 2.2 | | | | | | | | |
| Vanadium | 50 | .717 | anr | | | | | | | |
| Zinc | 20 | .83 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0812M1.ASC  Date Analyzed: 08/12/00  Methods: SW846 6010A
QC Limits: result < RL  Run ID: MA1985  Units: ug/l

| Metal | RL | IDL | CCB raw | CCB final | CCB raw | CCB final | CCB raw | CCB final | CCB raw | CCB final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 30 | anr | | | | | | | |
| Antimony | 5.0 | 2.39 | anr | | | | | | | |
| Arsenic | 10 | 3.4 | -0.60 | <10.0 | -2.5 | <10 | 1.3 | <10 | -0.60 | <10 |
| Barium | 200 | .39 | 0.80 | <200B | 0.74 | <200 | 0.89 | <200 | 0.84 | <200 |
| Beryllium | 5.0 | .36 | anr | | | | | | | |
| Cadmium | 5.0 | .33 | 0.70 | <5.0B | 0.67 | <5.0 | 0.64 | <5.0 | 0.55 | <5.0 |
| Calcium | 1000 | 19.5 | anr | | | | | | | |
| Chromium | 10 | .637 | 0.70 | <10.0B | 0.47 | <10 | 0.33 | <10 | 0.56 | <10 |
| Cobalt | 50 | .797 | anr | | | | | | | |
| Copper | 25 | .747 | anr | | | | | | | |
| Iron | 300 | 32 | anr | | | | | | | |
| Lead | 5.0 | 1.59 | 0.30 | <5.0 | 0.98 | <5.0 | 0.72 | <5.0 | 0.90 | <5.0 |
| Magnesium | 5000 | 17.6 | anr | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .68 | | | | | | | | |
| Nickel | 40 | 1 | anr | | | | | | | |
| Potassium | 5000 | 28.2 | anr | | | | | | | |
| Selenium | 10 | 2 | 3.9 | <10.0B | 3.1 | <10 | 4.2 | <10 | 4.0 | <10 |
| Silver | 10 | .96 | 1.3 | <10.0B | 1.5 | <10 | 1.6 | <10 | 1.7 | <10 |
| Sodium | 5000 | 153 | anr | | | | | | | |
| Thallium | 10 | 2.69 | anr | | | | | | | |
| Tin | 50 | 2.2 | | | | | | | | |
| Vanadium | 50 | .717 | anr | | | | | | | |
| Zinc | 20 | .83 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

GN6106

| SAMPLE NUMBER | MESH (100g) 4 | 10 | 18 | 40 | 60 | 120 | 240 | pan |
|---|---|---|---|---|---|---|---|---|
| 1. F7081-30 | 0 | 2.25 | 10.11 | 21.60 | 10.20 | 4.92 | 0.93 | 0.35 |
| 2. F7081-33 | 1.72 | 7.45 | 16.33 | 17.10 | 4.30 | 2.84 | 0.74 | 0.22 |
| 3. -36 | 5.87 | 12.65 | 13.56 | 9.95 | 4.52 | 2.89 | 0.42 | 0.08 |
| 4. -39 | 1.34 | 7.23 | 9.65 | 12.55 | 10.72 | 8.18 | 0.90 | 0.21 |
| 5. -42 | 0.0 | 0.0 | 0.08 | 3.48 | 16.87 | 26.42 | 3.16 | 0.41 |
| 6. F7099-15 | 0.0 | 0.0 | 0.04 | 0.07 | 0.72 | 33.85 | 13.40 | 1.55 |
| 7. F7243-4 | 0.0 | 0.0 | 0.0 | 8.43 | 34.50 | 7.23 | 0.18 | 0.54 |
| 8. F7254-3 | 0.0 | 0.0 | 0.0 | 11.26 | 32.92 | 5.31 | 0.25 | 0.19 |
| 9. F7077-31 | 0.0 | 1.53 | 10.57 | 27.65 | 6.54 | 2.76 | 0.73 | 0.35 |
| 10. F7168-1 | 0.0 | 0.0 | 0.0 | 1.35 | 6.55 | 31.66 | 5.70 | 3.00 |
| 11. F7099-16 | 0.0 | 0.0 | 0.72 | 9.66 | 18.49 | 16.87 | 3.01 | 0.86 |
| 12. F7099-34 | 0.25 | 0.25 | 5.90 | 19.09 | 16.97 | 7.87 | 1.17 | 0.30 |
| 13. F7099-35 | 0.0 | 6.10 | 19.83 | 12.88 | 6.11 | 4.48 | 0.50 | 0.15 |
| 14. F7099-37 | 7.77 | 9.06 | 7.62 | 8.38 | 5.65 | 8.33 | 2.68 | 1.07 |
| 15. F7099-36 | 0.0 | 0.98 | 12.12 | 18.60 | 8.68 | 8.12 | 1.44 | 0.56 |
| 16. F799-33 | 0.48 | 2.32 | 7.66 | 16.58 | 11.04 | 9.22 | 2.64 | 1.33 |
| 17. F7145-10 | 4.25 | 0.89 | 0.67 | 1.77 | 10.30 | 27.67 | 4.39 | 0.88 |
| 18. F7099-38 | 3.37 | 4.30 | 10.57 | 14.92 | 7.62 | 5.59 | 1.95 | 1.47 |
| 19. F7081-6 | 1.32 | 7.00 | 8.99 | 11.08 | 11.37 | 12.00 | 1.68 | 0.40 |
| 20. F7143-3 | 0.28 | 0.09 | 0.96 | 4.42 | 16.88 | 23.34 | 4.27 | 0.92 |
| F7099-32 | 0.45 | 2.56 | 8.82 | 23.39 | 10.11 | 3.83 | 0.62 | 0.36 |

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0821M1.ASC  Date Analyzed: 08/21/00  Methods: SW846 6010A
QC Limits: result < RL  Run ID: MA1999  Units: ug/l

| Metal | RL | IDL | ICB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 30 | 5.9 | <200 | 13.5 | <200 | 32.9 | <200 | 24.7 | <200 |
| Antimony | 5.0 | 2.39 | 4.9 | <5.0 | 4.0 | <5.0 | 1.8 | <5.0 | 3.2 | <5.0 |
| Arsenic | 10 | 3.4 | 1.6 | <10 | 0.31 | <10 | 0.060 | <10 | -1.6 | <10 |
| Barium | 200 | .39 | -0.010 | <200 | 0.49 | <200 | 0.65 | <200 | 0.63 | <200 |
| Beryllium | 5.0 | .36 | 0.15 | <5.0 | 0.88 | <5.0 | 1.1 | <5.0 | 1.3 | <5.0 |
| Cadmium | 5.0 | .33 | 0.020 | <5.0 | 0.60 | <5.0 | 0.87 | <5.0 | 0.74 | <5.0 |
| Calcium | 1000 | 19.5 | -2.2 | <1000 | 10.0 | <1000 | 16.2 | <1000 | 13.4 | <1000 |
| Chromium | 10 | .637 | 0.55 | <10 | 2.4 | <10 | 1.3 | <10 | 0.86 | <10 |
| Cobalt | 50 | .797 | -0.22 | <50 | 0.47 | <50 | 0.69 | <50 | 0.37 | <50 |
| Copper | 25 | .747 | -0.010 | <25 | 0.18 | <25 | 0.16 | <25 | -0.29 | <25 |
| Iron | 300 | 32 | 13.0 | <300 | 20.8 | <300 | 18.3 | <300 | 8.9 | <300 |
| Lead | 5.0 | 1.59 | 0.85 | <5.0 | 1.4 | <5.0 | 1.3 | <5.0 | 1.4 | <5.0 |
| Magnesium | 5000 | 17.6 | -2.4 | <5000 | 7.7 | <5000 | 17.0 | <5000 | 13.3 | <5000 |
| Manganese | 15 | .16 | 0.28 | <15 | 1.1 | <15 | 1.0 | <15 | 0.85 | <15 |
| Molybdenum | 50 | .68 | 3.8 | <50 | 7.4 | <50 | 6.2 | <50 | 7.7 | <50 |
| Nickel | 40 | 1 | 0.74 | <40 | 3.1 | <40 | 1.4 | <40 | 0.98 | <40 |
| Potassium | 5000 | 28.2 | 179 | <5000 | 181 | <5000 | 169 | <5000 | 177 | <5000 |
| Selenium | 10 | 2 | 0.90 | <10 | -0.51 | <10 | 2.1 | <10 | 0.37 | <10 |
| Silver | 10 | .96 | 0.14 | <10 | 0.25 | <10 | 1.2 | <10 | 1.2 | <10 |
| Sodium | 5000 | 153 | -250 | <5000 | -270 | <5000 | -230 | <5000 | -310 | <5000 |
| Thallium | 10 | 2.69 | 1.8 | <10 | 2.2 | <10 | 2.6 | <10 | 5.6 | <10 |
| Tin | 50 | 2.2 | 6.2 | <50 | 4.5 | <50 | 6.4 | <50 | 2.7 | <50 |
| Vanadium | 50 | .717 | -0.21 | <50 | 0.45 | <50 | 0.45 | <50 | 0.45 | <50 |
| Zinc | 20 | .83 | 0.37 | <20 | 0.94 | <20 | 1.1 | <20 | 0.84 | <20 |

(*) Outside of QC limits
(anr) Analyte not requested

522

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0821M1.ASC  Date Analyzed: 08/21/00  Methods: SW846 6010A
QC Limits: result < RL  Run ID: MA1999  Units: ug/l

| Metal | RL | IDL | CCB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 30 | 29.2 | <200 | | | 29.7 | <200 | 37.4 | <200 |
| Antimony | 5.0 | 2.39 | 3.8 | <5.0 | | | 3.8 | <5.0 | 5.4 | <5.0< |
| Arsenic | 10 | 3.4 | -0.11 | <10 | | | 0.23 | <10 | 1.5 | <10 |
| Barium | 200 | .39 | 0.87 | <200 | | | 0.81 | <200 | 1.1 | <200 |
| Beryllium | 5.0 | .36 | 1.7 | <5.0< | | | 1.3 | <5.0< | 1.2 | <5.0< |
| Cadmium | 5.0 | .33 | 0.94 | <5.0 | | | 0.97 | <5.0 | 0.89 | <5.0 |
| Calcium | 1000 | 19.5 | 22.8 | <1000 | | | 17.8 | <1000 | 18.0 | <1000 |
| Chromium | 10 | .637 | 0.70 | <10 | | | 0.97 | <10 | 0.87 | <10 |
| Cobalt | 50 | .797 | 0.51 | <50 | | | 0.74 | <50 | 0.44 | <50 |
| Copper | 25 | .747 | -0.34 | <25 | | | 0.30 | <25 | -0.070 | <25 |
| Iron | 300 | 32 | 18.1 | <300 | | | 11.4 | <300 | 15.1 | <300 |
| Lead | 5.0 | 1.59 | 1.2 | <5.0 | | | 0.21 | <5.0 | 1.0 | <5.0 |
| Magnesium | 5000 | 17.6 | 15.3 | <5000 | | | 15.1 | <5000 | 15.5 | <5000 |
| Manganese | 15 | .16 | 1.0 | <15 | | | 1.0 | <15 | 0.97 | <15 |
| Molybdenum | 50 | .68 | 8.1 | <50< | | | 6.5 | <50< | 8.3 | <50< |
| Nickel | 40 | 1 | 0.81 | <40 | | | 0.47 | <40 | 0.79 | <40 |
| Potassium | 5000 | 28.2 | 140 | <5000 | | | 175 | <5000 | 157 | <5000 |
| Selenium | 10 | 2 | 3.2 | <10 | | | 0.56 | <10 | 3.1 | <10 |
| Silver | 10 | .96 | 1.3 | <10 | | | 1.2 | <10 | 0.90 | <10 |
| Sodium | 5000 | 153 | -360 | <5000 | | | -280 | <5000 | -210 | <5000 |
| Thallium | 10 | 2.69 | 7.0 | <10 | | | 5.6 | <10 | 9.6 | <10< |
| Tin | 50 | 2.2 | 3.6 | <50 | | | 3.9 | <50 | 5.1 | <50 |
| Vanadium | 50 | .717 | 0.66 | <50 | | | 0.91 | <50 | 0.66 | <50 |
| Zinc | 20 | .83 | 1.0 | <20 | | | 1.5 | <20 | 1.6 | <20 |

(*) Outside of QC limits
(anr) Analyte not requested

523

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0821M1.ASC  Date Analyzed: 08/21/00  Methods: SW846 6010A
QC Limits: result < RL  Run ID: MA1999  Units: ug/l

| Metal | RL | IDL | CCB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 30 | 37.3 | <200 | 47.7 | <200 | 49.2 | <200B | 31.1 | <200 |
| Antimony | 5.0 | 2.39 | 4.2 | <5.0 | 4.4 | <5.0 | 3.7 | <5.0B | 2.5 | <5.0 |
| Arsenic | 10 | 3.4 | 0.12 | <10 | 0.24 | <10 | 1.2 | <10.0 | -0.94 | <10 |
| Barium | 200 | .39 | 0.87 | <200 | 1.0 | <200 | 1.1 | <200B | 0.96 | <200 |
| Beryllium | 5.0 | .36 | 1.5 | <5.0< | 1.4 | <5.0< | 1.5 | <5.0B | 1.4 | <5.0< |
| Cadmium | 5.0 | .33 | 1.0 | <5.0 | 1.2 | <5.0< | 1.1 | <5.0B | 1.2 | <5.0< |
| Calcium | 1000 | 19.5 | 30.3 | <1000 | 43.2 | <1000 | 28.2 | <1000B | 32.8 | <1000 |
| Chromium | 10 | .637 | 1.0 | <10 | 1.1 | <10 | 1.3 | <10.0B | 0.82 | <10 |
| Cobalt | 50 | .797 | 0.69 | <50 | 0.78 | <50 | 0.80 | <50.0B | 0.77 | <50 |
| Copper | 25 | .747 | -0.26 | <25 | 0.29 | <25 | 0.20 | <25.0 | 0.16 | <25 |
| Iron | 300 | 32 | 19.8 | <300 | 19.9 | <300 | 21.6 | <300 | 10.2 | <300 |
| Lead | 5.0 | 1.59 | 1.2 | <5.0 | 1.7 | <5.0 | 1.3 | <5.0 | 1.2 | <5.0 |
| Magnesium | 5000 | 17.6 | 15.8 | <5000 | 27.4 | <5000 | 27.6 | <5000B | 19.6 | <5000 |
| Manganese | 15 | .16 | 0.99 | <15 | 1.2 | <15 | 1.3 | <15.0B | 1.1 | <15 |
| Molybdenum | 50 | .68 | 7.9 | <50< | 7.2 | <50< | 7.3 | <50.0B | 6.0 | <50< |
| Nickel | 40 | 1 | 1.1 | <40 | 1.1 | <40 | 0.90 | <40.0 | 0.63 | <40 |
| Potassium | 5000 | 28.2 | 148 | <5000 | 164 | <5000 | 112 | <5000B | 159 | <5000 |
| Selenium | 10 | 2 | 1.8 | <10 | 2.8 | <10 | 3.5 | <10.0B | 2.1 | <10 |
| Silver | 10 | .96 | 1.6 | <10 | 1.7 | <10 | 1.7 | <10.0B | 1.1 | <10 |
| Sodium | 5000 | 153 | -340 | <5000 | -230 | <5000 | -145 | <5000 | -360 | <5000 |
| Thallium | 10 | 2.69 | 5.8 | <10 | 5.6 | <10 | 6.4 | <10.0B | 6.2 | <10 |
| Tin | 50 | 2.2 | 4.8 | <50 | 5.1 | <50 | 4.2 | <50.0B | 0.62 | <50 |
| Vanadium | 50 | .717 | 0.54 | <50 | 0.86 | <50 | 0.80 | <50.0B | 0.85 | <50 |
| Zinc | 20 | .83 | 1.6 | <20 | 1.8 | <20 | 1.9 | <20.0B | 1.4 | <20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0821M1.ASC  Date Analyzed: 08/21/00  Methods: SW846 6010A
QC Limits: result < RL  Run ID: MA1999  Units: ug/l

| Metal | RL | IDL | CCB raw | final |
|---|---|---|---|---|
| Aluminum | 200 | 30 | 22.4 | <200 |
| Antimony | 5.0 | 2.39 | 0.48 | <5.0 |
| Arsenic | 10 | 3.4 | -2.3 | <10 |
| Barium | 200 | .39 | 0.76 | <200 |
| Beryllium | 5.0 | .36 | 1.0 | <5.0 |
| Cadmium | 5.0 | .33 | 1.1 | <5.0 |
| Calcium | 1000 | 19.5 | 20.4 | <1000 |
| Chromium | 10 | .637 | 0.59 | <10 |
| Cobalt | 50 | .797 | 0.80 | <50 |
| Copper | 25 | .747 | 0.42 | <25 |
| Iron | 300 | 32 | 6.5 | <300 |
| Lead | 5.0 | 1.59 | 1.6 | <5.0 |
| Magnesium | 5000 | 17.6 | 15.6 | <5000 |
| Manganese | 15 | .16 | 0.93 | <15 |
| Molybdenum | 50 | .68 | 5.7 | <50 |
| Nickel | 40 | 1 | 0.68 | <40 |
| Potassium | 5000 | 28.2 | 145 | <5000 |
| Selenium | 10 | 2 | 1.2 | <10 |
| Silver | 10 | .96 | 0.66 | <10 |
| Sodium | 5000 | 153 | -440 | <5000 |
| Thallium | 10 | 2.69 | 5.8 | <10 |
| Tin | 50 | 2.2 | 0.20 | <50 |
| Vanadium | 50 | .717 | 0.62 | <50 |
| Zinc | 20 | .83 | 1.4 | <20 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: HG0817W1.HGX  Date Analyzed: 08/17/00  Methods: EPA 245.1, SW846 7470A
QC Limits: result < RL  Run ID: MA1993  Units: ug/l

| Metal | RL | IDL | ICB raw | ICB final | CCB raw | CCB final | CCB raw | CCB final | CCB raw | CCB final |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 1.0 | .06 | 0 | <1.0 | 0 | <1.0 | 0.066 | <1.0 | 0.024 | <1.0 |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F7243
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: HG0817W1.HGX  Date Analyzed: 08/17/00  Methods: EPA 245.1, SW846 7470A
QC Limits: result < RL  Run ID: MA1993  Units: ug/l

| Metal | RL | IDL | CCB raw | CCB final | CCB raw | CCB final |
|---|---|---|---|---|---|---|
| Mercury | 1.0 | .06 | 0.024 | <1.0 | 0.024 | <1.0 |

(*) Outside of QC limits
(anr) Analyte not requested

527

**Tetra Tech NUS, Inc.** **Internal Correspondence**

**TO:** Mr. Gerald Walker **DATE:** October 3, 2000

**FROM:** William Howard Engle **CC:** File

**SUBJECT:** Inorganic Data Validation – RCRA Metals , TOC, and Grain Size
CTO112 – NAS Pensacola
SDG F7254

**SAMPLES:** 3/Solids

NASPFFSB-16, 22-26'BGS NASPFFSB-14, 24-27'BGS
NASPFFSB-15, 8-12'BGS

**OVERVIEW**

The sample set for CTO112, SDG F7254; Naval Air Station Pensacola, Pensacola, Florida consists of three (3) solid environmental samples. Sample, NASPFFSB-16, 22-26'BGS was analyzed for RCRA metals only. Sample NASPFFSB-14, 24-27'BGS was analyzed for TOC only. Sample NASPFFSB-15, 8-12'BGS was analyzed for TOC and Grain Size.

The samples were collected by Tetra Tech NUS on August 3, 2000 and analyzed by Accutest Southeast Laboratories. All analyses were performed in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria and analyzed according to SW-846 Method 6010A (RCRA Metals), Corps of Engineers Method 81 (TOC), and ASTM E422-63 (Grain Size) analytical and reporting protocols. The data in this SDG was validated with regard to the following parameters:

- * Data Completeness
- * Holding Times
- * Initial/continuing calibrations
- Laboratory method/field quality control blank results
- * Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Supporting documentation is presented in Appendix C. Qualified analytical results are presented in Appendix A. The original laboratory data is contained in Appendix B.

RCRA Metals Fraction

Laboratory Blank Analysis

The following metals were detected in the laboratory method blank at the following maximum concentration:

Affected samples: NASPFFSB-16, 22-26'BGS

| Analyte | Maximum Concentration (mg/kg) | Action Level (mg/kg) |
|---|---|---|
| Arsenic | 1.0 | 5.0 |
| Barium | 1.6 | 8.0 |
| Cadmium | 1.5 | 7.5 |
| Chromium | 4.4 | 22 |
| Lead | 2.5 | 12.5 |
| Selenium | 2.0 | 10 |
| Silver | 1.3 | 6.5 |

An action level of 5x the maximum concentration has been used to evaluate the sample for contamination in continuing calibration blank. Dilution factors and sample aliquots were taken into consideration when evaluating for blank contamination. Positive results < action level for barium, chromium, and lead were qualified nondetected "U" due to blank contamination.

All other quality control criteria were met for this fraction.

TOC Fraction

All quality control criteria were met for this fraction.

Grain Size

All quality control criteria were met for this fraction.

Executive Summary

**Laboratory performance:** Barium, Chromium, and lead were detected in the calibration blanks. One sample was qualified for blank contamination.

**Other factors affecting data quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Inorganic Data Validation (February, 1994), and the NFESC guidelines "Navy Installation Restoration Chemical Data Quality Manual" (September, 1999). The text of the report has been formulated to address only those problems affecting data quality.

"I attest that the data referenced herein was validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

William Howard Engle

Project Chemist
Tetra Tech NUS, Inc.

Joseph A. Samchuck

Data Validation Quality Assurance Officer
Tetra Tech NUS, Inc.

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B – Results as reported by the laboratory
3. Appendix C – Supporting Documentation

**Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's r < 0.995
K = ICP Interference - Include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
O = Poor Instrument Performance (i.e., base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCB D% between columns for positive results
V = Non-linear calibrations, tuning r < 0.995 (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = % Solid content is less than 30%

**ATA QUALIFIER DEFINITIONS:**

- Value is a nondetected result as reported by the laboratory and should not be considered present.

- Positive result is estimated as a result of a value below the CRQL or a technical noncompliance.

J - Nondetected result is considered to be estimated as a result of technical noncompliances.

# APPENDIX A

## Qualified Analytical Results

F7254

HOLDING TIME
09/08/00

| Units | Nsample | Lab Id | Qc Type | Sdg | Sort | Samp Date | Extr Date | Anal Date | SAMP_DATE TO EXTR_DATE | EXTR_DATE TO ANAL_DATE | SAMP_DATE TO ANAL_DATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| % | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | GRSZ | 08/03/00 | / / | 08/17/00 | 0 | 0 | 14 |
| MG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | HG | 08/03/00 | 08/11/00 | 08/14/00 | 8 | 3 | 11 |
| MG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | M | 08/03/00 | 08/10/00 | 08/14/00 | 7 | 4 | 11 |
| UG/KG | NASP20SB-1,6' | F7254-7 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/15/00 | 0 | 0 | 12 |
| UG/KG | NASP20SB-2,6' | F7254-8 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/15/00 | 0 | 0 | 12 |
| UG/KG | NASPFFDUP-1 | F7254-6 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/14/00 | 0 | 0 | 11 |
| UG/KG | NASPFFSB-11,4-8'BGS | F7254-4 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/15/00 | 0 | 0 | 12 |
| UG/KG | NASPFFSB-13,14-16'BGS | F7254-1 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/14/00 | 0 | 0 | 11 |
| UG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/14/00 | 0 | 0 | 11 |
| UG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/14/00 | 0 | 0 | 11 |
| UG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/15/00 | 0 | 0 | 12 |
| UG/L | TRIP BLANK | F7254-9 | NORMAL | F7254 | OV | 08/03/00 | / / | 08/18/00 | 0 | 0 | 16 |
| UG/KG | NASP20SB-1,6' | F7254-7 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/15/00 | 4 | 8 | 12 |
| UG/KG | NASP20SB-2,6' | F7254-8 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/15/00 | 4 | 8 | 12 |
| UG/KG | NASPFFDUP-1 | F7254-6 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/14/00 | 4 | 7 | 11 |
| UG/KG | NASPFFSB-11,4-8'BGS | F7254-4 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/15/00 | 4 | 8 | 12 |
| UG/KG | NASPFFSB-13,14-16'BGS | F7254-1 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/14/00 | 4 | 7 | 11 |
| UG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/14/00 | 4 | 7 | 11 |
| UG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/14/00 | 4 | 7 | 11 |
| UG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | PAH | 08/03/00 | 08/07/00 | 08/15/00 | 4 | 8 | 12 |
| MG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | TOC | 08/03/00 | 08/17/00 | 08/17/00 | 14 | 0 | 14 |
| MG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | TOC | 08/03/00 | 08/17/00 | 08/17/00 | 14 | 0 | 14 |
| MG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | TOX | 08/03/00 | 08/28/00 | 08/30/00 | 25 | 2 | 27 |
| MG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | TOX | 08/03/00 | 08/28/00 | 08/30/00 | 25 | 2 | 27 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MG/KG | NASP20SB-2,6' | F7254-6 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/12/00 | 5 | 4 | 9 |
| MG/KG | NASPFFDUP-1 | F7254-6 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/11/00 | 5 | 3 | 8 |
| MG/KG | NASPFFSB-11,4-8'BGS | F7254-4 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/12/00 | 5 | 4 | 9 |
| MG/KG | NASPFFSB-13,14-16'BGS | F7254-1 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/10/00 | 5 | 2 | 7 |
| MG/KG | NASPFFSB-14,24-27'BGS | F7254-5 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/11/00 | 5 | 3 | 8 |
| MG/KG | NASPFFSB-15,8-12'BGS | F7254-3 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/11/00 | 5 | 3 | 8 |
| MG/KG | NASPFFSB-16,22-26'BGS | F7254-2 | NORMAL | F7254 | TPH | 08/03/00 | 08/08/00 | 08/12/00 | 5 | 4 | 9 |

**NAS PENSACOLA**
**SOIL DATA**
**Accutest, NJ**
**SDG: F7254**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB-16,22-26'BGS | | | | | | | | | | |
| SAMPLE DATE: | 08/03/00 | | | / / | | | / / | | | / / | |
| LABORATORY ID: | F7254-2 | | | | | | | | | | |
| QC_TYPE: | NORMAL | | | | | | | | | | |
| % SOLIDS: | 96.6 % | | | 100.0 % | | | 100.0 % | | | 100.0 % | |
| UNITS: | MG/KG | | | | | | | | | | |
| FIELD DUPLICATE OF: | | | | | | | | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **INORGANICS** | | | | | | | | | | | | |
| ARSENIC | 0.36 | U | | | | | | | | | | |
| BARIUM | 4.2 | B | | | | | | | | | | |
| CADMIUM | 0.03 | U | | | | | | | | | | |
| CHROMIUM | 2.2 | | | | | | | | | | | |
| LEAD | 0.51 | B | | | | | | | | | | |
| MERCURY | 0.01 | B | | | | | | | | | | |
| SELENIUM | 0.21 | U | | | | | | | | | | |
| SILVER | 0.1 | U | | | | | | | | | | |

**SDG: F7254**

| | | | | |
|---|---|---|---|---|
| SAMPLE NUMBER: | NASPFFSB-14,24-27'BGS | NASPFFSB-15,8-12'BGS | NASPFFSB-15,8-12'BGS | |
| SAMPLE DATE: | 08/03/00 | 08/03/00 | 08/03/00 | / / |
| LABORATORY ID: | F7254-5 | F7254-3 | F7254-3 | |
| QC_TYPE: | NORMAL | NORMAL | NORMAL | |
| % SOLIDS: | 94.5 % | 86.5 % | 86.5 % | 100.0 % |
| FIELD DUPLICATE OF: | | | | |

| | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE | RESULT | QUAL | CODE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MISCELLANEOUS PARAMETERS** | | | | | | | | | | | | |
| NO. 10 SIEVE(%) | | | | 100 | | | 100 | | | | | |
| NO. 120 SIEVE(%) | | | | 0.5 | | | 0.5 | | | | | |
| NO. 18 SIEVE(%) | | | | 100 | | | 100 | | | | | |
| NO. 230 SIEVE(%) | | | | 0 | | | 0 | | | | | |
| NO. 4 SIEVE(%) | | | | 100 | | | 100 | | | | | |
| NO. 40 SIEVE(%) | | | | 77.4 | | | 77.4 | | | | | |
| NO. 60 SIEVE(%) | | | | 11.2 | | | 11.2 | | | | | |
| TOTAL ORGANIC CARBON(MG/KG) | 1060 | U | | 1160 | U | | 1160 | U | | | | |
| TOTAL ORGANIC HALIDES(MG/KG) | 10 | U | | 10 | U | | 10 | U | | | | |

## APPENDIX B

Results as Reported by the Laboratory

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-16,22-26'BGS | | |
| **Lab Sample ID:** | F7254-2 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| | | **Percent Solids:** | 96.6 |
| **Project:** | NAS Pensacola | | |

**Metals Analysis**

| Analyte | Result | RL | Units | DF | Prep | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|---|
| Arsenic | 0.36 U | 0.52 | mg/kg | 1 | 08/10/00 | 08/14/00 | JK | SW846 6010A |
| Barium | 4.2 B | 20.7 | mg/kg | 1 | 08/10/00 | 08/14/00 | JK | SW846 6010A |
| Cadmium | 0.03 U | 0.41 | mg/kg | 1 | 08/10/00 | 08/14/00 | JK | SW846 6010A |
| Chromium | 2.2 | 1.0 | mg/kg | 1 | 08/10/00 | 08/14/00 | JK | SW846 6010A |
| Lead | 0.31 B | 10.4 | mg/kg | 1 | 08/10/00 | 08/14/00 | JK | SW846 6010A |
| Mercury | 0.01 B | 0.10 | mg/kg | 1 | 08/11/00 | 08/14/00 | BP | SW846 7471A |
| Selenium | 0.21 U | 10.4 | mg/kg | 1 | 08/10/00 | 08/14/00 | JK | SW846 6010A |
| Silver | 0.1 U | 1.0 | mg/kg | 1 | 08/10/00 | 08/14/00 | JK | SW846 6010A |

RL = Reporting Limit

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-15,8-12'BGS | | |
| **Lab Sample ID:** | F7254-3 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| | | **Percent Solids:** | 86.5 |
| **Project:** | NAS Pensacola | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| **Sieve Test - Particle Sizing** | | | | | | | |
| No. 4 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM B422-63 |
| No. 10 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM B422-63 |
| No. 18 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM B422-63 |
| No. 40 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM B422-63 |
| No. 60 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM B422-63 |
| No. 120 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM B422-63 |
| No. 230 Sieve | [illegible] | | % | 1 | 08/17/00 | HB | ASTM B422-63 |
| Solids, Percent | 86.5 | | % | 1 | 08/10/00 | BP | EPA 160.3 M |
| Total Organic Carbon | <1200 | 1200 | mg/kg | 1 | 08/17/00 | ANJ | CORP ENG 81 M |

RL = Reporting Limit

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | NASPFFSB-14,24-27'BGS | | |
| **Lab Sample ID:** | F7254-5 | **Date Sampled:** | 08/03/00 |
| **Matrix:** | SO - Soil | **Date Received:** | 08/04/00 |
| | | **Percent Solids:** | 94.5 |
| **Project:** | NAS Pensacola | | |

**General Chemistry**

| Analyte | Result | RL | Units | DF | Analyzed | By | Method |
|---|---|---|---|---|---|---|---|
| Solids, Percent | 94.5 | | % | 1 | 08/10/00 | BP | EPA 160.3 M |
| Total Organic Carbon | <1000 | 1000 | mg/kg | 1 | 08/17/00 | ANJ | CORP ENG 81 M |

RL = Reporting Limit

# APPENDIX C

## Support Documentation

ACCUTEST.

# Sample Summary

Tetra-Tech, NUS

Job No: F7254

NAS Pensacola
Project No: CTO#112, JOB#0401

| Sample Number | Collected Date | Time | By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|---|
| F7254-1 | 08/03/00 | 08:00 | DH | 08/04/00 | SO | Soil | NASPFFSB-13,14-16'BGS |
| F7254-2 | 08/03/00 | 09:00 | DH | 08/04/00 | SO | Soil | NASPFFSB-16,22-26'BGS |
| F7254-3 | 08/03/00 | 09:30 | DH | 08/04/00 | SO | Soil | NASPFFSB-15,8-12'BGS |
| F7254-4 | 08/03/00 | 09:55 | DH | 08/04/00 | SO | Soil | NASPFFSB-11,4-8'BGS |
| F7254-5 | 08/03/00 | 10:30 | DH | 08/04/00 | SO | Soil | NASPFFSB-14,24-27'BGS |
| F7254-6 | 08/03/00 | 00:00 | DH | 08/04/00 | SO | Soil | NASPFFDUP-1 |
| F7254-7 | 08/03/00 | 15:00 | DH | 08/04/00 | SO | Soil | NASP20SB-1,6' |
| F7254-8 | 08/03/00 | 15:45 | DH | 08/04/00 | SO | Soil | NASP20SB-2,6' |
| F7254-9 | 08/03/00 | 00:00 | DH | 08/04/00 | AQ | Trip Blank Water | TRIP BLANK |

ACCUTEST.

# CHAIN OF CUSTODY

4405 VINELAND ROAD SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F7254
ACCUTEST QUOTE #:

0041

**CLIENT INFORMATION**

NAME: Tetra Tech NUS
ADDRESS: 1401 Oven Park Dr.
CITY: Tallahassee STATE: FL ZIP: 32301
SEND REPORT TO: Gerry Walker
PHONE #: 850-385-9899

**FACILITY INFORMATION**

NAS Pensacola
PROJECT NAME: Sherman Fuel Farm
LOCATION: 0401
PROJECT NO.: 0401
FAX #: 850-385-9860

**ANALYTICAL INFORMATION**

| ACCUTEST SAMPLE # | FIELD ID / POINT OF COLLECTION | COLLECTION DATE | COLLECTION TIME | SAMPLED BY: | MATRIX | # OF BOTTLES | PRESERVATION HCl | NaOH | HNO3 | H2SO4 | NONE | VOC (Encore) 8021 | PAH (4oz) | TRPH (4oz) | SLPL (8oz) SPLP | 8 RCRA (4oz) | TOC/TOX (4oz) | Grain Size (8oz) | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | Trip Blank | 7/22/00 | 1030 | | W | 2 | ✓ | | | | | | | | | | | | |
| 1 | NASPFFSB-13, 14-16' BGS | 8/3/00 | 0800 | DH | SO | 6 | | | | | | 3 | 1 | 1 | 1 | | | | |
| 2 | NASPFFSB-16, 22-26' BGS | " | 0900 | DH | SO | 6 | | | | | | 3 | 1 | 1 | | 1 | | | Hot |
| 3 | NASPFFSB-15, 8-12' BGS | " | 0930 | DH | SO | 9 | | | | | | 3 | 1 | 1 | | | 3 | 1 | |
| 4 | NASPFFSB-11, 4-8' BGS | " | 0955 | DH | SO | 6 | | | | | | 3 | 1 | 1 | 1 | | | | Hot |
| 5 | NASPFFSB-14, 24-27' BGS | " | 1030 | DH | SO | 8 | | | | | | 3 | 1 | 1 | | | 3 | | |
| 6 | NASPFF DUP-1 | " | — | DH | SO | 5 | | | | | | 3 | 1 | 1 | | | | | |

**MATRIX CODES**

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

**DATA TURNAROUND INFORMATION**

☑ STANDARD
☐ 48 HOUR RUSH
☐ 24 HOUR EMERGENCY
☐ OTHER _____

APPROVED BY: _____

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

**DATA DELIVERABLE INFORMATION**

☑ STANDARD
☐ COMMERCIAL "B"
☐ DISK DELIVERABLE
☐ STATE FORMS
☐ OTHER (SPECIFY) _____

**COMMENTS/REMARKS**

**SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY**

| RELINQUISHED BY SAMPLER: | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
|---|---|---|---|---|---|
| 1. Dan Harshall | 8/3/00 1815 | 1. [signature] 8/4 0900 | 2. | | 2. |
| RELINQUISHED BY: | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
| | | | 3. | | 4. |

| DATA TURNAROUND INFORMATION | DATA DELIVERABLE INFORMATION | COMMENTS/REMARKS |
|---|---|---|
| ☒ STANDARD<br>☐ 48 HOUR RUSH<br>☐ 24 HOUR EMERGENCY<br>☐ OTHER _____<br>APPROVED BY: _____<br>EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED | ☒ STANDARD<br>☐ COMMERCIAL "B"<br>☐ DISK DELIVERABLE<br>☐ STATE FORMS<br>☐ OTHER (SPECIFY) _____ | |

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

| RELINQUISHED BY SAMPLER: | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
|---|---|---|---|---|---|
| [signature] | 8/3/00 1815 | 1. [signature] 8/4 0900 | 2. | | 2. |
| RELINQUISHED BY: | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
| 1. | | 3. | 4. | | 4. |
| RELINQUISHED BY: | DATE TIME: | RECEIVED BY: | SEAL # | PRESERVE WHERE APPLICABLE ☐ | ON ICE ☐ TEMPERATURE 2.0 C |
| | | 5. | | | |

ACCUTEST. 50

# CHAIN OF CUSTODY

4405 VINELAND ROAD, SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #:

ACCUTEST QUOTE #:

0043

**CLIENT INFORMATION**

ALSE

NAME

ADDRESS

CITY, STATE ZIP

SEND REPORT TO:
PHONE #

**FACILITY INFORMATION**

F7254

PROJECT NAME

LOCATION

PROJECT NO.

FAX #

**ANALYTICAL INFORMATION**

**MATRIX CODES**

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

| ACCUTEST SAMPLE # | FIELD ID / POINT OF COLLECTION | COLLECTION DATE | COLLECTION TIME | SAMPLED BY: | MATRIX | # OF BOTTLES | PRESERVATION HCl | NaOH | HNO3 | H2SO4 | NONE | | TOC | | | | | | | | | | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F7254-3 | 8/3/00 | | TT | So | 1 | | | | | | | X | | | | | | | | | | 1W |
| | F7254-5 | ↓ | | ↓ | ↓ | 1 | | | | | | | X | | | | | | | | | | |

**DATA TURNAROUND INFORMATION**

- ☐ STANDARD
- ☐ 48 HOUR RUSH
- ☐ 24 HOUR EMERGENCY
- ☐ OTHER 14 DAY

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

**DATA DELIVERABLE INFORMATION**

- ☐ STANDARD
- ☐ COMMERCIAL "B"
- ☐ DISK DELIVERABLE
- ☐ STATE FORMS
- ☒ OTHER (SPECIFY) FT1

**COMMENTS/REMARKS**

NJ

**SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY**

| RELINQUISHED BY SAMPLER: | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
|---|---|---|---|---|---|
| Mike Fenell | 8/8/00 1450 | 1. FED EX | 2. FED EX | 8-9-00 1030 | 2. 7 B |
| RELINQUISHED BY: | DATE TIME: | RECEIVED BY: | RELINQUISHED BY: | DATE TIME: | RECEIVED BY: |
| | | 3. | 4. | | 4. |

TEMPERATURE

# Accutest Laboratories Southeast
# Case Narrative

**Job (SDG) No.:** F 7254

**Samples:** 1-4

**Analysis Performed:** [illegible]

**1) Sample Receipt Conformance / Non-Conformance Summary**

| | | |
|---|---|---|
| Custody Seals on Coolers? | Yes (✓) | No ( ) |
| Custody Seals in Tact? | Yes (✓) | No ( ) |
| Chain of Custody Sealed in Plastic? | Yes (✓) | No ( ) |
| Chain of Custody Filled out Properly? | Yes (✓) | No ( ) |
| Enough ice and Packing material? | Yes (✓) | No ( ) |
| All Bottles Sealed? | Yes ( ) | No ( ) |
| Any Bottles Broken? | Yes ( ) | No (✓) |
| Labels in good condition? | Yes (✓) | No ( ) |
| Labels agree with chain of custody? | Yes (✓) | No ( ) |
| Correct Containers Used? | Yes (✓) | No ( ) |
| Preserved Properly? | Yes (✓) | No ( ) |
| Sufficient Sample? | Yes (✓) | No ( ) |

**Comments:** See attached memo

## la Williams

:
Linda Williams
Monday, August 07, 2000 10:34 AM
Heather Wandrey
Harry Behzadi
ıct: FW: FTL54

ıer

ou please cancel the SPLP analysis per email below?

s
R. Williams
t Manager
est Laboratories, SE
07-425-6700
407-425-0707
: lindaw@accutest.com

ginal Message----
Walker, Gerald [SMTP:WalkerG@ttnus.com]
Monday, August 07, 2000 9:14 AM
Linda Williams
t: RE:

:
cussing the SPLP analysis we decided that the analysis may be
ature. At this time we don't want to extract or analyze the samples
ted for SPLP. If SPLP analysis is required in the future, we will
act the required sample. Sorry for the inconvenience and confusion.

Original Message----
n: Linda Williams [SMTP:LindaW@Accutest.com]
t: Friday, August 04, 2000 12:53 PM
Gerry Walker (E-mail)
ject: FW:
ortance: High

ry

ı you please help me out with this, so I can get the samples logged in?

nks
la R. Williams
ject Manager
utest Laboratories, SE
407-425-6700
: 407-425-0707
ail: lindaw@accutest.com

---Original Message----
om: Linda Williams
ent: Friday, August 04, 2000 11:56 AM
o: Howard Engle (E-mail)
ubject:

oward

'e received some samples in today from NAS Pensacola. On the chain of

> > custody it just states SPLP. We need to know what analysis you are
> > requesting SPLPs on. I am faxing the COC over to you. Please list the
> > requested analysis for SPLP on the COC and fax it back to us.
>
> > Also, if there is anyway possible can you please have the field crew
> list
> > the requested analysis for SPLP clearly (i.e. SPLP-PAH, SPLP-8260,
> SPLP-FL
> > PRO etc.). This will aid in the job being logged in more efficiently
> and
> > correctly.
> >
> > Thanks
> > Linda R. Williams
> > Project Manager
> > Accutest Laboratories, SE
> > Ph: 407-425-6700
> > Fax: 407-425-0707
> > email: lindaw@accutest.com
> >

MP 2945

# Metals Digestion Log: Soil

thod Of Digestion: 3050 B  Temp: 95  Thermometer ID#: 36

| | $HNO_3$ | HCl | $H_2O_2$ |
|---|---|---|---|
| ded: | — | — | — |
| g: | Fischer | Fischer | Fischer |
| #: | 1100010 | 419100 | 983019 |

| iple # | Wt | Final Vol | % Solid | Digestion Factor | Date | Comments |
|---|---|---|---|---|---|---|
| 7293-1 -DUP | 1.02 | 100ml | | | 8-10-00 | |
| -MS | 0.97 | | | | | spiked with 2.0ml ACC 145 + 1.0ml UN ~~145~~ 642 + 0.5ml ACC 182 |
| MSD | 1.02 | | | | | same as MSD |
| F7293-1 | 1.02 | | | | | |
| -2 | 0.96 | | | | | |
| -3 | 0.98 | | | | | |
| -4 | 1.00 | | | | | |
| -5 | 1.04 | | | | | |
| -6 | 1.01 | | | | | |
| F7254-2 | 1.00 | | | | | |
| F7260-1 | 1.05 | | | | | |
| F7289-9 | 1.12 | | | | | |
| -10 | 1.02 | | | | | |
| -11 | 0.98 | | | | | |
| F7283-1 | 1.10 | | | | | |
| -2 | 1.00 | | | | | |
| -3 | 1.10 | | | | | |
| -4 | 1.02 | | | | | |
| -5 | 1.04 | | | | | |
| -6 | 1.12 | | | | | |
| -7 | 1.03 | | | | | |
| | | | | | | |
| SB | | | | | | |
| SB | | | | | | same as MS |

yst's Signature: Emily M. Mayo  Date: 8-10-00  Qu/8-10-00 wrong No.

Review:  Date:

0461

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7254
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: H0081481.HGX  Date Analyzed: 08/14/00  Methods: SW846 7471A
Analyst: BP  Run ID: MA1987
Parameters: Hg

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 00:00 | MA1987-ICV1 | 1 | | |
| 00:00 | MA1987-ICB1 | 1 | | |
| 00:00 | MA1987-CCV1 | 1 | | |
| 00:00 | MA1987-CCB1 | 1 | | |
| 00:00 | MA1987-CRI1 | 1 | | |
| 00:00 | MP2947-MB1 | 1 | | |
| 00:00 | MP2947-B1 | 1 | | |
| 00:00 | MP2947-D1 | 1 | | |
| 00:00 | MP2947-S1 | 1 | | |
| 00:00 | MP2947-S2 | 1 | | |
| 00:00 | F7291-1 | 1 | | (sample used for QC only; not part of login F7254) |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | MA1987-CCV2 | 1 | | |
| 00:00 | MA1987-CCB2 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 10 | | |
| 00:00 | ZZZZZZ | 10 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | ZZZZZZ | 10 | | |
| 00:00 | MA1987-CCV3 | 1 | | |
| 00:00 | MA1987-CCB3 | 1 | | |
| 00:00 | ZZZZZZ | 1 | | |
| 00:00 | F7254-2 | 1 | | |
| 00:00 | MA1987-CCV4 | 1 | | |
| 00:00 | MA1987-CCB4 | 1 | | |

Refer to raw data for calibration curve and standards.

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7254
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0814M1.ASC  Data Analyzed: 08/14/00  Methods: SW846 6010A
Analyst: JK  Run ID: MA1989
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | Pct Recov | Comments |
|---|---|---|---|---|
| 11:12 | MA1989-ICV1 | 1 | | |
| 11:17 | MA1989-ICB1 | 1 | | |
| 11:22 | MA1989-CCV1 | 1 | | |
| 11:27 | MA1989-CCB1 | 1 | | |
| 11:36 | MA1989-CRI1 | 1 | | |
| 11:41 | MA1989-CRIA1 | 1 | | |
| 11:46 | MA1989-ICSA1 | 1 | | |
| 11:52 | MA1989-ICSAB1 | 1 | | |
| 13:03 | MA1989-CCV2 | 1 | | |
| 13:09 | MA1989-CCB2 | 1 | | |
| 13:28 | MP2945-MB1 | 1 | | |
| 13:33 | MP2945-B1 | 1 | | |
| 13:38 | MP2945-D1 | 1 | | |
| 13:43 | F7293-1 | 1 | | (sample used for QC only; not part of login F7254) |
| 13:48 | MP2945-S1 | 1 | | |
| 13:53 | MP2945-S2 | 1 | | |
| 13:58 | MP2945-SD1 | 5 | | |
| 14:03 | ZZZZZZ | 1 | | |
| 14:08 | ZZZZZZ | 1 | | |
| 14:21 | MA1989-CCV3 | 1 | | |
| 14:26 | MA1989-CCB3 | 1 | | |
| 14:32 | MA1989-CCB4 | 1 | | |
| 14:39 | ZZZZZZ | 1 | | |
| 14:44 | ZZZZZZ | 1 | | |
| 14:49 | ZZZZZZ | 1 | | |
| 14:54 | MP2913-MB1 | 1 | | |
| 15:00 | MP2913-B1 | 1 | | |
| 15:05 | MP2913-D1 | 1 | | |
| 15:10 | F7196-1 | 1 | | (sample used for QC only; not part of login F7254) |
| 15:15 | MP2913-S1 | 1 | | |
| 15:20 | MP2913-S2 | 1 | | |
| 15:25 | MA1989-CCV4 | 1 | | |
| 15:30 | MA1989-CCB5 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7254
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0814M1.ASC  Date Analyzed: 08/14/00  Methods: SW846 6010A
Analyst: JK  Run ID: MA1989
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | MS Recov | Comments |
|---|---|---|---|---|
| 15:35 | MP2913-SD1 | 5 | | |
| 15:40 | F7254-2 | 1 | | |
| 15:45 | ZZZZZZ | 1 | | |
| 15:50 | ZZZZZZ | 1 | | |
| 15:55 | ZZZZZZ | 1 | | |
| 16:00 | F7105-33 | 1 | | (sample used for QC only; not part of login F7254) |
| 16:05 | ZZZZZZ | 1 | | |
| 16:10 | MA1989-CCV5 | 1 | | |
| 16:16 | MA1989-CCB6 | 1 | | |
| 16:22 | ZZZZZZ | 1 | | |
| 16:27 | ZZZZZZ | 1 | | |
| 16:32 | ZZZZZZ | 1 | | |
| 16:37 | ZZZZZZ | 1 | | |
| 16:42 | ZZZZZZ | 1 | | |
| 16:47 | ZZZZZZ | 1 | | |
| 16:52 | ZZZZZZ | 1 | | |
| 16:57 | ZZZZZZ | 1 | | |
| 17:02 | ZZZZZZ | 1 | | |
| 17:07 | MA1989-CCV6 | 1 | | |
| 17:12 | MA1989-CCB7 | 1 | | |
| 17:17 | ZZZZZZ | 1 | | |
| 17:22 | ZZZZZZ | 1 | | |
| 17:27 | ZZZZZZ | 1 | | |
| 17:32 | ZZZZZZ | 1 | | |
| 17:37 | ZZZZZZ | 1 | | |
| 17:42 | MA1989-CCV7 | 1 | | |
| 17:47 | MA1989-CCB8 | 1 | | |
| 17:59 | ZZZZZZ | 1 | | |
| 18:04 | ZZZZZZ | 1 | | |
| 18:09 | ZZZZZZ | 1 | | |
| 18:14 | ZZZZZZ | 1 | | |
| 18:19 | ZZZZZZ | 1 | | |
| 18:24 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F7254
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0814M1.ASC Date Analyzed: 08/14/00 Methods: SW846 6010A
Analyst: JK Run ID: MA1989
Parameters: As,Ba,Cd,Cr,Pb,Se,Ag

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 18:33 | ZZZZZZ | 1 | | |
| 18:38 | MA1989-CCV8 | 1 | | |
| 18:43 | MA1989-CCB9 | 1 | | |
| 18:48 | ZZZZZZ | 1 | | |
| 18:53 | ZZZZZZ | 1 | | |
| 18:58 | ZZZZZZ | 1 | | |
| 19:03 | ZZZZZZ | 1 | | |
| 19:08 | ZZZZZZ | 1 | | |
| 19:13 | ZZZZZZ | 1 | | |
| 19:18 | ZZZZZZ | 1 | | |
| 19:23 | ZZZZZZ | 1 | | |
| 19:28 | ZZZZZZ | 1 | | |
| 19:33 | MA1989-CCV9 | 1 | | |
| 19:38 | MA1989-CCB10 | 1 | | |
| 19:43 | ZZZZZZ | 1 | | |
| 19:48 | ZZZZZZ | 1 | | |
| 19:53 | ZZZZZZ | 1 | | |
| 19:58 | ZZZZZZ | 1 | | |
| 20:03 | ZZZZZZ | 1 | | |
| 20:08 | ZZZZZZ | 1 | | |
| 20:13 | ZZZZZZ | 1 | | |
| 20:18 | ZZZZZZ | 1 | | |
| 20:23 | ZZZZZZ | 1 | | |
| 20:28 | MA1989-CCV10 | 1 | | |
| 20:33 | MA1989-CCB11 | 1 | | |
| 20:38 | ZZZZZZ | 1 | | |
| 20:43 | ZZZZZZ | 1 | | |
| 20:48 | ZZZZZZ | 1 | | |
| 20:53 | ZZZZZZ | 1 | | |
| 20:58 | MA1989-CCV11 | 1 | | |
| 21:03 | MA1989-CCB12 | 1 | | |

Refer to raw data for calibration curve and standards.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: P7254
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0814M1.ASC
QC Limits: result < RL

Date Analyzed: 08/14/00
Run ID: MA1989

Methods: SW846 6010A
Units: ug/l

| Metal | RL | IDL | ICB raw | ICB final | CCB raw | CCB final | CCB raw | CCB final | CCB raw | CCB final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 30 | anr | | | | | | | |
| Antimony | 5.0 | 2.39 | anr | | | | | | | |
| Arsenic | 10 | 3.4 | 0.32 | <10 | -0.42 | <10 | -0.72 | <10 | | |
| Barium | 200 | .39 | 0.64 | <200 | 0.81 | <200 | 1.2 | <200 | | |
| Beryllium | 5.0 | .36 | anr | | | | | | | |
| Cadmium | 5.0 | .33 | 0.64 | <5.0 | 0.82 | <5.0 | 1.2 | <5.0 | | |
| Calcium | 1000 | 19.5 | anr | | | | | | | |
| Chromium | 10 | .637 | 0.71 | <10 | 1.0 | <10 | 0.94 | <10 | | |
| Cobalt | 50 | .797 | anr | | | | | | | |
| Copper | 25 | .747 | anr | | | | | | | |
| Iron | 300 | 32 | anr | | | | | | | |
| Lead | 5.0 | 1.59 | 1.2 | <5.0 | 1.4 | <5.0 | 0.66 | <5.0 | | |
| Magnesium | 5000 | 17.6 | anr | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .68 | | | | | | | | |
| Nickel | 40 | 1 | anr | | | | | | | |
| Potassium | 5000 | 28.2 | anr | | | | | | | |
| Selenium | 10 | 2 | 0.58 | <10 | 2.0 | <10 | -0.49 | <10 | | |
| Silver | 10 | .96 | 0.15 | <10 | 0.060 | <10 | 1.3 | <10 | | |
| Sodium | 5000 | 153 | anr | | | | | | | |
| Thallium | 10 | 2.69 | anr | | | | | | | |
| Tin | 50 | 2.2 | | | | | | | | |
| Vanadium | 50 | .717 | anr | | | | | | | |
| Zinc | 20 | .83 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



04

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: P7254
Account: TETRFLTA - Tetra-Tech, NUS
Project: TETRFLTA1910 - NAS Pensacola

File ID: IR0814M1.ASC  Date Analyzed: 08/14/00  Methode: SW846 6010A
Limits: result < RL  Run ID: MA1989  Units: ug/l

| Mtal | RL | IDL | CCB raw | CCB final | CCB raw | CCB final | CCB raw | CCB final | CCB raw | CCB final |
|---|---|---|---|---|---|---|---|---|---|---|
| luminum | 200 | 30 | anr | | | | | | | |
| ntimony | 5.0 | 2.39 | anr | | | | | | | |
| Arsenic | 10 | 3.4 | -1.9 | | 1.0 | | 0.50 | | -0.30 | |
| Barium | 200 | .39 | 0.30 | | 1.3 | | 1.4 | | 1.4 | |
| Beryllium | 5.0 | .36 | anr | | | | | | | |
| Cadmium | 5.0 | .33 | 0.30 | | 0.69 | | 0.80 | | 1.1 | |
| Calcium | 1000 | 19.5 | anr | | | | | | | |
| Chromium | 10 | .637 | 0.40 | | 1.6 | | 4.4 | | 3.3 | |
| Cobalt | 50 | .797 | anr | | | | | | | |
| Copper | 25 | .747 | anr | | | | | | | |
| Iron | 100 | 32 | anr | | | | | | | |
| Lead | 5.0 | 1.59 | 1.0 | | 1.1 | | 2.2 | | 1.6 | |
| Magnesium | 5000 | 17.6 | anr | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .68 | | | | | | | | |
| Nickel | 40 | 1 | anr | | | | | | | |
| Potassium | 5000 | 28.2 | anr | | | | | | | |
| Selenium | 10 | 2 | -0.80 | | 0.070 | | 1.9 | | 0.80 | |
| Silver | 10 | .96 | 0.40 | | 0.19 | | -0.30 | | 0.30 | |
| Sodium | 5000 | 153 | anr | | | | | | | |
| Thallium | 10 | 2.69 | anr | | | | | | | |
| Tin | 50 | 2.2 | | | | | | | | |
| Vanadium | 50 | .717 | anr | | | | | | | |
| Zinc | 20 | .83 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

# APPENDIX C

# SURVEY REPORT

Donaldson, Garrett & Associates, Inc.

MACON • CHARLOTTE

# SURVEY REPORT

**for**

## SPECIFIC PURPOSE SURVEY

### GROUNDWATER MONITORING WELLS

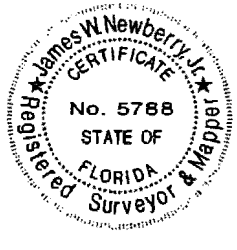
## SHERMAN FIELD FUEL FARM
## NAVAL AIR STATION PENSACOLA
**PENSACOLA, FLORIDA**

## NAVAL FACILITIES ENGINEERING COMMAND
**SOUTHERN DIVISION**

**Prime Contract No. N62467-94-D-0888**
**TTNus Master Service Agreement No. N0433-MSA0400-016**
**Work Release No. N0516-01/CTO No. 0132**
**DG&A Project No. 2775-046-D1**

**Prepared for:**

**TETRA TECH NUS, INC.**




12/14/00

**Submitted by:**

**DONALDSON, GARRETT & ASSOCIATES, INC.**

**DECEMBER 12, 2000**

4875 Riverside Drive, Suite 102, Macon, Georgia 31210-1117
Post Office Box 7306, Macon, Georgia 31209-7306
Phone (478) 474-5350 Fax (478) 477-2534

# TABLE OF CONTENTS


I. Project Summary

II. Field Notes

III. Coordinate & Elevation Tables

IV. Survey Maps

# I.

# PROJECT SUMMARY

## PROJECT SUMMARY

Horizontal and Vertical Surveys were performed to determine the location and elevation of groundwater monitoring wells located at Sherman Field Fuel Tank Farm at Naval Air Station Pensacola, Florida.

Horizontal locations were referenced to the Florida State Plane Coordinate System, East Zone, North American Datum of 1983, 1990 Adjustment (NAD 83/90), by differential GPS surveys, and conventional traverse between existing NAS Pensacola Survey Control Stations.

Elevations were referenced to Mean Sea Level, North American Vertical Datum of 1988 (NAVD 88) by ties to existing NAS Pensacola Benchmarks. Elevations were determined by closed loop differential leveling. Error of closure was determined for each level loop and adjustments applied.

Survey data was presented on a Survey Map with a coordinate grid overlay, for incorporation into existing base maps by Tetra Tech NUS, Inc. Coordinate and Elevation data was also provided in tabular format as part of the Survey Report. The Survey Map was provided in AutoCAD r.14 Format. The Coordinate and Elevation Tables were provided in Microsoft Excel Format.

The Field Surveys was completed between November 7 and 9, 2000.

# II.

# FIELD NOTES

```
----------------------------------------------------------------------------
)ared by: Donaldson, Garrett & Associates, Inc.  #CGDS08162
.96  12/13/00  15:16:35  Factor:  1.0000000
----------------------------------------------------------------------------

Job: F196                    Temperature:
)perator: BD/WC              Pressure:
)ate: 11/08/00

ie:    Inst.     H.I.     B.S.    Rod-Ht     H.Angle    H.Dist.    V.Dist     F.S.  Cod
esc.

 2:       2     5.180        1     4.820   359.59590   237.669     0.786  11/08/ 00
):26:11

 3:                              4.820   179.59570   237.659     0.772        1
ELTA*1
 4:                              4.820   356.27390   238.698     0.961      100
74-S
 5:                              4.820   350.52520   163.769     1.934      101
73-S
 6:                              4.820    64.12390    53.299     0.251      102
72-S
 7:                              4.820   311.53010   127.856     1.072      103
713-D
 8:                              4.820   161.45470    85.856    -3.797      104
71-S
 9:                              4.820   138.00350   203.766   -13.457      105
76-S
.0:                             20.290   134.00510   295.745     2.965      106
78-S
.1:                             20.290   110.06100   310.303     2.106      107
715-S
.2:                              0.300    95.44080   346.688   -19.390      108
721-S
.3:                             20.290    63.28420   377.988     1.096      109
722-S
.4:                              4.820   204.43130   194.985    -8.493        3
ELTA*3
.5:                              4.820    24.43100   195.014    -8.514        3
ELTA*3
.6:                              5.970   168.06230   175.551    -9.723      110
 COR
.7:                              5.970   204.53290    95.631   -11.832      111
 COR
.8:                              5.970   229.36020   175.696   -10.345      112
 COR
.9:                             20.290   286.09540   190.879     2.088      113
 COR
!0:                             10.620    93.27310   209.422    -8.869      114
 COR
!1:                             15.450    77.10000   198.209     0.557      115
 COR
!2:                             20.290    75.45140   320.440    -0.037      116
 COR
```

Prepared by: Donaldson, Garrett & Associates, Inc. #CGDS08162
196 12/13/00 15:16:35 Factor: 1.0000000

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| e Desc. | | | | | | | | |
| 23: | | | | 25.120 | 57.49320 | 312.679 | 4.387 | 117 |
| FE COR | | | | | | | | |
| 24: | | | | 5.970 | 110.36220 | 255.396 | -11.160 | 118 |
| CL RD | | | | | | | | |
| 25: | | | | 5.970 | 95.09560 | 307.143 | -12.075 | 119 |
| CL RD | | | | | | | | |
| 26: | | | | 5.970 | 76.29530 | 359.051 | -12.552 | 120 |
| CL RD | | | | | | | | |
| 27: | | | | 10.620 | 110.07580 | 119.500 | -7.887 | 121 |
| FE COR | | | | | | | | |
| 28: | | | | 5.970 | 146.40400 | 182.664 | -11.409 | 122 |
| FE COR | | | | | | | | |
| 29: | | | | 5.970 | 156.05240 | 176.606 | -7.616 | 123 |
| FE POST | | | | | | | | |
| 30: | | | | 5.970 | 162.24180 | 175.140 | -8.167 | 124 |
| FE POST | | | | | | | | |
| 31: | 3 | 5.430 | 2 | 4.910 | 0.00000 | 194.970 | 7.650 | 11/08/ |
| 11:30:24 | | | | | | | | |
| 32: | | | | 4.910 | 180.00010 | 194.983 | 7.579 | 2 |
| DELTA*2 | | | | | | | | |
| 33: | | | | 5.970 | 177.32370 | 97.102 | 1.256 | 125 |
| MW19-S | | | | | | | | |
| 34: | | | | 5.970 | 191.36020 | 191.306 | 1.291 | 126 |
| MW20-S | | | | | | | | |
| 35: | | | | 5.970 | 152.19180 | 171.419 | -2.670 | 127 |
| MW18-S | | | | | | | | |
| 36: | | | | 5.970 | 103.31010 | 91.009 | -1.408 | 128 |
| MW12-S | | | | | | | | |
| 37: | | | | 5.970 | 252.21020 | 10.065 | 1.524 | 129 |
| MW13-S | | | | | | | | |
| 38: | | | | 5.970 | 277.20450 | 180.742 | -3.204 | 130 |
| MW14-S | | | | | | | | |
| 39: | | | | 5.970 | 275.17250 | 181.863 | -2.510 | 131 |
| MW14-I | | | | | | | | |
| 40: | | | | 5.970 | 275.18330 | 302.007 | -5.666 | 132 |
| MW7-S | | | | | | | | |
| 41: | | | | 5.970 | 260.49180 | 399.148 | -3.090 | 133 |
| MW5-I | | | | | | | | |
| 42: | | | | 5.970 | 260.44020 | 404.558 | -3.130 | 134 |
| MW5-S | | | | | | | | |
| 43: | | | | 5.970 | 253.42500 | 468.396 | -3.615 | 135 |
| CHF COR | | | | | | | | |
| 44: | | | | 5.970 | 253.43190 | 446.894 | -2.258 | 136 |
| BCC/CHF | | | | | | | | |
| 45: | | | | 10.620 | 259.45230 | 449.078 | 1.304 | 137 |

pared by: Donaldson, Garrett & Associates, Inc. #CGDS08162
196 12/13/00 15:16:35 Factor: 1.0000000

| | | | | | |
|---|---|---|---|---|---|
| esc. CC COR 46: | 5.970 | 261.13590 | 354.139 | -2.793 | 138 |
| CC 47: | 5.970 | 264.25010 | 242.633 | -1.867 | 139 |
| CC COR 48: | 5.970 | 258.28270 | 239.578 | -1.042 | 140 |
| CC COR 49: | 5.970 | 253.21300 | 212.888 | -0.830 | 141 |
| HF 50: | 5.970 | 263.37510 | 296.312 | -3.286 | 142 |
| T PL 51: | 5.970 | 261.12440 | 385.962 | -3.756 | 143 |
| T PL 52: | 5.970 | 261.05410 | 229.274 | -1.600 | 144 |
| N GUY 53: | 5.970 | 261.10480 | 226.201 | -2.019 | 145 |
| N GUY 54: | 5.970 | 261.10480 | 226.181 | -2.018 | 146 |
| N GUY 55: | 5.970 | 261.14580 | 223.691 | -1.992 | 147 |
| N GUY 56: | 5.970 | 261.13280 | 221.731 | -1.974 | 148 |
| N GUY 57: | 5.970 | 261.40180 | 211.412 | -1.810 | 149 |
| P*UGP 58: | 5.970 | 261.50560 | 139.800 | 0.135 | 150 |
| CC COR 59: | 5.970 | 252.11300 | 80.332 | 1.102 | 151 |
| HF 60: | 5.970 | 280.04140 | 66.300 | -0.109 | 152 |
| P 61: | 5.970 | 287.26090 | 34.627 | 1.265 | 153 |
| OC BGN 62: | 5.970 | 284.52420 | 33.279 | 1.184 | 154 |
| P 63: | 5.970 | 243.33140 | 12.519 | 0.882 | 155 |
| P/CHF 64: | 5.970 | 261.13520 | 11.960 | 0.842 | 156 |
| P COR 65: | 5.970 | 54.43130 | 52.470 | -0.104 | 157 |
| P 66: | 5.970 | 71.46020 | 48.378 | -0.391 | 158 |
| P 67: | 5.970 | 77.19340 | 48.358 | -0.390 | 159 |
| HF COR 68: | 10.620 | 82.57370 | 53.524 | 3.954 | 160 |
| E COR | | | | | |

Prepared by: Donaldson, Garrett & Associates, Inc. #CGDS08162
196 12/13/00 15:16:35 Factor: 1.0000000

| e Desc. | | | | | | | |
|---|---|---|---|---|---|---|---|
| 69: | | | | 10.620 | 92.46590 | 56.111 | 3.654 | 161 |
| GP | | | | | | | | |
| 70: | | | | 10.620 | 94.30110 | 57.236 | 3.611 | 162 |
| EP | | | | | | | | |
| 71: | | | | 10.620 | 108.29100 | 66.832 | 3.437 | 163 |
| EP | | | | | | | | |
| 72: | | | | 10.620 | 109.11550 | 66.322 | 3.411 | 164 |
| GP | | | | | | | | |
| 73: | | | | 5.970 | 132.07320 | 106.671 | -2.039 | 165 |
| CHF | | | | | | | | |
| 74: | | | | 5.970 | 87.24070 | 123.055 | -2.503 | 166 |
| CL ENTRNC | | | | | | | | |
| 75: | | | | 5.970 | 69.30550 | 116.480 | -1.495 | 167 |
| CL*2 | | | | | | | | |
| 76: | | | | 5.970 | 70.07010 | 151.655 | -1.268 | 168 |
| PI | | | | | | | | |
| 77: | | | | 5.970 | 83.56130 | 166.910 | -3.190 | 169 |
| PI | | | | | | | | |
| 78: | | | | 5.970 | 99.04460 | 196.089 | -4.884 | 170 |
| PI | | | | | | | | |
| 79: | | | | 5.970 | 96.38260 | 177.970 | -4.999 | 171 |
| EP/PC | | | | | | | | |
| 80: | | | | 5.970 | 90.54140 | 150.551 | -3.855 | 172 |
| POC | | | | | | | | |
| 81: | | | | 5.970 | 90.45110 | 130.348 | -2.909 | 173 |
| PT | | | | | | | | |
| 82: | | | | 5.970 | 82.37010 | 130.544 | -2.629 | 174 |
| PC | | | | | | | | |
| 83: | | | | 5.970 | 78.26080 | 147.865 | -2.701 | 175 |
| POC | | | | | | | | |
| 84: | | | | 5.970 | 73.07440 | 120.097 | -1.733 | 176 |
| PT | | | | | | | | |
| 85: | | | | 5.970 | 63.27090 | 241.888 | -3.232 | 177 |
| CL RD | | | | | | | | |
| 86: | | | | 5.970 | 77.04390 | 207.164 | -3.269 | 178 |
| CL RD | | | | | | | | |
| 87: | | | | 20.290 | 76.40360 | 274.170 | 10.984 | 179 |
| MW16-S | | | | | | | | |
| 88: | | | | 20.500 | 111.02410 | 310.225 | 14.203 | 180 |
| MW17-S | | | | | | | | |
| 89: | 2 | 4.960 | 1 | 4.820 | 0.00000 | 237.668 | 1.015 | 11/09/ |
| 17:35:11 | | | | | | | | |
| 90: | | | | 1.500 | 152.05020 | 393.397 | -13.257 | 181 |
| G | | | | | | | | |

91: Next rec Dist/Off, F/B: 0.000 R/L: -26.000 U/D: 0.000

pared by: Donaldson, Garrett & Associates, Inc. #CGDS08162
196 12/13/00 15:16:35 Factor: 1.0000000

esc.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 92: | | | | 1.500 | 148.18100 | 394.255 | -13.257 | 182 |
| W22-S | | | | | | | | |
| 93: | | | | 4.000 | 155.03170 | 312.648 | -12.293 | 183 |
| 0I(IRP) | | | | | | | | |
| 94: | 1 | 5.460 | 2 | 4.820 | 0.00000 | 237.674 | -1.704 | 11/09/ 00 |
| 7:57:46 | | | | | | | | |
| 95: | | | | 20.290 | 87.21170 | 246.324 | -1.666 | 184 |
| W11-S | | | | | | | | |
| 96: | | | | 20.290 | 89.37510 | 236.893 | -1.881 | 185 |
| HF COR | | | | | | | | |
| 97: | | | | 5.970 | 222.13360 | 143.605 | -14.844 | 186 |
| W9-S | | | | | | | | |
| 98: | | | | 10.620 | 130.45220 | 93.584 | -9.653 | 187 |
| W10-R | | | | | | | | |
| 99: | | | | 10.620 | 125.18340 | 85.185 | -9.004 | 188 |
| HF | | | | | | | | |
| 00: | | | | 10.620 | 226.22420 | 145.518 | -10.827 | 189 |
| HF COR | | | | | | | | |
| 01: | | | | 20.290 | 301.17080 | 192.968 | -0.799 | 190 |
| HF COR | | | | | | | | |
| 02: | | | | 10.620 | 281.51320 | 308.099 | -9.307 | 191 |
| L RD | | | | | | | | |
| 03: | | | | 10.620 | 265.52030 | 220.162 | -9.349 | 192 |
| L RD | | | | | | | | |
| 04: | | | | 10.620 | 249.38240 | 184.419 | -9.240 | 193 |
| L RD | | | | | | | | |
| 05: | | | | 10.620 | 218.07420 | 175.672 | -9.333 | 194 |
| L RD | | | | | | | | |
| 06: | 3 | 5.540 | 2 | 4.820 | 0.00000 | 194.997 | 7.457 | 11/09/ 00 |
| 8:19:49 | | | | | | | | |
| 07: | | | | 4.820 | 58.01400 | 96.832 | -3.365 | 195 |
| P | | | | | | | | |
| 08: | | | | 8.400 | 48.03430 | 98.613 | -1.212 | 196 |
| N GUY | | | | | | | | |
| 09: | | | | 4.820 | 49.37340 | 98.097 | -4.913 | 197 |
| N GUY | | | | | | | | |
| 10: | | | | 4.820 | 50.27070 | 98.077 | -4.911 | 198 |
| N GUY | | | | | | | | |
| 11: | | | | 4.820 | 59.55350 | 107.496 | -3.996 | 199 |
| N GUY | | | | | | | | |
| 12: | | | | 4.820 | 60.04580 | 109.108 | -3.976 | 200 |
| N GUY | | | | | | | | |
| 13: | | | | 4.820 | 60.20520 | 112.467 | -4.039 | 201 |

epared by: Donaldson, Garrett & Associates, Inc. #CGDS08162
196 12/13/00 15:16:35 Factor: 1.0000000

| Desc. | | | | | |
|---|---|---|---|---|---|
| DN GUY 114: | 4.820 | 118.54540 | 229.729 | -7.745 | 202 |
| DN GUY 115: | 4.820 | 119.36570 | 227.732 | -8.222 | 203 |
| DN GUY 116: | 4.820 | 119.52110 | 226.606 | -8.614 | 204 |
| DN GUY 117: | 4.820 | 122.29460 | 218.033 | -10.795 | 205 |
| PP | | | | | |

---

pared by: Donaldson, Garrett & Associates, Inc. #CGDS08162
ferential-Leveling 12/13/00 15:24:47 Factor: 1.0000000

---

Job: F196 Single Wire Loop
Date: 11/30/00

| ne: | Station | + | H.I. | - | Elevation | Adj.Elev | Code | Desc. |
|---|---|---|---|---|---|---|---|---|
| 2: | BM | 5.600 | 15.150 | | 9.550 | 9.550 | | K161-195 |
| 3: | TBM | 5.190 | 15.010 | 5.330 | 9.820 | 9.825 | | 399-20-1 |
| 4: | BM | | | 5.470 | 9.540 | 9.550 | | POB |

epared by: Donaldson, Garrett & Associates, Inc. #CGDS08162
ferential-Leveling 12/14/00 10:40:55 Factor: 1.0000000

: Job: F196B Single Wire Loop
Date: 12/14/00

| Line: | Station | + | H.I. | - | Elevation | Adj.Elev | Code | Desc. |
|---|---|---|---|---|---|---|---|---|
| 2: | BM | 6.890 | 16.710 | | 9.820 | 9.820 | | 399-20 |
| 3: | TP | 6.090 | 19.440 | 3.360 | 13.350 | 13.350 | | |
| 4: | TP | 12.140 | 27.950 | 3.630 | 15.810 | 15.810 | | |
| 5: | TP | 10.250 | 38.110 | 0.090 | 27.860 | 27.860 | | FH |
| 6: | MW-17S | | | 3.570 | 34.540 | 34.540 | | G |
| 7: | MW-17S | 3.500 | 37.780 | 3.830 | 34.280 | 34.280 | | TOC |
| 8: | MW-22S | | | 4.690 | 33.090 | 33.090 | | G |
| 9: | MW-22S | | | 4.770 | 33.010 | 33.010 | | TOC |
| 10: | MW-16S | | | 6.210 | 31.570 | 31.570 | | G |
| 11: | MW-16S | | | 6.160 | 31.620 | 31.620 | | TOC |
| 12: | TP | 3.250 | 37.120 | 3.910 | 33.870 | 33.870 | | REBAI |
| 13: | MW-6S | | | 6.870 | 30.250 | 30.250 | | G |
| 14: | MW-6S | | | 6.470 | 30.650 | 30.650 | | TOC |
| 15: | MW-21S | | | 8.210 | 28.910 | 28.910 | | G |
| 16: | MW-21S | 6.390 | 35.220 | 8.290 | 28.830 | 28.830 | | TOC |
| 17: | MW-23S | | | 5.620 | 29.600 | 29.600 | | G |
| 18: | MW-23S | | | 5.630 | 29.590 | 29.590 | | TOC |
| 19: | MW-21S | 8.210 | 37.040 | 6.390 | 28.830 | 28.830 | | TOC |
| 20: | TP | 7.570 | 41.440 | 3.170 | 33.870 | 33.870 | | REF |
| 21: | MW-12S | | | 8.190 | 33.250 | 33.250 | | G |
| 22: | MW-12S | | | 7.970 | 33.470 | 33.470 | | TO( |
| 23: | MW-19S | | | 5.470 | 35.970 | 35.970 | | G |
| 24: | MW-19S | | | 5.570 | 35.870 | 35.870 | | TO |
| 25: | MW-20S | | | 5.280 | 36.160 | 36.160 | | G |
| 26: | MW-20S | | | 5.310 | 36.130 | 36.130 | | TC |
| 27: | MW-18S | | | 9.190 | 32.250 | 32.250 | | G |
| 28: | MW-18S | | | 9.150 | 32.290 | 32.290 | | T |
| 29: | MW-13S | | | 5.350 | 36.090 | 36.090 | | G |
| 30: | MW-13S | | | 5.200 | 36.240 | 36.240 | | T |
| 31: | MW-14I | | | 9.200 | 32.240 | 32.240 | | ( |
| 32: | MW-14I | 7.890 | 40.160 | 9.170 | 32.270 | 32.270 | | |
| 33: | MW-14S | | | 8.640 | 31.520 | 31.520 | | |
| 34: | MW-14S | | | 8.690 | 31.470 | 31.470 | | |
| 35: | MW-5I | | | 8.480 | 31.680 | 31.680 | | |
| 36: | MW-5I | | | 8.510 | 31.650 | 31.650 | | |
| 37: | MW-5S | | | 8.570 | 31.590 | 31.590 | | |
| 38: | MW-5S | | | 8.300 | 31.860 | 31.860 | | |
| 39: | MW-7S | | | 11.070 | 29.090 | 29.090 | | |
| 40: | MW-7S | | | 11.330 | 28.830 | 28.830 | | |
| 41: | D3 | 7.990 | 43.740 | 4.410 | 35.750 | 35.750 | | |
| 42: | MW-1S | | | 3.650 | 40.090 | 40.090 | | |
| 43: | MW-1S | 10.970 | 50.980 | 3.730 | 40.010 | 40.010 | | |
| 44: | MW-2S | | | 6.790 | 44.190 | 44.190 | | |
| 45: | MW-2S | | | 7.030 | 43.950 | 43.950 | | |
| 46: | MW-13D | | | 6.140 | 44.840 | 44.840 | | |

)ared by: Donaldson, Garrett & Associates, Inc. #CGDS08162
ferential-Leveling 12/14/00 10:40:55 Factor: 1.0000000

| )e: Station | + | H.I. | - | Elevation | Adj.Elev | Code | Desc. |
|---|---|---|---|---|---|---|---|
| 17: MW-13D | | | 5.970 | 45.010 | 45.010 | | TOC |
| 18: MW-3S | | | 5.360 | 45.620 | 45.620 | | G |
| 19: MW-3S | | | 5.330 | 45.650 | 45.650 | | TOC |
| 50: MW-4S | | | 6.070 | 44.910 | 44.910 | | G |
| 51: MW-4S | | | 6.100 | 44.880 | 44.880 | | TOC |
| 52: D1 | 4.010 | 49.060 | 5.930 | 45.050 | 45.050 | | PKNAIL |
| 53: MW-9S | | | 19.990 | 29.070 | 29.070 | | G |
| 54: MW-9S | | | 19.820 | 29.240 | 29.240 | | TOC |
| 55: MW-11S | | | 21.050 | 28.010 | 28.010 | | G |
| 56: MW-11S | | | 21.070 | 27.990 | 27.990 | | TOC |
| 57: MW-10S | | | 19.270 | 29.790 | 29.790 | | G |
| 58: MW-10S | | | 19.210 | 29.850 | 29.850 | | TOC |
| 59: D2 | 1.570 | 45.500 | 5.130 | 43.930 | 43.930 | | 1/2"REBA |
| 60: MW-6S | 5.230 | 35.900 | 14.830 | 30.670 | 30.670 | | TOC |
| 61: MW-8S | | | 4.610 | 31.290 | 31.290 | | G |
| 62: MW-8S | | | 4.430 | 31.470 | 31.470 | | TOC |
| 63: MW-15S | | | 5.390 | 30.510 | 30.510 | | G |
| 64: MW-15S | | | 5.280 | 30.620 | 30.620 | | TOC |
| 65: MW-6S | 3.570 | 34.240 | 5.230 | 30.670 | 30.670 | | TOC |
| 66: TP | 0.310 | 28.180 | 6.370 | 27.870 | 27.870 | | TOPFH |
| 67: TP | 3.650 | 19.480 | 12.350 | 15.830 | 15.830 | | TOPMW(RO |
| 68: TP | 3.690 | 17.040 | 6.130 | 13.350 | 13.350 | | TOPMW(RO |
| 69: BM | | | 7.220 | 9.820 | 9.820 | | 399-20-1 |

# III.

# COORDINATE AND ELEVATION TABLES

SHERMAN FIELD FUEL FARM
MONITOR WELL LOCATION SURVEY
CTO 0132
November 9, 2000

| DESIGNATION | NORTHING | EASTING | GROUND ELEVATION | TOC ELEVATION |
|---|---|---|---|---|
| MW1-S | 498,693.89 | 1,075,395.97 | 40.09 | 40.01 |
| MW2-S | 498,799.80 | 1,075,409.98 | 44.19 | 43.95 |
| MW3-S | 498,933.01 | 1,075,326.86 | 45.62 | 45.65 |
| MW4-S | 499,010.14 | 1,075,332.90 | 44.91 | 44.88 |
| MW5-I | 498,671.99 | 1,074,903.36 | 31.68 | 31.65 |
| MW5-S | 498,672.48 | 1,074,897.94 | 31.59 | 31.86 |
| MW6-S | 498,631.52 | 1,075,509.89 | 30.25 | 30.65 |
| MW7-S | 498,724.38 | 1,075,023.19 | 29.09 | 28.83 |
| MW8-S | 498,582.75 | 1,075,589.73 | 31.29 | 31.47 |
| MW9-S | 499,123.12 | 1,075,436.76 | 29.07 | 29.24 |
| MW10-R | 499,066.69 | 1,075,272.79 | 29.79 | 29.85 |
| MW11-S | 498,982.58 | 1,075,102.90 | 28.01 | 27.99 |
| MW12-S | 498,539.84 | 1,075,369.37 | 33.25 | 33.47 |
| MW13-D | 498,852.18 | 1,075,262.93 | 44.84 | 45.01 |
| MW13-S | 498,591.78 | 1,075,284.20 | 36.09 | 36.24 |
| MW14-I | 498,671.35 | 1,075,130.99 | 32.24 | 32.27 |
| MW14-S | 498,676.62 | 1,075,134.96 | 31.52 | 31.47 |
| MW15-S | 498,686.67 | 1,075,661.59 | 30.51 | 30.62 |
| MW16-S | 498,555.28 | 1,075,566.06 | 31.57 | 31.62 |
| MW17-S | 498,384.04 | 1,075,525.16 | 34.54 | 34.28 |
| MW18-S | 498,421.01 | 1,075,314.62 | 32.25 | 32.29 |
| MW19-S | 498,499.08 | 1,075,263.60 | 35.97 | 35.87 |
| MW20-S | 498,429.79 | 1,075,191.59 | 36.16 | 36.13 |
| MW21-S | 498,762.12 | 1,075,710.17 | 28.91 | 28.83 |
| MW22-S | 498,452.72 | 1,075,592.97 | 34.14 | 33.01 |
| MW23-S | 498,964.64 | 1,075,689.72 | 29.60 | 29.59 |

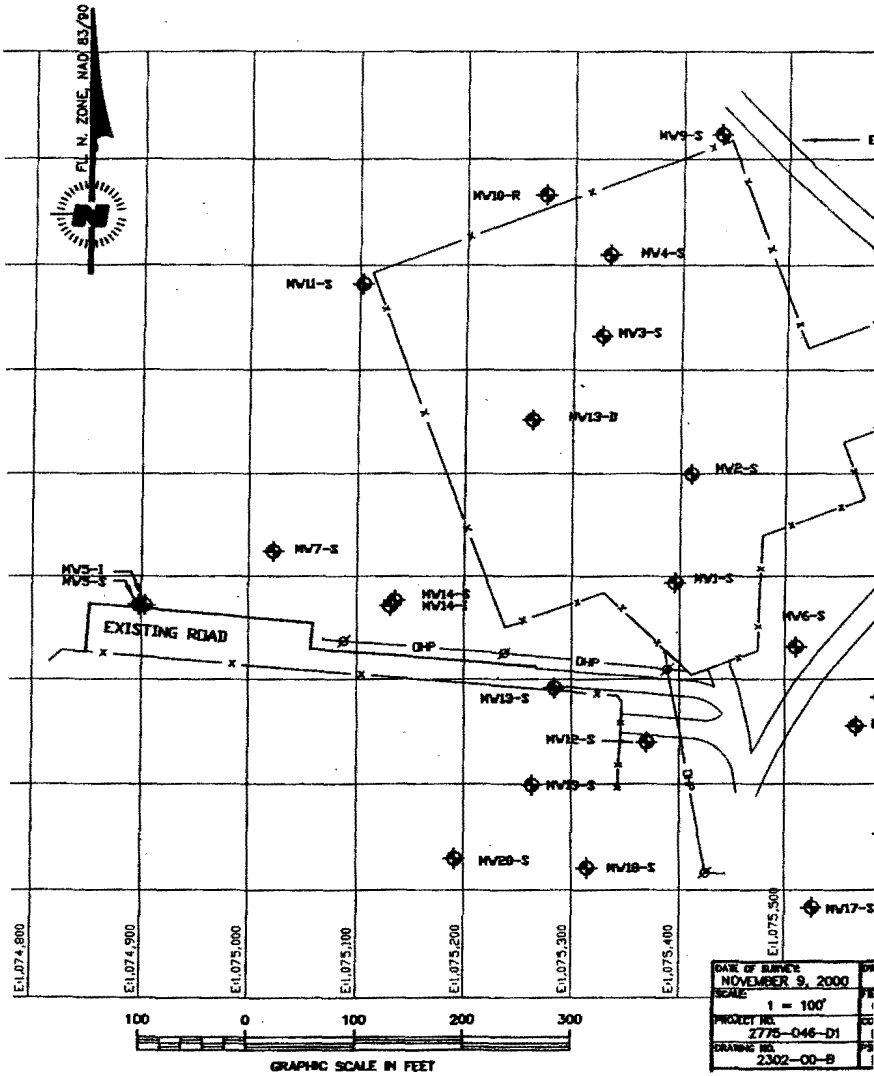
NOTES

COORDINATES ARE FLORIDA STATE PLANE COORDINATE SYSTEM, NORTH ZONE, NORTH AMERICAN DATUM OF 1983, 1990 ADJUSTMENT (NAD 83/90)

ELEVATIONS ARE FEET ABOVE MEAN SEA, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

# IV.

# SURVEY MAP


FL. N. ZONE, NAD 83/90
MV9-S
MV10-R
MV4-S
MV11-S
MV3-S
MV13-R
MV2-S
MV7-S
MV5-I
MV5-S
MV14-S
MV14-I
MV1-S
MV6-S
EXISTING ROAD
OHP
OHP
MV13-S
MV12-S
MV19-S
MV20-S
MV18-S
MV17-S
E1,074,800
E1,074,900
E1,075,000
E1,075,100
E1,075,200
E1,075,300
E1,075,400
E1,075,500
100
0
100
200
300
GRAPHIC SCALE IN FEET
DATE OF SURVEY
NOVEMBER 9, 2000
SCALE
1 = 100'
PROJECT NO.
2775-046-D1
DRAWING NO.
2302-00-B

# APPENDIX D

# SPECIFIC CAPACITY TEST AND TIDAL DATA

SE2000
Environmental Logger
12/08 10:42

Unit# 2K-593 Test 0

| Setups: | INPUT 1 |
|---|---|
| Type | Level (F) |
| Mode | TOC |
| I.D. | 5I |
| Reference | 0.000 |
| PSI at Ref. | 2.159 |
| SG | 1.000 |
| Linearity | 0.100 |
| Scale factor | 14.902 |
| Offset | -0.128 |
| Delay mSEC | 50.000 |

Step 0 12/04 12:59:32

| Elapsed Time | INPUT 1 |
|---|---|
| 0.0000 | -12.461 |
| 0.0083 | -12.277 |
| 0.0166 | -12.168 |
| 0.0250 | -12.092 |
| 0.0333 | -12.159 |
| 0.0416 | -12.178 |
| 0.0500 | -12.173 |
| 0.0583 | -12.206 |
| 0.0666 | -12.220 |
| 0.0750 | -12.230 |
| 0.0833 | -12.201 |
| 0.0916 | -12.187 |
| 0.1000 | -12.206 |
| 0.1083 | -12.182 |
| 0.1166 | -12.201 |
| 0.1250 | -12.092 |
| 0.1333 | -12.064 |
| 0.1416 | -12.050 |
| 0.1500 | -12.130 |
| 0.1583 | -12.045 |
| 0.1666 | -12.107 |
| 0.1750 | -12.107 |
| 0.1833 | -12.159 |
| 0.1916 | -12.097 |
| 0.2000 | -12.211 |
| 0.2083 | -12.111 |
| 0.2166 | -12.092 |
| 0.2250 | -12.083 |
| 0.2333 | -12.135 |
| 0.2416 | -12.182 |
| 0.2500 | -12.192 |

| | |
|---|---|
| 0.2583 | -12.201 |
| 0.2666 | -12.220 |
| 0.2750 | -12.220 |
| 0.2833 | -12.201 |
| 0.2916 | -12.225 |
| 0.3000 | -12.248 |
| 0.3083 | -12.277 |
| 0.3166 | -12.258 |
| 0.3250 | -12.258 |
| 0.3333 | -12.300 |
| 0.3500 | -12.272 |
| 0.3666 | -12.239 |
| 0.3833 | -12.248 |
| 0.4000 | -12.215 |
| 0.4166 | -12.211 |
| 0.4333 | -12.230 |
| 0.4500 | -12.192 |
| 0.4666 | -12.182 |
| 0.4833 | -12.211 |
| 0.5000 | -12.225 |
| 0.5166 | -12.258 |
| 0.5333 | -12.230 |
| 0.5500 | -12.220 |
| 0.5666 | -12.272 |
| 0.5833 | -12.253 |
| 0.6000 | -12.234 |
| 0.6166 | -12.248 |
| 0.6333 | -12.239 |
| 0.6500 | -12.244 |
| 0.6666 | -12.258 |
| 0.6833 | -12.234 |
| 0.7000 | -12.248 |
| 0.7166 | -12.282 |
| 0.7333 | -12.286 |
| 0.7500 | -12.310 |
| 0.7666 | -12.338 |
| 0.7833 | -12.305 |
| 0.8000 | -12.286 |
| 0.8166 | -12.305 |
| 0.8333 | -12.315 |
| 0.8500 | -12.428 |
| 0.8666 | -12.300 |
| 0.8833 | -12.277 |
| 0.9000 | -12.272 |
| 0.9166 | -12.282 |
| 0.9333 | -12.282 |
| 0.9500 | -12.315 |
| 0.9666 | -12.267 |
| 0.9833 | -12.267 |
| 1.0000 | -12.357 |
| 1.2000 | -12.693 |
| 1.4000 | -12.632 |
| 1.6000 | -12.617 |
| 1.8000 | -12.594 |
| 2.0000 | -12.551 |
| 2.2000 | -12.546 |
| 2.4000 | -12.532 |

| | |
|---|---|
| 2.6000 | -12.513 |
| 2.8000 | -12.499 |
| 3.0000 | -12.480 |
| 3.2000 | -12.471 |
| 3.4000 | -12.471 |
| 3.6000 | -12.423 |
| 3.8000 | -12.433 |
| 4.0000 | -12.423 |
| 4.2000 | -12.390 |
| 4.4000 | -12.400 |
| 4.6000 | -12.367 |
| 4.8000 | -12.386 |
| 5.0000 | -12.381 |
| 5.2000 | -12.367 |
| 5.4000 | -12.367 |
| 5.6000 | -12.352 |
| 5.8000 | -12.357 |
| 6.0000 | -12.334 |
| 6.2000 | -12.324 |
| 6.4000 | -12.334 |
| 6.6000 | -12.329 |
| 6.8000 | -12.324 |
| 7.0000 | -12.319 |
| 7.2000 | -12.300 |
| 7.4000 | -12.272 |
| 7.6000 | -12.286 |
| 7.8000 | -12.286 |
| 8.0000 | -12.282 |
| 8.2000 | -12.267 |
| 8.4000 | -12.253 |
| 8.6000 | -12.248 |
| 8.8000 | -12.267 |
| 9.0000 | -12.244 |
| 9.2000 | -12.267 |
| 9.4000 | -12.244 |
| 9.6000 | -12.244 |
| 9.8000 | -12.258 |
| 10.0000 | -12.253 |
| 12.0000 | -12.362 |
| 14.0000 | -12.362 |
| 16.0000 | -12.348 |
| 18.0000 | -12.343 |
| 20.0000 | -12.324 |
| 22.0000 | -12.315 |
| 24.0000 | -12.305 |
| 26.0000 | -12.282 |
| 28.0000 | -12.272 |
| 30.0000 | -12.263 |
| 32.0000 | -12.248 |
| 34.0000 | -12.263 |
| 36.0000 | -12.239 |
| 38.0000 | -12.244 |
| 40.0000 | -12.230 |
| 42.0000 | -12.215 |
| 44.0000 | -12.201 |

SE2000
Environmental Logger
12/08 10:40

Unit# 2K-593 Test 1

| Setups: | INPUT 1 |
|---|---|
| Type | Level (F) |
| Mode | TOC |
| I.D. | 5I |
| Reference | 0.000 |
| PSI at Ref. | 2.984 |
| SG | 1.000 |
| Linearity | 0.000 |
| Scale factor | 19.512 |
| Offset | -0.034 |
| Delay mSEC | 50.000 |

Step 0 12/04 13:59:13

| Elapsed Time | INPUT 1 |
|---|---|
| 0.0000 | 0.110 |
| 0.0083 | 0.110 |
| 0.0166 | 0.104 |
| 0.0250 | 0.098 |
| 0.0333 | 0.104 |
| 0.0416 | 0.104 |
| 0.0500 | 0.110 |
| 0.0583 | 0.104 |
| 0.0666 | 0.098 |
| 0.0750 | 0.098 |
| 0.0833 | 0.098 |
| 0.0916 | 0.092 |
| 0.1000 | 0.098 |
| 0.1083 | 0.092 |
| 0.1166 | 0.092 |
| 0.1250 | 0.092 |
| 0.1333 | 0.086 |
| 0.1416 | 0.092 |
| 0.1500 | 0.092 |
| 0.1583 | 0.092 |
| 0.1666 | 0.086 |
| 0.1750 | 0.086 |
| 0.1833 | 0.092 |
| 0.1916 | 0.092 |
| 0.2000 | 0.086 |
| 0.2083 | 0.086 |
| 0.2166 | 0.086 |
| 0.2250 | 0.092 |
| 0.2333 | 0.086 |
| 0.2416 | 0.086 |
| 0.2500 | 0.086 |

| | |
|---|---|
| 0.2583 | 0.086 |
| 0.2666 | 0.086 |
| 0.2750 | 0.086 |
| 0.2833 | 0.086 |
| 0.2916 | 0.079 |
| 0.3000 | 0.086 |
| 0.3083 | 0.086 |
| 0.3166 | 0.086 |
| 0.3250 | 0.086 |
| 0.3333 | 0.086 |
| 0.3500 | 0.086 |
| 0.3666 | 0.086 |
| 0.3833 | 0.079 |
| 0.4000 | 0.086 |
| 0.4166 | 0.079 |
| 0.4333 | 0.079 |
| 0.4500 | 0.086 |
| 0.4666 | 0.079 |
| 0.4833 | 0.086 |
| 0.5000 | 0.079 |
| 0.5166 | 0.086 |
| 0.5333 | 0.079 |
| 0.5500 | 0.086 |
| 0.5666 | 0.079 |
| 0.5833 | 0.086 |
| 0.6000 | 0.086 |
| 0.6166 | 0.086 |
| 0.6333 | 0.086 |
| 0.6500 | 0.079 |
| 0.6666 | 0.086 |
| 0.6833 | 0.086 |
| 0.7000 | 0.079 |
| 0.7166 | 0.086 |
| 0.7333 | 0.086 |
| 0.7500 | 0.079 |
| 0.7666 | 0.086 |
| 0.7833 | 0.086 |
| 0.8000 | 0.079 |
| 0.8166 | 0.086 |
| 0.8333 | 0.092 |
| 0.8500 | 0.086 |
| 0.8666 | 0.086 |
| 0.8833 | 0.086 |
| 0.9000 | 0.086 |
| 0.9166 | 0.086 |
| 0.9333 | 0.086 |
| 0.9500 | 0.086 |
| 0.9666 | 0.086 |
| 0.9833 | 0.086 |
| 1.0000 | 0.079 |
| 1.2000 | 0.086 |
| 1.4000 | 0.079 |
| 1.6000 | 0.086 |
| 1.8000 | 0.086 |
| 2.0000 | 0.079 |
| 2.2000 | 0.086 |
| 2.4000 | 0.086 |

| | |
|---|---|
| 2.6000 | 0.086 |
| 2.8000 | 0.086 |
| 3.0000 | 0.086 |
| 3.2000 | 0.079 |
| 3.4000 | 0.079 |
| 3.6000 | 0.079 |
| 3.8000 | 0.079 |
| 4.0000 | 0.079 |
| 4.2000 | 0.079 |
| 4.4000 | 0.079 |
| 4.6000 | 0.086 |
| 4.8000 | 0.086 |
| 5.0000 | 0.086 |
| 5.2000 | 0.086 |
| 5.4000 | 0.092 |
| 5.6000 | 0.092 |
| 5.8000 | 0.092 |
| 6.0000 | 0.092 |
| 6.2000 | 0.092 |
| 6.4000 | 0.092 |
| 6.6000 | 0.092 |
| 6.8000 | 0.092 |
| 7.0000 | 0.086 |
| 7.2000 | 0.092 |
| 7.4000 | 0.086 |
| 7.6000 | 0.092 |
| 7.8000 | 0.086 |
| 8.0000 | 0.092 |
| 8.2000 | 0.092 |
| 8.4000 | 0.086 |
| 8.6000 | 0.079 |
| 8.8000 | 0.079 |
| 9.0000 | 0.086 |
| 9.2000 | 0.086 |
| 9.4000 | 0.079 |
| 9.6000 | 0.079 |
| 9.8000 | 0.086 |
| 10.0000 | 0.092 |
| 12.0000 | 0.086 |
| 14.0000 | 0.086 |
| 16.0000 | 0.092 |
| 18.0000 | 0.086 |
| 20.0000 | 0.086 |
| 22.0000 | 0.079 |
| 24.0000 | 0.092 |
| 26.0000 | 0.086 |
| 28.0000 | 0.092 |
| 30.0000 | 0.086 |
| 32.0000 | 0.079 |
| 34.0000 | 0.086 |
| 36.0000 | 0.073 |
| 38.0000 | 0.086 |
| 40.0000 | 0.073 |

Tetra Tech NUS, Inc.

# PUMPING TEST DATA SHEET

PROJECT NAME: Sherman FLD TNK
PROJECT NUMBER:
PUMPING WELL NUMBER: 55
MEASURED WELL NUMBER: 55

[ ] PUMPING TEST SC
[ ] STEP DRAW DOWN TEST

DATE(s): 12-4/00
MONITORING POINT:
MEASUREMENT METHOD:
DEPTH CORRECTION (ft):
TEST NUMBER: 1
PUMP SETTING (Ft. below monitoring point): 17 1/2'
STATIC WATER LEVEL (ft): 11.49
DISTANCE FROM PUMPING WELL (ft):
PERSONNEL:
REMARKS: TD 18.65' 10'S Check XD @ 18'

| MILITARY TIME | ELAPSED TIME SINCE PUMP START OR STOP (Min.) | WATER LEVEL (Ft.) | CORRECTION (Ft.) | DRAW DOWN OR RECOVERY (Ft.) | FLOW METER READING (Gals.) | PUMPING RATE (GPM) | REMARKS |
|---|---|---|---|---|---|---|---|
| 14:00 | INIT | 11.48 | | | | | |
| 14:01 | 1 | 11.58 | | 0.1 | ~~0.1~~ | 1.25 | |
| 14:02 | 2 | 11.59 | | 0.11 | 0.11 | 1.25 | |
| 14:05 | 5 | 11.59 | | 0.11 | 0.11 | 1.25 | |
| 14:10 | 10 | 11.59 | | 0.11 | 0.11 | 1.25 | |
| 14:15 | 15 | 11.59 | | 0.11 | 0.11 | 1.25 | |
| 14:20 | 20 | 11.59 | | 0.11 | 0.11 | 1.25 | |
| 14:25 | 25 | 11.59 | | 0.11 | | 1.25 | |
| 14:30 | 30 | 11.59 | | 0.11 | | 1.25 | |
| 14:35 | 35 | 11.59 | | 0.11 | | 1.25 | |
| 14:40 | 40 | 11.59 | | 0.11 | | 1.2 | |

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

Tetra Tech NUS, Inc.

# PUMPING TEST DATA SHEET

PROJECT NAME: Sherman FLD TANK
PROJECT NUMBER:
PUMPING WELL NUMBER: 5I
MEASURED WELL NUMBER: 5S

[ ] PUMPING TEST 5C
[ ] STEP DRAW DOWN TEST

DATE(s): 12-4100
MONITORING POINT:
MEASUREMENT METHOD:
DEPTH CORRECTION (ft):
TEST NUMBER: T0
PUMP SETTING (Ft. below monitoring point): 16'
STATIC WATER LEVEL (ft): 11.80
DISTANCE FROM PUMPING WELL (ft):
PERSONNEL:
REMARKS: TD 40 5' Screen XD

2:50 install XD @ 32' install pump @ 16'

| MILITARY TIME | ELAPSED TIME SINCE PUMP START OR STOP (Min.) | WATER LEVEL (Ft) | CORRECTION (Ft.) | DRAW DOWN OR RECOVERY (Ft.) | FLOW METER READING (Gals.) | PUMPING RATE (GPM) | REMARKS |
|---|---|---|---|---|---|---|---|
| 13:00 | INIT | 11.80 | | - | | 1. | XD = 12.76 Q |
| 13:01 | 1 | 12.19 | | .39 | | 1.5 | |
| 13:02 | 1 | 12.21 | | .41 | | 1.25 | |
| 13:05 | 5 | 12.21 | | .41 | | 1.25 | |
| 13:10 | 10 | 12.21 | | .41 | | 1.5 | |
| 13:15 | 15 | 12.21 | | .41 | | 1.3 | |
| 13:20 | 20 | 12.21 | | .41 | | 1.25 | |
| 13:25 | 25 | 12.22 | | .42 | | 1.25 | |
| 13:30 | 30 | 12.22 | | .42 | | 1.25 | |
| 13:35 | 35 | 12.22 | | .42 | | 1.25 | |
| 13:40 | 40 | 12.22 | | .42 | | 1.25 | |
| 13:45 | 45 | 12.22 | | .42 | | 1.25 | |

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

| Tide State | Date and Time | Tidal Data (Feet MLLW) | Barometric Pressure (Inches of Hg) | | Groundwater Elevations (Feet MSL) | | |
|---|---|---|---|---|---|---|---|
| | | | NAS | Airport | 14S | 11S | 9S |
| | 12/4/00 13:00 | | 30.28 | 30.39 | | | |
| LOW | 12/4/00 13:25 | 0.14 | | | | | |
| | 12/4/00 14:00 | | | 30.36 | | | |
| | 12/4/00 15:00 | | 30.34 | 30.34 | | | |
| | 12/4/00 15:30 | | | | 19.95 | 20.87 | 20.93 |
| | 12/4/00 16:00 | | 30.34 | 30.34 | 19.96 | 20.83 | 20.93 |
| | 12/4/00 17:00 | | | 30.34 | 19.96 | 20.76 | 20.93 |
| | 12/4/00 18:00 | | | 30.33 | 19.97 | 20.73 | 20.92 |
| | 12/4/00 19:00 | | 30.36 | 30.36 | 19.97 | 20.67 | 20.93 |
| | 12/4/00 20:00 | | 30.35 | 30.36 | 19.97 | 20.63 | 20.93 |
| | 12/4/00 21:00 | | | 30.37 | 19.97 | 20.59 | 20.93 |
| | 12/4/00 22:00 | | | 30.39 | 19.97 | 20.54 | 20.92 |
| | 12/4/00 23:00 | | | 30.4 | 19.97 | 20.51 | 20.92 |
| | 12/5/00 0:00 | | 30.39 | 30.39 | 19.98 | 20.49 | 20.92 |
| | 12/5/00 1:00 | | 30.36 | 30.37 | 19.98 | 20.46 | 20.93 |
| HIGH | 12/5/00 2:00 | 0.72 | 30.36 | 30.36 | 19.98 | 20.45 | 20.93 |
| | 12/5/00 3:00 | | 30.36 | 30.36 | 19.98 | 20.43 | 20.92 |
| | 12/5/00 4:00 | | | 30.37 | 19.98 | 20.40 | 20.92 |
| | 12/5/00 5:00 | | 30.35 | 30.35 | 19.98 | 20.39 | 20.92 |
| | 12/5/00 6:00 | | | | 19.98 | 20.38 | 20.92 |
| | 12/5/00 7:00 | | 30.36 | 30.36 | 19.98 | 20.34 | 20.92 |
| | 12/5/00 8:00 | | | 30.36 | 19.98 | 20.32 | 20.92 |
| | 12/5/00 9:00 | | 30.37 | 30.37 | 19.97 | 20.29 | 20.92 |
| | 12/5/00 10:00 | | | | 19.96 | 20.27 | 20.91 |
| | 12/5/00 11:00 | | | | 19.94 | 20.27 | 20.92 |
| | 12/5/00 12:00 | | | | 19.94 | 20.24 | 20.92 |
| LOW | 12/5/00 13:00 | 0.26 | | | 19.95 | 20.20 | 20.92 |
| | 12/5/00 14:00 | | | | 19.96 | 20.17 | 20.92 |
| | 12/5/00 15:00 | | 30.27 | | 19.96 | 20.14 | 20.93 |
| | 12/5/00 16:00 | | 30.26 | | 19.96 | 20.11 | 20.92 |
| | 12/5/00 17:00 | | 30.25 | 30.25 | 19.96 | 20.09 | 20.93 |
| | 12/5/00 18:00 | | 30.26 | 30.26 | 19.97 | 20.06 | 20.93 |
| | 12/5/00 19:00 | | | 30.26 | 19.97 | 20.06 | 20.92 |
| | 12/5/00 20:00 | | | 30.27 | 19.97 | 20.04 | 20.92 |
| | 12/5/00 21:00 | | 30.26 | 30.26 | 19.97 | 20.00 | 20.92 |
| HIGH | 12/5/00 22:00 | 0.66 | | 30.26 | 19.97 | 19.95 | 20.92 |
| | 12/5/00 23:00 | | | 30.26 | 19.97 | 19.93 | 20.92 |
| | 12/6/00 0:00 | | | 30.26 | 19.97 | 19.90 | 20.92 |
| | 12/6/00 1:00 | | 30.24 | 30.24 | 19.97 | 19.87 | 20.92 |
| | 12/6/00 2:00 | | 30.24 | 30.22 | 19.98 | 19.87 | 20.92 |
| | 12/6/00 3:00 | | 30.22 | 30.23 | 19.97 | 19.91 | 20.92 |
| | 12/6/00 4:00 | | 30.21 | 30.22 | 19.97 | 19.87 | 20.92 |
| | 12/6/00 5:00 | | | 30.21 | 19.97 | 19.80 | 20.92 |
| | 12/6/00 6:00 | | | 30.21 | 19.97 | 19.78 | 20.91 |
| | 12/6/00 7:00 | | 30.21 | 30.21 | 19.97 | 19.77 | 20.92 |
| | 12/6/00 8:00 | | 30.23 | 30.25 | 19.96 | 19.76 | 20.91 |
| | 12/6/00 9:00 | | 30.22 | 30.24 | 19.95 | 19.73 | 20.91 |
| | 12/6/00 10:00 | | | 30.24 | 19.94 | 19.71 | 20.91 |
| | 12/6/00 11:00 | | 30.22 | 30.23 | 19.94 | 19.79 | 20.91 |
| LOW | 12/6/00 12:00 | 0.34 | 30.18 | 30.2 | 19.94 | 19.77 | 20.91 |
| | 12/6/00 13:00 | | 30.18 | 30.17 | 19.95 | 19.71 | 20.92 |
| | 12/6/00 14:00 | | 30.13 | 30.14 | 19.94 | 19.73 | 20.91 |
| | 12/6/00 15:00 | | | 30.1 | 19.95 | 19.76 | 20.92 |
| | 12/6/00 16:00 | | | 30.11 | 19.94 | 19.75 | 20.91 |
| | 12/6/00 17:00 | | | 30.1 | 19.96 | 19.70 | 20.92 |

This banner was supplied by SAFE Audit

# Current Tide Information

Pensacola, Florida
Units are feet

| | | | | | |
|---|---|---|---|---|---|
| Low Tide: | 2000-12-01 | 12:26 | PM | CST | -0.15 |
| High Tide: | 2000-12-02 | 1:38 | AM | CST | 1.19 |
| Low Tide: | 2000-12-02 | 12:58 | PM | CST | -0.07 |
| High Tide: | 2000-12-03 | 2:08 | AM | CST | 1.06 |
| Low Tide: | 2000-12-03 | 1:19 | PM | CST | 0.03 |
| High Tide: | 2000-12-04 | 2:29 | AM | CST | 0.90 |
| Low Tide: | 2000-12-04 | 1:25 | PM | CST | 0.14 |
| High Tide: | 2000-12-05 | 1:48 | AM | CST | 0.72 |
| Low Tide: | 2000-12-05 | 1:06 | PM | CST | 0.26 |
| High Tide: | 2000-12-05 | 9:52 | PM | CST | 0.66 |
| Low Tide: | 2000-12-06 | 11:51 | AM | CST | 0.34 |
| High Tide: | 2000-12-06 | 8:43 | PM | CST | 0.77 |
| Low Tide: | 2000-12-07 | 6:29 | AM | CST | 0.22 |
| High Tide: | 2000-12-07 | 8:29 | PM | CST | 0.94 |
| Low Tide: | 2000-12-08 | 6:37 | AM | CST | -0.02 |
| High Tide: | 2000-12-08 | 8:41 | PM | CST | 1.14 |
| Low Tide: | 2000-12-09 | 7:12 | AM | CST | -0.25 |
| High Tide: | 2000-12-09 | 9:08 | PM | CST | 1.33 |
| Low Tide: | 2000-12-10 | 7:56 | AM | CST | -0.45 |
| High Tide: | 2000-12-10 | 9:46 | PM | CST | 1.49 |
| Low Tide: | 2000-12-11 | 8:46 | AM | CST | -0.60 |
| High Tide: | 2000-12-11 | 10:29 | PM | CST | 1.60 |
| Low Tide: | 2000-12-12 | 9:38 | AM | CST | -0.68 |
| High Tide: | 2000-12-12 | 11:16 | PM | CST | 1.64 |
| Low Tide: | 2000-12-13 | 10:31 | AM | CST | -0.69 |
| High Tide: | 2000-12-14 | 12:05 | AM | CST | 1.59 |
| Low Tide: | 2000-12-14 | 11:23 | AM | CST | -0.62 |
| High Tide: | 2000-12-15 | 12:53 | AM | CST | 1.46 |

**Cartesian (tm) and the Tide Data (tm) Copyright © 1995-1997 Ryan A. Brown, Catalina Consulting, ALL RIGHTS RESERVED**

| | | Tidal Data | Barometric Pressure | | Groundwater Elevations | | |
|---|---|---|---|---|---|---|---|
| Tide | | (Feet MLLW) | (Inches of Hg) | | (Feet MSL) | | |
| State | Date and Time | | NAS | Airport | 14S | 11S | 9S |
| | 12/6/00 13:00 | | 30.18 | 30.17 | 19.95 | 19.71 | 20.92 |
| | 12/6/00 14:00 | | 30.13 | 30.14 | 19.94 | 19.73 | 20.91 |
| | 12/6/00 15:00 | | | 30.1 | 19.95 | 19.76 | 20.92 |
| | 12/6/00 16:00 | | | 30.11 | 19.94 | 19.75 | 20.91 |
| | 12/6/00 17:00 | | | 30.1 | 19.96 | 19.70 | 20.92 |

# APPENDIX E

# ESTIMATED MASS OF CONTAMANT CALCULATIONS

# ESTIMATED MASS OF CONTAMINANTS IN VADOSE ZONE SOIL MATRIX

**SITE INFORMATION:**

| | |
|---|---|
| Site: | SHERMAN FIELD FUEL FARM |
| Location: | NAS PENSACOLA |
| Client: | SOUTHDIV |

**ASSUMPTIONS:**

**INPUT:**

| | | |
|---|---|---|
| Estimated Impacted Area | sq ft | 88,316 |
| Estimated Average Impacted Thickness | ft | 4 |
| Estimated Impacted Volume | cu ft | 353,264 |
| Average Total VOA Concentration | mg/kg | 410 |

**CALCULATIONS:**

Estimated mass of hydrocarbons in soil

$$42{,}224\ ft^3 \times \frac{1\ yd^3}{27\ ft^3} \times \frac{1.4\ tons}{1\ yd^3} \times 1016\ \frac{kg}{ton} \times 1{,}449\ \frac{mg}{kg}\ TRPH \times \left(1.0 \times 10^{-6}\right)\frac{kg}{mg} \times 2.204623\ \frac{lb}{kg}$$

lbs 16823

PREPARED BY: _____ CHECKED BY: _____

Date

# ESTIMATED MASS OF CONTAMINANTS IN VADOSE ZONE SOIL MATRIX

**SITE INFORMATION:**

| | |
|---|---|
| Site: | SHERMAN FIELD FUEL FARM |
| Location: | NAS PENSACOLA |
| Client: | SOUTHDIV |

**ASSUMPTIONS:**

**INPUT:**

| | | |
|---|---|---|
| Estimated Impacted Area | sq ft | 19,625 |
| Estimated Average Impacted Thickness | ft | 14 |
| Estimated Impacted Volume | cu ft | 274,750 |
| Average Total VOA Concentration | mg/kg | 1,270 |

**CALCULATIONS:**

Estimated mass of hydrocarbons in soil

$$42{,}224\ ft^3 \times \frac{1\ yd^3}{27\ ft^3} \times \frac{1.4\ tons}{1\ yd^3} \times 1016\ \frac{kg}{ton} \times 1{,}449\ \frac{mg}{kg}\ TRPH \times \left(1.0 \times 10^{-6}\right)\frac{kg}{mg} \times 2.204623\ \frac{lb}{kg}$$

lbs 40529

PREPARED BY: _____ CHECKED BY: _____

Date

# ESTIMATED MASS OF CONTAMINANTS IN VADOSE ZONE SOIL MATRIX

**SITE INFORMATION:**

| | |
|---|---|
| Site: | SHERMAN FIELD FUEL FARM |
| Location: | NAS PENSACOLA |
| Client: | SOUTHDIV |

**ASSUMPTIONS:**

**INPUT:**

| | | |
|---|---|---|
| Estimated Impacted Area | sq ft | 88,312 |
| Estimated Average Impacted Thickness | ft | 4 |
| Estimated Impacted Volume | cu ft | 353,248 |
| Average Total VOA Concentration | mg/kg | 410 |

**CALCULATIONS:**

Estimated mass of hydrocarbons in soil

$$42{,}224\ ft^3 \times \frac{1\ yd^3}{27\ ft^3} \times \frac{1.4\ tons}{1\ yd^3} \times 1016\ \frac{kg}{ton} \times 1{,}449\ \frac{mg}{kg}\ TRPH \times \left(1.0 \times 10^{-6}\right)\frac{kg}{mg} \times 2.204623\ \frac{lb}{kg}$$

lbs: 16823

PREPARED BY: _____ CHECKED BY: _____

Date