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# FINAL SITE ASSESSMENT REPORT ADDENDUM 2 FOR UNDERGROUND STORAGE TANK SITE 2406 NAS SAUFLEY FIELD FL

12/1/2005

TETRA TECH INC

Rev. 1
12/02/05

# Site Assessment Report Addendum No. 2

for

# Underground Storage Tank Site 2406 Outlying Landing Field Saufley

# Naval Air Station Pensacola

## Pensacola, Florida

## Southern Division
## Naval Facilities Engineering Command

**Contract No. N62467-94-D-0888**
**Contract Task Order 0274**

December 2005

Rev. 1
12/02/05

# SITE ASSESSMENT REPORT ADDENDUM NO. 2
# FOR
# UNDERGROUND STORAGE TANK
# SITE 2406
# OUTLYING LANDING FIELD SAUFLEY

## NAVAL AIR STATION PENSACOLA
## PENSACOLA, FLORIDA

## COMPREHENSIVE LONG-TERM
## ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

**Submitted to:**
**Southern Division**
**Naval Facilities Engineering Command**
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**CONTRACT TASK ORDER 0274**

**December 2005**


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## PROFESSIONAL CERTIFICATION

**Site Assessment Report Addendum No.2**
**UST Site 2406, Outlying Landing Field Saufley**
**Naval Air Station Pensacola, Pensacola, Florida**

This Site Assessment Report Addendum No. 2 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 Walker

Gerald Walker, P.G.
Florida License No. PG 1180

December 1, 2005
Date

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# ACRONYMS

| | |
|---|---|
| AST | Aboveground Storage Tank |
| AVGAS | Aviation Gasoline |
| bls | Below Land Surface |
| BTOC | Below Top Of Casing |
| DEP-SOP-001/01 | FDEP Field Activities SOPs |
| DPT | Direct-Push Technology |
| EDB | Ethylene dibromide or 1,2-dibromoethane |
| EDC | Ethylene dichloride or 1,2-dichloroethane |
| EPA | United States Environmental Protection Agency |
| F.A.C. | Florida Administrative Code |
| FDEP | Florida Department of Environmental Protection |
| FID | Flame Ionization Detector |
| FL-PRO | Florida Petroleum Range Organics |
| GCTLs | Groundwater Cleanup Target Levels |
| ID | Inside Diameter |
| lbs | pounds |
| mg/kg | milligrams per kilogram |
| mg/L | milligrams per liter |
| NAAS | Naval Auxiliary Air Station |
| NAS | Naval Air Station |
| NAVFAC EFD SOUTH | Southern Division, Naval Facilities Engineering Command |
| NETPDTC | Naval Education and Training Professional Development and Technical Center |
| NETPMSA | Naval Education and Training Program Management Support Activity |
| NTTC | Naval Technical Training Center |
| OLF | Outlying Landing Field |
| OVA | Organic Vapor Analyzer |
| PAH | Polynuclear Aromatic Hydrocarbons |
| ppm | parts per million |
| PVC | Poly Vinyl Chloride |
| PWC | Public Works Center |
| PW03 | Potable Water Well #3 |
| PW04 | Potable Water Well #4 |
| RAP | Remedial Action Plan |
| SARA | Site Assessment Report Addendum |
| SCTLs | Soil Cleanup Target Levels |
| SOP | Standard Operating Procedure |
| SWL | Static Water Level |
| TOC | Top of Casing |
| TRPH | Total Recoverable Petroleum Hydrocarbon |
| TtNUS | Tetra Tech NUS, Inc. |

## ACRONYMS (CONTINUED)

| | |
|---|---|
| µg/L | micrograms per liter |
| UST | Underground Storage Tank |
| VOC | Volatile Organic Compounds |

# EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has been authorized by Southern Division, Naval Facilities Engineering Command (NAVFAC EFD SOUTH) to prepare site assessment reports (SARs) for petroleum impacted sites at Naval Air Station (NAS) Pensacola in Escambia County, Florida. This SAR Addendum (SARA) No. 2 has been prepared to further evaluate the extent of groundwater contamination resulting from operation of underground storage tanks (USTs) and a fuel transfer line located at UST Site 2406, Outlying Landing Field (OLF) Saufley. Previously a SARA (TtNUS, 2003) was completed for the site. This addendum continues and supplements the conclusions and recommendation of the previous addendum.

## Site Assessment

The following activities were conducted as part of this SARA:

- Installation of five shallow monitoring wells to investigate the extent of on-site free product and installation of two single shallow monitoring wells and three monitoring well nests including a shallow and deep well pairs to confirm the lateral and vertical extent of the dissolved groundwater plume.
- Collection of groundwater samples from the newly installed monitoring wells for laboratory analysis of volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), 1,2-dibromoethane (EDB), total recoverable petroleum hydrocarbons (TRPH), and lead.
- Collection of groundwater samples from six existing permanent monitoring wells for laboratory analysis of select parameters.
- Comparison of groundwater analytical results to the Groundwater Cleanup Target Levels (GCTLs) in Chapter 62-777 Florida Administrative Code (F.A.C.).
- Evaluation of aquifer properties to interpret the movement of groundwater at the site.

## Conclusions SARA No. 2

- Three petroleum systems have been identified as possible sources of petroleum releases: four fuel-oil USTs with a capacity of 7,800 gallons each located in the vicinity of potable water supply well PW04, six 20,000 gallon USTs used to supply aviation gasoline (AVGAS) or jet fuel to the flight line, and a 10-inch fuel line system, reportedly 2 miles long, used to distribute the fuel to the flight line fuel hydrant system. The six 20,000 gallon USTs and junction with the buried 10-inch fuel line have been concluded to be the most likely source of contamination based on the present free product plume location and area of soil contamination.

- A second potential source area is the overall extent of the 10-inch fuel line system reportedly two miles long used to distribute fuel to the flight line fuel hydrant system. This possible source area remains a concern, however, it is believed to be separate from the free product and groundwater contamination identified as the primary source in this investigation. The fuel line and flightline fuel distribution system are currently being assessed as a separate investigation by the Navy.

- The results of the SARA No. 1 indicated petroleum constituents are present in the site soil (TtNUS, 2003). Based on organic vapor analysis (OVA) results at soil borings, the surface soil [0 to 4 feet below land surface (bls)] and shallow subsurface soil (4 to 25 feet bls) at the site are unaffected. OVA results did indicate "excessively contaminated soil" was present in the 25 to 55 feet bls interval surrounding the former AVGAS tank area and the fuel transfer line pump house. Analytical results from the off-site fixed-base laboratory confirmed that benzene, toluene, ethylbenzene, total xylenes, and TRPH were present at concentrations above Florida Department of Environmental Protection (FDEP) Soil Cleanup Target Levels (SCTLs) within the area of "excessively contaminated soil". Due to the depth of contaminated soil, direct contact to the contamination is not a concern, however the contaminated soil remains a concern for leaching to groundwater.

- Based on the July 2004 data, free-product is present on site covering an approximate area of 20,000 square feet with an average thickness of 0.38 feet and an approximate free product contaminant mass of 57,470 pounds (lbs).

- Based on the groundwater assessment results reported in the SARA No. 1 in combination with the groundwater results from this re-sampling event (SARA No. 2), concentrations of petroleum related VOCs are present in on-site groundwater at concentrations exceeding the FDEP GCTLs. Monitoring well locations with FDEP GCTL exceedances include an area that extends from Building 845 (east of the former AVGAS tank area) to an open area approximately 300 feet northwest of the tank farm, to the southwestern edge of the wooded area located southwest of the former tank area. Analytical results indicate that benzene, toluene, ethylbenzene, total xylenes, and 1,2-dichloroethane are present in the groundwater above FDEP GCTLs. No PAHs were detected at concentrations exceeding FDEP GCTLs. The extent of dissolved groundwater contamination has been delineated within the facility boundaries.

- Elevated lead concentrations reported during the SARA No. 1 were not confirmed by resampling of the same monitoring wells during this additional assessment. Therefore lead is not a concern in additional assessment and remediation of the site.

In accordance with the conclusions in the SARA No. 1 and in this SARA No. 2, TtNUS recommends that a Remedial Action Plan (RAP) be completed to address the free product and contaminated soils and groundwater at UST Site 2406, OLF Saufley. In addition to the proposed RAP, immediate recovery of free product should be initiated as per Chapter 62-770 F.A.C. Furthermore, the evaluation and proper closure, if required, of the fuel oil UST, the flight line AVGAS USTs, and the buried 10-inch fuel distribution pipeline system should be conducted. An additional assessment of these potential source areas is currently being preformed by Navy.

# 1.0 SITE DESCRIPTION AND BACKGROUND INFORMATION

TtNUS, under contract to the Department of Navy, NAVFAC EFD SOUTH, has completed this SARA to document the additional site assessment activities performed at UST Site 2406, OLF Saufley Field, Naval Education and Training Professional Development and Technical Center (NETPDTC) located in Pensacola, Florida.

## 1.1 SITE LOCATION AND CONDITIONS

OLF Saufley Field is located in northwest Florida, Escambia County. The base is situated between Highway 10 and Perdido Bay approximately five miles northwest of Pensacola, Florida. OLF Saufley consists of four airstrips, two of which are active. The base also has a small number of support buildings and a Federal Prison that are located south of the airfield (Figure 1-1). OLF Saufley covers 866 acres of land, the majority of which is wooded or used for the airstrips.

UST Site 2406 is in the vicinity of the former location of Potable Water Well # 4 (PW04; Figure 1-1), which was located at the southwest corner of Building 2406. Potable Water Well # 4 was appropriately abandoned by a licensed water well contractor in April 1996. Most of the area in the vicinity of UST Site 2406 is paved with asphalt or concrete. Buildings 811 and 845 are located immediately to the west of Building 2406. Two wooded areas, approximately a half acre and two acres respectively, are located south-southwest of Building 2406. A former tank area containing six 20,000 gallon USTs (Figure 1-2) was situated within these wooded areas. A 10-inch fuel line distributed the AVGAS or jet fuel to the landing field from the UST area. In addition to the USTs and fuel line, there are also two 20,000 gallon aboveground storage tanks (ASTs) located behind Building 804 and four 7,800 gallon USTs located beneath the ASTs. The 7,800 gallon USTs were abandoned in place in November 1988.

## 1.2 SITE HISTORY

OLF Saufley opened in 1940 as Naval Auxiliary Air Station (NAAS) Saufley. NAAS Saufley was used to train pilots during World War II and the Korean Conflict. In 1957, the mission at Saufley Field was changed to basic training for naval aviators. NAAS Saufley was re-designated as a NAS in 1968 and retained that status until 1976 when NAS Saufley operations were discontinued and the facility was placed in caretaker status. Between 1976 and 1979 Saufley Field was used as an OLF for NAS Whiting Field. In 1979, Saufley Field was reactivated as Naval Educational and Training Program Management Support Activity (NETPMSA). Saufley Field was renamed the NETPDTC in 1996. Saufley Field is now used primarily to train and educate naval personnel and to house federal prisoners. NAS Whiting Field pilots use two of the airstrips for touch and go landing exercises.

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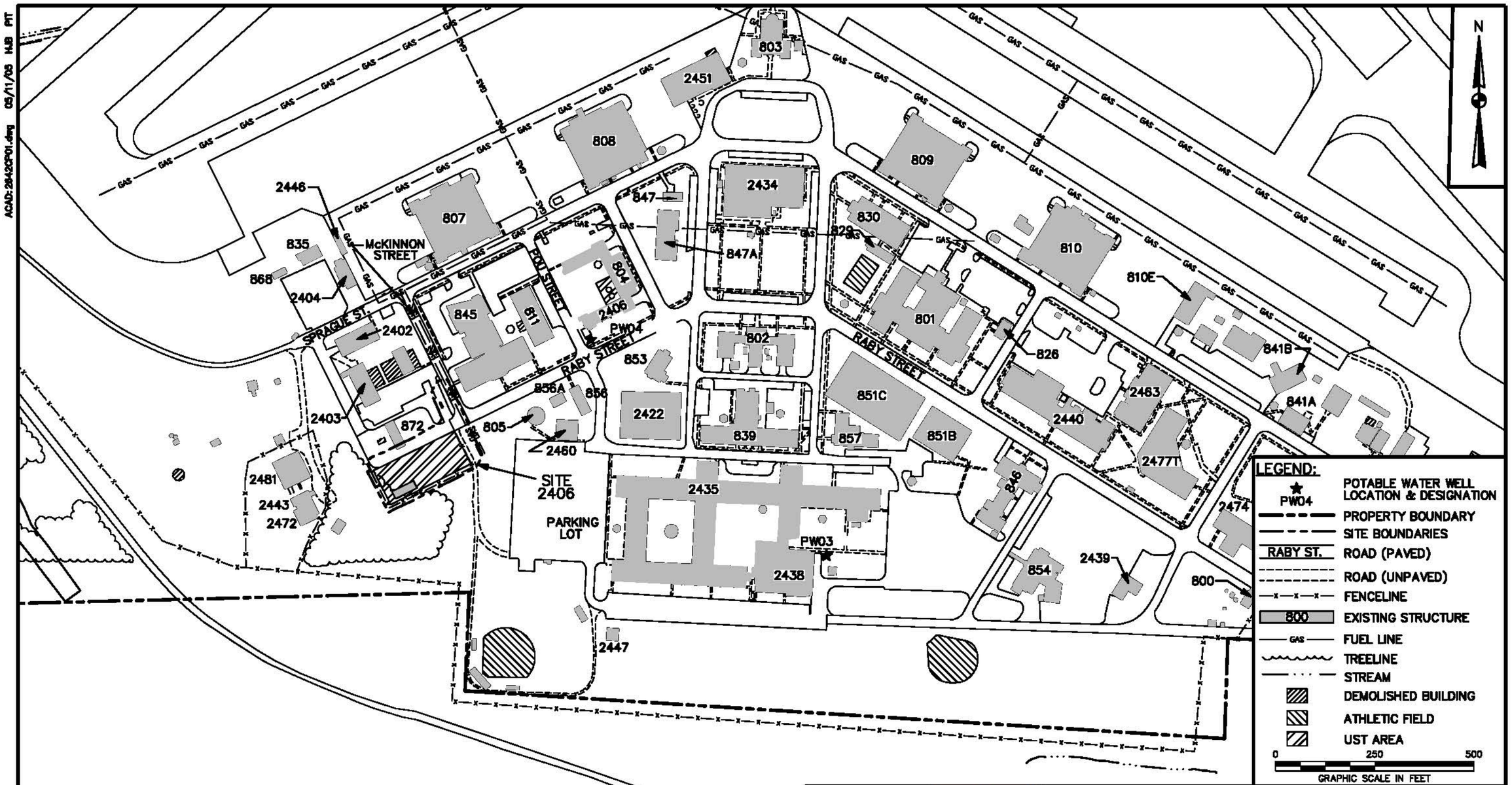


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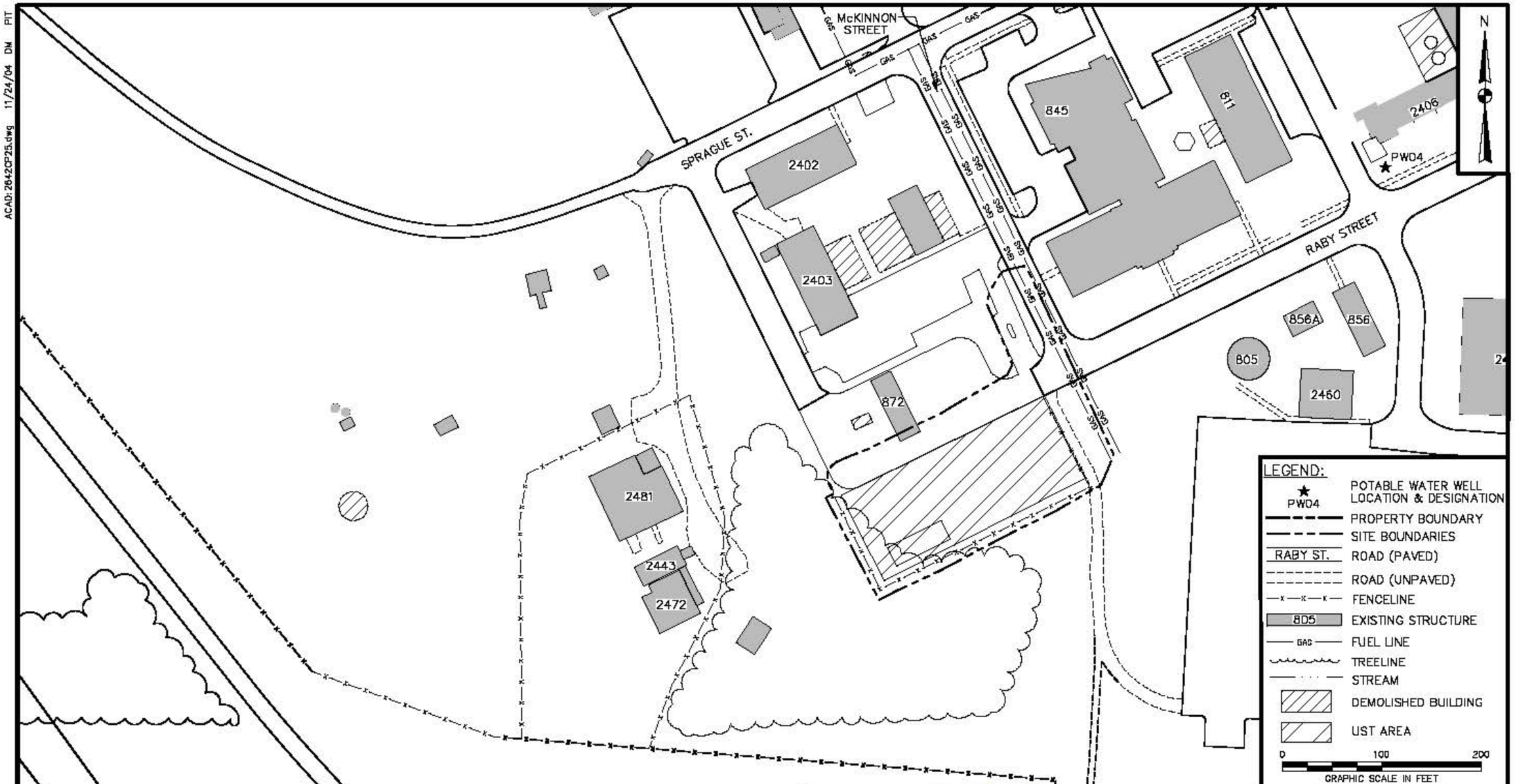


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In 1994, the Public Works Center (PWC) potable water treatment system at OLF Saufley included two active potable water wells (PW03 and PW04; Figure 1-1). On May 9, 1994, a water sample from PW04 effluent indicated benzene contamination levels of 0.032 milligrams per liter (mg/L), exceeding the FDEP drinking water standard of 0.001 mg/L. PW04 was taken off-line, and was subsequently placed on quarterly sampling for one year for observation and corrective action to remove the contamination. In April 1996, PW03 and PW04 were abandoned in-place. Currently the only source of potable water for OLF Saufley is a well field located at the Naval Technical Training Center (NTTC) Corry Station, located approximately 5 miles north of Bayou Grande (SDIV, 1998).

In November 1988, four fuel-oil USTs with a capacity of 7,800 gallons each located in the vicinity of potable water supply well PW04, near the intersection of Raby Avenue and Pou Street were abandoned in place (SDIV, 1998). Six additional USTs (20,000 gallon) used to supply AVGAS or jet fuel to the flight line were located southwest of the intersection of Raby Avenue and McKinnon Street. No documentation of a tank closure assessment for these tanks has been found. In addition, the 10-inch fuel line system, which was reportedly 2 miles long and used to distribute the fuel to the flight line fuel hydrant system, is believed to have not been properly abandoned or assessed. The pipeline system appears to originate at a pump house adjacent to the six 20,000 gallon USTs. Three fuel pipelines exit the UST area and extend under Pou Street to the flight line. Approximately 20 segments of pipeline, with an unknown number of junctions and valves, connect the USTs to the fueling pits. Approximately 55 fueling pits were associated with this system are located on the flight line. Reportedly there are two additional tanks associated with this system located on the flight line. No documentation of a pipeline closure assessment for this system has been found. The Navy is currently scheduled to begin investigation of the flight line and fuel pipelines at OLF Saufley in 2005.

The actual source and quantity of petroleum releases at the site are unknown. Benzene was detected in potable water well PW04, located within the site boundaries. During the initial site assessment, petroleum contaminants were detected in the subsurface soil and groundwater in the vicinity of Building 2406.

# 2.0 PREVIOUS INVESTIGATION

A site assessment was conducted at UST Site 2406 in April and May 1996 by NAS Pensacola PWC (SDIV 1998). A total of 10 monitoring wells (9 shallow and 1 deep) were installed and soil samples were collected from boreholes during the installation of the monitoring wells. Organic vapors exceeding 50 parts per million (ppm) were detected in soil samples collected from three locations. A groundwater sample from one monitoring well contained VOCs, TRPH, and lead at concentrations exceeding FDEP GCTLs (SDIV, 1998). NAS Pensacola PWC concluded that: excessively contaminated soil existed in the vicinity of monitoring wells OLFS-2406-MW3 and OLFS-2406-DMW10; petroleum constituents in the groundwater in the vicinity of OLFS-2406-MW3 were present; the source could not be determined; and no free product existed in the groundwater. NAS Pensacola PWC recommended the development of a RAP for soil and development of a Monitoring Only Plan for groundwater.

After review of the SAR, FDEP responded with comments requiring additional assessment to further delineate the extent of the soil and groundwater contamination, as well as, determine the source of the contamination (FDEP, 1998). FDEP specifically requested an additional shallow monitoring well and an intermediate monitoring well be installed.

During July and August 2000, additional site assessment was conducted by TtNUS in the area near PW04. Seven soil borings were advanced at the site to total depths of 42 feet. Soil samples from the borings were screened for soil contamination and five soil samples were sent to a laboratory for confirmatory analysis of gasoline and kerosene analytical group parameters Soil screening results were less than 50 ppm and the soil sample laboratory analytical results were less than FDEP SCTLs. Three new monitoring wells were installed, one shallow well, one intermediate well, and one deep well. Groundwater samples were collected from these three wells and analyzed for gasoline and kerosene analytical group parameters (Chapter 62-770, F.A.C.). Results of the additional site assessment indicated that a groundwater sample from monitoring well OLFS-2406-DMW12 contained EDB and benzene at concentrations exceeding FDEP's GCTLs.

Based on the exceedances reported in monitoring well OLFS-2406-DMW-12, the site assessment was continued and included the installation of three additional monitoring wells surrounding monitoring well OLFS-2406-DMW-12. In October and November 2001, groundwater samples were collected from six monitoring wells and again analyzed for gasoline and kerosene analytical group parameters.

The analytical results for the additional sampling event indicated that benzene, ethylbenzene, xylenes, and toluene were present in the groundwater collected from the three additional monitoring wells. The detected concentrations exceeded the FDEP GCTLs.

Because elevated concentrations were detected in the groundwater samples from deep monitoring wells located at the site, NAVFAC EFD SOUTH determined that additional investigation and assessment was warranted and authorized additional site assessment activities. The additional site assessment activities, including direct-push technology (DPT) soil and groundwater investigation, monitoring well installation, and groundwater sampling, were conducted from October 2002 through January 2003.

The OVA results from the DPT soil investigation indicated excessively contaminated soil was present in the 25 to 44 feet bls interval in the vicinity of the former USTs located west of Building 2406. The presence of benzene, toluene, ethylbenzene, xylenes, and TRPH were confirmed by either mobile laboratory or fixed-based laboratory results. The mobile laboratory groundwater results from the DPT groundwater investigation indicated that benzene, toluene, ethylbenzene, xylenes are in the shallow groundwater (55 feet bls) and the deep groundwater contained these same contaminants. The majority of contaminant levels detected in the groundwater were less than the FDEP GCTLs. The contaminants, as well as, the contaminant levels were confirmed by the fixed-based laboratory.

Based on the DPT soil and groundwater investigation results, 21 monitoring wells [6 shallow (55 feet bls), 13 intermediate (65 – 80 feet bls) and 2 deep (130 – 135 feet bls)] were installed and sampled for VOCs, PAHs, TRPH, and lead. During the groundwater sampling event, free-product was detected in all six of the newly installed shallow monitoring wells. The free-product plume was located in the vicinity of the former six 20,000 gallon USTs, as well as, the excessively contaminated soil. Results from the intermediate monitoring wells indicated that several VOCs, PAHs, TRPH and lead were present in intermediate groundwater. Results from the deep monitoring wells did not indicate any contaminants were present in deep groundwater.

As part of the investigation, TtNUS completed an informal survey of residents located on Saufley Field Road to determine their current water source. Municipal water is currently available for the residents (TtNUS, 2003).

Based on findings from the additional site assessment activities, TtNUS concluded and recommended the following:

- Petroleum contaminants above the FDEP SCTLs are present in the soil at 25 to 45 feet bls in the vicinity of the free product plume.

- Free-product is present covering an approximate area of 45,000 square feet in the vicinity of the former tank farm area and fuel distribution pipelines, near at the intersection of Raby Avenue and McKinnon Street.

- Dissolved petroleum contaminants above the FDEP GCTLs are present in the groundwater. The groundwater contamination is located from the water table (approximately 45 feet bls) to 130 feet bls, in an area that extends from 200 feet east of the free product plume to 500 feet southwest of the free product plume to 600 feet west of the free product plume.

- Exposure pathways of human receptors to subsurface soil are not complete; therefore, direct exposure to the subsurface soil is not possible.

- Exposure pathways of human receptors to groundwater via surface water or potable water supply wells are not complete; therefore, direct exposure to the groundwater is not possible.

Based upon the hydrogeological and chemical data presented in this SARA the source of contamination is most likely the intersection between the fuel supply line and the former tank farm, which is located in the free product plume and area of soil contamination. The groundwater contamination has moved in a downgradient direction, which is to be expected, but it is possible that dissolved contamination has also moved in an upgradient direction during past operation of the potable water well, PW04.

In accordance with the conclusions, TtNUS recommended that a RAP be completed for UST Site 2406, OLF Saufley. In addition to the RAP for the known contamination, further evaluation and proper closure of the fuel oil USTs, the AVGAS USTs, and the fuel distribution pipe line system should be conducted, and immediate recovery of free product should be initiated (TtNUS, 2003).

After reviewing the SARA, FDEP responded with comments requiring further investigation (FDEP, 2003). FDEP determined the vertical and horizontal contamination found in the southwestern boundary of the intermediate aquifer was not delineated. In order to address these comments, additional assessment was needed to better define the free-product plume, as well as the vertical and horizontal extent of dissolved petroleum contamination. A copy of FDEP's comments to SARA No. 1 is provided as Appendix A.

# 3.0 SITE ASSESSMENT METHODOLOGY

Groundwater assessment data were collected to further define the vertical and horizontal extent of petroleum contamination, and to define the horizontal extent of the free-product. The following activities were conducted as part of the site assessment:

- Quality Assurance
- Groundwater Assessment

The site assessment methods used during this investigation are discussed below. The results of the investigation are presented in Sections 3.0 and 4.0.

## 3.1 QUALITY ASSURANCE

The site assessment investigation was conducted in accordance with the FDEP Standard Operating Procedures (SOPs) for Field Activities (DEP-SOP-001/01).

- Decontamination Procedures
- Instrument Calibration
- Sample Collection Procedures
- Sample Management

Equipment used to advance the soil borings, to install monitoring wells, and to collect groundwater samples was decontaminated prior to and following each use.

Field instruments were used during the site assessment to measure organic vapor concentrations and to monitor groundwater quality during sampling. OVAs were made using a Photovac MicroFID as required by FDEP. Prior to each day's activities, the Flame Ionization Detector (FID) was field calibrated with 100-ppm methane-in-air span gas, in accordance with the manufacturer's directions. During each day's sampling, periodic instrument response checks were made with the span gas. Groundwater quality measurements were made with an YSI 556 multiparameter instrument. Prior to each day's activities, the meter was field calibrated with a standard calibration solution, in accordance with the manufacturer's directions. Equipment calibration documents are included in Appendix B.

Groundwater sampling activities were performed in accordance with the procedures prescribed in DEP-SOP-001/01. Groundwater samples were collected in containers provided by the laboratory. As part of

the groundwater sampling event, quality control samples (e.g. matrix spike duplicate, rinsate blanks and trip blanks) were collected and submitted to the laboratory.

Sampling activities were documented in a site-specific field logbook, and samples were transmitted under chain-of-custody protocols to the laboratory.

## 3.2 SOIL ASSESSMENT

The soil screening investigation conducted as part of this SARA was limited to lithologic descriptions of drilling cores and OVA screening measurements recorded during monitoring well installation. During Rotosonic drilling operations continuous soil cores were recovered and soil samples from the cores were viewed and described by the on-site geologist and screened for OVA headspace. No soil samples were collected for on-site or off-site analysis.

### 3.2.1 Soil Lithologic Descriptions

Soil borings for the monitoring wells were advanced with a Rotosonic drill rig which uses a continuous soil core sampler. The soil core sampler is approximately 20 feet long and lined with disposable plastic sleeves. The soil borings were advanced continuously from ground surface to the water table at each soil boring location. The site geologist recorded the soil properties, including texture, color and soil moisture for each soil boring and noted staining or odors. Soil boring logs are provided in Appendix B.

### 3.2.2 Organic Vapor Analysis

Soil sample cores were screened on site at 5-foot intervals for OVA vapors organic vapors using a FID. Formal headspace screening as outlined in 62-770.200(8) F.A.C. was not completed. Instead, the sample cores were broken at specific intervals and bedding planes and the FID response to total organic vapor was measured by inserting the FID probe into the break and recording the highest instrument reading on the soil boring log. The OVA screening measurements were recorded in the field on the soil boring logs and are included in Appendix B.

## 3.3 GROUNDWATER ASSESSMENT

The additional groundwater assessment was conducted at UST Site 2406 to further delineate the vertical and horizontal extent of the dissolved petroleum contamination in the groundwater reported during the initial site assessment (SDIV, 1998) and the subsequent SARA. Further delineation of the horizontal extent of the free-product reported during the SARA was also conducted. Delineation was accomplished

by installing permanent monitoring wells at selected locations based on the data collected during the previous investigations.

### 3.3.1 Monitoring Well Locations

Ten shallow monitoring wells (OLFS-2406-MW38, -MW39, -MW40, -MW41, -MW42S, -MW43S, -MW44S, -MW45, MW46S, and -MW47) and three deep monitoring wells (OLFS-2406-MW42D, -MW43D, and -MW44D) were installed at the site (Figure 3-1). Data obtained during the Site Assessment Addendum activities were evaluated to determine the locations of these new wells. Monitoring wells OLFS-2406-MW38 through OLFS-2406-MW41, and OLFS-2406-MW45 were installed to delineate the horizontal extent of the free-product plume; and monitoring wells OLFS2406-MW42S through OLFS-2406-MW44S, 2406-MW46, OLFS-2406-MW47, and OLFS-2406-MW42D through OLFS-2406-MW44D were installed to delineate the horizontal and vertical extent of the dissolved petroleum contamination in groundwater.

### 3.3.2 Monitoring Well Installation

The monitoring well borings were drilled with a tractor and trailer mounted Rotosonic drill rig using 4.25-inch inside diameter (ID) rods creating a nominal borehole diameter of approximately 4.5-inches. All wells were constructed of 2-inch 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 generally installed to approximately 56 feet bls with a 15-foot screen section that bracketed the water table. Because of site-specific conditions three of the wells were completed to different depths. Monitoring Well OLFS-2406-MW43S was completed to a depth of 50 feet bls due to the presence of a clay layer in the anticipated screen zone and monitoring wells OLFS-2406-MW45 and OLFS-2406-MW46 were completed to depths of 45 feet bls and 50 feet bls, respectively in order to effectively bracket the water table. The three deep monitoring wells (OLFS-2406-MW42D, OLFS-2406-MW43D, and OLFS-2406-MW44D) were installed to approximately 130 feet bls. All of the deep monitoring wells were constructed of 2-inch ID, flush-threaded, schedule 40 PVC riser and 5-feet or 10 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 bentonite or fine sand seal. The remainder of the annulus was grouted with a Portland/Bentonite mixture to the surface. Each well was secured with a locking, watertight cap within a steel, 8-inch diameter manhole. The manhole was set in a 24-inch square concrete apron finished slightly above grade. Monitoring well construction detail completion diagrams are provided in Appendix B.

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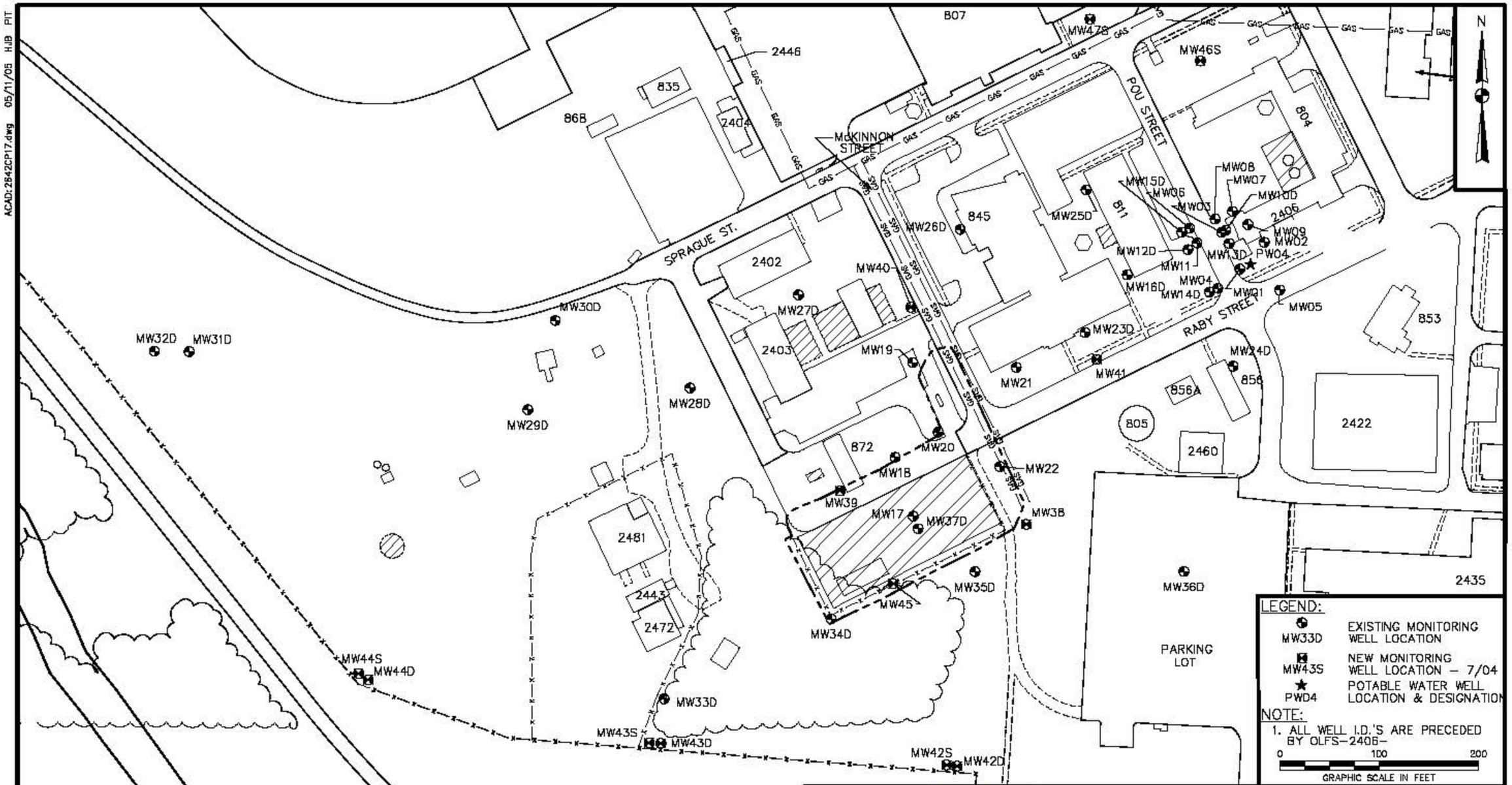


LEGEND:

| | |
|---|---|
| MW33D | EXISTING MONITORING WELL LOCATION |
| MW43S | NEW MONITORING WELL LOCATION – 7/04 |
| PWD4 | POTABLE WATER WELL LOCATION & DESIGNATION |

NOTE:

1. ALL WELL I.D.'S ARE PRECEDED BY OLFS–2406–

0 100 200

GRAPHIC SCALE IN FEET

| | | | |
|---|---|---|---|
| DRAWN BY DM | DATE 11/18/04 | MONITORING WELL LOCATION MAP<br>SITE ASSESSMENT REPORT ADDENDUM NO. 2<br>OLF SAUFLEY - SITE 2406<br>NAS PENSACOLA<br>PENSACOLA, FLORIDA | CONTRACT NO. 2842 |
| CHECKED BY | DATE | | OWNER NO. 0000 |
| REVISED BY | DATE | | APPROVED BY / DATE |
| SCALE AS NOTED | | | DRAWING NO. FIGURE 3-1 / REV. 0 |

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### 3.3.3 Monitoring Well Development

Each monitoring well was developed using a surge and pump technique. A well was considered developed once the pH, temperature, and conductivity of the extracted groundwater stabilized and the groundwater was visibly clear. Development water from the site was stored in labeled 55-gallon drums for later disposal based on the groundwater sampling analytical results. Monitoring well development records are provided in Appendix B.

### 3.3.4 Monitoring Well Sampling

Groundwater samples were collected from the newly installed site monitoring wells to evaluate groundwater quality in the shallow surficial aquifer at UST Site 2406. 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. Each monitoring well was purged using a submersible Grundfos pump until the water quality parameters were stable over consecutive readings, in accordance with the DEP-SOP-001/01. Temperature, pH, specific conductance, dissolved oxygen concentration, and turbidity were monitored during the well purging activities. Groundwater sample log sheets are provided in Appendix B.

The groundwater samples collected from the new monitoring wells were analyzed for VOCs [United States Environmental Protection Agency (EPA) SW-846 Method 8260B], PAHs (EPA SW-846 Method 8270C), EDB using EPA Method 504.1, TRPH [Florida Petroleum Range Organics (FL-PRO)] and lead (EPA SW-846 Method 3010A/6010B). Monitoring wells OLFS-2406-MW46 and OLFS-2406-MW47 were analyzed at a later sampling date and were analyzed for VOCs (EPA SW-846 Method 8260B), and PAHs (EPA SW-846 Method 8270C) only. In addition to the new monitoring wells being sampled, several previously installed monitoring wells (OLFS-2406-DMW13, -MW28, -MW29, -MW32D, -MW34D, and -MW27D) were sampled. The groundwater collected from these monitoring wells was analyzed for specific parameters based on the analytical results presented in the SARA (TtNUS, 2003). Intermediate monitoring wells OLFS-2406-MW28D, -MW29D, and -MW34D were re-sampled for lead only. Intermediate monitoring well OLFS-2406-MW29D was re-sampled for VOCs, whereas deep monitoring wells OLFS-2406-MW13D, -MW32D, and MW37D were re-sampled for VOCs and lead. Groundwater laboratory analytical reports are presented in Appendix C.

## 3.4 AQUIFER CHARACTERIZATION

Data were collected during the additional site investigation to evaluate the presence of free product and direction of groundwater movement. Groundwater elevations were determined from static water level (SWL) measurements and a well top-of-casing (TOC) elevation survey.

### 3.4.1 Well TOC Survey

A reference point was marked on the top of each monitoring well casing on the north side. The TOC of monitoring well OLFS-2406-MW04 was established as an arbitrary datum with an elevation of 127.94 feet. The elevations of the reference points were surveyed to the nearest 0.01-foot, relative to the TOC of OLFS-2406-MW04. The survey data calculations are included in Appendix B.

### 3.4.2 Static Water Level Measurements

A round of depth-to-free product and depth-to-groundwater measurements was made in all site monitoring wells on July 28, 2004. Monitoring wells OLFS-2406-MW46 and OLFS-2406-MW47 were not included in the groundwater measurement survey because they were installed at a later date. Measurements were made from the reference points marked on the tops of the well casings with an oil-water interface probe. Depth to free product, if present and depth to SWL measurements were made to the nearest 0.01-foot. Groundwater elevations were calculated from the TOC survey elevations and the SWL measurements. In monitoring wells containing free product, water level measurement were corrected for the presence of free product assuming a free product specific gravity of 0.8. The depths to water measurements are discussed in Section 4.2 and the original recorded measurements are presented in Appendix B.

# 4.0 SITE ASSESSMENT RESULTS

## 4.1 SOIL ASSESSMENT RESULTS

Interpretation of site lithology and stratigraphy was based on visual examination of soil cores collected from soil borings during the monitoring well installation. The recorded lithologies were consistent with previous descriptions at the site (TtNUS, 2003). Typical lithology at the site consists of inter-bedded, various colored, silty clayey sands, silty sands; clayey silty sands, and silty sand.

The OVA screening results for soil samples collected during monitoring well drilling are included in the boring logs in Appendix B and summarized on Table 4-1. Eleven (11) soil borings were advanced for monitoring well installation and OVA screening results were recorded for eight of the soil borings. Three of the soil borings were completed as nested well pairs and therefore OVA screening was not completed on both adjacent well pairs.

Elevated OVA screening measurements were recorded on two of the completed soil borings. In soil boring OLFS2406SB41 (monitoring well OLFS-2406-MW41) a measurement of 16 ppm was reported at the 35 to 40 feet bls interval, which was located immediately above the water table. And soil boring OLFS2406SB44 (monitoring well OLFS-2406-MW45) was reported to contain elevated OVA measurements of 500 ppm, 4,350 ppm, and 210 ppm at depth intervals of 30 to 35 feet, 35 to 40 feet, and 40 to 45 feet; respectively. The water level at this location was approximately 36 feet bls. The detected elevated OVA screening concentrations are likely a result of groundwater fluctuations causing a smearing of contamination immediately in the vadose zone.

## 4.2 SITE HYDROGEOLOGY

Hydrogeologic data were collected during the additional 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 at the site.

### 4.2.1 Static Water Level and Groundwater Elevations

On-site depth to water measurements and groundwater elevation determinations were recorded from site monitoring wells on July 28, 2004. The water level measurements are compiled on Table 4-2 and presented graphically for the shallow, intermediate, and deep groundwater flow zones on figures 4-1, 4-2 and 4-3, respectively.

**TABLE 4-1**
**SOIL OVA HEADSPACE RESULTS**
**UST SITE 2406**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**

**PAGE 1 OF 4**

| SAMPLE LOCATION NO. | SAMPLE DATE | DEPTH TO WATER (ft bls) | SAMPLE INTERVAL (ft bls) | TOTAL OVA READING (ppm) | COMMENTS |
|---|---|---|---|---|---|
| OLFS2406SB34 (Monitoring Well OLFS-2406-MW-38) | 07/07/04 | 41 | 0-5 | 0 | |
| | | | 5-10 | 0 | |
| | | | 10-15 | 0 | |
| | | | 15-20 | 0 | |
| | | | 20-25 | 0 | |
| | | | 25-30 | 0 | |
| | | | 30-35 | 0 | |
| | | | 35-40 | 0 | |
| | | | 40-45 | 0 | |
| | | | 45-50 | 0 | Boring terminated at 56 ft bls |
| | | | 50-55 | 0 | |
| OLFS2406SB35 (Monitoring Well OLFS-2406-MW-39) | 7/7/04 | 36 | 0-5 | 0 | |
| | | | 5-10 | 0 | |
| | | | 10-15 | 0 | |
| | | | 15-20 | 0 | |
| | | | 20-25 | 0 | |
| | | | 25-30 | 0 | |
| | | | 30-35 | 0 | |
| | | | 35-40 | 0 | |
| | | | 40-45 | 0 | |
| | | | 45-50 | 0 | Boring terminated at 56 ft bls |
| | | | 50-55 | 0 | |
| OLFS2406SB36 (Monitoring Well OLFS-2406-DMW42D) | 7/8/04 | 45 | 0-5 | 0 | |
| | | | 5-10 | 0 | |
| | | | 10-15 | 0 | |
| | | | 15-20 | 0 | |
| | | | 20-25 | 0 | |
| | | | 25-30 | 0 | |
| | | | 30-35 | 0 | |
| | | | 35-40 | 0 | |
| | | | 40-45 | 0 | |
| | | | 45-50 | 0 | |
| | | | 50-55 | 0 | |
| | | | 55-60 | 0 | |
| | | | 60-65 | 0 | |
| | | | 65-70 | 0 | |
| | | | 70-75 | 0 | |
| | | | 75-80 | 0 | |
| | | | 80-85 | 0 | |
| | | | 85-90 | 0 | |
| | | | 90-95 | 0 | |
| | | | 95-100 | 0 | |
| | | | 100-105 | 0 | |
| | | | 105-110 | 0 | |
| | | | 110-115 | 0 | |
| | | | 115-120 | 0 | |
| | | | 120-125 | 0 | Boring terminated at 130 ft bls |
| | | | 125-130 | 0 | |

Notes:
ft bls = feet below land surface
ppm = parts per million
GW = groundwater
OVA = Organic Vapor Analysis
NA = not available; readings were not recorded below the water table

**TABLE 4-1**
**SOIL OVA HEADSPACE RESULTS**
**UST SITE 2406**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**

**PAGE 2 OF 4**

| SAMPLE LOCATION NO. | SAMPLE DATE | DEPTH TO WATER (ft bls) | SAMPLE INTERVAL (ft bls) | TOTAL OVA READING (ppm) | COMMENTS |
|---|---|---|---|---|---|
| OLFS2406SB37 (Monitoring Well OLFS-2406-MW42S) | 7/9/04 | 34 | | | Data not collected because location adjacent to soil boring OLFS-2406-SB36<br>Boring terminated at 56 ft bls |
| OLFS2406SB38 (Monitoring Well OLFS-2406-MW43D) | 7/9/04 | 38 | 0-5 | 0 | |
| | | | 5-10 | 0 | |
| | | | 10-15 | 0 | |
| | | | 15-20 | 0 | |
| | | | 20-25 | 0 | |
| | | | 25-30 | 0 | |
| | | | 30-35 | 0 | |
| | | | 35-40 | 0 | |
| | | | 40-45 | 0 | |
| | | | 45-50 | 0 | |
| | | | 50-55 | 0 | |
| | | | 55-60 | 0 | |
| | | | 60-65 | 0 | |
| | | | 65-70 | 0 | |
| | | | 70-75 | 0 | |
| | | | 75-80 | 0 | |
| | | | 80-85 | 0 | |
| | | | 85-90 | 0 | |
| | | | 90-95 | 0 | |
| | | | 95-100 | 0 | |
| | | | 100-105 | 0 | |
| | | | 105-110 | 0 | |
| | | | 110-115 | 0 | |
| | | | 115-120 | 0 | |
| | | | 120-125 | 0 | Boring terminated at 130 ft bls |
| | | | 125-130 | 0 | |
| OLFS2406SB39 (Monitoring Well OLFS-2406-MW43S) | 7/10/04 | 19 | | | Data not collected because location adjacent to soil boring OLFS-2406-SB38<br>Boring terminated at 56 ft bls |

Notes:
ft bls = feet below land surface
ppm = parts per million
GW = groundwater
OVA = Organic Vapor Analysis
NA = not available; readings were not recorded below the water table

**TABLE 4-1**
**SOIL OVA HEADSPACE RESULTS**
**UST SITE 2406**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**

**PAGE 3 OF 4**

| SAMPLE LOCATION NO. | SAMPLE DATE | DEPTH TO WATER (ft bls) | SAMPLE INTERVAL (ft bls) | TOTAL OVA READING (ppm) | COMMENTS |
|---|---|---|---|---|---|
| OLFS2406SB40 (Monitoring Well OLFS-2406-MW40S) | 7/11/04 | | 0-5 | 0 | |
| | | | 5-10 | 0 | |
| | | | 10-15 | 0 | |
| | | | 15-20 | 0 | |
| | | | 20-25 | 0 | |
| | | | 25-30 | 0 | |
| | | | 30-35 | 0 | |
| | | | 35-40 | 0 | |
| | | 41 | 40-45 | 0 | |
| | | | 45-50 | 0 | Boring terminated at 56 ft bls |
| | | | 50-55 | 0 | |
| OLFS2406SB41 (Monitoring Well OLFS-2406-MW41S) | 7/11/04 | | 0-5 | | Data not collected from 0 to 30 ft bls; location adjacent to soil boring OLFS-2406-DMW23 |
| | | | 5-10 | | |
| | | | 10-15 | | |
| | | | 15-20 | | |
| | | | 20-25 | | |
| | | | 25-30 | | |
| | | | 30-35 | 0 | |
| | | | 35-40 | 16 | |
| | | 40 | 40-45 | 0 | |
| | | | 45-50 | 0 | Boring terminated at 56 ft bls |
| | | | 50-55 | 0 | |
| OLFS2406SB42 (Monitoring Well OLFS-2406-MW44D) | 7/12/04 | | 0-5 | 0 | |
| | | | 5-10 | 0 | |
| | | | 10-15 | 0 | |
| | | | 15-20 | 0 | |
| | | | 20-25 | 0 | |
| | | 29 | 25-30 | 0 | |
| | | | 30-35 | 0 | |
| | | | 35-40 | 0 | |
| | | | 40-45 | 0 | |
| | | | 45-50 | 0 | |
| | | | 50-55 | 0 | |
| | | | 55-60 | 0 | |
| | | | 60-65 | 0 | |
| | | | 65-70 | 0 | |
| | | | 70-75 | 0 | |
| | | | 75-80 | 0 | |
| | | | 80-85 | 0 | |
| | | | 85-90 | 0 | |
| | | | 90-95 | 0 | |
| | | | 95-100 | 0 | |
| | | | 100-105 | 0 | |
| | | | 105-110 | 0 | |
| | | | 110-115 | 0 | |
| | | | 115-120 | 0 | |
| | | | 120-125 | 0 | Boring terminated at 130 ft bls |
| | | | 125-130 | 0 | |

Notes:
ft bls = feet below land surface
ppm = parts per million
GW = groundwater
OVA = Organic Vapor Analysis
NA = not available; readings were not recorded below the water table

**TABLE 4-1**
**SOIL OVA HEADSPACE RESULTS**
**UST SITE 2406**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**

**PAGE 4 OF 4**

| SAMPLE LOCATION NO. | SAMPLE DATE | DEPTH TO WATER (ft bls) | SAMPLE INTERVAL (ft bls) | TOTAL OVA READING (ppm) | COMMENTS |
|---|---|---|---|---|---|
| OLFS2406SB43 (Monitoring Well OLFS-2406-MW-44S) | 7/13/04 | 29 | | | Data not collected because location adjacent to soil boring OLFS-2406-SB42<br>Boring terminated at 56 ft bls |
| OLFS2406SB44 (Monitoring Well OLFS-2406-MW-45S) | 7/13/04 | 36 | 0-5 | 0 | Boring terminated at 46 ft bls |
| | | | 5-10 | 0 | |
| | | | 10-15 | 0 | |
| | | | 15-20 | 0 | |
| | | | 20-25 | 0 | |
| | | | 25-30 | 0 | |
| | | | 30-35 | 500 | |
| | | | 35-40 | 4,350 | |
| | | | 40-45 | 210 | |

Notes:
ft bls = feet below land surface
ppm = parts per million
GW = groundwater
OVA = Organic Vapor Analysis
NA = not available; readings were not recorded below the water table

**TABLE 4-2**
**GROUNDWATER ELEVATION SUMMARY**
**UST SITE 2406 - July 28, 2004**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**

| Well ID | TOC Elevation (ft)* | Depth of Well (ft BTOC) | Screened Interval (ft BTOC) | Depth to Water (ft BTOC) | Depth to Free Product (ft BTOC) | Free Product Thickness (ft) | Water Level Elevation (ft) |
|---|---|---|---|---|---|---|---|
| **SHALLOW** | | | | | | | |
| OLFS-2406-MW01 | 127.71 | 47.01 | 37 - 47 | 40.85 | ND | NA | 86.86 |
| OLFS-2406-MW02 | 128.54 | 46.74 | 37 - 47 | 41.49 | ND | NA | 87.05 |
| OLFS-2406-MW03 | 128.45 | 47.6 | 37 - 47 | 41.88 | ND | NA | 86.57 |
| OLFS-2406-MW05 | 127.69 | 46.39 | 37 - 47 | 40.98 | ND | NA | 86.71 |
| OLFS-2406-MW06 | 128.68 | 45.57 | 37 - 47 | 40.59 | ND | NA | 88.09 |
| OLFS-2406-MW07 | 128.67 | 46.18 | 37 - 47 | 42.38 | ND | NA | 86.29 |
| OLFS-2406-MW08 | 128.12 | 45.9 | 37 - 47 | 42.39 | ND | NA | 85.73 |
| OLFS-2406-MW09 | 128.79 | 45.8 | 37 - 47 | N/A | ND | NA | N/A |
| OLFS-2406-MW11 | 128.7 | 47.00 | 37 - 47 | 41.94 | ND | NA | 86.76 |
| OLFS-2406-MW17** | 129.93 | 53.90 | 39.5 - 54.5 | 39.33 | 38.65 | 0.68 | 90.06 |
| OLFS-2406-MW18** | 129.60 | 55.00 | 39.5 - 54.5 | 38.34 | 38.28 | 0.06 | 91.21 |
| OLFS-2406-MW19 | 130.29 | 55.63 | 39.5 - 54.5 | 40.93 | ND | ND | 89.36 |
| OLFS-2406-MW20** | 129.63 | 55.74 | 39.5 - 54.5 | 39.76 | 39.75 | 0.01 | 89.86 |
| OLFS-2406-MW21 | 129.46 | 55.85 | 39.5 - 54.5 | 40.02 | ND | ND | 89.44 |
| OLFS-2406-MW22** | 130.28 | 54.80 | 39.5 - 54.5 | 40.89 | 40.08 | 0.81 | 88.74 |
| OLFS-2406-MW38 | 131.20 | 56.00 | 39 - 56 | 41.22 | ND | NA | 89.98 |
| OLFS-2406-MW39 | 129.65 | 56.00 | 39 - 56 | 36.02 | ND | NA | 93.63 |
| OLFS-2406-MW40 | 130.06 | 56.00 | 41 - 56 | 41.15 | ND | NA | 88.91 |
| OLFS-2406-MW41 | 128.47 | 56.00 | 42 - 57 | 40.30 | ND | NA | 88.17 |
| OLFS-2406-MW42S | 127.36 | 56.00 | 39 - 56 | 33.77 | ND | NA | 93.59 |
| OLFS-2406-MW43S | 119.40 | 56.00 | 35 - 50 | 18.80 | ND | NA | 100.60 |
| OLFS-2406-MW44S | 109.01 | 56.00 | 41 - 56 | 29.04 | ND | NA | 79.97 |
| OLFS-2406-MW45 | 128.79 | 45.00 | 31 - 46 | 35.95 | ND | NA | 92.84 |
| OLFS-2406-MW46 | NA | 52.05 | 42 - 52 | NA | ND | NA | NA |
| OLFS-2406-MW47 | NA | 56.69 | 46 - 56 | NA | ND | NA | NA |
| | | | | | | | |
| **INTERMEDIATE** | | | | | | | |
| OLFS-2406-MW04 | 127.94 | 71.42 | 37 - 47 | 40.98 | ND | NA | 86.96 |
| OLFS-2406-MW10D | 128.54 | 67.00 | 62 - 67 | 42.36 | ND | NA | 86.18 |
| OLFS-2406-MW12D | 128.71 | 69.88 | 60 - 69 | 42.37 | ND | NA | 86.34 |
| OLFS-2406-MW14D | 128.12 | 72.00 | 65 - 70 | 41.66 | ND | NA | 86.46 |
| OLFS-2406-MW15D | 128.73 | 70.09 | 65 - 70 | 42.17 | ND | NA | 86.56 |
| OLFS-2406-MW16D | 128.9 | 70.49 | 65 - 70 | 42.37 | ND | NA | 86.53 |
| OLFS-2406-MW23D | 129.24 | 81.18 | 74.5 - 79.5 | 47.71 | ND | NA | 81.53 |
| OLFS-2406-MW24D | 127.85 | 81.25 | 74.5 - 79.5 | 41.17 | ND | NA | 86.68 |
| OLFS-2406-MW25D | 120.92 | 81.23 | 74.5 - 79.5 | 45.5 | ND | NA | 75.42 |
| OLFS-2406-MW26D | 130.07 | 65.85 | 59.5 - 64.5 | 43.91 | ND | NA | 86.16 |
| OLFS-2406-MW27D | 129.29 | 66.44 | 59.5 - 64.5 | 38.98 | ND | NA | 90.31 |
| OLFS-2406-MW28D | 128.44 | 80.13 | 74.5 - 79.5 | 46.14 | ND | NA | 82.30 |
| OLFS-2406-MW29D | 119.42 | 80.40 | 74.5 - 79.5 | 38.37 | ND | NA | 81.05 |
| OLFS-2406-MW30D | 120.00 | 81.80 | 74.5 - 79.5 | 38.73 | ND | NA | 81.27 |
| OLFS-2406-MW31D | 108.32 | 79.35 | 74.5 - 79.5 | 27.73 | ND | NA | 80.59 |
| OLFS-2406-MW33D | 119.56 | 80.25 | 74.5 - 79.5 | N/A | ND | NA | N/A |
| OLFS-2406-MW34DR | 125.32 | 77.90 | 74.5 - 79.5 | 27.2 | ND | NA | 98.12 |
| OLFS-2406-MW35D | 130.11 | 81.12 | 74.5 - 79.5 | 45.2 | ND | NA | 84.91 |
| OLFS-2406-MW36D | 128.47 | 79.12 | 74.5 - 79.5 | 44.94 | ND | NA | 83.53 |
| | | | | | | | |
| **DEEP** | | | | | | | |
| OLFS-2406-MW13D | 128.28 | 142.00 | 137 - 142 | 43.73 | ND | NA | 84.55 |
| OLFS-2406-MW32D | 108.50 | 135.70 | 130 - 135 | 28.13 | ND | NA | 80.37 |
| OLFS-2406-MW37D | 129.93 | 135.80 | 130 - 135 | 47.09 | ND | NA | 82.84 |
| OLFS-2406-MW42D | 127.68 | 130.00 | 125 - 130 | 45.14 | ND | NA | 82.54 |
| OLFS-2406-MW43D | 119.24 | 133.20 | 120 - 130 | 37.6 | ND | NA | 81.64 |
| OLFS-2406-MW44D | 108.92 | 130.00 | 125 - 130 | 28.89 | ND | NA | 80.03 |

Notes:

TOC = Top Of Casing
ft BTOC = feet below top of casing
* = Benchmark is arbitrary at 127.94 ft. at OLFS-2406-MW4
from the intersection of Raby Avenue and Pou Street
** = corrected for free product thickness assuming a free product specific gravity of 0.8
ND = Free Product not detected
NA = Not Applicable

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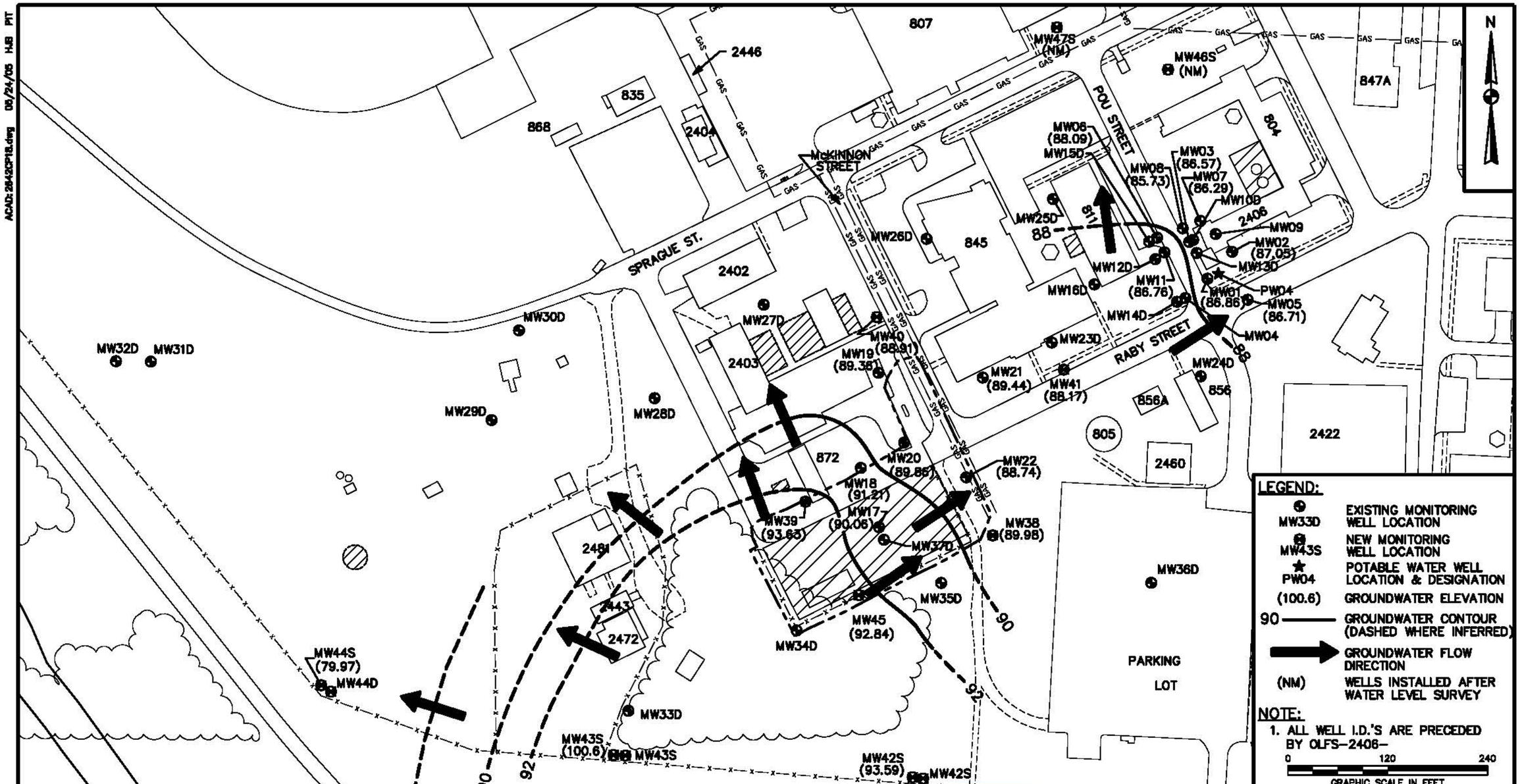



| | | | |
|---|---|---|---|
| DRAWN BY DM | DATE 11/16/04 | SHALLOW GROUNDWATER FLOW - 7/28/04<br>SITE ASSESSMENT REPORT ADDENDUM NO. 2<br>OLF SAUFLEY - SITE 2406<br>NAS PENSACOLA<br>PENSACOLA, FLORIDA | CONTRACT NO. 2642 |
| CHECKED BY | DATE | | OWNER NO. 0000 |
| REVISED BY | DATE | | APPROVED BY / DATE |
| SCALE AS NOTED | | NAVFAC | DRAWING NO. FIGURE 4-1 / REV. 0 |

FORM CADD NO. SDIV-BH.DWG - REV 1 - 9/10/98

ACAD: 2842CP19.dwg 05/12/05 HJB PIT

McKINNON STREET

SPRAGUE ST.

RABY STREET

81.0

83.0

85.0

2402

2403

2422

2460

2481

2443

2472

845

811

872

805

856A

856

MW15D (86.56)

MW10D (86.18)

MW06

MW07

MW03

MW08

2406

MW09

MW02

MW13D

MW11

PW04

MW01

MW05

MW04 (86.96)

MW14D (86.46)

MW12D (86.34)

MW16D (86.53)

MW25D* (75.42)

MW26D (88.16)

MW23D* (81.53)

MW24D (86.88)

MW41

MW21

MW40

MW19

MW27D* (90.31)

MW30D (81.27)

MW28D (82.30)

MW29D (81.05)

MW32D

MW31D (80.59)

MW20

MW18

MW22

MW39

MW17

MW37D

MW38

MW36D (83.53)

MW35D (84.91)

MW45

MW34D* (98.12)

MW44S

MW44D

MW33D

MW43S

MW43S

MW42S

MW42D

N

LEGEND:

| | |
|---|---|
| MW33D | EXISTING MONITORING WELL LOCATION |
| MW43S | NEW MONITORING WELL LOCATION |
| PW04 | POTABLE WATER WELL LOCATION & DESIGNATION |
| (83.45) | GROUNDWATER ELEVATION |
| * | LOCATION NOT USED IN CONTOUR DETERMINATION |
| 80 | GROUNDWATER CONTOUR (DASHED WHERE INFERRED) |
| | GROUNDWATER FLOW DIRECTION |

NOTE:
1. ALL WELL I.D.'S ARE PRECEDED BY OLFS-2406-

0 100 200
GRAPHIC SCALE IN FEET

| | |
|---|---|
| DRAWN BY DM | DATE 11/16/04 |
| CHECKED BY | DATE |
| REVISED BY | DATE |
| SCALE AS NOTED | |

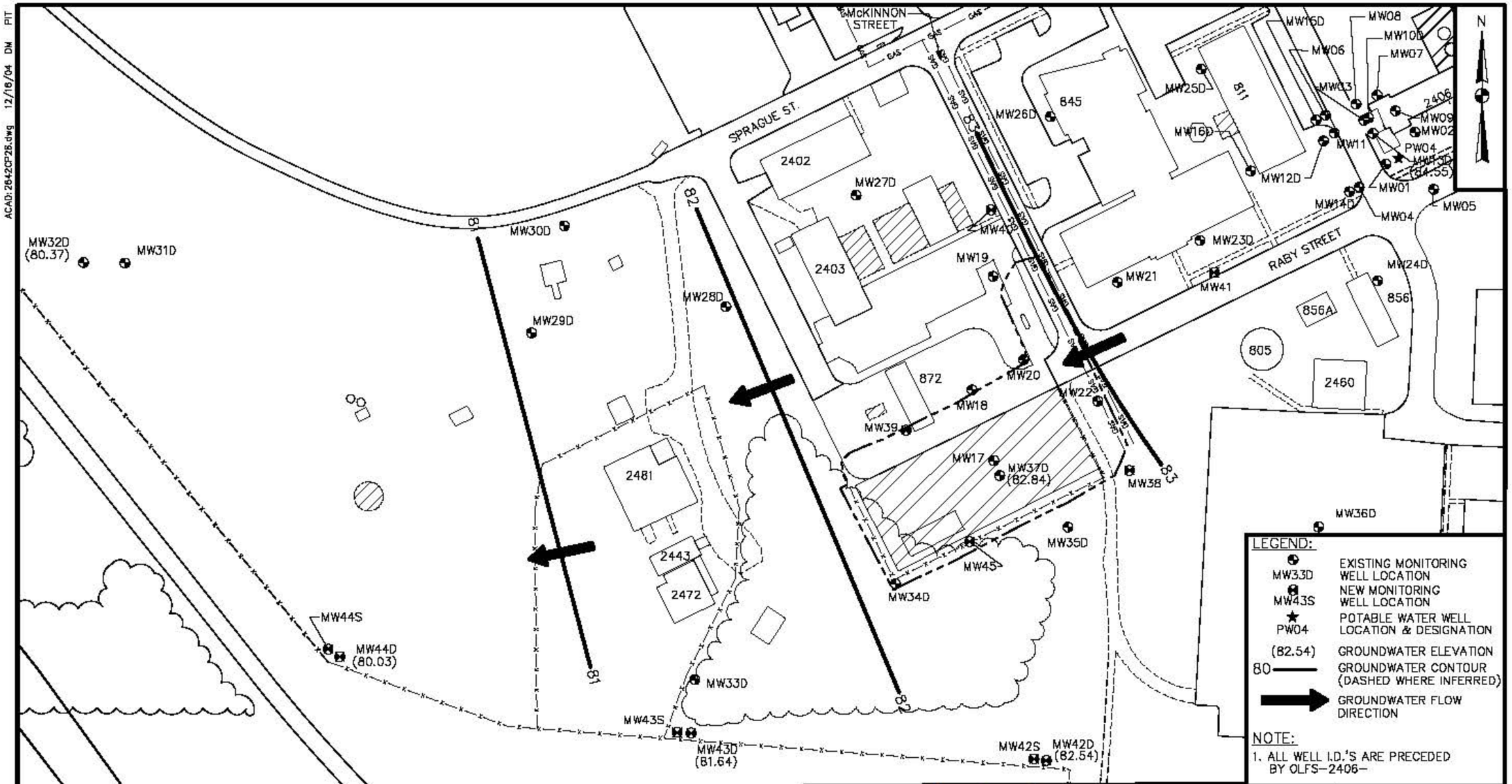
NAVFAC

INTERMEDIATE GROUNDWATER FLOW - 7/28/04
SITE ASSESSMENT REPORT ADDENDUM NO. 2
OLF SAUFLEY - SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

| | |
|---|---|
| CONTRACT NO. 2842 | |
| OWNER NO. 0000 | |
| APPROVED BY | DATE |
| DRAWING NO. FIGURE 4-2 | REV. 0 |

FORM CADD NO. SOIV-BH.DWG - REV 1 - 9/10/98

ACAD: 2842CP28.dwg 12/16/04 DM PIT




| | | | |
|---|---|---|---|
| DRAWN BY DM | DATE 11/16/04 | DEEP GROUNDWATER FLOW - 7/28/04<br>SITE ASSESSMENT REPORT ADDENDUM NO. 2<br>OLF SAUFLEY - SITE 2406<br>NAS PENSACOLA<br>PENSACOLA, FLORIDA | CONTRACT NO. 2842 |
| CHECKED BY | DATE | | OWNER NO. 0000 |
| REVISED BY | DATE | | APPROVED BY / DATE |
| SCALE AS NOTED | | | DRAWING NO. FIGURE 4-3 / REV. 0 |

NAVFAC

FORM CADD NO. SDIV-BH.DWG - REV 1 - 9/10/98

The depth to water measurement data and the relative elevations from the well TOC survey were used to determine relative groundwater elevations at each monitoring well.

For monitoring wells designated as the shallow flow zone depth to water measurements ranged from 18.80 feet below top of casing (BTOC) in OLFS-2406-MW43S to 42.39 feet BTOC in OLFS-2406-MW08. The relative groundwater elevations in the shallow wells ranged from 79.97 feet in OLFS-2406-MW44S to 100.60 feet in OLFS-2406-MW43S. Although free product was present in four monitoring wells (OLFS-2406-MW17, -MW18, -MW20, and –MW22), the water levels from these wells were corrected for density differences of free product using an assumed free product specific gravity of 0.8. As indicated on Figure 4-1, groundwater flow for the shallow (45 to 56 feet bls) screened groundwater interval is in radial direction with the high point located the former fuel farm area. Based on the current data it is unclear if this pattern is consistent in the area south of the fuel tank area.

The water level measurements in the intermediate wells ranged from 27.20 feet BTOC in OLFS-2406-MW34D to 47.71 feet BTOC in OLFS-2406-MW23D. The relative groundwater elevations in the intermediate wells ranged from 75.42 feet. in OLFS-2406-MW25D to 98.12 feet. in OLFS-2406-MW34D. As indicated on Figure 4-2, groundwater flow for the intermediate (65 to 81 feet bls) screened groundwater interval is generally in a radial direction near the former fuel farm area and to the west southwest near production well PW04. Because of the flow patterns there appears to be a north northwest to south southeast trending trough located beneath Building 845.

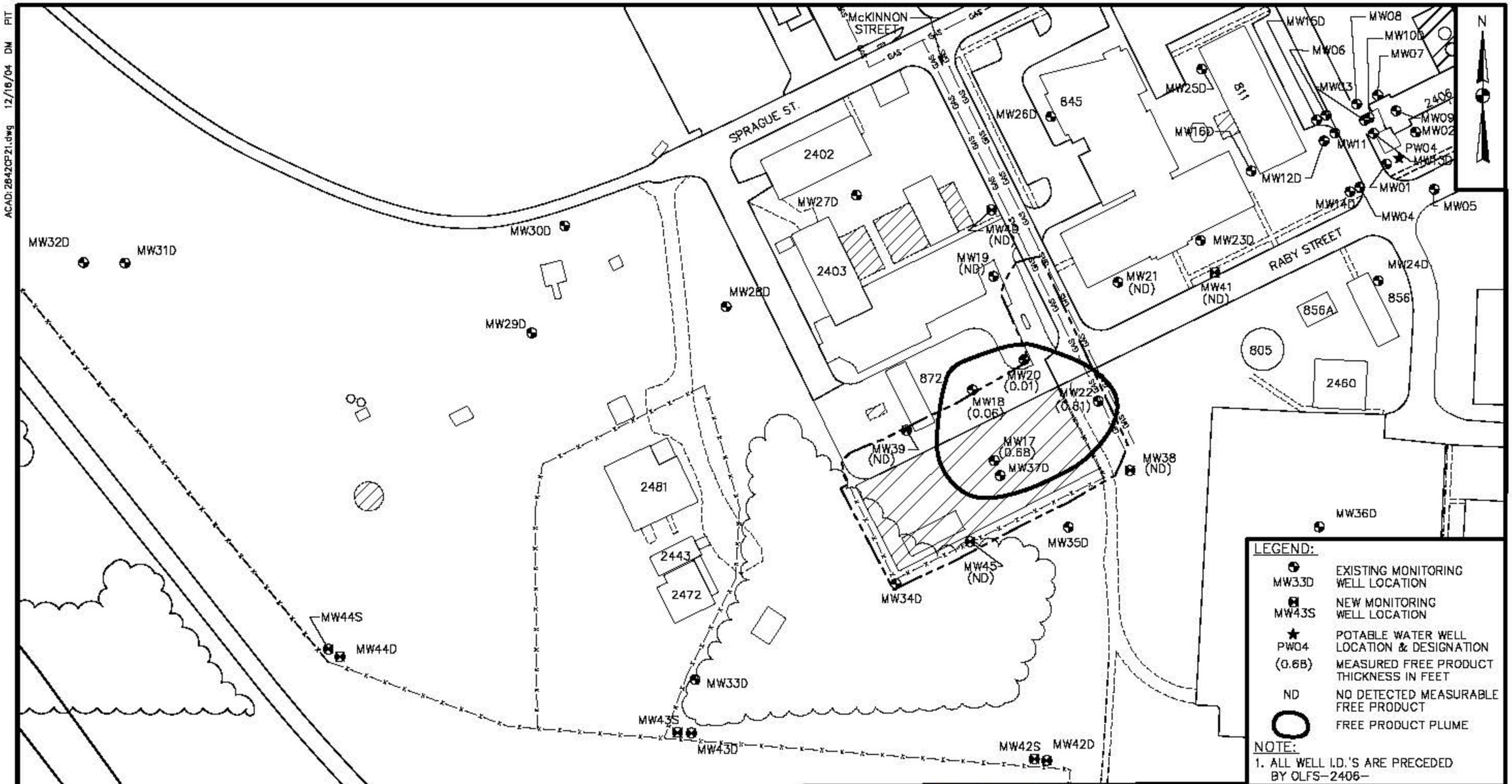
The depth to water measurements in the deep wells ranged from 28.13 feet BTOC in OLFS-2406-MW32D to 47.09 feet BTOC in OLFS-2406-MW37D. The relative groundwater elevation in the deep wells ranged from 80.03 feet in OLFS-2406-MW44D to 84.55 feet in OLFS-2406-MW-13D. As indicated on Figure 4-3, groundwater flow on the deep (130 to 142 feet bls) screened groundwater interval is toward the west southwest.

### 4.2.2 Free Product Measurement Determination

Free product thickness measurements were recorded from site monitoring wells in July 2004. Four of the monitoring wells at the site contained measurable thickness of free product. Free product measurements ranged from a 0.01 feet to 0.81 feet in thickness. Figure 4-4 presents the free product thickness measurements from the July 2004 measurement event.

A determination of free product contaminant mass was completed for the site based on the July 2004. The determination was completed using the formula:

ACAD: 2842CP21.dwg 12/16/04 DM PIT




| | | | |
|---|---|---|---|
| DRAWN BY DM | DATE 11/18/04 | FREE PRODUCT - 7/28/04<br>SITE ASSESSMENT REPORT ADDENDUM NO. 2<br>OLF SAUFLEY - SITE 2406<br>NAS PENSACOLA<br>PENSACOLA, FLORIDA | CONTRACT NO. 2842 |
| CHECKED BY | DATE | | OWNER NO. 0000 |
| REVISED BY | DATE | | APPROVED BY / DATE |
| SCALE AS NOTED | | | DRAWING NO. FIGURE 4-4 / REV. 0 |

NAVFAC

FORM CADD NO. SDIV-BH.DWG - REV 1 - 9/10/98

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

where:

T = Average observed thickness (feet) = 0.39 feet

A = Total area of plume (feet$^2$) = 20,000 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 approximately 57,470 lbs.

## 4.3 GROUNDWATER ASSESSMENT RESULTS

Groundwater samples were collected from 8 previously installed monitoring wells [2 shallow (55 ft bls) and 6 deep (130 feet bls)] and 11 newly installed monitoring wells [8 shallow (45 to 56 feet bls) and 3 deep (130 to 133 feet bls)]. The results of the groundwater sample analyses are summarized in Table 4-3, and the analytical results for the shallow, intermediate and deep groundwater flow zones are illustrated on Figures 4-5, 4-6, and 4-7; respectively. The validated laboratory analytical data is included in Appendix C.

### 4.3.1 Existing Monitoring Well Groundwater Resampling Results

Six existing monitoring wells (OLFS-2406-DMW13, -MW28, MW29, -MW32D, -MW34D, and –MW37D) were sampled for specific parameters based on the results reported in the SARA No.1 (TtNUS, 2003).

Intermediate monitoring wells OLFS-2406-MW28D and OLFS-2406-MW34D were re-sampled for lead only. Lead was not detected above instrument detection limits in either of the groundwater samples. Analytical results from the previous sampling event January 7, 2003 and March 10, 2003, respectively indicated lead [17.9 micrograms per liter (µg/L) and 69.5 µg/L, respectively] was present in the groundwater samples at concentrations above the FDEP GCTL of 15 µg/L. The previously detected lead concentrations were not confirmed by this resampling event.

Intermediate monitoring well OLFS-2406-MW29D was re-sampled for VOCs only. Three VOCs: benzene, chloroform, and 1,2-diochloroethane were detected in the groundwater sample from monitoring well OLFS-2406-MW29D. Both the detected concentrations of benzene and 1,2-diochloroethane were detected at a concentrations (308 µg/L and 5.1 µg/L, respectively) that exceeded the FDEP GCTLs. The FDEP GCLT for benzene is 1 µg/L and for 1,2-diochloroethane is 3 µg/L . The previous sampling event in

**TABLE 4-3**
**SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER**
**UST SITE 2406**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**



| | | Shallow Monitoring Wells | | | | |
|---|---|---|---|---|---|---|
| Sample No. | | OLFS-2406-MW38 | OLFS-2406-MW39 | OLFS-2406-MW40 | OLFS-2406-MW41 | OLFS-2406-MW42S |
| Sample Location | | OLFS-2406-MW38 | OLFS-2406-MW39 | OLFS-2406-MW40 | OLFS-2406-MW41 | OLFS-2406-MW42S |
| Collect Date | | 7/31/2004 | 7/30/2004 | 7/30/2004 | 7/31/2004 | 7/28/2004 |
| Sample Depth (ft bls) | | 38.5 - 55.5 | 39 - 56 | 39 - 56 | 38.5 - 55.5 | 39 - 56 |
| | GCTL[1] (µg/L) | | | | | |
| **VOCs [2] (µg/L)** | | | | | | |
| Methylene Chloride | 5 | -- | -- | -- | -- | -- |
| Toluene | **40** | 3.8 | 2.7 | -- | **368** | -- |
| Ethylbenzene | **30** | 1.3 | 0.58J | -- | **30.5** | -- |
| Total Xylenes | **20** | 1.5J | -- | -- | **88.6** | -- |
| Acetone | 6300 | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 20 | -- | -- | -- | -- | -- |
| Benzene | **1** | -- | -- | -- | **439** | -- |
| 1,2-DCA | 70 | -- | -- | -- | -- | -- |
| Chloroform | **3** | -- | 0.54J | 0.71J | -- | 0.62J |
| **PAHs [3] (µg/L)** | | | | | | Not Analyzed |
| Naphthalene | 140 | -- | -- | -- | 0.46J | |
| **TRPH [4] (mg/L)** | 5 | 0.314 | 1.01 | -- | 1.02 | Not Analyzed |
| **Metals [5] (µg/L)** | | | | | | |
| Lead | 15 | -- | -- | -- | -- | -- |

See notes at end of table

**TABLE 4-3**
**SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER**
**UST SITE 2406**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**



| | | Shallow Monitoring Wells | | | | |
|---|---|---|---|---|---|---|
| Sample No. | | OLFS-2406-MW43S | OLFS-2406-MW44S | OLFS-2406-MW45 | OLFS-2406-MW46 | OLFS-2406-MW47 |
| Sample Location | | OLFS-2406-MW43S | OLFS-2406-MW44S | OLFS-2406-MW45 | OLFS-2406-MW46 | OLFS-2406-MW47 |
| Collect Date | | 7/29/2004 | 7/28/2004 | 7/30/2004 | 3/4/2005 | 3/4/2005 |
| Sample Depth (ft bls) | | 36 - 51 | 39 - 56 | 29.5 - 44.5 | 40.5 - 50.5 | 40.5 - 50.5 |
| | GCTL[1] (µg/L) | | | | | |
| **VOCs [2] (µg/L)** | | | | | | |
| Methylene Chloride | 5 | -- | -- | -- | -- | -- |
| Toluene | **40** | -- | -- | -- | 0.58 J | 0.35 J |
| Ethylbenzene | **30** | -- | -- | -- | -- | -- |
| Total Xylenes | **20** | -- | -- | -- | -- | -- |
| Acetone | 6300 | -- | -- | -- | 7.1 | 4.3 J |
| Methyl tert-butyl ether | 20 | -- | -- | -- | -- | 0.35 J |
| Benzene | **1** | -- | -- | -- | -- | -- |
| 1,2-DCA | 70 | -- | -- | -- | -- | -- |
| Chloroform | **3** | -- | 0.65J | -- | -- | -- |
| **PAHs [3] (µg/L)** | | Not Analyzed | Not Analyzed | | | |
| Naphthalene | 140 | | | -- | -- | -- |
| **TRPH [4] (mg/L)** | 5 | Not Analyzed | Not Analyzed | -- | -- | -- |
| **Metals [5] (µg/L)** | | | | | | |
| Lead | 15 | -- | -- | -- | -- | -- |

See notes at end of table

**TABLE 4-3**
**SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER**
**UST SITE 2406**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**



| | | Intermediate Monitoring Wells | | | Deep Monitoring Wells | |
|---|---|---|---|---|---|---|
| Sample No. | | OLFS-2406-MW28 | OLFS-2406-MW29 | OLFS-2406-MW34D | OLFS-2406-DMW13 | OLFS-2406-DMW32 |
| Sample Location | | OLFS-2406-MW28D* | OLFS-2406-MW29D* | OLFS-2406-MW34D* | OLFS-2406-MW13D* | OLFS-2406-MW32D* |
| Collect Date | | 7/30/2004 | 7/26/2004 | 7/30/2004 | 7/31/2004 | 7/31/2004 |
| Sample Depth (ft bls) | | 64.5 - 79.5 | 64.5 - 79.5 | 62.5 - 76.5 | 137 - 142 | 130.2 - 135.2 |
| | GCTL[1] (µg/L) | | | | | |
| **VOCs [2] (µg/L)** | | Not Analyzed | | Not Analyzed | | |
| Methylene Chloride | 5 | | -- | | -- | 1.1 |
| Toluene | **40** | | -- | | -- | -- |
| Ethylbenzene | **30** | | -- | | -- | -- |
| Total Xylenes | **20** | | 1.7J | | -- | -- |
| Acetone | 6300 | -- | -- | -- | -- | -- |
| Methyl tert-butyl ether | 20 | -- | -- | -- | -- | -- |
| Benzene | **1** | | **308** | | -- | -- |
| 1,2-DCA | 70 | | **5.1** | | -- | -- |
| Chloroform | **3** | | -- | | -- | -- |
| **PAHs [3] (µg/L)** | | Not Analyzed | Not Analyzed | Not Analyzed | Not Analyzed | Not Analyzed |
| Naphthalene | 140 | | | | | |
| **TRPH [4] (mg/L)** | 5 | Not Analyzed | Not Analyzed | Not Analyzed | Not Analyzed | Not Analyzed |
| **Metals [5] (µg/L)** | | | | | | |
| Lead | 15 | -- | Not Analyzed | -- | -- | -- |

See notes at end of table

**TABLE 4-3**
**SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER**
**UST SITE 2406**

**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OUTLYING LANDING FIELD SAUFLEY**
**PENSACOLA, FLORIDA**



| | | Deep Monitoring Wells | | | |
|---|---|---|---|---|---|
| Sample No. | | OLFS-2406-DMW37 | OLFS-2406-MW42D | OLFS-2406-MW43D | OLFS-2406-MW44D |
| Sample Location | | OLFS-2406-MW37D* | OLFS-2406-MW42D | OLFS-2406-MW43D | OLFS-2406-MW44D |
| Collect Date | | 7/31/2004 | 7/28/2004 | 7/28/2004 | 7/29/2004 |
| Sample Depth (ft bls) | | 130.3 - 135.3 | 124.5 - 129.5 | 127.5 - 132.5 | 124.5 - 129.5 |
| | GCTL[1] (µg/L) | | | | |
| **VOCs [2] (µg/L)** | | | | | |
| Methylene Chloride | 5 | 1.3 | -- | -- | -- |
| Toluene | **40** | 0.71J | 0.51J | 0.53J | -- |
| Ethylbenzene | **30** | -- | -- | -- | -- |
| Total Xylenes | **20** | -- | -- | -- | -- |
| Acetone | 6300 | -- | -- | -- | -- |
| Methyl tert-butyl ether | 20 | -- | -- | -- | -- |
| Benzene | **1** | -- | -- | -- | -- |
| Chloroform | 70 | -- | -- | 1.6 | -- |
| 1,2-DCA | **3** | -- | -- | -- | -- |
| **PAHs [3] (µg/L)** | | Not Analyzed | Not Analyzed | Not Analyzed | Not Analyzed |
| Naphthalene | 140 | | | | |
| **TRPH [4] (mg/L)** | 5 | Not Analyzed | Not Analyzed | Not Analyzed | Not Analyzed |
| **Metals [5] (µg/L)** | | | | | |
| Lead | 15 | -- | -- | -- | -- |

[1] Groundwater Cleanup Target Level as provided in Chapter 62-777, F.A.C.
[2] VOCs = Volatile Organic Compounds (SW-846 8260B)
[3] PAHs = Polynuclear aromatic hydrocarbons (SW-846 8310)
[4] TRPH = Total Recoverable Petroleum Hydrocarbons (FDEP FL-PRO)
[5] SW-846 6010B

No analytes were detected above instrument detection limits on quality control samples collected on July 31, 2004
The trip blank collected on 3/4/05 contained chloroform (estimated 0.52 ug/l) and chloromethane (estimated 0.78 ug/l) at concentrations less than method detection limits

Notes: * = monitoring well was re-sampled based on analytical results reported in the SARA
**Bold** indicates an exceedance of limits.
µg/L = micrograms per liter
J = Compound was detected at an estimated concentration
F.A.C. = Florida Administrative Code
FL-PRO = Florida Petroleum Range Organics
ft bls = feet below land surface
-- = Analyte not detected above the instrument detection limit
mg/L = milligrams per liter
FDEP = Florida Department of Environmental Protection

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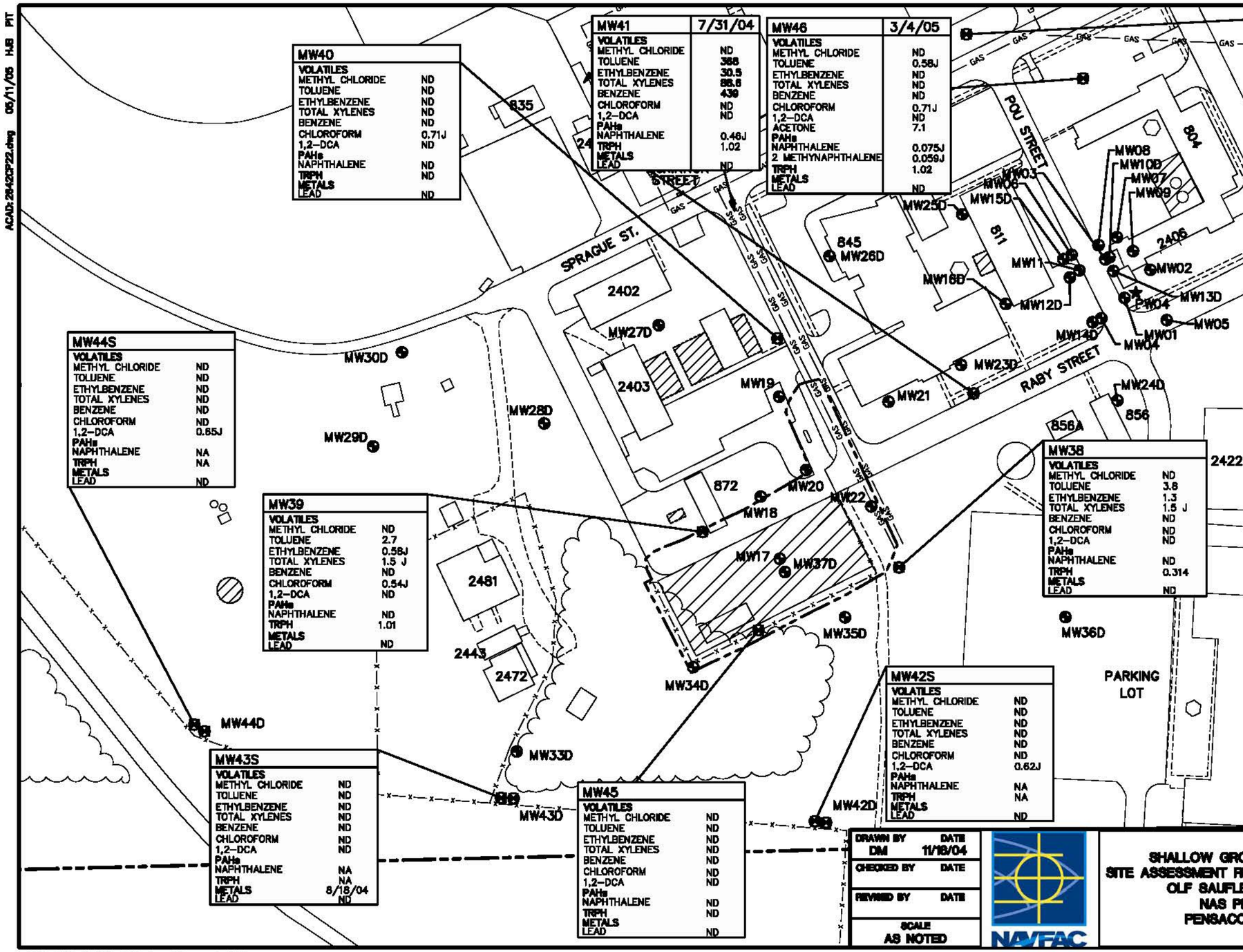



| MW40 | |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | ND |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| CHLOROFORM | 0.71J |
| 1,2-DCA | ND |
| **PAHs** | |
| NAPHTHALENE | ND |
| TRPH | ND |
| **METALS** | |
| LEAD | ND |

| MW41 | 7/31/04 |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | 368 |
| ETHYLBENZENE | 30.5 |
| TOTAL XYLENES | 86.6 |
| BENZENE | 439 |
| CHLOROFORM | ND |
| 1,2-DCA | ND |
| **PAHs** | |
| NAPHTHALENE | 0.46J |
| TRPH | 1.02 |
| **METALS** | |
| LEAD | ND |

| MW46 | 3/4/05 |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | 0.58J |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| CHLOROFORM | 0.71J |
| 1,2-DCA | ND |
| ACETONE | 7.1 |
| **PAHs** | |
| NAPHTHALENE | 0.075J |
| 2 METHYNAPHTHALENE | 0.059J |
| TRPH | 1.02 |
| **METALS** | |
| LEAD | ND |

| MW47 | 3/4/05 |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | 0.35J |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| CHLOROFORM | ND |
| 1,2-DCA | ND |
| ACETONE | 4.3J |
| MTBE | 0.35J |
| **PAHs** | |
| NAPHTHALENE | NA |
| TRPH | NA |
| **METALS** | |
| LEAD | 8/18/04 ND |

| MW44S | |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | ND |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| CHLOROFORM | ND |
| 1,2-DCA | 0.65J |
| **PAHs** | |
| NAPHTHALENE | NA |
| TRPH | NA |
| **METALS** | |
| LEAD | ND |

| MW39 | |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | 2.7 |
| ETHYLBENZENE | 0.58J |
| TOTAL XYLENES | 1.5 J |
| BENZENE | ND |
| CHLOROFORM | 0.54J |
| 1,2-DCA | ND |
| **PAHs** | |
| NAPHTHALENE | ND |
| TRPH | 1.01 |
| **METALS** | |
| LEAD | ND |

| MW38 | |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | 3.8 |
| ETHYLBENZENE | 1.3 |
| TOTAL XYLENES | 1.5 J |
| BENZENE | ND |
| CHLOROFORM | ND |
| 1,2-DCA | ND |
| **PAHs** | |
| NAPHTHALENE | ND |
| TRPH | 0.314 |
| **METALS** | |
| LEAD | ND |

| MW42S | |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | ND |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| CHLOROFORM | ND |
| 1,2-DCA | 0.62J |
| **PAHs** | |
| NAPHTHALENE | NA |
| TRPH | NA |
| **METALS** | |
| LEAD | ND |

| MW43S | |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | ND |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| CHLOROFORM | ND |
| 1,2-DCA | ND |
| **PAHs** | |
| NAPHTHALENE | NA |
| TRPH | NA |
| **METALS** | 8/18/04 |
| LEAD | ND |

| MW45 | |
|---|---|
| **VOLATILES** | |
| METHYL CHLORIDE | ND |
| TOLUENE | ND |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| CHLOROFORM | ND |
| 1,2-DCA | ND |
| **PAHs** | |
| NAPHTHALENE | ND |
| TRPH | ND |
| **METALS** | |
| LEAD | ND |

N

**LEGEND:**

| | |
|---|---|
| MW33D | EXISTING MONITORING WELL LOCATION |
| MW43S | NEW MONITORING WELL LOCATION |
| PW04 | POTABLE WATER WELL LOCATION & DESIGNATION |
| J | ESTIMATED CONCENTRATIONS |
| ND | NOT DETECTED |
| NA | NOT ANALYZED |

**NOTES:**

1. GROUNDWATER CLEANUP TARGET LEVEL

| VOLATILES | GCTL |
|---|---|
| METHYL CHLORIDE | 5 |
| TOLUENE | 40 |
| ETHYLBENZENE | 30 |
| TOTAL XYLENES | 20 |
| BENZENE | 1 |
| CHLOROFORM | 5.7 |
| 1,2-DCA | 3 |
| **PAHs** | |
| NAPHTHALENE | 20 |
| **TRPH** | 5 |
| **METALS** | |
| LEAD | 15 |

2. ALL CONCENTRATIONS REPORTED IN MICROGRAMS/LITER (ug/L) EXCEPT TRPH WHICH IS MEASURED IN MILLIGRAMS/LITER (mg/L)
3. EXCEEDANCES ARE IN BOLD
4. ALL WELL I.D.'S ARE PRECEDED BY OLFS-2406-

0 100 200
GRAPHIC SCALE IN FEET

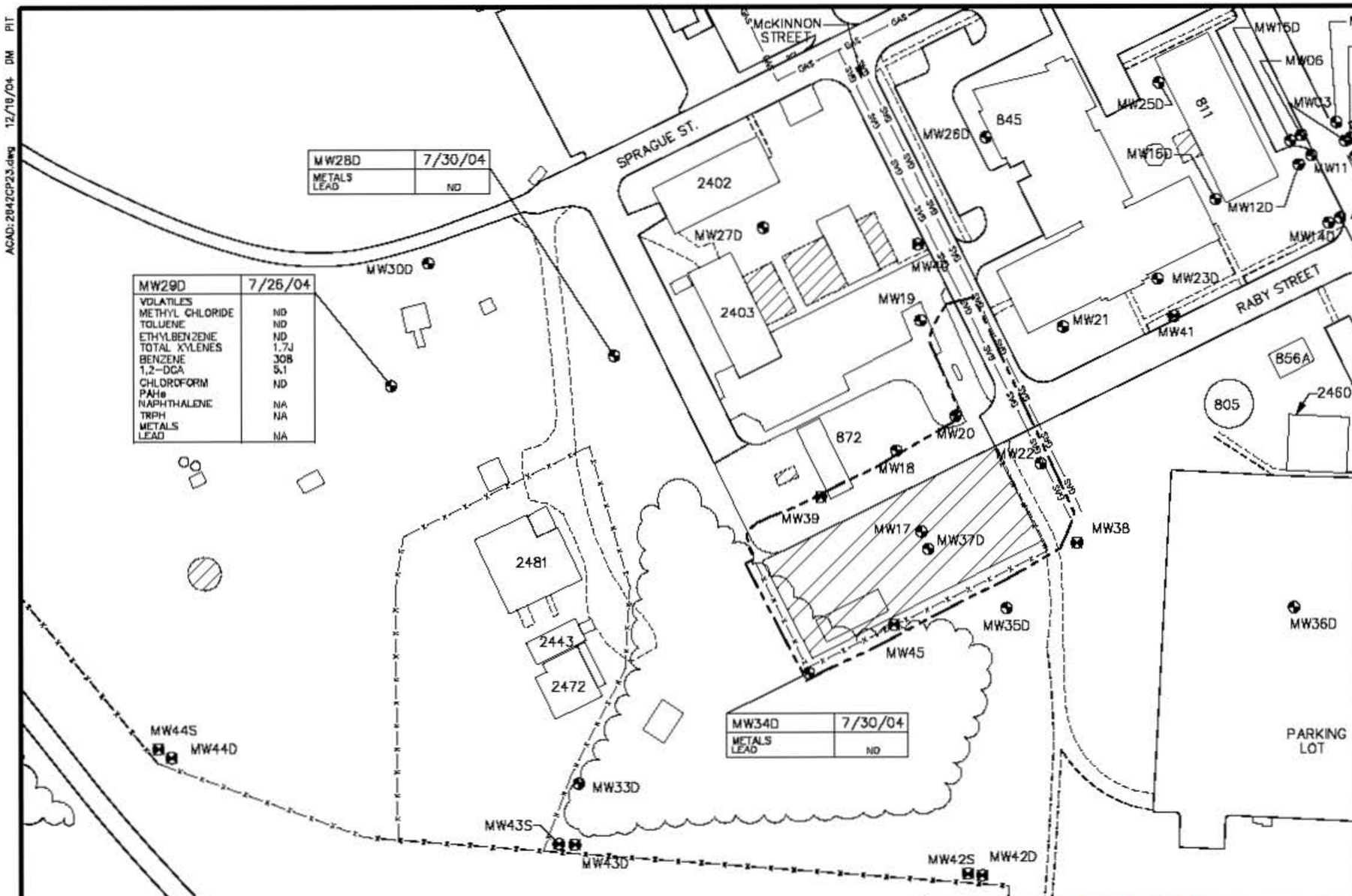
| DRAWN BY | DATE |
|---|---|
| DM | 11/16/04 |
| CHECKED BY | DATE |
| REVIEWED BY | DATE |
| SCALE | AS NOTED |

NAVFAC

SHALLOW GROUNDWATER DATA
SITE ASSESSMENT REPORT ADDENDUM NO. 2
OLF SAUFLEY - SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2842
OWNER NO. 0000
APPROVED BY DATE
DRAWING NO. FIGURE 4-5
REV. 0

FORM CADD NO. SOIV-BH.DWG - REV 1 - 9/10/98




LEGEND:

| | |
|---|---|
| MW33D | EXISTING MONITORING WELL LOCATION |
| MW43S | NEW MONITORING WELL LOCATION |
| PW04 | POTABLE WATER WELL LOCATION & DESIGNATION |
| J | ESTIMATED CONCENTRATIONS |
| ND | NOT DETECTED |
| NA | NOT ANALYZED |

NOTES:

1. GROUNDWATER CLEANUP TARGET LEVEL

| VOLATILES | GCTL |
|---|---|
| METHYL CHLORIDE | 5 |
| TOLUENE | 40 |
| ETHYLBENZENE | 30 |
| TOTAL XYLENES | 20 |
| BENZENE | 1 |
| CHLOROFORM | 5.7 |
| 1,2-DCA | 3 |
| PAHs | |
| NAPHTHALENE | 20 |
| TRPH | 5 |
| METALS | |
| LEAD | 15 |

2. ALL CONCENTRATIONS REPORTED IN MICROGRAMS/LITER (ug/L) EXCEPT TRPH WHICH IS MEASURED IN MILLIGRAMS/LITER (mg/L)
3. EXCEEDANCES ARE IN BOLD
4. ALL WELL I.D.'S ARE PRECEDED BY OLFS-2406-

0 100 200
GRAPHIC SCALE IN FEET

| | |
|---|---|
| DRAWN BY DM | DATE 11/16/04 |
| CHECKED BY | DATE |
| REVISED BY | DATE |
| SCALE AS NOTED | |

NAVFAC

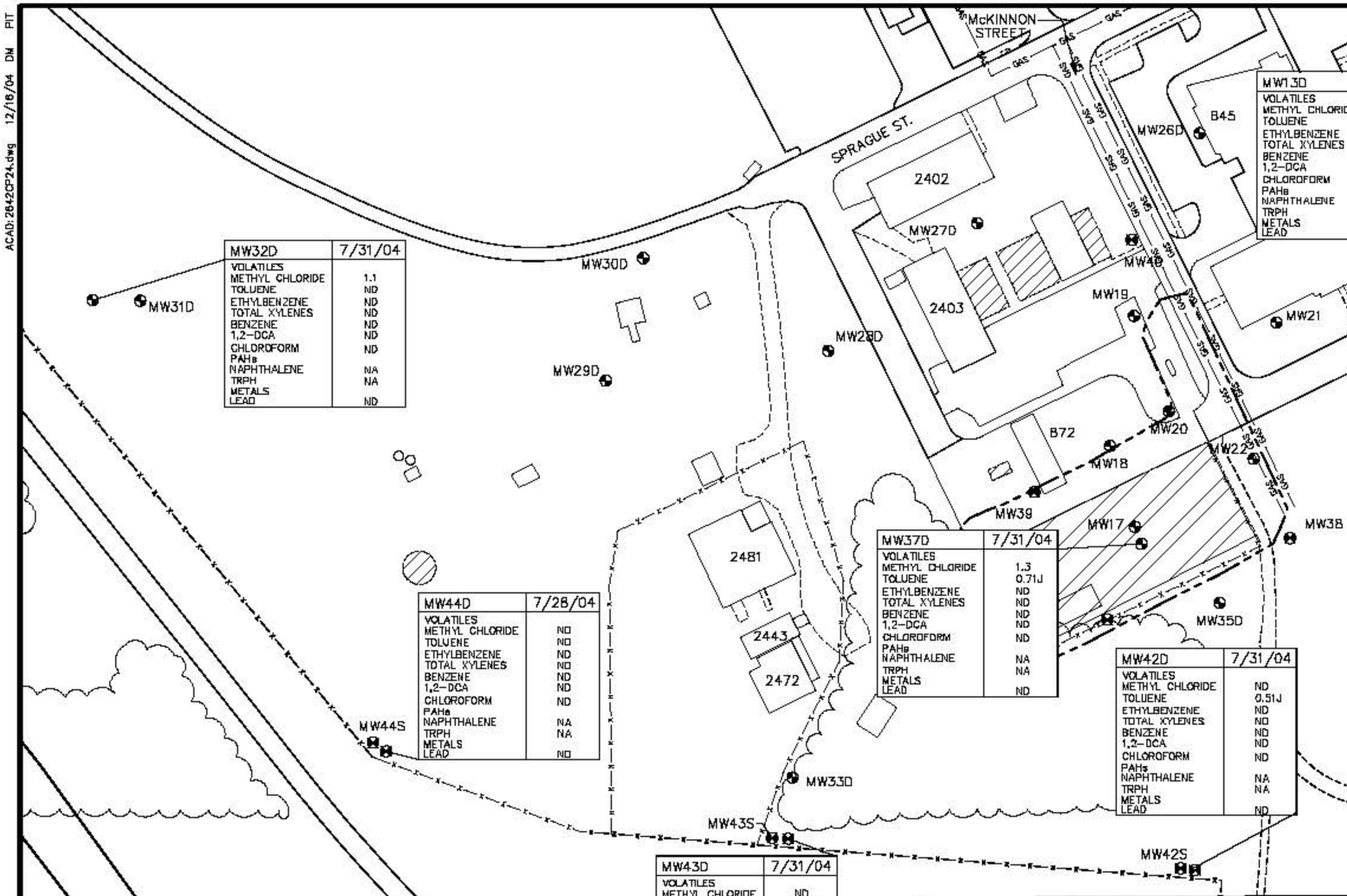
INTERMEDIATE GROUNDWATER DATA
SITE ASSESSMENT REPORT ADDENDUM NO. 2
OLF SAUFLEY - SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

| | |
|---|---|
| CONTRACT NO. 2842 | |
| OWNER NO. 0000 | |
| APPROVED BY | DATE |
| DRAWING NO. FIGURE 4-6 | REV. 0 |

ACAD: 2842CP23.dwg 12/16/04 DM PIT

FORM CADD NO. 5014-8H.DWG - REV 1 - 9/10/98

ACAD: 2642CP24.dwg 12/16/04 DM PIT




| MW13D | 7/31/04 |
|---|---|
| VOLATILES | |
| METHYL CHLORIDE | ND |
| TOLUENE | ND |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| 1,2-DCA | ND |
| CHLOROFORM | ND |
| PAHs | |
| NAPHTHALENE | NA |
| TRPH | NA |
| METALS | |
| LEAD | ND |

| MW32D | 7/31/04 |
|---|---|
| VOLATILES | |
| METHYL CHLORIDE | 1.1 |
| TOLUENE | ND |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| 1,2-DCA | ND |
| CHLOROFORM | ND |
| PAHs | |
| NAPHTHALENE | NA |
| TRPH | NA |
| METALS | |
| LEAD | ND |

| MW37D | 7/31/04 |
|---|---|
| VOLATILES | |
| METHYL CHLORIDE | 1.3 |
| TOLUENE | 0.71J |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| 1,2-DCA | ND |
| CHLOROFORM | ND |
| PAHs | |
| NAPHTHALENE | NA |
| TRPH | NA |
| METALS | |
| LEAD | ND |

| MW44D | 7/28/04 |
|---|---|
| VOLATILES | |
| METHYL CHLORIDE | ND |
| TOLUENE | ND |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| 1,2-DCA | ND |
| CHLOROFORM | ND |
| PAHs | |
| NAPHTHALENE | NA |
| TRPH | NA |
| METALS | |
| LEAD | ND |

| MW42D | 7/31/04 |
|---|---|
| VOLATILES | |
| METHYL CHLORIDE | ND |
| TOLUENE | 0.51J |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| 1,2-DCA | ND |
| CHLOROFORM | ND |
| PAHs | |
| NAPHTHALENE | NA |
| TRPH | NA |
| METALS | |
| LEAD | ND |

| MW43D | 7/31/04 |
|---|---|
| VOLATILES | |
| METHYL CHLORIDE | ND |
| TOLUENE | 0.53J |
| ETHYLBENZENE | ND |
| TOTAL XYLENES | ND |
| BENZENE | ND |
| 1,2-DCA | ND |
| CHLOROFORM | 1.6 |
| PAHs | |
| NAPHTHALENE | NA |
| TRPH | NA |
| METALS | |
| LEAD | ND |

LEGEND:

| | |
|---|---|
| MW33D | EXISTING MONITORING WELL LOCATION |
| MW43S | NEW MONITORING WELL LOCATION |
| PW04 | POTABLE WATER WELL LOCATION & DESIGNATION |
| J | ESTIMATED CONCENTRATIONS |
| ND | NOT DETECTED |
| NA | NOT ANALYZED |

NOTES:

1. GROUNDWATER CLEANUP TARGET LEVEL

| VOLATILES | GCTL |
|---|---|
| METHYL CHLORIDE | 5 |
| TOLUENE | 40 |
| ETHYLBENZENE | 30 |
| TOTAL XYLENES | 20 |
| BENZENE | 1 |
| CHLOROFORM | 5.7 |
| 1,2-DCA | 3 |
| PAHs | |
| NAPHTHALENE | 20 |
| TRPH | 5 |
| METALS | |
| LEAD | 15 |

2. ALL CONCENTRATIONS REPORTED IN MICROGRAMS/LITER (ug/L) EXCEPT TRPH WHICH IS MEASURED IN MILLIGRAMS/LITER (mg/L)
3. EXCEEDANCES ARE IN BOLD
4. ALL WELL I.D.'S ARE PRECEDED BY OLFS-2406-

0 100 200
GRAPHIC SCALE IN FEET

| | | |
|---|---|---|
| DRAWN BY DM | DATE 11/16/04 | |
| CHECKED BY | DATE | |
| REVISED BY | DATE | |
| SCALE AS NOTED | | |

NAVFAC

**DEEP GROUNDWATER DATA**
**SITE ASSESSMENT REPORT ADDENDUM NO. 2**
**OLF SAUFLEY - SITE 2406**
**NAS PENSACOLA**
**PENSACOLA, FLORIDA**

| | |
|---|---|
| CONTRACT NO. 2642 | |
| OWNER NO. 0000 | |
| APPROVED BY | DATE |
| DRAWING NO. FIGURE 4-7 | REV. 0 |

FORM CADD NO SDIV-BH.DWG - REV 1 - 9/10/98

January 2003 indicated 1,2-dibromoethene (0.048 µg/L), 1,2-dichloroethane (4.8 µg/L), and benzene (194 µg/L) were present in the groundwater samples at concentrations exceeding their respective FDEP GCTLs.

Deep monitoring wells OLFS-2406-MW13D, OLFS-2406-MW32D, and OLFS-2406-MW37D were re-sampled for VOCs and lead only. Lead was not detected in any of the three groundwater samples at concentrations above instrument detection limits and methylene chloride and toluene were the only VOCs detected. The detected concentrations of methylene chloride or toluene did not exceed the FDEP GCTLs.

### 4.3.2 Shallow Monitoring Well Groundwater Sample Results – New Wells

Seven VOCs including toluene, ethylbenzene, total xylene, acetone, methyl tert-burtyl ether, benzene, and chloroform were detected in the shallow groundwater samples from the newly installed monitoring wells. The groundwater sample OLFS-2406-MW41 was the only sample to contain VOC concentrations exceeding the FDEP GCTLs. Detected concentrations of toluene (368 µg/L), ethylbenzene (30.5 µg/L), total xylene (88.6 µg/L), and benzene (439 µg/L) exceeded the FDEP GCTLs of 40 µg/L, 30 µg/L, 20 µg/L, and 1 µg/L, respectively. Detected concentrations exceeding the instrument detection limits of toluene, ethylbenzene, acetone, total xylene, and chloroform were detected in groundwater samples from the remaining shallow monitoring wells; however, none of the detected concentrations exceeded the FDEP GCTLs.

The only PAH reported in the shallow monitoring well groundwater samples was naphthalene detected in sample OLFS-2406-MW41 at an estimated concentration of 0.46 µg/L. The FDEP GCTL for naphthalene is 140 µg/L. TRPH was detected in the three groundwater samples from shallow monitoring wells including: OLFS-2406-MW38, OLFS-2406-MW39, and OLFS-2406-MW41 at concentrations of 0.314 mg/L, 1.01 mg/L, and 1.02 mg/L, respectively. All of the detected concentrations were less than the FDEP GCTL of 5 mg/L. Lead was not detected in any of the shallow monitoring well groundwater samples.

### 4.3.3 Deep Monitoring Well Groundwater Samples – New Wells

Groundwater samples from deep monitoring wells were reported to contain elevated concentrations of two VOCs: toluene and chloroform. Analytical results for samples OLFS-2406-MW42D and OLFS-2406-MW43D contained toluene at estimated concentrations of 0.51µg/L and 0.53 µg/L, respectively. Both concentrations were less than the FDEP GCTL of 40 µg/L. Chloroform was also detected in the

groundwater sample from monitoring well OLFS-2406-MW43D at a concentration of 1.6 µg/L which is less than FDEP GCTL of 70 µg/L.

# 5.0 CONCLUSIONS AND RECOMMENDATION

The conclusions discussion below is separated into two groups, the first being conclusions of the first SARA completed in August 2003 (TtNUS 2003) and the second includes the additional conclusions as a result of this additional assessment.

**Discussion and Conclusions SARA No. 1**

The initial SARA identified three petroleum systems as potential sources of petroleum releases that may have resulted in the contamination detected in potable well PW04 before it was abandoned.

- Four fuel-oil USTs with a capacity of 7,800 gallons each are located in the vicinity of potable water supply well PW04, near the intersection of Raby Avenue and Pou Street. These fuel oil USTs are located upgradient of PW04 and were reportedly abandoned in place in November 1988. No documentation of a tank closure assessment for these tanks has been found. Two 20,000 gallon fuel oil ASTs are located above the abandoned USTs. These fuel oil tanks are temporarily out of service. (SDIV, 1998)

- Six 20,000 gallon USTs used to supply AVGAS or jet fuel to the flight line are located southwest of potable water supply well PW04, at the intersection of Raby Avenue and McKinnon Street. These AVGAS USTs are located downgradient of PW04. No documentation of a tank closure assessment for these tanks has been found. (SDIV, 1998)

- A 10-inch fuel line system, reportedly 2 miles long, was used to distribute the fuel to the flight line fuel hydrant system. The pipeline system appears to originate at a pump house adjacent to the six 20,000 gallon USTs. Three fuel pipelines exit the UST area and extend under Pou Street to the flight line. Approximately 20 segments of pipeline, with an unknown number of junctions and valves, connect the USTs to the fueling pits. Approximately 55 fueling pits were associated with this system are located on the flight line. Reportedly there are two additional tanks associated with this system located on the flight line. No documentation of a pipeline closure assessment for this system has been found. (SDIV, 1998)

The SARA investigation of the three areas led to the following conclusions:

- Petroleum contaminants above the FDEP SCTLs are present in the soil at 25 to 45 feet bls in the vicinity of the free product plume.

- Free-product is present covering an approximate area of 45,000 square feet in the vicinity of the former tank farm area and fuel distribution pipelines, near at the intersection of Raby Avenue and McKinnon Street.

- Dissolved petroleum contaminants above the FDEP GCTLs are present in the groundwater. The groundwater contamination is located from the water table (approximately 45 feet bls) to 130 feet bls, in an area that extends from 200 feet east of the free product plume to 500 feet southwest of the free product plume to 600 feet west of the free product plume.

- Exposure pathways of human receptors to subsurface soil are not complete; therefore, direct exposure to the subsurface soil is not possible.

- Exposure pathways of human receptors to groundwater via surface water or potable water supply wells are not complete; therefore, direct exposure to the groundwater is not possible.

Based upon the hydrogeological and chemical data presented in this SARA the source of contamination is most likely the intersection between the fuel supply line and the former tank farm, which is located in the free product plume and area of soil contamination. The groundwater contamination has moved in a downgradient direction, which is to be expected, but it is possible that dissolved contamination has also moved in an upgradient direction during past operation of the potable water well, PW04.

**Conclusions SARA No. 2**

- Three petroleum systems have been identified as possible sources of petroleum releases. The six 20,000 gallon USTs and junction with the buried 10-inch fuel fuel line have been concluded to be the most likely source of contamination based on the present free product plume location and area of soil contamination.

- An additional potential source area is the overall extent of the 10-inch fuel line system reportedly two-miles long used to distribute fuel to the flight line fuel hydrant system. This possible source area remains a concern; however, it is believed to be separate from the free product and groundwater contamination identified as the primary sources in this investigation. The fuel line and flightline fuel distribution system are currently being assessed as a separate investigation by the Navy.

- The results of the SARA No. 1 indicated petroleum constituents are present in the site soil (TtNUS, 2003). Based on OVA results at soil borings, the surface soil (0 to 4 feet bls) and shallow subsurface soil (4 to 25 feet bls) at the site are unaffected. OVA results did indicate "excessively

contaminated soil" was present in the 25 to 55 foot bls interval surrounding the former AVGAS tank area and the fuel transfer line pump house. Analytical results from the off-site fixed-base laboratory confirmed that benzene, toluene, ethylbenzene, total xylenes, and TRPH were present at concentrations above FDEP SCTLs within the area of "excessively contaminated soil". Due to the depth of contaminated soil, direct contact to the contamination is not a concern, however the contaminated soil remains a concern for leaching to groundwater.

- Based on the July 2004 data, free-product is present on site covering an approximate area of 20,000 square feet with an average thickness of 0.38 feet and an approximate free product contaminant mass of 57,470 lbs.

- Based on the groundwater assessment results reported in the SARA No. 1 in combination with the groundwater results from this re-sampling event (SARA No. 2), concentrations of petroleum related VOCs are present in on-site groundwater at concentrations exceeding the FDEP GCTLs. Monitoring well locations with FDEP GCTL exceedances include an area that extends from Building 845 (east of the former AVGAS tank area) to an open area approximately 300 feet northwest of the tank farm, to the southwestern edge of the wooded area located southwest of the former tank area. Analytical results indicate that benzene, toluene, ethylbenzene, total xylenes, and 1,2-dichloroethane are present in the groundwater above FDEP GCTLs. No PAHs were detected at concentrations exceeding FDEP GCTLs. The extent of dissolved groundwater contamination has been delineated within the facility boundaries.

- Elevated lead concentrations reported during the SARA No. 1 were not confirmed by resampling of the same monitoring wells during this additional assessment. Therefore lead is not a concern in additional assessment and remediation of the site.

In accordance with the conclusions in the SARA No. 1 and in this SARA No. 2, TtNUS recommends that a RAP be completed to address the free product and contaminated soils and groundwater at UST Site 2406, OLF Saufley. In addition to the proposed RAP, immediate recovery of free product should be initiated as per Chapter 62-770 F.A.C. Further the evaluation and proper closure, if required, of the fuel oil USTs, the flight line AVGAS USTs, and the buried 10-inch fuel distribution pipeline system should be conducted. An additional assessment of these potential source areas is currently being competed by the Navy.

# REFERENCES

FDEP (Florida Department of Environmental Protection), 1998. Memorandum from David P. Grabka, FDEP to John Michell, FDEP on Site Assessment Report (SAR), March 3, 1998, Site 2406, Saufley Field Naval Education and Training Professional Development and Technical Center, Pensacola, Florida, DEP# 178628753, April 1, 1998.

FDEP, 2003. Letter from Tracie Vaught to Byas Glover, Southern Division, Naval Facilities Engineering Command, Review Comments on Site Assessment Report Addendum for UST Site 2406, Saufley Field, Pensacola Florida, October 23, 2003.

SDIV (Southern Division, Naval Facilities Engineering Command), 1998. Site Assessment Report Saufley field Site 2406 Naval Education and Training Professional Development and Technical Center Pensacola, Florida.

TtNUS (Tetra Tech NUS, Inc.), 2003. Site Assessment Addendum for Underground Storage Tank Site 2406 Outlying Landing Field Saufley, Naval Education and Training Professional Development and Technical Center, Naval Air Station Pensacola, Pensacola Florida, August.

# APPENDIX A

## FDEP SITE ASSESSMENT REPORT ADDENDUM NO.1 COMMENTS LETTER

TtNUS/TAL-01-004/0231-4.3

August 6, 2004

Project Number 2642

Tracie Vaught, P.G.
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. 0274

Subject: Response to the Florida Department of Envirnmental Protection's (FDEP) Comments on the Site Assessment Report Addendum (SARA) for Underground Storage Tank (UST) Site 2406 Outlying Landing Field (OLF) Saufley, Naval Education and Training Professional Development and Technical Development and Technical Center (NETPDTC), Naval Air Station (NAS) Pensacola, Pensacola, Florida,

Ms. Vaught:

Tetra Tech NUS, Inc. (TtNUS) is pleased to submit a response to FDEP's comments on the (SARA) for UST Site 2406 located at OLF Saufley, NETPDTC, NAS Pensacola, Pensacola, Florida. This response has been prepared for the U.S. Navy Southern Division Naval Facilities Engineering Command (SOUTHDIVENGCOM) under Contract Task Order 274, for the Comprehensive Long-term Environmental Action Navy (CLEAN) Contract Number N62467-94-D-0888.

The purpose of the response is to address comments on the SARA from FDEP dated October 23, 2003. A copy of the comments is included in Attachment A.

**RESPONSE TO COMMENTS**

1. ***Figure 3-4:*** *The groundwater flow direction is not contoured correctly, the northern part of the site depicts that the groundwater data shows that it flows in a northeast direction and OLFS-2406-DMW33 is not contoured correctly, please correct.*

Figure 3-4 The Intermediate Groundwater Flow Map will be corrected. The contours for groundwater flow in the northern part of the site will be revised to reflect groundwater flow in a northeast direction. Groundwater elevation data from intermediate monitoring well OLFS-2406-DMW33 was not included in the groundwater flow analysis. The groundwater elevation at this location was determined to be an outlier or anomaly with regards to the rest of the groundwater elevation data collected from the south and southwestern part of the site. The groundwater elevation data for OLFS-2406-DMW33 will be footnoted as not included in the flow interpetation.

2. ***Figure 3-5:*** *The locations chosen for monitoring wells for groundwater elevations are linear and do not provide adequate data to contur the groundwater at this depth. Please increase the number of elevations collected from the deep monitoring wells prior to submitting this figure in future documents. Also, the groundwater elevation was not included for OLFS-2406-DMW13 in this figure.*

Because only three deep monitoring wells exists at the site, a three-point calculation was employed in order to determine the deep groundwater flow at the site. The figure will be revised to include the groundwater elevation for OLFS-2406-DMW13.

3. ***Figure 4-5:*** *Sample point OLFS2406SB19 has contamination and is not included as a part of the "concentration isopleth – 1.2" or plume boundary, please correct.*

Figure 4-5 will be revised to include sample OLFS2406SB19 within the plume boundary as depicted by the "concentration isopleth – 1.2". Additionally, "concentration isopleth -1.2" in the legend will be revised to read "Benzene – 1.0".

4. ***Figure 4-6:*** *Vertical and horizontal contamination found in the southwestern boundary of the intermediate aquifer is not delineated per the information presented in this figure. Either present data that shows the plume has been vertically and horizontally delineated or install monitoring wells to address this situation.*

5. ***Sections 4, 5, and 6:*** *Vertical and horizontal contamination found in the southwestern boundary of the intermediate aquifer is not delineated. This situation needs to be addressed and discussed in these sections.*

Sincerely,

Terry Hansen, P.G.
Florida Professional Geologist No. 234
Tetra Tech NUS, Inc.

Cc : Greg Campbell, NAS Pensacola
Byas Glover, SOUTHNAVFACENGCOM

ATTACHMENT A

FDEP Comment Letter

ATTACHMENT B

Figures

# APPENDIX B

# SITE ASSESSMENT REPORT ADDENDUM NO.2 FIELD DATA

Tetra Tech NUS, Inc.

# EQUIPMENT CALIBRATION LOG

PROJECT NAME : SAR @ OLF Saufley

INSTRUMENT NAME/MODEL: MicroFid I/S

SITE NAME: 2406

MANUFACTURER: Perkin Elmer

PROJECT No.: N2642

SERIAL NUMBER: 5706

| Date of Calibration | Instrument I.D. Number | Person Performing Calibration | Instrument Settings | | Instrument Readings | | Calibration Standard (Lot No.) | Remarks and Comments |
|---|---|---|---|---|---|---|---|---|
| | | | Pre-calibration | Post-calibration | Pre-calibration | Post-calibration | | |
| 7/7/2004 | 05706 | H. Engle | | | 0 | 0 | | Zero Gas Initial Calibration |
| | | | | | 553 | 101 | | 100 ppm CH4 span gas Initial Cal. |
| | | | | | | 0 | | Zero Gas Cont. Cal. |
| | | | | | | 100 | | 100 ppm CH4 span gas Cont. Cal. |
| 7/8/2004 | 05706 | H. Engle | | | 0 | 0 | | Zero Gas Initial Calibration |
| | | | | | 328 | 100 | | 100 ppm CH4 span gas Initial Cal. |
| | | | | | | 0 | | Zero Gas Cont. Cal. |
| | | | | | | 102 | | 100 ppm CH4 span gas Cont. Cal. |
| 7/9/2004 | 05706 | H. Engle | | | 0 | 0 | | Zero Gas Initial Calibration |
| | | | | | 125 | 101 | | 100 ppm CH4 span gas Initial Cal. |
| | | | | | | 0 | | Zero Gas Cont. Cal. |
| | | | | | | 101 | | 100 ppm CH4 span gas Cont. Cal. |
| 7/10/2004 | 05706 | H. Engle | | | 0 | 0 | | Zero Gas Initial Calibration |
| | | | | | 138 | 100 | | 100 ppm CH4 span gas Initial Cal. |
| | | | | | | 0 | | Zero Gas Cont. Cal. |
| | | | | | | 100 | | 100 ppm CH4 span gas Cont. Cal. |
| 7/11/2004 | 05706 | H. Engle | | | 0 | 0 | | Zero Gas Initial Calibration |
| | | | | | 115 | 102 | | 100 ppm CH4 span gas Initial Cal. |
| | | | | | | 0 | | Zero Gas Cont. Cal. |
| | | | | | | 100 | | 100 ppm CH4 span gas Cont. Cal. |
| 7/12/2004 | 05706 | H. Engle | | | 0 | 0 | | Zero Gas Initial Calibration |
| | | | | | 145 | 103 | | 100 ppm CH4 span gas Initial Cal. |
| | | | | | | 0 | | Zero Gas Cont. Cal. |
| | | | | | | 101 | | 100 ppm CH4 span gas Cont. Cal. |
| 7/13/2004 | 05706 | H. Engle | | | 0 | 0 | | Zero Gas Initial Calibration |
| | | | | | 178 | 100 | | 100 ppm CH4 span gas Initial Cal. |
| | | | | | | 0 | | Zero Gas Cont. Cal. |
| | | | | | | 101 | | 100 ppm CH4 span gas Cont. Cal. |
| 7/14/2004 | 05706 | H. Engle | | | 0 | 0 | | Zero Gas Initial Calibration |
| | | | | | 255 | 101 | | 100 ppm CH4 span gas Initial Cal. |
| | | | | | | 0 | | Zero Gas Cont. Cal. |
| | | | | | | 100 | | 100 ppm CH4 span gas Cont. Cal. |

Tetra Tech NUS, Inc.

# EQUIPMENT CALIBRATION LOG

PROJECT NAME : SAR/RAP @ OLF Saufley

INSTRUMENT NAME/MODEL: LaMotte 2020

SITE NAME: 2406

MANUFACTURER: LaMotte

PROJECT No.: 2642

SERIAL NUMBER: 3291-2202

| Date of Calibration | Instrument I.D. Number | Person Performing Calibration | Instrument Settings | | Instrument Readings | | Calibration Standard (Lot No.) | Remarks and Comments |
|---|---|---|---|---|---|---|---|---|
| | | | Pre-calibration | Post-calibration | Pre-calibration | Post-calibration | | |
| 8/18/2004 | | H. Engle | | | 1.29 | 0.81 | | 1.0 Std |
| | | | | | 9.34 | 10 | | 10.0 Std |

Tetra Tech NUS, Inc.

# DAILY ACTIVITIES RECORD

| | | | |
|---|---|---|---|
| **PROJECT NAME:** | SARA at Site 2406 | **PROJECT NUMBER:** | N2642 |
| **CLIENT:** | NAS Pensacola | **LOCATION:** | OLF Saufley |
| **DATE:** | 7-Jul-04 | **ARRIVAL TIME:** | 730 |
| **Tt NUS PERSONNEL:** | Larry Smith; Howard Engle | **DEPARTURE TIME:** | 1800 |
| **CONTRACTOR:** | Prosonic Corporation | **DRILLER:** | Jeff Cummings |

| ITEM | QUANTITY ESTIMATE | QUANTITY TODAY | PREVIOUS TOTAL QUANTITY | CUMULATIVE QUANTITY TO DATE |
|---|---|---|---|---|
| Well Installation - 2"x55' | 55 | 56 | 0 | 56 |
| Well Installation - 2"x130' | 0 | 0 | 0 | 0 |
| 8" M/H w/ 2' pad | N/A | 0 | 0 | 0 |
| Decon (hours) | 1 | 1 | 0 | 1 |
| Development | 0 | 0 | 0 | 0 |
| Standby | N/A | 0 | 0 | 0 |
| Permits | 1 | 1 | 0 | 1 |
| Waste Management | N/A | 0 | 0 | 0 |
| 2" PVC Screen (feet) | 15 | 15 | 0 | 15 |
| 2" PVC Riser (feet) | 35 | 41 | 0 | 41 |
| 20-30 Sand Pack (bags) | N/A | 9 | 0 | 9 |
| Bentonite (bags) | N/A | 1 | 0 | 1 |
| Grout (bags) | N/A | 4 | 0 | 4 |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

COMMENTS:

APPROVED BY:

TtNUS REPRESENTATIVE

SUBCONTRACTOR REPRESENTATIVE

DATE:

Tetra Tech NUS, Inc.

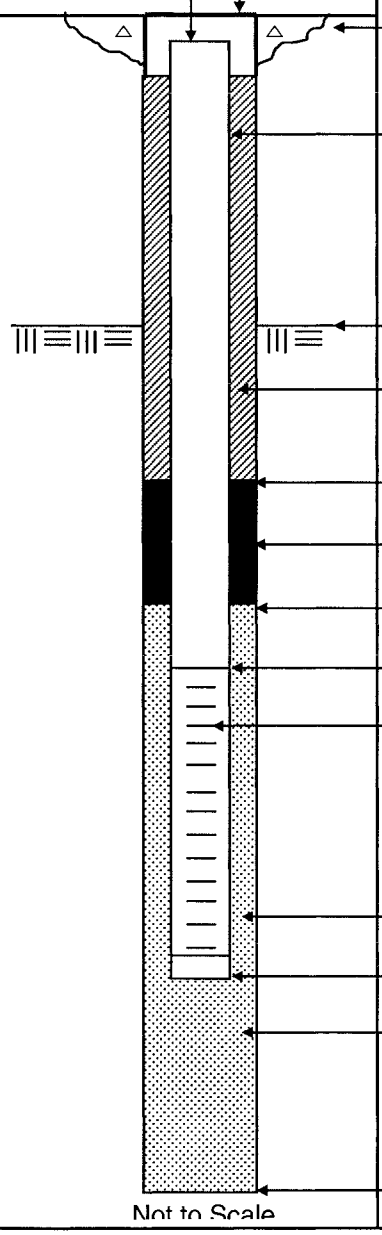
WELL No.: OLFS-2406-MW38

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB34 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/07/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | EASTING: | |

Ground Elevation =

Datum:




Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: /

I.D. of Surface Casing: N/A

Type of Surface Casing: N/A

Type of Surface Seal: concrete pad

I.D. of Riser: 2 inches

Type of Riser: PVC

Borehole Diameter: 6 inches

Elevation / Depth Top of Rock: N/A / N/A

Type of Backfill: Type I Grout with 5% Bentonite

Elevation / Depth of Seal: / 33 feet

Type of Seal: Bentonite Hole Plug (chip)

Elevation / Depth of Top of Filter Pack: / 35 feet

Elevation / Depth of Top of Screen: / 39 feet

Type of Screen: PCV

Slot Size x Length: 0.001 x 15 feet

I.D. of Screen: 2 inches

Type of Filter Pack: 20-30 Quartz Sand

Elevation / Depth of Bottom of Screen: / 56 feet

Elevation / Depth of Bottom of Filter Pack: / 56 feet

Type of Backfill Below Well: N/A

Elevation / Total Depth of Borehole: / 56 feet

Tetra Tech NUS, Inc.

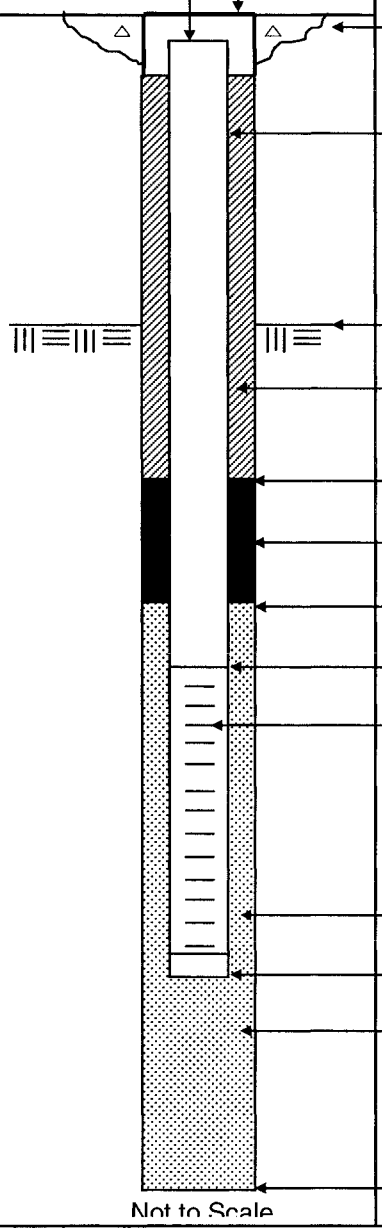
WELL No.: OLFS-2406-MW39

# MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS240635 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/08/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | EASTING: | |

Ground Elevation =

Datum:




Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: /

I.D. of Surface Casing: N/A

Type of Surface Casing: N/A

Type of Surface Seal: concrete pad

I.D. of Riser: 2 inches

Type of Riser: PVC

Borehole Diameter: 6 inches

Elevation / Depth Top of Rock: N/A / N/A

Type of Backfill: Type I Grout with 5% Bentonite

Elevation / Depth of Seal: / 33 feet

Type of Seal: Bentonite Hole Plug (chip)

Elevation / Depth of Top of Filter Pack: / 35 feet

Elevation / Depth of Top of Screen: / 39 feet

Type of Screen: PCV

Slot Size x Length: 0.001 x 15 feet

I.D. of Screen: 2 inches

Type of Filter Pack: 20-30 Quartz Sand

Elevation / Depth of Bottom of Screen: / 56 feet

Elevation / Depth of Bottom of Filter Pack: / 56 feet

Type of Backfill Below Well: N/A

Elevation / Total Depth of Borehole: / 56 feet

Tetra Tech NUS, Inc.

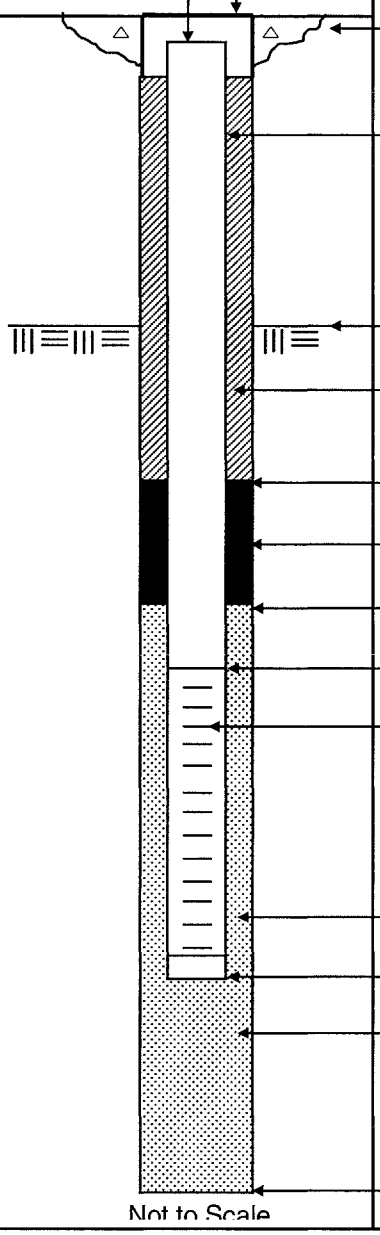
WELL No.: OLFS-2406-MW40S

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB40 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/11/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | EASTING: | |

Ground Elevation =

Datum:




Elevation / Depth of Top of Riser: /

Elevation / Height of Top of Surface Casing: /

I.D. of Surface Casing: N/A

Type of Surface Casing: N/A

Type of Surface Seal: concrete pad

I.D. of Riser: 2 inches

Type of Riser: PVC

Borehole Diameter: 6 inches

Elevation / Depth Top of Rock: N/A / N/A

Type of Backfill: Type I Grout with 5% Bentonite

Elevation / Depth of Seal: / 34 feet

Type of Seal: Bentonite Hole Plug (chip)

Elevation / Depth of Top of Filter Pack: / 37 feet

Elevation / Depth of Top of Screen: / 41 feet

Type of Screen: PCV

Slot Size x Length: 0.001 x 15 feet

I.D. of Screen: 2 inches

Type of Filter Pack: 20-30 Quartz Sand

Elevation / Depth of Bottom of Screen: / 56 feet

Elevation / Depth of Bottom of Filter Pack: / 56 feet

Type of Backfill Below Well: N/A

Elevation / Total Depth of Borehole: / 56 feet

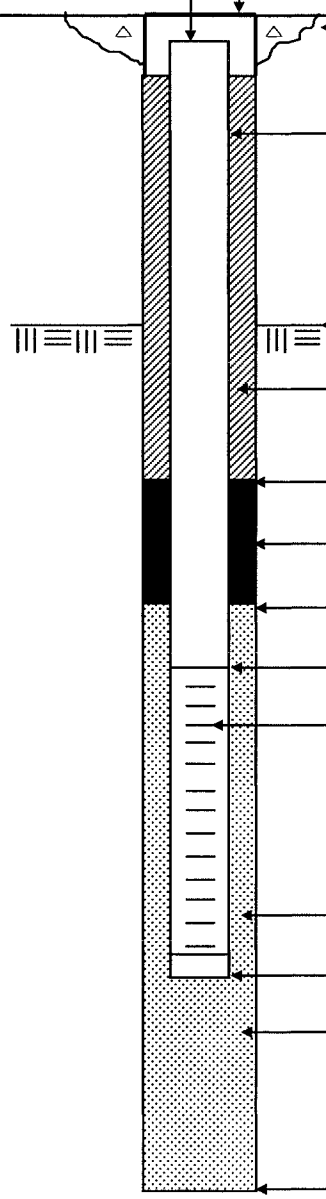
Tetra Tech NUS, Inc.

WELL No.: OLFS-2406-MW41S

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB41 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/11/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | 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: N/A

Type of Surface Casing: N/A

Type of Surface Seal: concrete pad

I.D. of Riser: 2 inches

Type of Riser: PVC

Borehole Diameter: 6 inches

Elevation / Depth Top of Rock: N/A / N/A

Type of Backfill: Type I Grout with 5% Bentonite

Elevation / Depth of Seal: / 37 feet

Type of Seal: Bentonite Hole Plug (chip)

Elevation / Depth of Top of Filter Pack: / 40 feet

Elevation / Depth of Top of Screen: / 42 feet

Type of Screen: PCV

Slot Size x Length: 0.001 x 15 feet

I.D. of Screen: 2 inches

Type of Filter Pack: 20-30 Quartz Sand

Elevation / Depth of Bottom of Screen: / 57 feet

Elevation / Depth of Bottom of Filter Pack: / 57 feet

Type of Backfill Below Well: N/A

Elevation / Total Depth of Borehole: / 57 feet

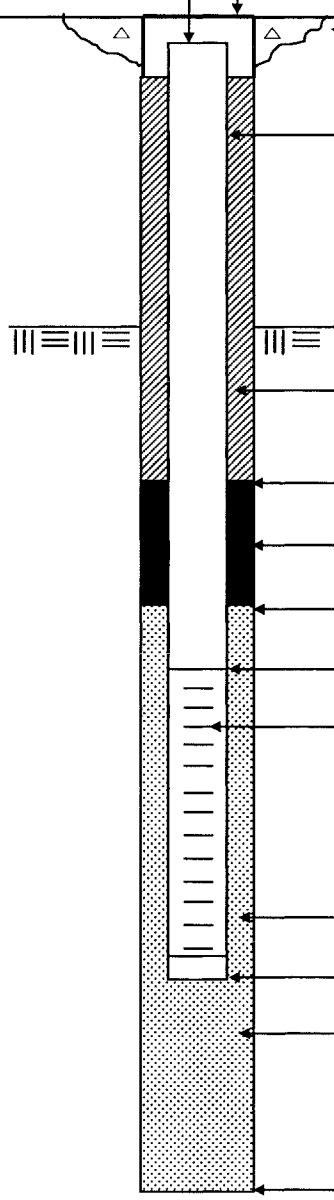
Tetra Tech NUS, Inc.

WELL No.: OLFS-2406-MW42D

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB36 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/08/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | 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: N/A

Type of Surface Casing: N/A

Type of Surface Seal: concrete pad

I.D. of Riser: 2 inches

Type of Riser: PVC

Borehole Diameter: 6 inches

Elevation / Depth Top of Rock: N/A / N/A

Type of Backfill: Type I Grout with 5% Bentonite

Elevation / Depth of Seal: / 118 feet

Type of Seal: Bentonite Hole Plug (chip)

Elevation / Depth of Top of Filter Pack: / 122 feet

Elevation / Depth of Top of Screen: / 125 feet

Type of Screen: PCV

Slot Size x Length: 0.001 x 5 feet

I.D. of Screen: 2 inches

Type of Filter Pack: 20-30 Quartz Sand

Elevation / Depth of Bottom of Screen: / 130 feet

Elevation / Depth of Bottom of Filter Pack: / 130 feet

Type of Backfill Below Well: N/A

Elevation / Total Depth of Borehole: / 130 feet

Tetra Tech NUS, Inc.

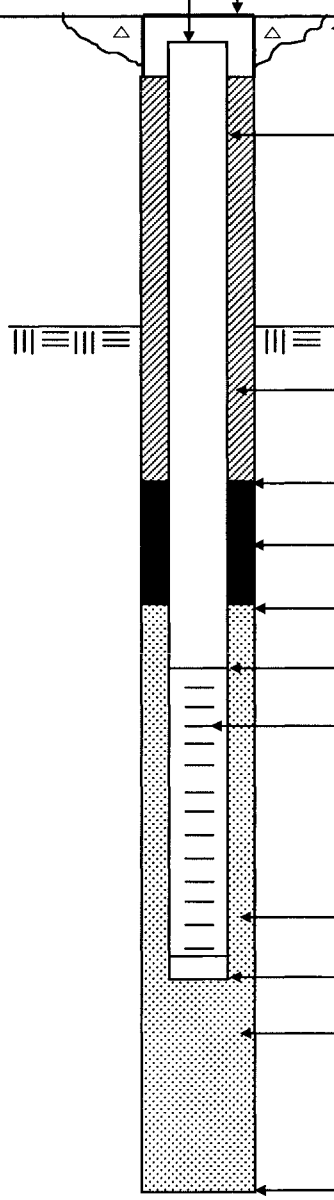
WELL No.: OLFS-2406-MW42S

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB37 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/09/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | 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: N/A

Type of Surface Casing: N/A

Type of Surface Seal: concrete pad

I.D. of Riser: 2 inches

Type of Riser: PVC

Borehole Diameter: 6 inches

Elevation / Depth Top of Rock: N/A / N/A

Type of Backfill: Type I Grout with 5% Bentonite

Elevation / Depth of Seal: / 33 feet

Type of Seal: Bentonite Hole Plug (chip)

Elevation / Depth of Top of Filter Pack: / 35 feet

Elevation / Depth of Top of Screen: / 39 feet

Type of Screen: PCV

Slot Size x Length: 0.001 x 15 feet

I.D. of Screen: 2 inches

Type of Filter Pack: 20-30 Quartz Sand

Elevation / Depth of Bottom of Screen: / 56 feet

Elevation / Depth of Bottom of Filter Pack: / 56 feet

Type of Backfill Below Well: N/A

Elevation / Total Depth of Borehole: / 56 feet

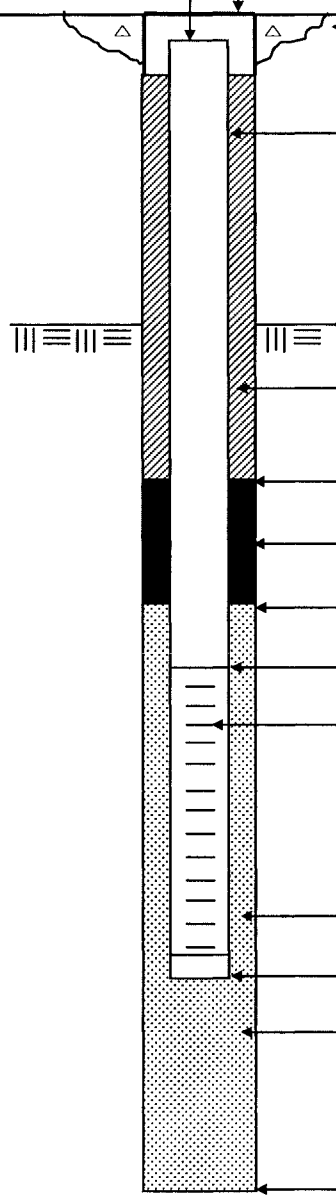
Tetra Tech NUS, Inc.

WELL No.: OLFS-2406-MW43D

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB38 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/10/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | 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: | N/A | |
| Type of Surface Casing: | N/A | |
| Type of Surface Seal: | concrete pad | |
| I.D. of Riser: | 2 inches | |
| Type of Riser: | PVC | |
| Borehole Diameter: | 6 inches | |
| Elevation / Depth Top of Rock: | | N/A / N/A |
| Type of Backfill: | Type I Grout with 5% Bentonite | |
| Elevation / Depth of Seal: | | / 120 feet |
| Type of Seal: | Bentonite Hole Plug (chip) | |
| Elevation / Depth of Top of Filter Pack: | | / 120 feet |
| Elevation / Depth of Top of Screen: | | / 120 feet |
| Type of Screen: | PCV | |
| Slot Size x Length: | 0.001 x 5 feet | |
| I.D. of Screen: | 2 inches | |
| Type of Filter Pack: | 20-30 Quartz Sand | |
| Elevation / Depth of Bottom of Screen: | | / 130 feet |
| Elevation / Depth of Bottom of Filter Pack: | | / 130 feet |
| Type of Backfill Below Well: | N/A | |
| Elevation / Total Depth of Borehole: | | / 130 feet |

Tetra Tech NUS, Inc.

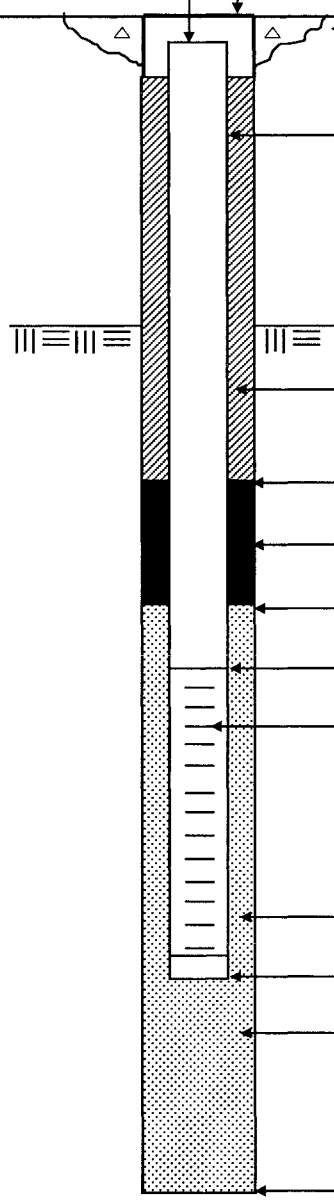
WELL No.: OLFS-2406-MW43S

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB39 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/10/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | 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: | N/A | |
| Type of Surface Casing: | N/A | |
| Type of Surface Seal: | concrete pad | |
| I.D. of Riser: | 2 inches | |
| Type of Riser: | PVC | |
| Borehole Diameter: | 6 inches | |
| Elevation / Depth Top of Rock: | | N/A / N/A |
| Type of Backfill: | Type I Grout with 5% Bentonite | |
| Elevation / Depth of Seal: | | / 31 feet |
| Type of Seal: | Bentonite Hole Plug (chip) | |
| Elevation / Depth of Top of Filter Pack: | | / 33 feet |
| Elevation / Depth of Top of Screen: | | / 35 feet |
| Type of Screen: | PCV | |
| Slot Size x Length: | 0.001 x 15 feet | |
| I.D. of Screen: | 2 inches | |
| Type of Filter Pack: | 20-30 Quartz Sand | |
| Elevation / Depth of Bottom of Screen: | | / 50 feet |
| Elevation / Depth of Bottom of Filter Pack: | | / 50 feet |
| Type of Backfill Below Well: | N/A | |
| Elevation / Total Depth of Borehole: | | / 50 feet |

Tetra Tech NUS, Inc.

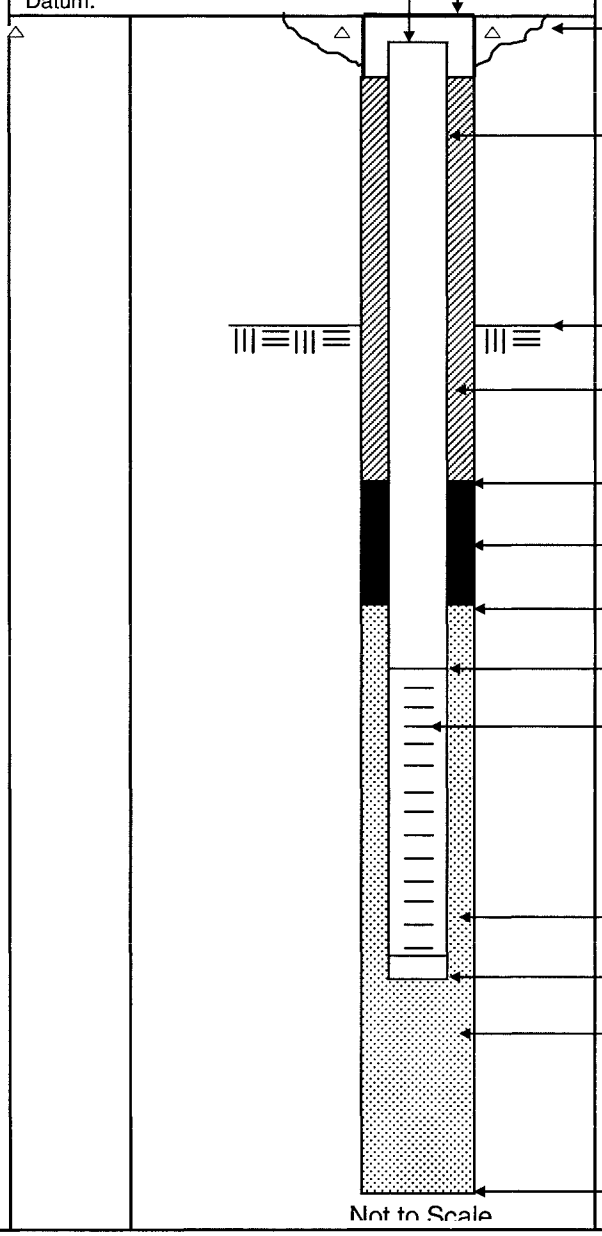
WELL No.: OLFS-2406-MW44D

# MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB42 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/12/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | EASTING: | |

Ground Elevation =

Datum:




| | | |
|---|---|---|
| Elevation / Depth of Top of Riser: | | / |
| Elevation / Height of Top of Surface Casing: | | / |
| I.D. of Surface Casing: | N/A | |
| Type of Surface Casing: | N/A | |
| Type of Surface Seal: | concrete pad | |
| I.D. of Riser: | 2 inches | |
| Type of Riser: | PVC | |
| Borehole Diameter: | 6 inches | |
| Elevation / Depth Top of Rock: | | N/A / N/A |
| Type of Backfill: | Type I Grout with 5% Bentonite | |
| Elevation / Depth of Seal: | | / 118 feet |
| Type of Seal: | Bentonite Hole Plug (chip) | |
| Elevation / Depth of Top of Filter Pack: | | / 122 feet |
| Elevation / Depth of Top of Screen: | | / 125 feet |
| Type of Screen: | PCV | |
| Slot Size x Length: | 0.001 x 5 feet | |
| I.D. of Screen: | 2 inches | |
| Type of Filter Pack: | 20-30 Quartz Sand | |
| Elevation / Depth of Bottom of Screen: | | / 130 feet |
| Elevation / Depth of Bottom of Filter Pack: | | / 130 feet |
| Type of Backfill Below Well: | N/A | |
| Elevation / Total Depth of Borehole: | | / 130 feet |

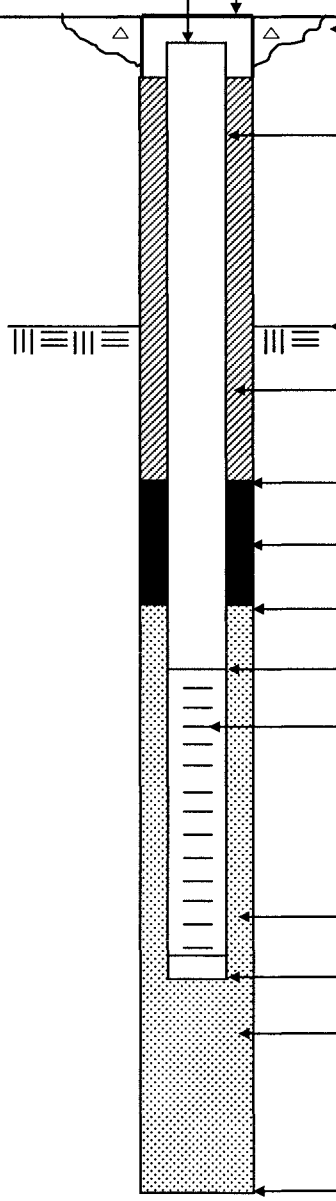
Tetra Tech NUS, Inc.

WELL No.: OLFS-2406-MW44S

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB43 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 02/25/00 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | 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: N/A

Type of Surface Casing: N/A

Type of Surface Seal: concrete pad

I.D. of Riser: 2 inches

Type of Riser: PVC

Borehole Diameter: 6 inches

Elevation / Depth Top of Rock: N/A / N/A

Type of Backfill: Type I Grout with 5% Bentonite

Elevation / Depth of Seal: / 36 feet

Type of Seal: Bentonite Hole Plug (chip)

Elevation / Depth of Top of Filter Pack: / 38 feet

Elevation / Depth of Top of Screen: / 41 feet

Type of Screen: PCV

Slot Size x Length: 0.001 x 15 feet

I.D. of Screen: 2 inches

Type of Filter Pack: 20-30 Quartz Sand

Elevation / Depth of Bottom of Screen: / 56 feet

Elevation / Depth of Bottom of Filter Pack: / 56 feet

Type of Backfill Below Well: N/A

Elevation / Total Depth of Borehole: / 56 feet

Tetra Tech NUS, Inc.

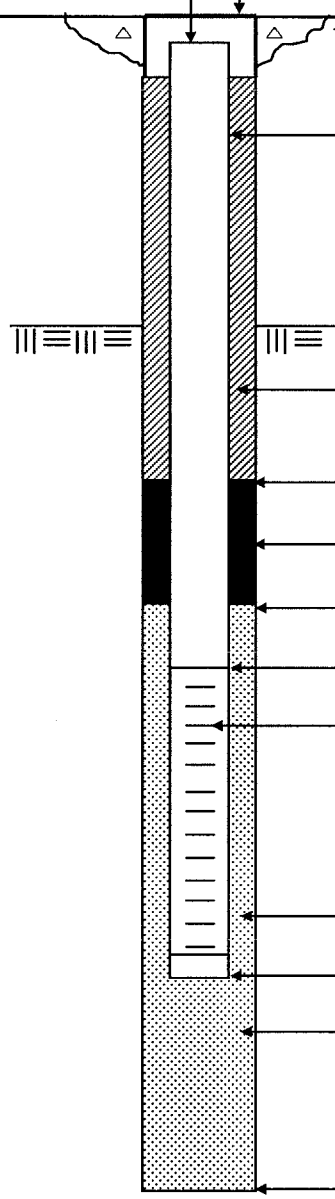
WELL No.: OLFS-2406-MW45S

# MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | SARA at OLF Saufley | DRILLING Co.: | Prosonic Corp. | BORING No.: | OLFS2406SB44 |
| PROJECT No.: | N2642 | DRILLER: | Jeff Cummings | DATE COMPLETED: | 07/14/04 |
| SITE: | 2406 | DRILLING METHOD: | Rotosonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | 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: N/A

Type of Surface Casing: N/A

Type of Surface Seal: concrete pad

I.D. of Riser: 2 inches

Type of Riser: PVC

Borehole Diameter: 6 inches

Elevation / Depth Top of Rock: N/A / N/A

Type of Backfill: Type I Grout with 5% Bentonite

Elevation / Depth of Seal: / 27 feet

Type of Seal: Bentonite Hole Plug (chip)

Elevation / Depth of Top of Filter Pack: / 29 feet

Elevation / Depth of Top of Screen: / 31 feet

Type of Screen: PCV

Slot Size x Length: 0.001 x 15 feet

I.D. of Screen: 2 inches

Type of Filter Pack: 20-30 Quartz Sand

Elevation / Depth of Bottom of Screen: / 46 feet

Elevation / Depth of Bottom of Filter Pack: / 46 feet

Type of Backfill Below Well: N/A

Elevation / Total Depth of Borehole: / 46 feet

Tetra Tech NUS, Inc.

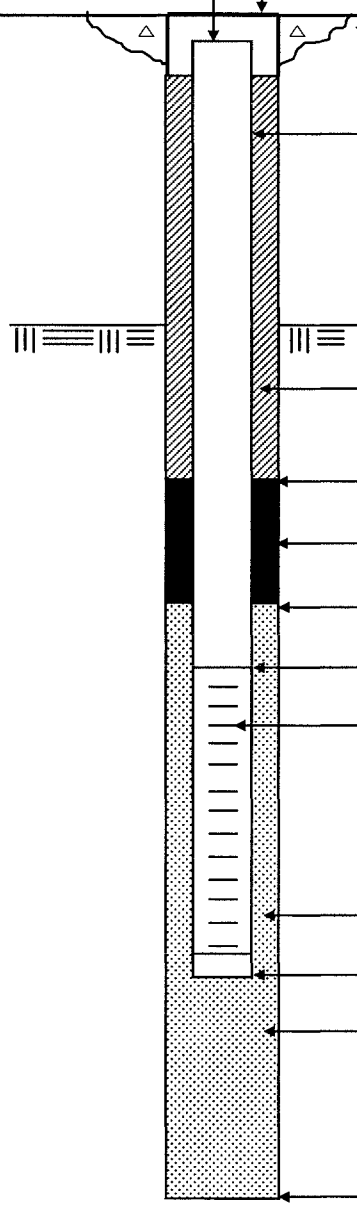
WELL No.: OLFS-2406-MW-46S

# MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | OLF Saufley | DRILLING Co.: | ProSonic | BORING No.: | |
| PROJECT No.: | N2642 | DRILLER: | Jeff Commings | DATE COMPLETED: | 02/22/05 |
| SITE: | 2406 | DRILLING METHOD: | Roto-Sonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | 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: | | |
| Type of Surface Casing: | Flush Mount | |
| Type of Surface Seal: | Concrete | |
| I.D. of Riser: | 2 inch | |
| Type of Riser: | PVC | |
| Borehole Diameter: | 6 inch | |
| Elevation / Depth Top of Rock: | | NA / |
| Type of Backfill: | Type I Grount<br>No bentonite added per NWFWMD | |
| Elevation / Depth of Seal: | | 36.5 ft / |
| Type of Seal: | Bentonite | |
| Elevation / Depth of Top of Filter Pack: | | 38.5 ft / |
| Elevation / Depth of Top of Screen: | | 40.5 ft / |
| Type of Screen: | PVC | |
| Slot Size x Length: | 0.01 Slot | |
| I.D. of Screen: | 2 inch | |
| Type of Filter Pack: | 20 x 30 qtz | |
| Elevation / Depth of Bottom of Screen: | | 50.5 ft / |
| Elevation / Depth of Bottom of Filter Pack: | | 50.5 ft / |
| Type of Backfill Below Well: | NA | |
| Elevation / Total Depth of Borehole: | | 50.5 ft / |

Tetra Tech NUS, Inc.

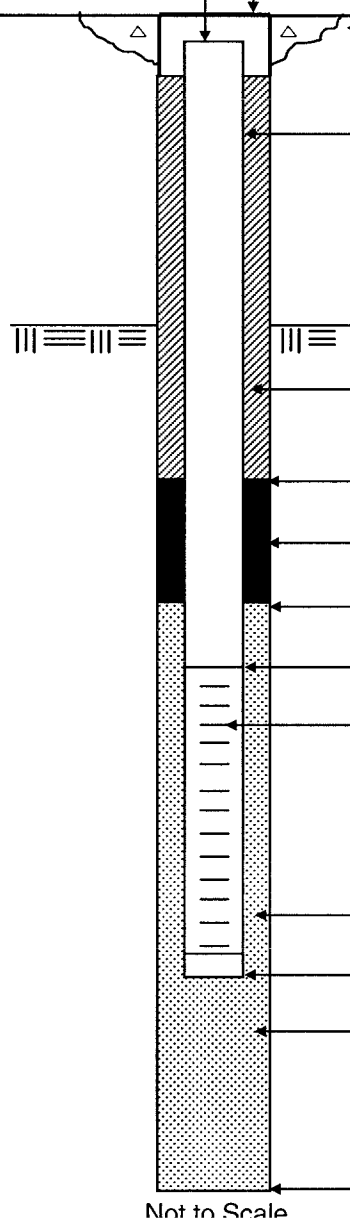
WELL No.: OLFS-2406-MW-47S

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | OLF Saufley | DRILLING Co.: | ProSonic | BORING No.: | |
| PROJECT No.: | N2642 | DRILLER: | Jeff Commings | DATE COMPLETED: | 02/22/05 |
| SITE: | 2406 | DRILLING METHOD: | Roto-Sonic | NORTHING: | |
| GEOLOGIST: | Larry Smith | DEV. METHOD: | Pump | EASTING: | |

Ground Elevation =

Datum:




| | | |
|---|---|---|
| Elevation / Depth of Top of Riser: | | / |
| Elevation / Height of Top of Surface Casing: | | / |
| I.D. of Surface Casing: | | |
| Type of Surface Casing: | Flush Mount | |
| Type of Surface Seal: | Concrete | |
| I.D. of Riser: | 2 inch | |
| Type of Riser: | PVC | |
| Borehole Diameter: | 6 inch | |
| Elevation / Depth Top of Rock: | | NA / |
| Type of Backfill: | Type I Grount<br>No bentonite added per NWFWMD | |
| Elevation / Depth of Seal: | | 38 ft / |
| Type of Seal: | Bentonite | |
| Elevation / Depth of Top of Filter Pack: | | 44 ft / |
| Elevation / Depth of Top of Screen: | | 46 ft / |
| Type of Screen: | PVC | |
| Slot Size x Length: | 0.01 Slot | |
| I.D. of Screen: | 2 inch | |
| Type of Filter Pack: | 20 x 30 qtz | |
| Elevation / Depth of Bottom of Screen: | | 56 ft / |
| Elevation / Depth of Bottom of Filter Pack: | | 56 ft / |
| Type of Backfill Below Well: | NA | |
| Elevation / Total Depth of Borehole: | | 56 ft / |

# SURVEYING DATA SHEET

**Project Name:** OLF Saufley 2406

**Project No.:** N2642 **Date:** 7/29/2004

**Personnel:** Howard Engle / Louis Knight

| Station ID | Backsight (BS) | Height of Instrument (HI) | Foresight (FS) | Elevation | Comments |
|---|---|---|---|---|---|
| MW-21 | 7.28 | 136.74 | | 129.46 | Datum |
| MW-41 | | 136.74 | 8.27 | 128.47 | |
| MW-40 | | 136.74 | 6.68 | 130.06 | |
| MW-38 | | 136.74 | 5.54 | 131.20 | |
| MW-45 | | 136.74 | 7.95 | 128.79 | |
| MW-38 (TP) | 5.42 | 136.62 | | 131.2 | Temp. Benchmark |
| MW-45 (TP) | 7.83 | 136.62 | | 128.79 | Temp. Benchmark |
| MW-39 | | 136.62 | 6.97 | 129.65 | |
| MW-42S | | 136.62 | 9.26 | 127.36 | |
| MW-42D | | 136.62 | 8.94 | 127.68 | |
| MW-42D (TP) | 6.16 | 133.84 | | 127.68 | Temp. Benchmark |
| MW-43S | | 133.84 | 14.44 | 119.40 | |
| MW-43D | | 133.84 | 14.6 | 119.24 | |
| MW-43S | 2.64 | 122.04 | | 119.4 | Temp. Benchmark |
| MW-44S | | 122.04 | 13.03 | 109.01 | |
| MW-44D | | 122.04 | 13.12 | 108.92 | |
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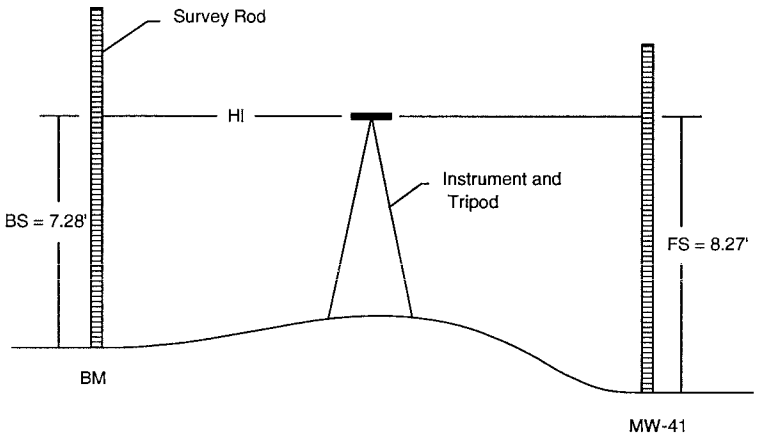
HI = BM Elevation + BM Backsight
Station Elevation = HI - Station FS

To create a Turning Point (TP):
1. Shoot a FS to the TP
2. HI - FS = the TP Elevation
3. Move the insturment to the new location

# SURVEYING SCHEMATIC




BM = Benchmark = 129.46'

FS = Foresight

HI = Height of Instrument

BS = Backsight

HI = BM + BS = 129.46' + 7.28' = 136.74"

MW-41 = HI - FS = 136.74' - 8.27' = 128.47'

Example:

| Station | BS | HI | FS | Elevation | Comments |
|---|---|---|---|---|---|
| BM | | | | 129.46' | MW-21 |
| BM | 5.7' | 136.74' | | | |
| MW41 | | 136.74' | 8.27' | 128.47' | Top of PVC casing |
| MW40 | | 136.74' | 6.68' | 130.06' | Top of PVC casing |
| BM | | | | 131.20' | MW-38 |
| TP | 5.42' | 136.62' | | 131.20' | Turning point - MW-38 |
| TP | 7.83' | 136.62' | | 131.20' | Turning Point - MW-45 |

Tetra Tech NUS, Inc.

# GROUNDWATER LEVEL MEASUREMENT SHEET

**Project Name:** NAS Pensacola, SARA / RAP
**Project No.:** N2642
**Location:** OLF Saufley, Building 2406
**Personnel:** H. Engle, L. Knight
**Weather Conditions:**
**Measuring Device:** Slope Indicator
**Tidally Influenced:** Yes ____ No X
**Remarks:**

| Well or Piezometer Number | Date | Time | Elevation of Reference Point (feet)* | Total Well Depth (feet)* | Water Level Indicator Reading (feet)* | Thickness of Free Product (feet)* | Groundwater Elevation (feet)* | Comments |
|---|---|---|---|---|---|---|---|---|
| MW-26D | 7/28/2004 | 1815 | 130.07 | 65.85 | 43.91 | | 86.16 | |
| MW-27D | 7/28/2004 | 1818 | 129.29 | 66.44 | 38.98 | | 90.31 | |
| MW-28D | 7/28/2004 | 1821 | 128.44 | 80.13 | 46.14 | | 82.3 | |
| MW-29D | 7/28/2004 | 1845 | 119.42 | 80.4 | 38.37 | | 81.05 | |
| MW-30D | 7/28/2004 | 1842 | 120 | 81.8 | 38.73 | | 81.27 | |
| MW-31D | 7/28/2004 | 1850 | 108.32 | 79.35 | 27.73 | | 80.59 | |
| MW-32D | 7/28/2004 | 1851 | 108.5 | 135.7 | 28.13 | | 80.37 | |
| MW-33D | 7/28/2004 | | 119.56 | 80.25 | | | 119.56 | cannot locate |
| MW-34D | 7/28/2004 | 1824 | 125.32 | 77.9 | 27.2 | | 98.12 | |
| MW-35D | 7/28/2004 | 1900 | 130.11 | 81.12 | 45.2 | | 84.91 | |
| MW-36D | 7/28/2004 | 1905 | 128.47 | 79.12 | 44.94 | | 83.53 | |
| MW-37D | 7/28/2004 | 1903 | 129.93 | 135.8 | 47.09 | | 82.84 | |
| MW-38 | 7/28/2004 | 1805 | 131.2 | 56 | 41.22 | | 89.98 | |
| MW-39 | 7/28/2004 | 1855 | 129.65 | 56 | 36.02 | | 93.63 | |
| MW-40 | 7/28/2004 | 1812 | 130.06 | 56 | 41.15 | | 88.91 | |
| MW-41 | 7/28/2004 | 1742 | 128.47 | 56 | 40.3 | | 88.17 | |
| MW-42S | 7/28/2004 | 1845 | 127.36 | 56 | 33.77 | | 93.59 | |
| MW-42D | 7/28/2004 | 1847 | 127.68 | 130 | 45.14 | | 82.54 | |
| MW-43S | 7/28/2004 | 1850 | 119.4 | 56 | 18.8 | | 100.6 | |
| MW-43D | 7/28/2004 | 1852 | 119.24 | 133.2 | 37.6 | | 81.64 | |
| MW-44S | 7/28/2004 | 1837 | 109.01 | 56 | 29.04 | | 79.97 | |
| MW-44D | 7/28/2004 | 1835 | 108.92 | 130 | 28.89 | | 80.03 | |
| MW-45 | 7/28/2004 | 1801 | 128.79 | 45 | 35.95 | | 92.84 | |
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* All measurements to the nearest 0.01 foot

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW47
Sample Location: MW-47
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 3/4/2005 | | | | | | | | |
| Time: | 13:45 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 5.16 | 0.026 | 23.45 | 17.1 | 8.73 | 241.3 | 15:07 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 3/4/2005 | | | | | | | | |
| Method: | low flow | | | | | | | | 13:11 |
| Monitor Reading (ppm): | | 600 mL | 8.23 | 0.163 | 24.85 | >400 | 1.14 | 34.3 | 13:13 |
| Well Casing Diameter & Material | | 2.1 L | 8.13 | 0.162 | 25.29 | 170 | 0.9 | 34.7 | 13:18 |
| Type: | 2" PVC | 4.5 L | 7.79 | 0.166 | 25.93 | 40 | 0.81 | 24.4 | 13:26 |
| Total Well Depth (TD): | 56.69 | 8.1 L | 7.1 | 0.15 | 25.91 | 15 | 1.02 | -51.4 | 13:38 |
| Static Water Level (WL): | 42.69 | | | | | | | | |
| One Pump Volume(L): | 1.4 | | | | | | | | |
| Start Purge (hrs): | 13:11 | | | | | | | | |
| End Purge (hrs): | 13:38 | | | | | | | | |
| Total Purge Time (min): | 0:27 | | | | | | | | |
| Total Vol. Purged (L): | 8.1 L | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8206B VOCs (BTEX) | HCl | 3 - 40 mL vials | Yes |
| SW-8270C SIM PAHs | 4° C | 2 - 1L Amber Jar | Yes |
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**OBSERVATIONS / NOTES:**

Purge rate = 300 mL/min
Screen fully submerged, tubing placed in screen interval
Purge 1 pump volume = 60 ft. x 0.006 gal./ft = 5.3 gallons x 3.8 liters/1 gallon = 1.4 liters

Purge rate could not be adjusted to equal recharge rate

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| | |

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW46
Sample Location: MW-46
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| Date: 3/4/2005 | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|
| Time: 12:40 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: low flow | clear | 7.07 | 0.18 | 26.13 | 290 | 1.62 | -245.8 | 11:31 |

**PURGE DATA:**

| Date: 3/4/2005 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|
| Method: low flow | | | | | | | | 11:00 |
| Monitor Reading (ppm): | 3.2 | 7.04 | 0.177 | 24.15 | >400 | 2.24 | -212.6 | 11:16 |
| Well Casing Diameter & Material | 6 | 7.07 | 0.18 | 26.13 | 290 | 1.62 | -245.8 | 11:30 |
| Type: 2" PVC | | WELL PURGED DRY | | | | | | 11:31 |
| Total Well Depth (TD): 52.05 | | | | | | | | |
| Static Water Level (WL): 40.97 | | | | | | | | |
| One Pump Volume(L): 8.4 | | | | | | | | |
| Start Purge (hrs): 11:00 | | | | | | | | |
| End Purge (hrs): 11:31 | | | | | | | | |
| Total Purge Time (min): 0:31 | | | | | | | | |
| Total Vol. Purged (gal): 6 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8206B VOCs (BTEX) | HCl | 3 - 40 mL vials | Yes |
| SW-8270C SIM PAHs | 4° C | 2 - 1L Amber Jar | Yes |
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**OBSERVATIONS / NOTES:**

Purge rate = 200 mL/min
Screen fully submerged, tubing placed in screen interval
Purge 1 pump volume = 55 ft. x 0.04 gal./ft = 5.3 gallons x 3.8 liters/1 gallon = 8.36 liters

Purge rate could not be adjusted to equal recharge rate

GW extremely trubid. Slowed flow rate to 200 mL/min @ 10:00. Turned up flow rate to try and remove purged dry. Will wait for recharge, then begin purging a 200 mL/min again.
Well purged dry again. Will sample when well recharges for the second time.

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW45
Sample Location: MW-45
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| Date: 7/30/2004 | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|
| Time: 14:50 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: low flow | clear | 6.29 | 0.12 | 21.89 | 1.5 | 0.78 | -295.9 | 14:50 |

**PURGE DATA:**

| Date: 7/30/2004 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|
| Method: low flow | 2.1 | 6.47 | 0.126 | 21.84 | 23 | 0.75 | -341.4 | 14:30 |
| Monitor Reading (ppm): | 3.15 | 6.39 | 0.123 | 21.85 | 4.4 | 0.68 | -321.1 | 14:35 |
| Well Casing Diameter & Material | 4.2 | 6.29 | 0.12 | 21.89 | 1.5 | 0.78 | -295.9 | 14:40 |
| Type: 2" PVC | | | | | | | | |
| Total Well Depth (TD): 45 | | | | | | | | |
| Static Water Level (WL): 28.89 | | | | | | | | |
| One Pump Volume(gal): 0.9 | | | | | | | | |
| Start Purge (hrs): 14:20 | | | | | | | | |
| End Purge (hrs): 14:40 | | | | | | | | |
| Total Purge Time (min): 0:20 | | | | | | | | |
| Total Vol. Purged (gal): 4.2 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |
| SW-846 8270C SIM - PAHs | None | Two 1L Ambers | Yes |
| USEPA 504.1 - EDB | Na2S2O3 | Three 40mL Vials | Yes |
| FL-PRO - TRPH | H2SO4 | Two 1L Ambers | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.21 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 45 ft. x 0.02 gal./ft = 0.9 gallons

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW44D
Sample Location: MW-44D
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| Date: | 7/29/2004 | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Time: | 17:40 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 8.62 | 0.061 | 22.48 | 8.6 | 8.81 | 25.9 | 17:40 |

**PURGE DATA:**

| Date: | 7/29/2004 | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Method: | low flow | 7.5 | | | | | | | 16:45 |
| Monitor Reading (ppm): | | 12.5 | | | | | | | 16:55 |
| Well Casing Diameter & Material | | 15 | 10.15 | 0.115 | 22.54 | 65 | 12.6 | -20.1 | 17:00 |
| Type: | 2" PVC | 17.5 | 10.05 | 0.105 | 22.53 | 70 | 10.9 | -14 | 17:05 |
| Total Well Depth (TD): | 130 | 20 | 9.81 | 0.092 | 22.51 | 50 | 10.36 | -2.1 | 17:10 |
| Static Water Level (WL): | 28.89 | 22.5 | 9.45 | 0.079 | 22.5 | 45 | 9.96 | 10.1 | 17:15 |
| One Pump Volume(gal): | 2.6 | 25 | 9.32 | 0.077 | 22.5 | 33 | 12.21 | 16.4 | 17:20 |
| Start Purge (hrs): | 16:30 | 27.5 | 9.06 | 0.072 | 22.49 | 29 | 11.18 | 21.3 | 17:25 |
| End Purge (hrs): | 17:35 | 30 | 8.83 | 0.064 | 22.49 | 17 | 9.15 | 25.9 | 17:30 |
| Total Purge Time (min): | 1:05 | 32.5 | 8.62 | 0.061 | 22.48 | 8.6 | 8.81 | 25.9 | 17:35 |
| Total Vol. Purged (gal): | 32.5 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.5 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 130 ft. x 0.02 gal./ft = 2.6 gallons

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW44S
Sample Location: MW-44S
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/28/2004 | | | | | | | | |
| Time: | 17:45 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 6.23 | 0.067 | 21.84 | 14 | 0.89 | -308 | 17:45 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/28/2004 | | | | | | | | |
| Method: | low flow | 1.8 | 9.8 | 0.114 | 21.83 | 500 | 0.39 | -442.6 | 17:05 |
| Monitor Reading (ppm): | | 2.88 | 7.25 | 0.083 | 21.83 | 240 | 0.6 | -388.4 | 17:11 |
| Well Casing Diameter & Material | | 4.68 | 6.56 | 0.067 | 21.78 | 90 | 0.82 | -360.4 | 17:21 |
| Type: | 2" PVC | 7.02 | 6.26 | 0.067 | 21.82 | 16 | 0.95 | -329 | 17:34 |
| Total Well Depth (TD): | 56 | 7.05 | 6.25 | 0.067 | 21.82 | 16 | 0.91 | -310 | 17:37 |
| Static Water Level (WL): | 29.04 | 8.1 | 6.26 | 0.067 | 21.85 | 15 | 0.87 | -305 | 17:40 |
| One Pump Volume(gal): | 1.12 | 8.64 | 6.23 | 0.067 | 21.84 | 14 | 0.89 | -308 | 17:43 |
| Start Purge (hrs): | 16:55 | | | | | | | | |
| End Purge (hrs): | 17:43 | | | | | | | | |
| Total Purge Time (min): | 0:48 | | | | | | | | |
| Total Vol. Purged (gal): | 8.64 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.18 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 56 ft. x 0.02 gal./ft = 1.12 gallons

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW43d
Sample Location: MW-43D
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/28/2004 | | | | | | | | |
| Time: | 13:35 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 12.08 | 1.27 | 23.43 | 14 | 0.82 | -335 | 13:35 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/28/2004 | | | | | | | | |
| Method: | low flow | 2.52 | 11.92 | 1.27 | 23.41 | 29 | 1.76 | -328 | 13:24 |
| Monitor Reading (ppm): | | 3.78 | 12.08 | 1.27 | 23.44 | 15 | 0.87 | -326 | 13:31 |
| Well Casing Diameter & Material | | 4.5 | 12.08 | 1.27 | 23.43 | 14 | 0.82 | -335 | 13:35 |
| Type: | 2" PVC | | | | | | | | |
| Total Well Depth (TD): | 133.2 | | | | | | | | |
| Static Water Level (WL): | 37.6 | | | | | | | | |
| One Casing Volume(gal): | 2.64 | | | | | | | | |
| Start Purge (hrs): | 13:10 | | | | | | | | |
| End Purge (hrs): | 13:35 | | | | | | | | |
| Total Purge Time (min): | 0:25 | | | | | | | | |
| Total Vol. Purged (gal): | 4.5 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |

**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.18 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 132 ft. x 0.02 gal./ft = 2.64 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW43S
Sample Location: MW-43S
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/29/2004 | | | | | | | | |
| Time: | 15:45 | Visual | Standard | mS/cm | $^0$C | NTU | mg/l | mV | |
| Method: | low flow | slightly cloudy | 6.7 | 0.044 | 21.84 | 280 | 10.18 | -52.8 | 15:45 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/29/2004 | | | | | | | | |
| Method: | low flow | 5 | 6.4 | 0.044 | 21.48 | 120 | 9.3 | 24 | 14:55 |
| Monitor Reading (ppm): | | 12 | 6.28 | 0.034 | 21.62 | 400 | 7.63 | 24 | 15:02 |
| Well Casing Diameter & Material | | 15 | 6.4 | 0.037 | 21.94 | >1000 | 5.45 | -443 | 15:05 |
| Type: | 2" PVC | 40 | 6.7 | 0.044 | 21.84 | 280 | 10.18 | -52.8 | 15:30 |
| Total Well Depth (TD): | 56 | Well purged dry | | | | | | | 15:40 |
| Static Water Level (WL): | 19.33 | | | | | | | | |
| One Pump Volume(gal/L): | 1.12 | | | | | | | | |
| Start Purge (hrs): | 14:50 | | | | | | | | |
| End Purge (hrs): | 15:40 | | | | | | | | |
| Total Purge Time (min): | 0:50 | | | | | | | | |
| Total Vol. Purged (gal/L): | 40 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |

**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 1 gal/min; Note - pump not functioning properly; cannot adjust flow rate
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 56 ft. x 0.02 gal./ft = 1.12 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW42D
Sample Location: MW-42D
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/28/2004 | | | | | | | | |
| Time: | 10:30 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 5.75 | 0.027 | 23.87 | 5.8 | 13 | 158 | 10:30 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/28/2004 | | | | | | | | |
| Method: | low flow | 2.52 | 5.82 | 0.027 | 23.55 | 6.9 | 15.05 | 140 | 10:04 |
| Monitor Reading (ppm): | | 3.06 | 5.75 | 0.028 | 23.88 | 6.2 | 13.6 | 160 | 10:07 |
| Well Casing Diameter & Material | | 3.6 | 5.75 | 0.028 | 23.98 | 6 | 13.6 | 160 | 10:10 |
| Type: | 2" PVC | 4.14 | 5.75 | 0.027 | 23.87 | 5.8 | 13 | 158 | 10:13 |
| Total Well Depth (TD): | 130 | | | | | | | | |
| Static Water Level (WL): | 45.14 | | | | | | | | |
| One Pump Volume(gal): | 2.6 | | | | | | | | |
| Start Purge (hrs): | 9:50 | | | | | | | | |
| End Purge (hrs): | 10:13 | | | | | | | | |
| Total Purge Time (min): | 0:23 | | | | | | | | |
| Total Vol. Purged (gal): | 4.14 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.18 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 130 ft. x 0.02 gal./ft = 2.6 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW42S
Sample Location: MW-42S
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/28/2004 | | | | | | | | |
| Time: | 10:15 | Visual | Standard | mS/cm | $^0$C | NTU | mg/l | mV | |
| Method: | low flow | clear | 6.47 | 0.074 | 22.34 | 16 | 1.73 | -373.8 | 10:15 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/28/2004 | | | | | | | | |
| Method: | low flow | 0.91 | 7 | 0.087 | 22.95 | 150 | 0.59 | -520 | 9:15 |
| Monitor Reading (ppm): | | 1.82 | 6.79 | 0.084 | 22.62 | 34 | 0.36 | -480 | 9:22 |
| Well Casing Diameter & Material | | 2.86 | 6.6 | 0.078 | 22.71 | 29 | 0.7 | -420.5 | 9:30 |
| Type: | 2" PVC | 3.77 | 6.5 | 0.075 | 22.43 | 23 | 1.53 | -392.2 | 9:37 |
| Total Well Depth (TD): | 56 | 4.81 | 6.47 | 0.074 | 22.34 | 16 | 1.73 | -373.8 | 9:45 |
| Static Water Level (WL): | 33.77 | | | | | | | | |
| One Pump Volume(gal/L): | 1.12 | | | | | | | | |
| Start Purge (hrs): | 9:08 | | | | | | | | |
| End Purge (hrs): | 9:45 | | | | | | | | |
| Total Purge Time (min): | 0:37 | | | | | | | | |
| Total Vol. Purged (gal/L): | 4.81 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 6010B - Total lead | HNO3 | One 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.13 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 56 ft. x 0.02 gal./ft = 1.12 gallons

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW41
Sample Location: MW-41
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Time: | 10:50 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 7.13 | 0.148 | 25.54 | 1000 | 0.37 | -342 | 10:50 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Method: | low flow | 1.6 | 7.85 | 0.151 | 24.64 | 240 | 0.71 | -432.6 | 9:35 |
| Monitor Reading (ppm): | | 2.4 | 7.78 | 0.136 | 25.02 | 450 | 0.58 | -461.9 | 9:40 |
| Well Casing Diameter & Material | | 3.2 | 7.67 | 0.134 | 25.09 | 950 | 0.47 | -415.7 | 9:45 |
| Type: | 2" PVC | 4 | 7.5 | 0.135 | 25.25 | 750 | 0.43 | -284.4 | 9:50 |
| Total Well Depth (TD): | 56 | 4.8 | 7.13 | 0.148 | 25.54 | 1000 | 0.37 | -342 | 9:55 |
| Static Water Level (WL): | 40.2 | Well is dry | | | | | | | 10:00 |
| One Pump Volume(gal): | 1.12 | | | | | | | | |
| Start Purge (hrs): | 9:25 | | | | | | | | |
| End Purge (hrs): | 10:00 | | | | | | | | |
| Total Purge Time (min): | 0:35 | | | | | | | | |
| Total Vol. Purged (gal): | 4.8 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 8270C SIM - PAHs | None | Two 1L Ambers | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |
| USEPA 504.1 - EDB | Na2S2O3 | Three 40mL Vials | Yes |
| FL-PRO - TRPH | H2SO4 | 2 1L Ambers | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.16 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 56 ft. x 0.02 gal./ft = 1.12 gallons

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW40
Sample Location: MW-40
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/30/2004 | | | | | | | | |
| Time: | 16:45 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 6.42 | 0.084 | 25.57 | 8.5 | 1.69 | -27.2 | 16:45 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/30/2004 | | | | | | | | |
| Method: | low flow | 1.9 | 6.81 | 0.102 | 25.7 | 550 | 0.48 | -97.7 | 16:20 |
| Monitor Reading (ppm): | | 2.85 | 6.82 | 0.112 | 25.69 | 360 | 0.63 | -137 | 16:25 |
| Well Casing Diameter & Material | | 3.8 | 6.67 | 0.101 | 25.62 | 100 | 0.89 | -140.4 | 16:30 |
| Type: | 2" PVC | 4.75 | 6.5 | 0.091 | 25.56 | 21 | 1.38 | -61.2 | 16:35 |
| Total Well Depth (TD): | 56 | 5.7 | 6.42 | 0.084 | 25.57 | 8.5 | 1.69 | -27.2 | 16:40 |
| Static Water Level (WL): | 41.15 | | | | | | | | |
| One Casing Volume(gal): | 2.38 | | | | | | | | |
| Start Purge (hrs): | 16:10 | | | | | | | | |
| End Purge (hrs): | 16:40 | | | | | | | | |
| Total Purge Time (min): | 0:30 | | | | | | | | |
| Total Vol. Purged (gal): | 5.7 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 8270C SIM - PAHs | None | Two 1L Ambers | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |
| USEPA 504.1 - EDB | Na2S2O3 | Three 40mL Vials | Yes |
| FL-PRO - TRPH | H2SO4 | 2 1L Ambers | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.19 gal/min
Screen partially submerged, pump placed in screen interval
Purge 1 well volume = 14.85 ft. x 0.16 gal./ft = 2.38 gallons

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW39
Sample Location: MW-39
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/30/2004 | Visual | Standard | mS/cm | $^0$C | NTU | mg/l | mV | |
| Time: | 15:45 | | | | | | | | |
| Method: | low flow | clear | 6.37 | 0.107 | 24.52 | 4.3 | 1.88 | -7.2 | 15:45 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/30/2004 | | | | | | | | |
| Method: | low flow | 1.6 | 6.31 | 0.101 | 24.63 | 8.5 | 0.97 | -4.7 | 15:30 |
| Monitor Reading (ppm): | | 2.4 | 6.32 | 0.105 | 24.55 | 5.1 | 0.99 | -23 | 15:35 |
| Well Casing Diameter & Material | | 3.2 | 6.37 | 0.107 | 24.52 | 4.3 | 1.88 | -7.2 | 15:40 |
| Type: | 2" PVC | | | | | | | | |
| Total Well Depth (TD): | 56 | | | | | | | | |
| Static Water Level (WL): | 36.02 | | | | | | | | |
| One Pump Volume(gal): | 1.12 | | | | | | | | |
| Start Purge (hrs): | 15:20 | | | | | | | | |
| End Purge (hrs): | 15:40 | | | | | | | | |
| Total Purge Time (min): | 0:20 | | | | | | | | |
| Total Vol. Purged (gal): | 3.2 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 8270C SIM - PAHs | None | Two 1L Ambers | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |
| USEPA 504.1 - EDB | Na2S2O3 | Three 40mL Vials | Yes |
| FL-PRO - TRPH | H2SO4 | 2 1L Ambers | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.16 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 56 ft. x0.02 gal./ft = 1.12 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW38
Sample Location: MW-38
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Time: | 11:40 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 5.79 | 0.119 | 23.59 | 16 | 0.88 | 11.4 | 11:40 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Method: | low flow | 1.8 | 5.8 | 0.12 | 23.49 | 200 | 1.47 | 15.1 | 11:25 |
| Monitor Reading (ppm): | | 2.7 | 5.8 | 0.118 | 23.57 | 35 | 0.96 | 13.3 | 11:30 |
| Well Casing Diameter & Material | | 3.6 | 5.79 | 0.119 | 23.59 | 16 | 0.88 | 11.4 | 11:35 |
| Type: | 2" PVC | 4.5 | 5.78 | 0.119 | 23.57 | 15 | 0.89 | 11.1 | 11:38 |
| Total Well Depth (TD): | 56 | | | | | | | | |
| Static Water Level (WL): | 41.26 | | | | | | | | |
| One Casing Volume(gal): | 2.36 | | | | | | | | |
| Start Purge (hrs): | 11:15 | | | | | | | | |
| End Purge (hrs): | 11:40 | | | | | | | | |
| Total Purge Time (min): | 0:25 | | | | | | | | |
| Total Vol. Purged (gal): | 4.5 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 8270C SIM - PAHs | None | Two 1L Ambers | Yes |
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |
| USEPA 504.1 - EDB | Na2S2O3 | Three 40mL Vials | Yes |
| FL-PRO - TRPH | H2SO4 | 2 1L Ambers | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.18 gal/min
Screen partially submerged, pump placed in screen interval
Purge 1 well volume = 14.74 ft. x 0.16 gal./ft = 2.36 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW37D
Sample Location: MW-37D
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Time: | 15:50 | Visual | Standard | mS/cm | $^0$C | NTU | mg/l | mV | |
| Method: | low flow | clear | 4.88 | 0.029 | 23.4 | 4 | 11.58 | 318.9 | 15:50 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Method: | low flow | 3.6 | 5.5 | 0.031 | 23.47 | 4.6 | 6.73 | 242.1 | 15:10 |
| Monitor Reading (ppm): | | 7.2 | 5.21 | 0.029 | 23.43 | 6.6 | 9.03 | 269.5 | 15:20 |
| Well Casing Diameter & Material | | 10.8 | 5.02 | 0.029 | 23.42 | 4.9 | 10.5 | 291.6 | 15:30 |
| Type: | 2" PVC | 14.4 | 4.91 | 0.028 | 23.35 | 3.5 | 11.26 | 310.8 | 15:40 |
| Total Well Depth (TD): | 135.8 | 15.5 | 4.9 | 0.029 | 23.41 | 3.9 | 11.58 | 9:36 | 15:43 |
| Static Water Level (WL): | 47.09 | 16.6 | 4.88 | 0.029 | 23.4 | 4 | 11.58 | 318.9 | 15:46 |
| One Pump Volume(gal): | 2.68 | | | | | | | | |
| Start Purge (hrs): | 15:00 | | | | | | | | |
| End Purge (hrs): | 15:46 | | | | | | | | |
| Total Purge Time (min): | 0:46 | | | | | | | | |
| Total Vol. Purged (gal): | 16.6 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCl | Three 40mL Vials | Yes |
| SW-846 6010B - Total lead | HNO3 | One 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.36 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 134 ft. x 0.02 gal./ft = 2.68 gallons

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW34D
Sample Location: MW-34D
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/30/2004 | | | | | | | | |
| Time: | 11:30 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 5.83 | 0.74 | 23.24 | 180 | 1.57 | 176.7 | 11:30 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/30/2004 | | | | | | | | |
| Method: | low flow | 1.3 | 5.81 | 0.069 | 23.5 | 95 | 1.24 | 169.5 | 10:55 |
| Monitor Reading (ppm): | | 2.6 | 5.72 | 0.069 | 23.77 | 85 | 1.09 | 188.3 | 11:05 |
| Well Casing Diameter & Material | | 3.9 | 5.64 | 0.067 | 23.04 | 110 | 1.03 | 181.2 | 11:15 |
| Type: | 2" PVC | 5.2 | 5.83 | 0.74 | 23.24 | 180 | 1.57 | 176.7 | 11:25 |
| Total Well Depth (TD): | 77.9 | | | | | | | | |
| Static Water Level (WL): | 27.3 | | | | | | | | |
| One Pump Volume(gal): | 1.54 | | | | | | | | |
| Start Purge (hrs): | 10:45 | | | | | | | | |
| End Purge (hrs): | 11:25 | | | | | | | | |
| Total Purge Time (min): | 0:40 | | | | | | | | |
| Total Vol. Purged (gal): | 5.2 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 6010B - Total lead | HNO3 | One 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.13 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 77 ft. x 0.02 gal./ft = 1.54 gallons

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW32D
Sample Location: MW-32D
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Time: | 13:00 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 4.77 | 0.042 | 23.62 | 2.6 | 6.89 | 361 | 13:00 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Method: | low flow | 3.6 | 4.95 | 0.038 | 22.43 | 8.3 | 4.69 | 286.7 | 12:20 |
| Monitor Reading (ppm): | | 7.2 | 4.85 | 0.041 | 23.53 | 5.6 | 5.98 | 334.9 | 12:30 |
| Well Casing Diameter & Material | | 10.8 | 4.81 | 0.042 | 23.48 | 5.8 | 6.42 | 351 | 12:40 |
| Type: | 2" PVC | 14.4 | 4.79 | 0.042 | 23.52 | 4.9 | 6.68 | 16:48 | 12:50 |
| Total Well Depth (TD): | 135.7 | 15.48 | 4.78 | 0.042 | 23.56 | 4 | 6.75 | 0:00 | 12:53 |
| Static Water Level (WL): | 28.26 | 16.56 | 4.77 | 0.042 | 23.62 | 2.6 | 6.89 | 361 | 12:56 |
| One Pump Volume(gal): | 2.7 | | | | | | | | |
| Start Purge (hrs): | 12:10 | | | | | | | | |
| End Purge (hrs): | 12:56 | | | | | | | | |
| Total Purge Time (min): | 0:46 | | | | | | | | |
| Total Vol. Purged (gal): | 16.56 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOC | HCL | Three 40mL Vials | Yes |
| SW-846 6010B - Total lead | HNO3 | One 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.36 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 135 ft. x 0.02 gal./ft = 2.7 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW29
Sample Location: MW-29
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/29/2004 | | | | | | | | |
| Time: | 1845 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 5.22 | 0.04 | 22.99 | 7.2 | 0.26 | 185 | 1840 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/29/2004 | | | | | | | | |
| Method: | low flow | 3.1 | 5.3 | 0.042 | 22.89 | 3.3 | 0.29 | 203.6 | 1830 |
| Monitor Reading (ppm): | | 4.65 | 5.24 | 0.041 | 22.93 | 6.5 | 0.27 | 189 | 1835 |
| Well Casing Diameter & Material | | 6.2 | 5.22 | 0.04 | 22.99 | 7.2 | 0.26 | 185 | 1840 |
| Type: | 2" PVC | | | | | | | | |
| Total Well Depth (TD): | 80.4 | | | | | | | | |
| Static Water Level (WL): | 38.37 | | | | | | | | |
| One Pump Volume(gal): | 1.6 | | | | | | | | |
| Start Purge (hrs): | 18:20 | | | | | | | | |
| End Purge (hrs): | 18:40 | | | | | | | | |
| Total Purge Time (min): | 0:20 | | | | | | | | |
| Total Vol. Purged (gal): | 6.2 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| Sw-846 8260B - Select VOC | HCL | Three 40mL Vials | Yes |
| total lead - 6010 | HNO3 | One 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.31 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 80 ft. x 0.02 gal./ft = 1.6 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW28
Sample Location: MW-28
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/30/2004 | | | | | | | | |
| Time: | 9:55 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 13.06 | 2.582 | 24.28 | 13 | 2.36 | -44.9 | 9:55 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/30/2004 | | | | | | | | |
| Method: | low flow | 1.5 | 13.14 | 3.538 | 24.13 | 7.2 | 0.79 | -76.8 | 9:40 |
| Monitor Reading (ppm): | | 2.25 | 13.15 | 3.531 | 24.13 | 14 | 0.75 | -75.6 | 9:45 |
| Well Casing Diameter & Material | | 3 | 13.06 | 2.582 | 24.28 | 13 | 2.36 | -44.9 | 9:50 |
| Type: | 2" PVC | | | | | | | | |
| Total Well Depth (TD): | 80.13 | | | | | | | | |
| Static Water Level (WL): | 46.03 | | | | | | | | |
| One Pump Volume(gal): | 1.6 | | | | | | | | |
| Start Purge (hrs): | 9:30 | | | | | | | | |
| End Purge (hrs): | 9:50 | | | | | | | | |
| Total Purge Time (min): | 0:20 | | | | | | | | |
| Total Vol. Purged (gal): | 3 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 6010B - Total lead | HNO3 | One 500mL Plastic | Yes |

**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.15 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 80 ft. x 0.02 gal./ft = 1.6 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-DMW13
Sample Location: DMW-13
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Time: | 14:30 | Visual | Standard | mS/cm | °C | NTU | mg/L | mV | |
| Method: | low flow | clear | 5.38 | 0.041 | 25.61 | 5.6 | 7.49 | 246 | 14:30 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 7/31/2004 | | | | | | | | |
| Method: | low flow | 4 | 5.42 | 0.042 | 25.57 | 11 | 8.58 | 276.1 | 13:55 |
| Monitor Reading (ppm): | | 8 | 5.4 | 0.042 | 25.71 | 5.8 | 8.28 | 281.1 | 14:05 |
| Well Casing Diameter & Material | | 12 | 5.39 | 0.041 | 25.53 | 6.1 | 7.79 | 255.2 | 14:15 |
| Type: | 2" PVC | 16 | 5.38 | 0.041 | 25.61 | 5.6 | 7.49 | 246 | 14:25 |
| Total Well Depth (TD): | 142 | | | | | | | | |
| Static Water Level (WL): | 43.73 | | | | | | | | |
| One Pump Volume(gal): | 2.8 | | | | | | | | |
| Start Purge (hrs): | 13:35 | | | | | | | | |
| End Purge (hrs): | 14:25 | | | | | | | | |
| Total Purge Time (min): | 0:50 | | | | | | | | |
| Total Vol. Purged (gal): | 16 | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 8260B - Select VOCs | HCL | Three 40mL VOA vials | Yes |
| Total Lead | HNO3 | 1 500mL Plastic | Yes |
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**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.13 gal/min
Screen fully submerged, pump placed in screen interval
Purge 1 pump volume = 140 ft. x 0.02 gal./ft =

| Circle if Applicable: | | Signature(s): |
|---|---|---|
| MS/MSD | Duplicate ID No.: | |

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW43D
Sample Location: MW-43D
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 8/18/2004 | | | | | | | | |
| Time: | 15:15 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 5.16 | 0.026 | 23.45 | 17.1 | 8.73 | 241.3 | 15:07 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 8/18/2004 | | | | | | | | |
| Method: | low flow | 5.3 gal | 5.38 | 0.027 | 23.98 | 611 | 7.98 | 158.1 | 14:47 |
| Monitor Reading (ppm): | | 7.04 gal | 5.38 | 0.024 | 24.11 | 272 | 7.95 | 159.3 | 14:50 |
| Well Casing Diameter & Material | | 9.94 gal | 5.17 | 0.026 | 23.62 | 48.7 | 8.76 | 211.3 | 14:55 |
| Type: | 2" PVC | 15.16 gal | 5.18 | 0.026 | 23.5 | 18.3 | 8.69 | 234.8 | 15:04 |
| Total Well Depth (TD): | 133.2 | 16.9 gal | 5.16 | 0.026 | 23.45 | 17.1 | 8.73 | 241.3 | 15:07 |
| Static Water Level (WL): | 45 | | | | | | | | |
| One Pump Volume(gal): | 5.3 gal | | | | | | | | |
| Start Purge (hrs): | 14:38 | | | | | | | | |
| End Purge (hrs): | 15:07 | | | | | | | | |
| Total Purge Time (min): | 0:29 | | | | | | | | |
| Total Vol. Purged (gal): | 9.94 gal | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |

**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.58 gal/min
Screen fully submerged, tubing placed in screen interval
Purge 1 pump volume = 133.2 ft. x 0.04 gal./ft = 5.3 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET



Project Site Name: OLF SAUFLEY, BUILDING 2406
Project No.: N2642

[] Domestic Well Data
[X] Monitoring Well Data
[] Other Well Type:
[] QA Sample Type:

Sample ID No.: OLFS-2406-MW43D
Sample Location: MW-43D
Sampled By: Howard Engle
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

**SAMPLING DATA:**

| | | Color | pH | S.C. | Temp. | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 8/18/2004 | | | | | | | | |
| Time: | 15:15 | Visual | Standard | mS/cm | °C | NTU | mg/l | mV | |
| Method: | low flow | clear | 5.16 | 0.026 | 23.45 | 17.1 | 8.73 | 241.3 | 15:07 |

**PURGE DATA:**

| | | Volume | pH | S.C. | Temp. (C) | Turbidity | DO | ORP | Time |
|---|---|---|---|---|---|---|---|---|---|
| Date: | 8/18/2004 | | | | | | | | |
| Method: | low flow | 5.3 gal | 5.38 | 0.027 | 23.98 | 611 | 7.98 | 158.1 | 14:47 |
| Monitor Reading (ppm): | | 7.04 gal | 5.38 | 0.024 | 24.11 | 272 | 7.95 | 159.3 | 14:50 |
| Well Casing Diameter & Material | | 9.94 gal | 5.17 | 0.026 | 23.62 | 48.7 | 8.76 | 211.3 | 14:55 |
| Type: | 2" PVC | 15.16 gal | 5.18 | 0.026 | 23.5 | 18.3 | 8.69 | 234.8 | 15:04 |
| Total Well Depth (TD): | 133.2 | 16.9 gal | 5.16 | 0.026 | 23.45 | 17.1 | 8.73 | 241.3 | 15:07 |
| Static Water Level (WL): | 45 | | | | | | | | |
| One Pump Volume(gal): | 5.3 gal | | | | | | | | |
| Start Purge (hrs): | 14:38 | | | | | | | | |
| End Purge (hrs): | 15:07 | | | | | | | | |
| Total Purge Time (min): | 0:29 | | | | | | | | |
| Total Vol. Purged (gal): | 9.94 gal | | | | | | | | |

**SAMPLE COLLECTION INFORMATION:**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| SW-846 6010B - Total Lead | HNO3 | One 500mL Plastic | Yes |

**OBSERVATIONS / NOTES:**

**See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation).**

Purge rate = 0.58 gal/min
Screen fully submerged, tubing placed in screen interval
Purge 1 pump volume = 133.2 ft. x 0.04 gal./ft = 5.3 gallons

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|

**Signature(s):**

Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-MW19
Site: OLF Saufley 2406
Date Installed: 12/13/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 55 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 15 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-MW18
Site: OLF Saufley 2406
Date Installed: 12/12/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 55 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 15 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-MW17
Site: OLF Saufley 2406
Date Installed: 12/11/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 55 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 15 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW37
Site: OLF Saufley 2406
Date Installed: 12/18/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 133 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 10 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
|---|---|---|---|---|---|---|---|---|
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW36
Site: OLF Saufley 2406
Date Installed: 12/15/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW35
Site: OLF Saufley 2406
Date Installed: 12/15/02
Date Developed: 12/18/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
|---|---|---|---|---|---|---|---|---|
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW34R
Site: OLF Saufley 2406
Date Installed: 03/06/03
Date Developed: 03/07/03
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 65 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 15 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW34
Site: OLF Saufley 2406
Date Installed: 12/18/02
Date Developed: 12/19/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW33
Site: OLF Saufley 2406
Date Installed: 12/18/02
Date Developed: 12/19/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number:2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW32
Site: OLF Saufley 2406
Date Installed: 12/17/02
Date Developed: 12/18/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 130 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW31
Site: OLF Saufley 2406
Date Installed: 12/16/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW30
Site: OLF Saufley 2406
Date Installed: 12/17/02
Date Developed: 12/18/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number:2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW29
Site: OLF Saufley 2406
Date Installed: 12/18/02
Date Developed: 12/19/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW28
Site: OLF Saufley 2406
Date Installed: 12/19/02
Date Developed: 12/20/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW27
Site: OLF Saufley 2406
Date Installed: 12/16/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 65 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW26
Site: OLF Saufley 2406
Date Installed: 12/17/02
Date Developed: 12/18/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 65 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW25
Site: OLF Saufley 2406
Date Installed: 12/17/02
Date Developed: 12/18/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW24
Site: OLF Saufley 2406
Date Installed: 12/18/02
Date Developed: 12/19/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number:2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-DMW23
Site: OLF Saufley 2406
Date Installed: 12/19/02
Date Developed: 12/20/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 80 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 5 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-MW22
Site: OLF Saufley 2406
Date Installed: 12/14/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 55 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 15 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-MW21
Site: OLF Saufley 2406
Date Installed: 12/13/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 55 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 15 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD

Page ___ of _____

Well: OLFS-2406-MW20
Site: OLF Saufley 2406
Date Installed: 12/12/02
Date Developed: 12/17/02
Dev. Method: Surge
Pump Type: Waterra

Depth to Bottom (ft.): 55 ft.
Static Water Level Before (ft.): _____
Static Water Level After (ft.): _____
Screen Length (ft.): 15 ft.
Specific Capacity: _____
Casing ID (in.): 4 in

Responsible Personnel: _____
Drilling Co.: Prosonic
Project Name: OLF Saufley, Site 2406 SAR Addendum
Project Number: 2642

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units _____) | Turbidity (NTU) | Remarks |
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Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

OLFS2406SB34

PROJECT NAME: [illegible] BORING NUMBER: [illegible]
PROJECT NUMBER: [illegible] DATE: [illegible]
DRILLING COMPANY: [illegible] GEOLOGIST: [illegible]
DRILLING RIG: [illegible] DRILLER: [illegible]

| Time | 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** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1110 | | | | [illegible] | | | [illegible] | [illegible] | SC | | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | | | | | | | | [illegible] | | | [illegible] | | | |
| 15 | | | | | | | | Clay | | | [illegible] | [illegible] | [illegible] | [illegible] |
| | | | | NOT | | | | | | | [illegible] | [illegible] | | |
| 25 | | | | Recovered | | | | | | | [illegible] | [illegible] | | [illegible] |
| 30 | | | | | | | | [illegible] | | | [illegible] | [illegible] | | |
| 1200 35 | | | | | | | | [illegible] | | | [illegible] | [illegible] | | [illegible] |
| 40 | | | | | | | | [illegible] | | | [illegible] | [illegible] | | |
| 45 | | | | | | | | [illegible] | | | [illegible] | [illegible] | | [illegible] |
| 50 | | | | | | | | | | | [illegible] | [illegible] | | |
| 1210 55 | | | | | | | | [illegible] | | | [illegible] | [illegible] | | [illegible] |
| 60 | | | | | | | | | | | | | | |
| | | | | | | | | Boring Terminated @ | | | | | | |
| | | | | | | | | 55 feet bgs | | | | | | |

* When rock coring, enter rock brokeness.

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

Remarks: [illegible] PID/[illegible]

Drilling Area Background (ppm): [illegible]

Converted to Well: Yes [illegible] No _____ Well I.D. #: [illegible]

Tetra Tech NUS, Inc.

# BORING LOG

Page ___ of ___

OLFS 2406S @ 35

PROJECT NAME: [illegible] BORING NUMBER: [illegible]

PROJECT NUMBER: [illegible] DATE: [illegible]

DRILLING COMPANY: [illegible] GEOLOGIST: [illegible]

DRILLING RIG: [illegible] DRILLER: [illegible]

| 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** |
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* 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): [illegible]

Remarks: [illegible]

Converted to Well: Yes ___ No ___ Well I.D. #: [illegible]

Tetra Tech NUS, Inc.

# BORING LOG

Page ___ of ___

PROJECT NAME: [illegible]
PROJECT NUMBER: [illegible]
DRILLING COMPANY: [illegible]
DRILLING RIG: [illegible]

BORING NUMBER: OLFS2406SB36
DATE: [illegible]
GEOLOGIST: [illegible]
DRILLER: [illegible]

| 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** |
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* 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): [illegible]

Remarks: [illegible]

Converted to Well: Yes Y No ___ Well I.D. #: OLFS-2406-DMW42D

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: [illegible]
PROJECT NUMBER: [illegible]
DRILLING COMPANY: [illegible]
DRILLING RIG: [illegible]

BORING NUMBER: OLFS 2406SB37
DATE: [illegible]
GEOLOGIST: [illegible]
DRILLER: [illegible]

| 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** |
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* 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 X No ____ Well I.D. #: OLFS-2406-MW42S

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: [illegible]
PROJECT NUMBER: [illegible]
DRILLING COMPANY: [illegible]
DRILLING RIG: [illegible]

BORING NUMBER: OLFS2406SB38
DATE: [illegible]
GEOLOGIST: [illegible]
DRILLER: [illegible]

| 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** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Green Top Soil | | | | | | |
| | | | | | | | clayey silty SAND | SC | | | | | |
| | | | | | | | Light to orange | | | | | | |
| | | | | | | | [illegible] | | | | | | |
| | | | | | | | | | | | | | |
| | 25 | | | | | | [illegible] | | | | | | |
| | | | | | | | [illegible] SILT | SC | | | | | |
| | | | | | | | orange | | | | | | |
| | | | | ? | | | [illegible] | | | | | | |
| | | | None | ? | | | | SM | | | | | |
| | 50 | | | ? | | | Silty Fine SAND Grey/Green | | | | | | |
| | | | | | | | Silty CLAY Grey/Green | CH | | | | | |
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| | 75 | | | | | | Clay 12 [illegible] | | | | | | |
| | | | | | | | Clay SILT [illegible] | | | | | | |
| | | | | | | | [illegible] | | | | | | |
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| | | | | | | | [illegible] | | | | | | |
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| | | | | | | | [illegible] | | SAND | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | [illegible] SILT | ML | | | | | |

* 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. #: [illegible]

Tetra Tech NUS, Inc.

# BORING LOG

Page ___ of 1

PROJECT NAME: OLF South 2406 BORING NUMBER: OLFS2406SB39

PROJECT NUMBER: M2642 DATE: 12 July 2004

DRILLING COMPANY: Parsons GEOLOGIST: Larry Smith

DRILLING RIG: CR-625 DRILLER: Jeff Lambert

| 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** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | See log for 2406-MW43D | | | | | | |
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Time

* 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: Well located 5 feet south of OLFS-2406-MW43D

Converted to Well: Yes X No ___ Well I.D. #: OLFS-2406-MW043S

Tetra Tech NUS, Inc.

# BORING LOG

Page 1 of 1

PROJECT NAME: OLF Sandy
PROJECT NUMBER: N62470-02-D-1642
DRILLING COMPANY: Parsons
DRILLING RIG: SR-035

BORING NUMBER: OLPS2406S ~~035~~ 40
DATE: 11 July 2009
GEOLOGIST: Larry Smith
DRILLER: Jeff Cummings

Time

| 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** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 0 | 0 | | 0 | 1440 |
| | | | | | | | | | | 0 | | | | |
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| | 25 | | | | | | | | | 0 | 0 | | 0 | |
| | | | | | | | | | | 0 | | | | 1325 |
| | | | | | Begin sampling | | | | | 0 | 0 | | 0 | 1345 |
| | | | | | | | Clayey SILT moderate | MA | | 0 | | | | |
| | | | | | | | Hard | | | 0 | 0 | | 0 | |
| | 50 | | | | | | grading to | | | 0 | | | | 1505 |
| | | | | | | | orange | | | 0 | 0 | | 0 | |
| | | | | | | | Boring Terminated @ | | | | | | | |
| | | | | | | | 50 feet bls | | | | | | | |
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* 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 X No ____ Well I.D. #: OLPS-2406-MW-005

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: OLF Sta. Fly
PROJECT NUMBER: 112642
DRILLING COMPANY: [illegible]
DRILLING RIG: [illegible]

BORING NUMBER: OLFS2406SB41
DATE: 11 July 2004
GEOLOGIST: Lance Smith
DRILLER: Jeff Conaways

| 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** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | No Attempt to Recover | | | | 0 | | 0 |
| | – | – | | | | | Sampling Dual Tubing | well | | | | | |
| | | | | | | | OLFS-2406-DM002 | | | | 0 | | 0 |
| | | | | | | | Up to Cut north | | | | | | |
| | 25 | | | | | | | | | | 0 | | 0 |
| | | | | | | | Recover sample Incr | | 36-46 | | | | |
| | | | | | | | | | 46-56 | 0 | 0 | | 0 |
| | | | | | | | Augers away [SIC] | | | 16 | | | |
| | | | | | | | | | | 0 | 0 | | 0 |
| | 50 | – | | | | | | | | 0 | | | |
| | | | | | | | | | | 0 | 0 | | 0 |
| | | – | | | | | Boring terminated @ | | | | | | |
| | | | | | | | 56 ft bls | | | | | | |

Pre Sb10

0405

0450

* 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 X No ____ Well I.D. #: OLFS-2406-MW415

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Smithly SAR
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: SR-055

BORING NUMBER: OLFS2406SB42
DATE: 12 July 2004
GEOLOGIST: [illegible] Smith
DRILLER: Jeff Cummings

| 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** | Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Top soil with clay | | | 0 | 0 | | 0 | 0815 |
| | | | | | | | Brick Red mottled Sandy Clay | | | 0 | | | | |
| | | | | | | | grading to | | | 0 | 0 | | 0 | 0830 |
| | | | | | easier | | Sandy SILT - gray | ML | | 0 | | | | |
| | 2.5 | | | | | | not plastic | | | 0 | 0 | | 0 | |
| | | | | | | | grading to darker | | | 0 | | | | 0841 |
| | | | | | | | | | | 0 | 0 | | 0 | |
| | | | | | | | grade to Grey | | | 0 | | | | 0853 |
| | | | | | | | CLAY plastic Grey | CH | | 0 | 0 | | 0 | |
| | 5.0 | | | | | | | | | 0 | | | | 0907 |
| | | | | | | Gravel | brownish | ML | | 0 | 0 | | 0 | |
| | | | | | | Color | Sandy SILT lt Grey to | | | 0 | | | | 0930 |
| | | | | | | | color grade to reddish | brown | | 0 | 0 | | 0 | |
| | | | | | | | grading to | | | 0 | | | | 0946 |
| | 7.5 | | | | | | color | | | 0 | 0 | | 0 | |
| | | | | | | | brown Clay bed | CH | | 0 | | | | 1015 |
| | | | | | | | lt Grey | ML | | 0 | 0 | | 0 | |
| | | | | | | | | | | 0 | | | | 1035 |
| | | | | | | | | | | 0 | 0 | | 0 | |
| | 10.0 | | | | | | Grading to | | | 0 | | | | 1105 |
| | | | | | | | Silty fine SAND medium | | | 0 | 0 | | 0 | |
| | | | | | | | | | | 0 | | | | 1120 |
| | | | | | | | Grey Silty Clay | CH | | 0 | 0 | | 0 | |
| | | | | | | | | | | 0 | | | | |
| | 12.5 | | | | | | | ML | | 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 X No _____ Well I.D. #: OLFS-2406-DMW044D

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Seattle SAR
BORING NUMBER: OLFS2406SB43
PROJECT NUMBER: W0442
DATE: 12 July
DRILLING COMPANY: Precision
GEOLOGIST: Larry Smith
DRILLING RIG: SR-250
DRILLER: Jeff Cummings

| 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** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Not logged, adjacent to | | | | | | | | |
| | | | | | OLFS-2406-MW44D refusal | | | | | | | | |
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* 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 Y No ____ Well I.D. #: OLFS-2406-MW44S

Tetra Tech NUS, Inc.

# BORING LOG



PROJECT NAME: Stuffley SAR
PROJECT NUMBER: [illegible]
DRILLING COMPANY: Accone
DRILLING RIG: CR-055

BORING NUMBER: OLPS2406SB44 ~~[illegible] MW455~~
DATE: [illegible]
GEOLOGIST: [illegible]
DRILLER: [illegible]

| 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** | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 0 | 0 | | 0 | Time 1430 |
| | | | | | | | Clayey SILT w/ 1% Fine Sand Light Gray | ML | | 0 | | | | 1440 |
| | | | | | | | | | | 0 | 0 | | 0 | |
| | | | | | | | | | | 0 | | | | 1435 |
| | 25 | | | | | | | | | 0 | 0 | | 0 | 1450 Moist |
| | | | | | | | 4" Thick Clay Bed | ML | | 0 | | | | |
| | | | | | | | | | 500 | | 0 | | 0 | wet |
| | | | | | | | | | 4350 | | | | | 1540 Sat |
| | | | | | | | | | 210 | | 0 | | 0 | 1550 |
| | 50 | | | | | | Boring Terminated @ 46 Ft bls | | | | | | | |

* 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 X No ~~X~~ Well I.D. #: ~~TT~~ OLPS-2406-MW455

# APPENDIX C

# VALIDATED LABORATORY ANALYTICAL REPORTS

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **MR. G. WALKER** | **DATE:** | **OCTOBER 4, 2004** |
| **FROM:** | **EDWARD SEDLMYER** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOA/PAH/TPH**
**CTO 274, NAS PENSACOLA**
**SDG F25819**

**SAMPLES:** 7/Aqueous

| | | |
|---|---|---|
| OLFS-2406-DMW13 | OLFS-2406-DMW32 | OLFS-2406-DMW37 |
| *OLFS-2406-MW38 | *OLFS-2406-MW41 | *OLFS-2406-RB01 |
| TRIP BLANK | | |

OVERVIEW

The sample set for CTO 274, NAS Pensacola, SDG F25819 consists of one (1) trip blank, one (1) rinse blank, and five (5) aqueous environmental samples. All samples were analyzed for volatile organic compounds (VOCs). Samples denoted with an asterisk (*) were also analyzed for polynuclear aromatic hydrocarbons (PAHs), 1,2-dibromoethane, and total petroleum hydrocarbon (TPH). The trip blank was analyzed for VOCs and 1,2-dibromoethane only.

The samples were collected by TetraTech NUS on July 31, 2004 and analyzed by Accutest Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Method 8260B, 8310, FDEP FL-PRO (TPH), and EPA Method 504.1 analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

- * Data completeness
- * Holding times
- * Initial/continuing calibrations
- * Laboratory method blank results
- Detection Limits

The symbol (*) indicates that quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

Volatiles

Sample OLFS-2406-MW41 required a dilution (10X) because of concentrations exceeding the linear calibration range of the instrument for benzene, ethylbenzene, toluene, and total xylenes. This accounts for the elevated detection limits for the non-detected results. No qualification of the data was necessary.

1,2-Dbromoethane

The trip blank (TRIP BLANK) and rinse blank (OLFS-2406-RB01) were double spiked for the surrogate 4-bromofluorobenzene. The laboratory corrected the percent recoveries for the double spike and the surrogate recoveries meet the laboratory specified criterion. No action was taken on this basis.

PAHs

No qualification of the data was necessary.

TPH

No qualification of the data is necessary.

Additional Comments:

Positive results less than the reporting limit (RL) were qualified as estimated "J", due to uncertainty near the detection limit.

The reporting limit for 2-chloroethylvinyl ether exceeded the reporting limit required in the laboratory specification but is below the groundwater action level.

All results were reported down to the method detection limits.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:** None.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99), and the NFESC guidelines IRCDQM (Sept., 1999). The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Edward Sedlmyer
Tetra Tech NUS

Edward Sedlmyer
Chemist/Data Validator

TetraTech NUS

Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

# APPENDIX A

## QUALIFIED ANALYTICAL RESULTS

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-DMW13 |
| samp_date | 7/31/2004 |
| lab_id | F25819-4 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW13 |
| samp_date | 7/31/2004 |
| lab_id | F25819-4 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW32 |
| samp_date | 7/31/2004 |
| lab_id | F25819-3 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1.1 | | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-DMW32 |
| samp_date | 7/31/2004 |
| lab_id | F25819-3 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW37 |
| samp_date | 7/31/2004 |
| lab_id | F25819-5 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1.3 | | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.71 | J | P |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW37 |
| samp_date | 7/31/2004 |
| lab_id | F25819-5 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-MW38 |
| samp_date | 7/31/2004 |
| lab_id | F25819-2 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DIBROMOETHANE | 0.0089 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 1.3 | | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 3.8 | | |
| TOTAL XYLENES | 1.5 | J | P |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW38 |
| samp_date | 7/31/2004 |
| lab_id | F25819-2 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TRICHLOROETHENE | 0.5 | U | |
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW41 |
| samp_date | 7/31/2004 |
| lab_id | F25819-1 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 3 | U | |
| 1,1,2-TRICHLOROETHANE | 5 | U | |
| 1,1-DICHLOROETHANE | 5 | U | |
| 1,1-DICHLOROETHENE | 5 | U | |
| 1,2-DIBROMOETHANE | 0.0089 | U | |
| 1,2-DICHLOROBENZENE | 5 | U | |
| 1,2-DICHLOROETHANE | 5 | U | |
| 1,2-DICHLOROPROPANE | 5 | U | |
| 1,3-DICHLOROBENZENE | 5 | U | |
| 1,4-DICHLOROBENZENE | 5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 25 | U | |
| BENZENE | 439 | | |
| BROMODICHLOROMETHANE | 5 | U | |
| BROMOFORM | 5 | U | |
| BROMOMETHANE | 10 | U | |
| CARBON TETRACHLORIDE | 5 | U | |
| CHLOROBENZENE | 5 | U | |
| CHLORODIBROMOMETHANE | 4 | U | |
| CHLOROETHANE | 10 | U | |
| CHLOROFORM | 5 | U | |
| CHLOROMETHANE | 10 | U | |
| CIS-1,2-DICHLOROETHENE | 5 | U | |
| CIS-1,3-DICHLOROPROPENE | 3 | U | |
| ETHYLBENZENE | 30.5 | | |
| METHYL TERT-BUTYL ETHER | 5 | U | |
| METHYLENE CHLORIDE | 10 | U | |
| TETRACHLOROETHENE | 5 | U | |
| TOLUENE | 368 | | |
| TOTAL XYLENES | 88.6 | | |
| TRANS-1,2-DICHLOROETHENE | 5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 3 | U | |

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-MW41 |
| samp_date | 7/31/2004 |
| lab_id | F25819-1 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TRICHLOROETHENE | 5 | U | |
| VINYL CHLORIDE | 5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-RB01 |
| samp_date | 7/31/2004 |
| lab_id | F25819-8 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DIBROMOETHANE | 0.0092 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |

| | |
|---|---|
| nsample | OLFS-2406-RB01 |
| samp_date | 7/31/2004 |
| lab_id | F25819-8 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TRICHLOROETHENE | 0.5 | U | |
| VINYL CHLORIDE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | TRIP BLANK-F25819 |
| samp_date | 7/31/2004 |
| lab_id | F25819-6 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DIBROMOETHANE | 0.0089 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |

| | |
|---|---|
| nsample | TRIP BLANK-F25819 |
| samp_date | 7/31/2004 |
| lab_id | F25819-6 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TRICHLOROETHENE | 0.5 | U | |
| VINYL CHLORIDE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: PAH

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-MW38 | nsample | OLFS-2406-MW41 | nsample | OLFS-2406-RB01 |
| samp_date | 7/31/2004 | samp_date | 7/31/2004 | samp_date | 7/31/2004 |
| lab_id | F25819-2 | lab_id | F25819-1 | lab_id | F25819-8 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1-METHYLNAPHTHALENE | 0.24 | U | |
| 2-METHYLNAPHTHALENE | 0.24 | U | |
| ACENAPHTHENE | 0.49 | U | |
| ACENAPHTHYLENE | 0.49 | U | |
| ANTHRACENE | 0.24 | U | |
| BENZO(A)ANTHRACENE | 0.097 | U | |
| BENZO(A)PYRENE | 0.097 | U | |
| BENZO(B)FLUORANTHENE | 0.097 | U | |
| BENZO(G,H,I)PERYLENE | 0.097 | U | |
| BENZO(K)FLUORANTHENE | 0.097 | U | |
| CHRYSENE | 0.097 | U | |
| DIBENZO(A,H)ANTHRACENE | 0.097 | U | |
| FLUORANTHENE | 0.24 | U | |
| FLUORENE | 0.24 | U | |
| INDENO(1,2,3-CD)PYRENE | 0.097 | U | |
| NAPHTHALENE | 0.24 | U | |
| PHENANTHRENE | 0.24 | U | |
| PYRENE | 0.24 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1-METHYLNAPHTHALENE | 0.26 | U | |
| 2-METHYLNAPHTHALENE | 0.26 | U | |
| ACENAPHTHENE | 0.51 | U | |
| ACENAPHTHYLENE | 0.51 | U | |
| ANTHRACENE | 0.26 | U | |
| BENZO(A)ANTHRACENE | 0.1 | U | |
| BENZO(A)PYRENE | 0.1 | U | |
| BENZO(B)FLUORANTHENE | 0.1 | U | |
| BENZO(G,H,I)PERYLENE | 0.1 | U | |
| BENZO(K)FLUORANTHENE | 0.1 | U | |
| CHRYSENE | 0.1 | U | |
| DIBENZO(A,H)ANTHRACENE | 0.1 | U | |
| FLUORANTHENE | 0.26 | U | |
| FLUORENE | 0.26 | U | |
| INDENO(1,2,3-CD)PYRENE | 0.1 | U | |
| NAPHTHALENE | 0.46 | J | P |
| PHENANTHRENE | 0.26 | U | |
| PYRENE | 0.26 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1-METHYLNAPHTHALENE | 0.25 | U | |
| 2-METHYLNAPHTHALENE | 0.25 | U | |
| ACENAPHTHENE | 0.5 | U | |
| ACENAPHTHYLENE | 0.5 | U | |
| ANTHRACENE | 0.25 | U | |
| BENZO(A)ANTHRACENE | 0.1 | U | |
| BENZO(A)PYRENE | 0.1 | U | |
| BENZO(B)FLUORANTHENE | 0.1 | U | |
| BENZO(G,H,I)PERYLENE | 0.1 | U | |
| BENZO(K)FLUORANTHENE | 0.1 | U | |
| CHRYSENE | 0.1 | U | |
| DIBENZO(A,H)ANTHRACENE | 0.1 | U | |
| FLUORANTHENE | 0.25 | U | |
| FLUORENE | 0.25 | U | |
| INDENO(1,2,3-CD)PYRENE | 0.1 | U | |
| NAPHTHALENE | 0.25 | U | |
| PHENANTHRENE | 0.25 | U | |
| PYRENE | 0.25 | U | |

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: PET

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-MW38 | nsample | OLFS-2406-MW41 | nsample | OLFS-2406-RB01 |
| samp_date | 7/31/2004 | samp_date | 7/31/2004 | samp_date | 7/31/2004 |
| lab_id | F25819-2 | lab_id | F25819-1 | lab_id | F25819-8 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | MG/L | units | MG/L | units | MG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBONS | 0.314 | | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBONS | 1.02 | | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBONS | 0.17 | U | |

# APPENDIX B

## RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW13 | | |
| **Lab Sample ID:** | F25819-4 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000094.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected  MDL - Method Detection Limit  I = Result >= MDL but < RL  J = Estimated value
RL = Reporting Limit  V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range  N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW13 | | |
| **Lab Sample ID:** | F25819-4 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 83-119% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW32 | | |
| **Lab Sample ID:** | F25819-3 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000093.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.1 | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

0061

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW32 | | |
| **Lab Sample ID:** | F25819-3 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 105% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 98% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW37 | | |
| **Lab Sample ID:** | F25819-5 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000095.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.3 | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.71 | 1.0 | 0.50 | ug/l | I |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW37 | | |
| **Lab Sample ID:** | F25819-5 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW38 | | |
| **Lab Sample ID:** | F25819-2 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000092.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 1.3 | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 3.8 | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected  MDL - Method Detection Limit  I = Result >= MDL but < RL  J = Estimated value
RL = Reporting Limit  V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range  N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW38 | | |
| **Lab Sample ID:** | F25819-2 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.5 | 3.0 | 1.0 | ug/l | I |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 103% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 83-119% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW41 | | |
| **Lab Sample ID:** | F25819-1 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | B023889.D | 10 | 08/12/04 | KW | n/a | n/a | VB1034 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 439 | 10 | 5.0 | ug/l | |
| 75-27-4 | Bromodichloromethane | 5.0 U | 10 | 5.0 | ug/l | |
| 75-25-2 | Bromoform | 5.0 U | 10 | 5.0 | ug/l | |
| 108-90-7 | Chlorobenzene | 5.0 U | 10 | 5.0 | ug/l | |
| 75-00-3 | Chloroethane | 10 U | 10 | 10 | ug/l | |
| 67-66-3 | Chloroform | 5.0 U | 10 | 5.0 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 25 U | 50 | 25 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 5.0 U | 10 | 5.0 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 5.0 U | 10 | 5.0 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 5.0 U | 10 | 5.0 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 5.0 U | 10 | 5.0 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 5.0 U | 10 | 5.0 | ug/l | |
| 124-48-1 | Dibromochloromethane | 4.0 U | 10 | 4.0 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 5.0 U | 10 | 5.0 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 3.0 U | 10 | 3.0 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 5.0 U | 10 | 5.0 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 5.0 U | 10 | 5.0 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 5.0 U | 10 | 5.0 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 5.0 U | 10 | 5.0 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 3.0 U | 10 | 3.0 | ug/l | |
| 100-41-4 | Ethylbenzene | 30.5 | 10 | 5.0 | ug/l | |
| 74-83-9 | Methyl bromide | 10 U | 10 | 10 | ug/l | |
| 74-87-3 | Methyl chloride | 10 U | 10 | 10 | ug/l | |
| 75-09-2 | Methylene chloride | 10 U | 10 | 10 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 5.0 U | 10 | 5.0 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 5.0 U | 10 | 5.0 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 3.0 U | 10 | 3.0 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 5.0 U | 10 | 5.0 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 5.0 U | 10 | 5.0 | ug/l | |
| 108-88-3 | Toluene | 368 | 10 | 5.0 | ug/l | |
| 79-01-6 | Trichloroethylene | 5.0 U | 10 | 5.0 | ug/l | |
| 75-01-4 | Vinyl chloride | 5.0 U | 10 | 5.0 | ug/l | |

U = Not detected  MDL - Method Detection Limit  I = Result >= MDL but < RL  J = Estimated value
RL = Reporting Limit  V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range  N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW41 | | |
| **Lab Sample ID:** | F25819-1 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 88.6 | 30 | 10 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 96% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 98% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 100% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 101% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-RB01 | | |
| **Lab Sample ID:** | F25819-8 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Equipment Blank | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000097.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected  MDL - Method Detection Limit  I = Result >= MDL but < RL  J = Estimated value
RL = Reporting Limit  V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range  N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-RB01 | | |
| **Lab Sample ID:** | F25819-8 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Equipment Blank | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 103% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 98% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 95% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F25819-6 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000096.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected  MDL - Method Detection Limit  I = Result >= MDL but < RL  J = Estimated value
RL = Reporting Limit  V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range  N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F25819-6 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 103% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 98% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 95% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW38 | | |
| **Lab Sample ID:** | F25819-2 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | EPA 504.1 EPA 504 | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | MN22369.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 39.5 ml | 2.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 0.0089 U | 0.018 | 0.0089 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 105% | | 60-139% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW41 | | |
| **Lab Sample ID:** | F25819-1 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | EPA 504.1 EPA 504 | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | MN22366.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 39.3 ml | 2.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 0.0089 U | 0.018 | 0.0089 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 94% | | 60-139% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-RB01 | | |
| **Lab Sample ID:** | F25819-8 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Equipment Blank | **Date Received:** | 08/03/04 |
| **Method:** | EPA 504.1 EPA 504 | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | MN22372.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 37.9 ml | 2.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 0.0092 U | 0.018 | 0.0092 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 89% [a] | | 60-139% |

(a) Surrogate recoveries corrected for double spike.

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F25819-7 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 08/03/04 |
| **Method:** | EPA 504.1 EPA 504 | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | MN22371.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 39.2 ml | 2.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 0.0089 U | 0.018 | 0.0089 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 104% [a] | | 60-139% |

(a) Surrogate recoveries corrected for double spike.

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW38 | | |
| **Lab Sample ID:** | F25819-2 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8270C BY SIM SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | W021475.D | 1 | 08/12/04 | ME | 08/06/04 | OP11065 | SW1127 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1030 ml | 1.0 ml |
| Run #2 | | |

**BN PAH List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.49 U | 0.97 | 0.49 | ug/l | |
| 208-96-8 | Acenaphthylene | 0.49 U | 0.97 | 0.49 | ug/l | |
| 120-12-7 | Anthracene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 218-01-9 | Chrysene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 206-44-0 | Fluoranthene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 86-73-7 | Fluorene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 91-20-3 | Naphthalene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 85-01-8 | Phenanthrene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 129-00-0 | Pyrene | 0.24 U | 0.97 | 0.24 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 83% | | 49-119% |
| 321-60-8 | 2-Fluorobiphenyl | 77% | | 45-118% |
| 1718-51-0 | Terphenyl-d14 | 83% | | 46-135% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW41 | | |
| **Lab Sample ID:** | F25819-1 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8270C BY SIM SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | W021474.D | 1 | 08/12/04 | ME | 08/06/04 | OP11065 | SW1127 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 980 ml | 1.0 ml |
| Run #2 | | |

**BN PAH List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.51 U | 1.0 | 0.51 | ug/l | |
| 208-96-8 | Acenaphthylene | 0.51 U | 1.0 | 0.51 | ug/l | |
| 120-12-7 | Anthracene | 0.26 U | 1.0 | 0.26 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 218-01-9 | Chrysene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 206-44-0 | Fluoranthene | 0.26 U | 1.0 | 0.26 | ug/l | |
| 86-73-7 | Fluorene | 0.26 U | 1.0 | 0.26 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 0.26 U | 1.0 | 0.26 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 0.26 U | 1.0 | 0.26 | ug/l | |
| 91-20-3 | Naphthalene | 0.46 | 1.0 | 0.26 | ug/l | I |
| 85-01-8 | Phenanthrene | 0.26 U | 1.0 | 0.26 | ug/l | |
| 129-00-0 | Pyrene | 0.26 U | 1.0 | 0.26 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 79% | | 49-119% |
| 321-60-8 | 2-Fluorobiphenyl | 79% | | 45-118% |
| 1718-51-0 | Terphenyl-d14 | 74% | | 46-135% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-RB01 | | |
| **Lab Sample ID:** | F25819-8 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Equipment Blank | **Date Received:** | 08/03/04 |
| **Method:** | SW846 8270C BY SIM SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | W021476.D | 1 | 08/12/04 | ME | 08/06/04 | OP11065 | SW1127 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

**BN PAH List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 208-96-8 | Acenaphthylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 120-12-7 | Anthracene | 0.25 U | 1.0 | 0.25 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 218-01-9 | Chrysene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 206-44-0 | Fluoranthene | 0.25 U | 1.0 | 0.25 | ug/l | |
| 86-73-7 | Fluorene | 0.25 U | 1.0 | 0.25 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.10 U | 0.20 | 0.10 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 0.25 U | 1.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 0.25 U | 1.0 | 0.25 | ug/l | |
| 91-20-3 | Naphthalene | 0.25 U | 1.0 | 0.25 | ug/l | |
| 85-01-8 | Phenanthrene | 0.25 U | 1.0 | 0.25 | ug/l | |
| 129-00-0 | Pyrene | 0.25 U | 1.0 | 0.25 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 85% | | 49-119% |
| 321-60-8 | 2-Fluorobiphenyl | 78% | | 45-118% |
| 1718-51-0 | Terphenyl-d14 | 91% | | 46-135% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW38 | | |
| **Lab Sample ID:** | F25819-2 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | FLORIDA-PRO SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP41427.D | 1 | 08/08/04 | AA | 08/06/04 | OP11063 | GOP1268 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1020 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C8-C40) | 0.314 | 0.25 | 0.17 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 90% | | 50-125% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW41 | | |
| **Lab Sample ID:** | F25819-1 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| **Method:** | FLORIDA-PRO SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP41426.D | 1 | 08/08/04 | AA | 08/06/04 | OP11063 | GOP1268 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1020 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C8-C40) | 1.02 | 0.25 | 0.17 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 91% | | 50-125% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-RB01 | | |
| **Lab Sample ID:** | F25819-8 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Equipment Blank | **Date Received:** | 08/03/04 |
| **Method:** | FLORIDA-PRO SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP41428.D | 1 | 08/08/04 | AA | 08/06/04 | OP11063 | GOP1268 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C8-C40) | 0.17 U | 0.25 | 0.17 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 101% | | 50-125% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

# APPENDIX C

## SUPPORT DOCUMENTATION

# HOLDTIME

SDG F25819

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| M | UG/L | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-DMW13 | F25819-4 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-DMW32 | F25819-3 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-DMW37 | F25819-5 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| | % | OLFS-2406-MW41-PAH | F25819-1 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | % | OLFS-2406-RB01-PAH | F25819-8 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | % | OLFS-2406-MW38-PAH | F25819-2 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | UG/L | OLFS-2406-MW41-PAH | F25819-1 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | UG/L | OLFS-2406-RB01-PAH | F25819-8 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | UG/L | OLFS-2406-MW38-PAH | F25819-2 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| EDB | % | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | % | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | % | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| EDB | % | TRIP BLANK | F25819-7 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | UG/L | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | UG/L | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | UG/L | TRIP BLANK | F25819-7 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | UG/L | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| OV | % | OLFS-2406-DMW32 | F25819-3 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | OLFS-2406-DMW37 | F25819-5 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/12/2004 | 08/12/2004 | 12 | 0 | 12 |
| OV | % | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | TRIP BLANK | F25819-6 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | OLFS-2406-DMW13 | F25819-4 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | TRIP BLANK | F25819-6 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-DMW13 | F25819-4 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-DMW32 | F25819-3 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-DMW37 | F25819-5 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | UG/L | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/12/2004 | 08/12/2004 | 12 | 0 | 12 |
| TPH | MG/L | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/06/2004 | 08/08/2004 | 6 | 2 | 8 |
| TPH | MG/L | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/06/2004 | 08/08/2004 | 6 | 2 | 8 |
| TPH | MG/L | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/06/2004 | 08/08/2004 | 6 | 2 | 8 |

Southeast
ACCUTEST
Laboratories

09/02/04

# Technical Report for

Tetra-Tech NUS

NAS Pensacola CTO# 274 N2642

N2642-WR452

Accutest Job Number: F25819

Sampling Date: 07/31/04

Report to:

Tetra-Tech,Inc.
661 Andersen Drive
Foster Plaza 7
Pittsburgh, PA 15520-2745

ATTN: Amy Thomson

Total number of pages in report: 773

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Tetra-Tech NUS **Job No:** F25819

**Site:** NAS Pensacola CTO# 274 N2642 **Report Date** 9/2/2004 1:47:12 PM

6 Samples and 1 Trip Blank were collected on 07/31/2004 and were received at Accutest on 08/03/2004 properly preserved, at 3.6 Deg. C and intact. These Samples received an Accutest job number of F25819.A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

**Matrix:** AQ **Batch ID:** VB1034

All samples were analyzed within the recommended method holding time.

Sample(s) F25844-1MS, F25844-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

MS/MSD Recovery for Trichloroethylene is outside control limits. Outside control limits due to high level in sample relative to spike amount. For method performance in clean matrix refer to Blank Spike data

RPD(s) for MSD for 1,2-Dichloropropane, 2-Chloroethyl vinyl ether are outside control limits for sample F25844-1MSD, F25844-1MSD. Probable cause due to sample non-homogeneity.

**Matrix:** AQ **Batch ID:** VM4

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25811-1MS, F25811-1MSD were used as the QC samples indicated.

MS/MSD Recovery for 2-Chloroethyl vinyl ether is outside control limits due to sampe preservation.

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ **Batch ID:** OP11065

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25789-10MS, F25789-10MSD were used as the QC samples indicated.

## Volatiles by GC By Method EPA 504.1

**Matrix:** AQ **Batch ID:** OP11047

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25819-8MS, F25819-8MSD were used as the QC samples indicated.

F25819-8 for 4-Bromofluorobenzene: Surrogate recoveries corrected for double spike.

F25819-7 for 4-Bromofluorobenzene: Surrogate recoveries corrected for double spike.

## Extractables by GC By Method FLORIDA-PRO

**Matrix:** AQ **Batch ID:** OP11063

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F25795-2MS, F25795-2MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for TPH (C8-C40) are outside control limits. Outside control limits due to high level in sample relative to spike amount.

## Metals By Method SW846 6010B

**Matrix:** AQ **Batch ID:** MP7017

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25954-1DUP, F25954-1MS, F25954-1MSD, F25954-1SDL were used as the QC samples for metals.

RPD(s) for Serial Dilution for Lead are outside control limits. Probable cause due to sample non-homogeneity.

MP7017-SD1 for Lead: Serial dilution indicates possible matrix interference.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Svetlana Izosimova, QAO

Date: September 02, 2004

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 42 F25817 PAGE 1 OF 1

| PROJECT NO: | FACILITY: | PROJECT MANAGER | PHONE NUMBER | LABORATORY NAME AND CONTACT: |
|---|---|---|---|---|
| N2642 | OLF Saufley | Gerry Walker | 385-9899 (850) | Accutest Labs SE (Sue Bell) |
| SAMPLERS (SIGNATURE) | | FIELD OPERATIONS LEADER | PHONE NUMBER | ADDRESS |
| William Howard Engle, Louis Tryell | | Howard Engle | 850-385-9899 | 4405 Vineland Rd Ste C15 |
| | | CARRIER/WAYBILL NUMBER | | CITY, STATE |
| | | | | Orlando, FL 32811-7363 |

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): 3G, 3G, 2G, 2G, 1P
PRESERVATIVE USED: HCl, $H_2S_2O_3$, N/A, $H_2SO_4$, $HNO_3$

| | DATE YEAR 2004 | TIME | SAMPLE ID | LOCATION ID | TOP DEPTH (FT) | BOTTOM DEPTH (FT) | MATRIX (GW, SO, SW, SD, QC, ETC.) | COLLECTION METHOD GRAB (G) COMP (C) | No. OF CONTAINERS | VOCs (8260) | EDB (504.1) | PAHs (8270 sim) | TRPH (FL-PRO) | Total Lead (6010) | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7/31 | 1050 | OLFS-2406-MW41 | MW41 | 40.2 | 56 | GW | G | 11 | X | X | X | X | X | | | | All times are |
| 2 | | 1140 | OLFS-2406-MW38 | MW38 | 41.22 | 56 | | | 11 | X | X | X | X | X | | | | Central |
| 3 | | 1300 | OLFS-2406-DMW32 | MW32 | 28.13 | 135.7 | | | 4 | X | | | | X | | | | |
| 4 | | 1430 | OLFS-2406-DMW13 | DMW13 | 43.73 | 142 | | | 4 | X | | | | X | | | | see Work Release |
| 5 | | 1550 | OLFS-2406-DMW37 | DMW37 | 47.09 | 136 | | | 4 | X | | | | X | | | | N2642-WR452 |
| 6 7 | | | Trip Blank | | | | QC | | 6 | X | X | | | | | | | for detailed |
| 8 | 7/31 | 1450 | OLFS-2406-RB1 | | | | | | 11 | X | X | X | X | X | | | | parameter list |

| 1. RELINQUISHED BY | DATE | TIME | 1. RECEIVED BY | DATE | TIME |
|---|---|---|---|---|---|
| [signature] | 8/2/04 | 1630 | [signature] | | |
| 2. RELINQUISHED BY | DATE | TIME | 2. RECEIVED BY | DATE | TIME |
| [signature] | | | [signature] | 8/3/04 | 09:00 |
| 3. RELINQUISHED BY | DATE | TIME | 3. RECEIVED BY | DATE | TIME |
| | | | | | |

COMMENTS 3-2 3-6

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TINUS 4/0

Accutest Laboratories

# Sample Summary

Tetra-Tech NUS

**Job No:** F25819

NAS Pensacola CTO# 274 N2642
Project No: N2642-WR452

| Sample Number | Collected Date | Time By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|
| F25819-1 | 07/31/04 | 10:50 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-MW41 |
| F25819-2 | 07/31/04 | 11:40 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-MW38 |
| F25819-3 | 07/31/04 | 13:00 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-DMW32 |
| F25819-4 | 07/31/04 | 14:30 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-DMW13 |
| F25819-5 | 07/31/04 | 15:50 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-DMW37 |
| F25819-6 | 07/31/04 | 00:00 WH | 08/03/04 | AQ | Trip Blank Water | TRIP BLANK |
| F25819-7 | 07/31/04 | 00:00 WH | 08/03/04 | AQ | Trip Blank Water | TRIP BLANK |
| F25819-8 | 07/31/04 | 14:50 WH | 08/03/04 | AQ | Equipment Blank | OLFS-2406-RB01 |

# Volatile Surrogate Recovery Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Method:** SW846 8260B **Matrix:** AQ

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 | S4 |
|---|---|---|---|---|---|
| F25819-1 | B023889.D | 96.0 | 98.0 | 100.0 | 101.0 |
| F25819-2 | M0000092.D | 103.0 | 103.0 | 99.0 | 96.0 |
| F25819-3 | M0000093.D | 105.0 | 103.0 | 98.0 | 97.0 |
| F25819-4 | M0000094.D | 104.0 | 102.0 | 99.0 | 96.0 |
| F25819-5 | M0000095.D | 104.0 | 103.0 | 99.0 | 96.0 |
| F25819-6 | M0000096.D | 103.0 | 103.0 | 98.0 | 95.0 |
| F25819-8 | M0000097.D | 103.0 | 103.0 | 98.0 | 95.0 |
| F25811-1MS | M0000098.D | 105.0 | 102.0 | 100.0 | 96.0 |
| F25811-1MSD | M0000099.D | 104.0 | 103.0 | 97.0 | 97.0 |
| F25844-1MS | B023890.D | 102.0 | 105.0 | 96.0 | 94.0 |
| F25844-1MSD | B023891.D | 97.0 | 102.0 | 97.0 | 95.0 |
| VB1034-BS | B023881.D | 98.0 | 100.0 | 97.0 | 96.0 |
| VB1034-MB | B023882.D | 99.0 | 95.0 | 99.0 | 102.0 |
| VM4-BS | M0000080.D | 102.0 | 103.0 | 99.0 | 100.0 |
| VM4-MB | M0000081.D | 104.0 | 105.0 | 98.0 | 99.0 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| S1 = Dibromofluoromethane | 86-115% |
| S2 = 1,2-Dichloroethane-D4 | 73-126% |
| S3 = Toluene-D8 | 86-112% |
| S4 = 4-Bromofluorobenzene | 83-119% |

# Method Blank Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VM4-MB | M0000081.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25819-2, F25819-3, F25819-4, F25819-5, F25819-6, F25819-8

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | ND | 2.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | ND | 2.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 2.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 2.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 2.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | ND | 2.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | ND | 2.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 2.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | ND | 2.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 1.0 | 0.50 | ug/l | |
| 1330-20-7 | Xylene (total) | ND | 6.0 | 1.0 | ug/l | |

# Method Blank Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VM4-MB | M0000081.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25819-2, F25819-3, F25819-4, F25819-5, F25819-6, F25819-8

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 105% | 73-126% |
| 2037-26-5 | Toluene-D8 | 98% | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | 83-119% |

# Method Blank Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VB1034-MB | B023882.D | 1 | 08/12/04 | KW | n/a | n/a | VB1034 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25819-1

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | ND | 2.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | ND | 2.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | ND | 2.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | ND | 2.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | ND | 2.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | ND | 2.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | ND | 2.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | ND | 2.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | ND | 2.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | 2.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | ND | 2.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | 2.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | ND | 2.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | ND | 2.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | ND | 2.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | ND | 5.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | 2.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | ND | 2.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | 2.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | ND | 2.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | ND | 2.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | ND | 2.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | ND | 1.0 | 0.50 | ug/l | |
| 1330-20-7 | Xylene (total) | ND | 6.0 | 1.0 | ug/l | |

# Method Blank Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VB1034-MB | B023882.D | 1 | 08/12/04 | KW | n/a | n/a | VB1034 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25819-1

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 99% | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 95% | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 102% | 83-119% |

# Instrument Performance Check (BFB)



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VB1032-BFB
**Lab File ID:** B023843.D
**Instrument ID:** GCMSB
**Injection Date:** 08/10/04
**Injection Time:** 13:28

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 31386 | 33.1 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 46282 | 48.8 | | Pass |
| 95 | Base peak, 100% relative abundance | 94880 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 6767 | 7.1 | | Pass |
| 173 | Less than 2.0% of mass 174 | 196 | 0.21 | (0.29) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 68453 | 72.1 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 4811 | 5.1 | (7.0) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 65869 | 69.4 | (96.2) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 4195 | 4.4 | (6.4) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VB1032-IC1032 | B023844.D | 08/10/04 | 13:54 | 00:26 | Initial cal 1 |
| VB1032-IC1032 | B023845.D | 08/10/04 | 14:22 | 00:54 | Initial cal 5 |
| VB1032-IC1032 | B023846.D | 08/10/04 | 14:48 | 01:20 | Initial cal 20 |
| VB1032-ICC1032 | B023847.D | 08/10/04 | 15:16 | 01:48 | Initial cal 40 |
| VB1032-IC1032 | B023848.D | 08/10/04 | 15:43 | 02:15 | Initial cal 70 |
| VB1032-IC1032 | B023849.D | 08/10/04 | 16:10 | 02:42 | Initial cal 100 |

# Instrument Performance Check (BFB)



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VB1034-BFB
**Lab File ID:** B023878.D
**Instrument ID:** GCMSB
**Injection Date:** 08/12/04
**Injection Time:** 09:27

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 42116 | 38.3 | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 54205 | 49.3 | Pass |
| 95 | Base peak, 100% relative abundance | 110034 | 100.0 | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7394 | 6.7 | Pass |
| 173 | Less than 2.0% of mass 174 | 392 | 0.36 (0.45) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 87192 | 79.2 | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 5774 | 5.2 (6.6) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 84832 | 77.1 (97.3) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 6116 | 5.6 (7.2) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VB1034-CC1032 | B023880.D | 08/12/04 | 10:19 | 00:52 | Continuing cal 40 |
| VB1034-BS | B023881.D | 08/12/04 | 10:46 | 01:19 | Blank Spike |
| VB1034-MB | B023882.D | 08/12/04 | 11:14 | 01:47 | Method Blank |
| F25844-1 | B023883.D | 08/12/04 | 11:43 | 02:16 | (used for QC only; not part of job F25819) |
| ZZZZZZ | B023884.D | 08/12/04 | 12:12 | 02:45 | (unrelated sample) |
| ZZZZZZ | B023885.D | 08/12/04 | 12:39 | 03:12 | (unrelated sample) |
| ZZZZZZ | B023886.D | 08/12/04 | 13:05 | 03:38 | (unrelated sample) |
| ZZZZZZ | B023887.D | 08/12/04 | 13:32 | 04:05 | (unrelated sample) |
| ZZZZZZ | B023888.D | 08/12/04 | 13:59 | 04:32 | (unrelated sample) |
| F25819-1 | B023889.D | 08/12/04 | 14:28 | 05:01 | OLFS-2406-MW41 |
| F25844-1MS | B023890.D | 08/12/04 | 14:55 | 05:28 | Matrix Spike |
| F25844-1MSD | B023891.D | 08/12/04 | 15:22 | 05:55 | Matrix Spike Duplicate |
| ZZZZZZ | B023892.D | 08/12/04 | 15:49 | 06:22 | (unrelated sample) |
| ZZZZZZ | B023893.D | 08/12/04 | 16:17 | 06:50 | (unrelated sample) |
| ZZZZZZ | B023894.D | 08/12/04 | 16:44 | 07:17 | (unrelated sample) |
| ZZZZZZ | B023898.D | 08/12/04 | 18:33 | 09:06 | (unrelated sample) |
| ZZZZZZ | B023899.D | 08/12/04 | 19:00 | 09:33 | (unrelated sample) |
| ZZZZZZ | B023901.D | 08/12/04 | 19:55 | 10:28 | (unrelated sample) |
| ZZZZZZ | B023903.D | 08/12/04 | 20:49 | 11:22 | (unrelated sample) |

# Instrument Performance Check (BFB)



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VM1-BFB
**Lab File ID:** M0000001.D
**Instrument ID:** GCMSM
**Injection Date:** 08/06/04
**Injection Time:** 09:54

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 40600 | 32.3 | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 50752 | 40.3 | Pass |
| 95 | Base peak, 100% relative abundance | 125866 | 100.0 | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 8206 | 6.5 | Pass |
| 173 | Less than 2.0% of mass 174 | 597 | 0.47 (0.55) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 108026 | 85.8 | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 8242 | 6.5 (7.6) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 103914 | 82.6 (96.2) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 6925 | 5.5 (6.7) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VM1-IC1 | M0000002.D | 08/06/04 | 10:09 | 00:15 | Initial cal 1 |
| VM1-IC1 | M0000003.D | 08/06/04 | 10:36 | 00:42 | Initial cal 5 |
| VM1-IC1 | M0000004.D | 08/06/04 | 11:03 | 01:09 | Initial cal 20 |
| VM1-ICC1 | M0000005.D | 08/06/04 | 11:31 | 01:37 | Initial cal 40 |
| VM1-IC1 | M0000006.D | 08/06/04 | 11:59 | 02:05 | Initial cal 70 |
| VM1-IC1 | M0000007.D | 08/06/04 | 12:26 | 02:32 | Initial cal 100 |
| VM1-MB | M0000009.D | 08/06/04 | 13:21 | 03:27 | Method Blank |
| F25856-1 | M0000010.D | 08/06/04 | 14:55 | 05:01 | (used for QC only; not part of job F25819) |
| ZZZZZZ | M0000011.D | 08/06/04 | 15:23 | 05:29 | (unrelated sample) |
| ZZZZZZ | M0000012.D | 08/06/04 | 15:50 | 05:56 | (unrelated sample) |
| ZZZZZZ | M0000013.D | 08/06/04 | 16:18 | 06:24 | (unrelated sample) |
| ZZZZZZ | M0000014.D | 08/06/04 | 16:46 | 06:52 | (unrelated sample) |
| ZZZZZZ | M0000015.D | 08/06/04 | 17:13 | 07:19 | (unrelated sample) |
| VM1-BS | M0000016.D | 08/06/04 | 17:41 | 07:47 | Blank Spike |
| F25856-1MS | M0000017.D | 08/06/04 | 18:09 | 08:15 | Matrix Spike |
| F25856-1MSD | M0000018.D | 08/06/04 | 18:37 | 08:43 | Matrix Spike Duplicate |
| ZZZZZZ | M0000019.D | 08/06/04 | 19:05 | 09:11 | (unrelated sample) |
| ZZZZZZ | M0000020.D | 08/06/04 | 19:33 | 09:39 | (unrelated sample) |
| ZZZZZZ | M0000021.D | 08/06/04 | 20:01 | 10:07 | (unrelated sample) |
| ZZZZZZ | M0000022.D | 08/06/04 | 20:29 | 10:35 | (unrelated sample) |
| ZZZZZZ | M0000023.D | 08/06/04 | 20:57 | 11:03 | (unrelated sample) |

# Instrument Performance Check (BFB)



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VM4-BFB
**Lab File ID:** M0000078.D
**Instrument ID:** GCMSM
**Injection Date:** 08/11/04
**Injection Time:** 09:01

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 32288 | 31.5 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 40365 | 39.3 | | Pass |
| 95 | Base peak, 100% relative abundance | 102637 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7137 | 7.0 | | Pass |
| 173 | Less than 2.0% of mass 174 | 234 | 0.23 | (0.27) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 86554 | 84.3 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 6243 | 6.1 | (7.2) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 83237 | 81.1 | (96.2) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 5431 | 5.3 | (6.5) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VM4-CC1 | M0000079.D | 08/11/04 | 09:27 | 00:26 | Continuing cal 40 |
| VM4-BS | M0000080.D | 08/11/04 | 09:57 | 00:56 | Blank Spike |
| VM4-MB | M0000081.D | 08/11/04 | 10:25 | 01:24 | Method Blank |
| ZZZZZZ | M0000082.D | 08/11/04 | 11:00 | 01:59 | (unrelated sample) |
| ZZZZZZ | M0000083.D | 08/11/04 | 11:27 | 02:26 | (unrelated sample) |
| ZZZZZZ | M0000084.D | 08/11/04 | 11:54 | 02:53 | (unrelated sample) |
| ZZZZZZ | M0000085.D | 08/11/04 | 12:22 | 03:21 | (unrelated sample) |
| ZZZZZZ | M0000086.D | 08/11/04 | 12:50 | 03:49 | (unrelated sample) |
| F25811-1 | M0000087.D | 08/11/04 | 13:19 | 04:18 | (used for QC only; not part of job F25819) |
| ZZZZZZ | M0000088.D | 08/11/04 | 13:46 | 04:45 | (unrelated sample) |
| ZZZZZZ | M0000089.D | 08/11/04 | 14:16 | 05:15 | (unrelated sample) |
| ZZZZZZ | M0000090.D | 08/11/04 | 14:45 | 05:44 | (unrelated sample) |
| F25819-2 | M0000092.D | 08/11/04 | 15:43 | 06:42 | OLFS-2406-MW38 |
| F25819-3 | M0000093.D | 08/11/04 | 16:11 | 07:10 | OLFS-2406-DMW32 |
| F25819-4 | M0000094.D | 08/11/04 | 16:39 | 07:38 | OLFS-2406-DMW13 |
| F25819-5 | M0000095.D | 08/11/04 | 17:07 | 08:06 | OLFS-2406-DMW37 |
| F25819-6 | M0000096.D | 08/11/04 | 17:35 | 08:34 | TRIP BLANK |
| F25819-8 | M0000097.D | 08/11/04 | 18:03 | 09:02 | OLFS-2406-RB01 |
| F25811-1MS | M0000098.D | 08/11/04 | 18:31 | 09:30 | Matrix Spike |
| F25811-1MSD | M0000099.D | 08/11/04 | 18:59 | 09:58 | Matrix Spike Duplicate |
| ZZZZZZ | M0000100.D | 08/11/04 | 19:26 | 10:25 | (unrelated sample) |
| ZZZZZZ | M0000101.D | 08/11/04 | 19:54 | 10:53 | (unrelated sample) |
| ZZZZZZ | M0000102.D | 08/11/04 | 20:21 | 11:20 | (unrelated sample) |

Response Factor Report MSVOA4

Method : C:\MSDCHEM\1\METHODS\82600810.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Aug 10 16:48:55 2004
Response via : Initial Calibration

Calibration Files
1 =B023844.D 2 =B023845.D 3 =B023846.D
4 =B023847.D 5 =B023848.D 6 =B023849.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | %RS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Fluorobenzene | ---------- | ---------- | ---------- | ISTD | ---------- | ---------- | ---------- | |
| 2) | | Dichlorodifluoromet | 0.437 | 0.370 | 0.365 | 0.358 | 0.361 | 0.337 | 0.371 | 9.27 |
| 3) | P | Chloromethane | 1.019 | 0.948 | 0.907 | 0.881 | 0.874 | 0.785 | 0.902 | 8.70 |
| 4) | C | Vinyl Chloride | 0.575 | 0.599 | 0.579 | 0.561 | 0.576 | 0.516 | 0.568 | 4.94 |
| 5) | | Bromomethane | | 0.263 | 0.250 | 0.235 | 0.233 | 0.204 | 0.237 | 9.39 |
| 6) | | Chloroethane | 0.283 | 0.311 | 0.293 | 0.275 | 0.278 | 0.251 | 0.282 | 7.04 |
| 7) | | Trichlorofluorometh | 0.520 | 0.456 | 0.486 | 0.453 | 0.497 | 0.465 | 0.479 | 5.53 |
| 8) | | Ethyl Ether | 0.401 | 0.339 | 0.404 | 0.381 | 0.395 | 0.370 | 0.382 | 6.40 |
| 9) | | 1,2-Dichlorotrifluo | 0.540 | 0.497 | 0.495 | 0.459 | 0.478 | 0.451 | 0.487 | 6.55 |
| 10) | | Acrolein | 0.055 | 0.056 | 0.057 | 0.053 | 0.057 | 0.057 | 0.056 | 2.92 |
| 11) | | Freon 113 | 0.339 | 0.287 | 0.288 | 0.268 | 0.281 | 0.283 | 0.291 | 8.50 |
| 12) | C | 1,1-Dichloroethene | 0.806 | 0.716 | 0.710 | 0.672 | 0.710 | 0.715 | 0.722 | 6.19 |
| 13) | | Acetone | | 0.287 | 0.296 | 0.274 | 0.293 | 0.278 | 0.286 | 3.31 |
| 14) | | Iodomethane | 0.393 | 0.376 | 0.387 | 0.348 | 0.382 | 0.380 | 0.378 | 4.13 |
| 15) | | Carbon Disulfide | 1.395 | 1.119 | 1.148 | 1.082 | 1.136 | 1.121 | 1.167 | 9.77 |
| 16) | | Methyl acetate | 0.484 | 0.418 | 0.438 | 0.419 | 0.452 | 0.448 | 0.443 | 5.51 |
| 17) | | Methylene Chloride | | 0.903 | 0.850 | 0.808 | 0.839 | 0.810 | 0.842 | 4.58 |
| 18) | | Methyl Tert Butyl E | 0.726 | 0.635 | 0.662 | 0.667 | 0.712 | 0.713 | 0.686 | 5.28 |
| 19) | | trans-1,2-Dichloroe | 0.728 | 0.601 | 0.638 | 0.604 | 0.641 | 0.631 | 0.640 | 7.18 |
| 20) | | Acrylonitrile | 0.138 | 0.167 | 0.195 | 0.191 | 0.193 | 0.193 | 0.180 | 12.85 |
| 21) | | Hexane | | 0.616 | 0.643 | 0.619 | 0.630 | 0.628 | 0.627 | 1.68 |
| 22) | | Di-isopropyl ether | 2.208 | 2.024 | 2.126 | 2.012 | 2.146 | 2.114 | 2.105 | 3.55 |
| 23) | | Vinyl acetate | | 0.898 | 0.916 | 0.955 | 0.958 | 0.991 | 0.943 | 3.90 |
| 24) | P | 1,1-Dichloroethane | 0.790 | 0.727 | 0.768 | 0.730 | 0.773 | 0.767 | 0.759 | 3.31 |
| 25) | | ETBE | 0.971 | 0.896 | 1.049 | 1.048 | 1.169 | 1.201 | 1.056 | 10.95 |
| 26) | | 2-Butanone | 0.314 | 0.287 | 0.333 | 0.326 | 0.350 | 0.338 | 0.325 | 6.76 |
| 27) | | 2,2-Dichloropropane | 0.161 | 0.161 | 0.194 | 0.196 | 0.217 | 0.215 | 0.191 | 13.18 |
| 28) | | cis-1,2-Dichloroeth | 0.357 | 0.310 | 0.327 | 0.306 | 0.322 | 0.319 | 0.324 | 5.65 |
| 29) | | Bromochloromethane | 0.147 | 0.123 | 0.121 | 0.117 | 0.123 | 0.123 | 0.126 | 8.46 |
| 30) | | Tetrahydrofuran | 0.209 | 0.149 | 0.168 | 0.152 | 0.163 | 0.162 | 0.167 | 13.00 |
| 31) | C | Chloroform | 0.635 | 0.541 | 0.550 | 0.525 | 0.557 | 0.557 | 0.561 | 6.86 |
| 32) | S | Dibromofluoromethan | 0.246 | 0.244 | 0.236 | 0.235 | 0.239 | 0.236 | 0.239 | 1.87 |
| 33) | | 1,1,1-Trichloroetha | 0.464 | 0.388 | 0.412 | 0.396 | 0.424 | 0.423 | 0.418 | 6.43 |
| 34) | | Cyclohexane | 0.959 | 0.769 | 0.818 | 0.779 | 0.816 | 0.821 | 0.827 | 8.26 |
| 35) | | Carbon Tetrachlorid | 0.348 | 0.303 | 0.331 | 0.324 | 0.351 | 0.352 | 0.335 | 5.68 |
| 36) | | 1,1-Dichloropropene | 0.433 | 0.390 | 0.405 | 0.388 | 0.407 | 0.408 | 0.405 | 4.07 |
| 37) | S | 1,2-Dichloroethane- | 0.410 | 0.403 | 0.411 | 0.399 | 0.411 | 0.407 | 0.407 | 1.19 |
| 38) | | TAME | 0.693 | 0.636 | 0.724 | 0.747 | 0.842 | 0.854 | 0.749 | 11.36 |
| 39) | | Benzene | 1.379 | 1.182 | 1.258 | 1.245 | 1.321 | 1.305 | 1.282 | 5.34 |
| 40) | | 1,2-Dichloroethane | 0.660 | 0.574 | 0.567 | 0.548 | 0.588 | 0.579 | 0.586 | 6.58 |
| 41) | | Trichloroethene | 0.375 | 0.299 | 0.307 | 0.292 | 0.320 | 0.315 | 0.318 | 9.36 |
| 42) | | Methylcyclohexane | 0.588 | 0.442 | 0.448 | 0.435 | 0.455 | 0.456 | 0.471 | 12.28 |

(#) = Out of Range

0138

Response Factor Report MSVOA4

Method : C:\MSDCHEM\1\METHODS\82600810.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Aug 10 16:48:55 2004
Response via : Initial Calibration

Calibration Files
1 =B023844.D 2 =B023845.D 3 =B023846.D
4 =B023847.D 5 =B023848.D 6 =B023849.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | %RS |
|---|---|---|---|---|---|---|---|---|---|---|
| 43) | C | 1,2-Dichloropropane | 0.484 | 0.429 | 0.425 | 0.418 | 0.449 | 0.438 | 0.440 | 5.40 |
| 44) | | Dibromomethane | 0.208 | 0.177 | 0.193 | 0.186 | 0.196 | 0.193 | 0.192 | 5.31 |
| 45) | | Bromodichloromethan | 0.434 | 0.373 | 0.400 | 0.397 | 0.424 | 0.425 | 0.409 | 5.53 |
| 46) | | 2-Chloroethyl vinyl | | 0.113 | 0.140 | 0.139 | 0.162 | 0.165 | 0.144 | 14.69 |
| 47) | | 2-Nitropropane | 0.134 | 0.128 | 0.150 | 0.151 | 0.161 | 0.159 | 0.147 | 9.04 |
| 48) | | cis-1,3-Dichloropro | 0.409 | 0.382 | 0.465 | 0.468 | 0.522 | 0.520 | 0.461 | 12.33 |
| 49) | | 4-Methyl-2-pentanon | 0.602 | 0.565 | 0.630 | 0.618 | 0.668 | 0.653 | 0.623 | 5.89 |
| 50) | I | Chlorobenzene-d5 | ----------ISTD---------- | | | | | | | |
| 51) | S | Toluene-d8 | 1.309 | 1.280 | 1.281 | 1.261 | 1.243 | 1.270 | 1.274 | 1.74 |
| 52) | C | Toluene | 1.899 | 1.616 | 1.715 | 1.630 | 1.719 | 1.723 | 1.717 | 5.88 |
| 53) | | trans-1,3-Dichlorop | 0.460 | 0.416 | 0.530 | 0.525 | 0.594 | 0.610 | 0.522 | 14.39 |
| 54) | | 1,1,2-Trichloroetha | 0.330 | 0.309 | 0.325 | 0.307 | 0.328 | 0.323 | 0.320 | 3.01 |
| 55) | | Tetrachloroethene | 0.409 | 0.359 | 0.375 | 0.350 | 0.378 | 0.370 | 0.373 | 5.45 |
| 56) | | 2-hexanone | 0.649 | 0.543 | 0.634 | 0.613 | 0.668 | 0.647 | 0.626 | 7.06 |
| 57) | | 1,3-Dichloropropane | 0.694 | 0.632 | 0.665 | 0.639 | 0.677 | 0.680 | 0.665 | 3.63 |
| 58) | | Dibromochloromethan | 0.354 | 0.290 | 0.332 | 0.328 | 0.353 | 0.360 | 0.336 | 7.64 |
| 59) | | 1,2-Dibromoethane | 0.341 | 0.327 | 0.377 | 0.360 | 0.377 | 0.376 | 0.360 | 5.95 |
| 60) | | 1-Chlorohexane | 0.503 | 0.469 | 0.517 | 0.499 | 0.529 | 0.527 | 0.507 | 4.40 |
| 61) | P | Chlorobenzene | 1.126 | 1.041 | 1.089 | 1.044 | 1.118 | 1.104 | 1.087 | 3.39 |
| 62) | C | Ethylbenzene | 2.134 | 1.780 | 1.941 | 1.875 | 2.031 | 1.998 | 1.960 | 6.33 |
| 63) | | 1,1,1,2-Tetrachloro | 0.362 | 0.309 | 0.353 | 0.339 | 0.365 | 0.365 | 0.349 | 6.26 |
| 64) | | m,p-Xylene | 1.648 | 1.415 | 1.535 | 1.497 | 1.632 | 1.615 | 1.557 | 5.86 |
| 65) | | o-Xylene | 1.697 | 1.502 | 1.625 | 1.580 | 1.674 | 1.666 | 1.624 | 4.46 |
| 66) | | Styrene | 0.971 | 0.953 | 1.134 | 1.130 | 1.226 | 1.212 | 1.104 | 10.61 |
| 67) | P | Bromoform | 0.190 | 0.157 | 0.206 | 0.212 | 0.236 | 0.232 | 0.206 | 14.15 |
| 68) | I | 1,4-Dichlorobenzene-d | ----------ISTD---------- | | | | | | | |
| 69) | | Isopropylbenzene | 4.226 | 3.326 | 3.338 | 3.143 | 3.358 | 3.401 | 3.465 | 11.06 |
| 70) | | Cyclohexanone | | 0.049 | 0.041 | 0.038 | 0.041 | 0.041 | 0.042 | 9.70 |
| 71) | S | 4-Bromofluorobenzen | 1.131 | 1.098 | 1.056 | 1.042 | 1.067 | 1.072 | 1.078 | 2.98 |
| 72) | P | 1,1,2,2-Tetrachloro | 1.297 | 1.046 | 1.015 | 0.943 | 1.002 | 0.994 | 1.049 | 11.99 |
| 73) | | trans-1,4-Dichloro- | 0.118 | 0.078 | 0.129 | 0.173 | 0.214 | 0.229 | 0.157 | 37.31 |
| | | ----- Quadratic regression ----- Coefficient = 0.9983 | | | | | | | | |
| | | Resp. Ratio= -0.00754 + 0.15493 *Amt.ratio + 0.04027 *Amt.ratio^2 | | | | | | | | |
| 74) | | n-Propylbenzene | 5.461 | 4.308 | 4.505 | 4.323 | 4.616 | 4.656 | 4.645 | 9.15 |
| 75) | | Bromobenzene | 1.013 | 0.877 | 0.866 | 0.826 | 0.871 | 0.851 | 0.884 | 7.42 |
| 76) | | 1,2,3-Trichloroprop | 0.310 | 0.271 | 0.261 | 0.255 | 0.260 | 0.262 | 0.270 | 7.58 |
| 77) | | 1,3,5-Trimethylbenz | 3.595 | 2.904 | 2.889 | 2.748 | 2.949 | 2.913 | 3.000 | 9.99 |
| 78) | | 2-Chlorotoluene | 3.756 | 3.115 | 3.084 | 2.908 | 3.132 | 3.115 | 3.185 | 9.16 |
| 79) | | 4-Chlorotoluene | 3.199 | 2.768 | 2.724 | 2.636 | 2.810 | 2.790 | 2.821 | 6.92 |
| 80) | | tert-Butylbenzene | 2.236 | 1.731 | 1.756 | 1.645 | 1.769 | 1.766 | 1.817 | 11.58 |

(#) = Out of Range

Response Factor Report MSVOA4

Method : C:\MSDCHEM\1\METHODS\82600810.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Aug 10 16:48:55 2004
Response via : Initial Calibration

Calibration Files
1 =B023844.D 2 =B023845.D 3 =B023846.D
4 =B023847.D 5 =B023848.D 6 =B023849.D

| | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | %RS |
|---|---|---|---|---|---|---|---|---|---|
| 81) | 1,2,4-Trimethylbenz | 3.690 | 2.859 | 2.922 | 2.797 | 3.044 | 3.016 | 3.055 | 10.64 |
| 82) | sec-Butylbenzene | | 3.515 | 3.475 | 3.334 | 3.538 | 3.554 | 3.483 | 2.55 |
| 83) | 4-Isopropyltoluene | | 2.624 | 2.652 | 2.549 | 2.705 | 2.702 | 2.646 | 2.42 |
| 84) | 1,3-Dichlorobenzene | 1.884 | 1.385 | 1.460 | 1.408 | 1.485 | 1.484 | 1.518 | 12.12 |
| 85) | 1,4-Dichlorobenzene | 2.046 | 1.516 | 1.507 | 1.447 | 1.522 | 1.508 | 1.591 | 14.12 |
| 86) | Benzyl Chloride | 1.497 | 1.177 | 1.626 | 1.681 | 1.834 | 1.830 | 1.607 | 15.33 |
| | ----- Linear regression ----- Coefficient = 0.9990 | | | | | | | | |
| | Response Ratio= -0.06586 + 1.85681 *Amt.ratio | | | | | | | | |
| 87) | n-Butylbenzene | 3.737 | 2.762 | 2.808 | 2.720 | 2.901 | 2.861 | 2.965 | 12.95 |
| 88) | 1,2-Dichlorobenzene | 1.714 | 1.411 | 1.440 | 1.381 | 1.456 | 1.439 | 1.473 | 8.19 |
| 89) | 1,2-Dibromo-3-Chlor | | 0.148 | 0.143 | 0.155 | 0.168 | 0.167 | 0.156 | 7.15 |
| 90) | 1,2,4-Trichlorobenz | | 0.857 | 0.912 | 0.897 | 0.964 | 0.967 | 0.919 | 5.08 |
| 91) | Hexachlorobutadiene | | 0.455 | 0.421 | 0.394 | 0.415 | 0.413 | 0.420 | 5.30 |
| 92) | Naphthalene | | 2.097 | 2.188 | 2.204 | 2.366 | 2.410 | 2.253 | 5.81 |
| 93) | 1,2,3-Trichlorobenz | | 0.783 | 0.845 | 0.826 | 0.858 | 0.872 | 0.837 | 4.17 |
| 94) I | Tert Butyl alcohol-d1 ----------ISTD---------- | | | | | | | | |
| 95) | Tert-Butyl Alcohol | 1.599 | 1.370 | 1.387 | 1.452 | 1.544 | 1.498 | 1.475 | 6.05 |
| 96) | Tert amyl alcohol | 0.901 | 0.755 | 0.947 | 0.984 | 1.112 | 1.117 | 0.970 | 14.09 |
| 97) | 1,4-Dioxane | 0.104 | 0.079 | 0.114 | 0.112 | 0.120 | 0.125 | 0.109 | 15.02 |
| | ----- Linear regression ----- Coefficient = 0.9984 | | | | | | | | |
| | Response Ratio= -0.01867 + 0.12555 *Amt.ratio | | | | | | | | |

(#) = Out of Range

Response Factor Report MSVOA7

Method : C:\MSDCHEM\1\METHODS\MSM0806.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Aug 06 16:28:48 2004
Response via : Initial Calibration

hy 8-9-04

Calibration Files
1 =M0000002.D 2 =M0000003.D 3 =M0000004.D 4 =M0000005.D
5 =M0000006.D 6 =M0000007.D

| | | Compound | 1 | 2 | 3 | 4 | 5 | 6 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | I | Fluorobenzene | ---------- | ---------- | ---------- | ISTD | ---------- | ---------- | | |
| 2) | | Dichlorodifluoromet | 0.143 | 0.154 | 0.153 | 0.145 | 0.139 | 0.160 | 0.149 | 5.21 |
| 3) | P | Chloromethane | | 0.487 | 0.461 | 0.444 | 0.426 | 0.452 | 0.454 | 4.90 |
| 4) | C | Vinyl Chloride | 0.312 | 0.268 | 0.281 | 0.266 | 0.263 | 0.280 | 0.278 | 6.56 |
| 5) | | Bromomethane | 0.173 | 0.124 | 0.123 | 0.104 | 0.089 | 0.081 | 0.116 | 28.51 |
| | | ---- Quadratic regr., Force(0,0) ---- Coefficient = 0.9983 | | | | | | | | |
| | | Response Ratio = 0.00000 + 0.12016 *A + -0.02001 *A^2 | | | | | | | | |
| 6) | | Chloroethane | | 0.148 | 0.144 | 0.128 | 0.116 | 0.110 | 0.129 | 13.06 |
| 7) | | Trichlorofluorometh | 0.167 | 0.231 | 0.248 | 0.228 | 0.217 | 0.224 | 0.219 | 12.55 |
| 8) | | 1,2-Dichlorotrifluo | 0.270 | 0.224 | 0.220 | 0.213 | 0.203 | 0.201 | 0.222 | 11.46 |
| 9) | | Ethyl ether | 0.370 | 0.280 | 0.273 | 0.256 | 0.248 | 0.230 | 0.276 | 17.90 |
| | | ---- Linear regr., Force(0,0) ---- Coefficient = 0.9965 | | | | | | | | |
| | | Response Ratio = 0.00000 + 0.23866 *A | | | | | | | | |
| .0) | | Acrolein | 0.084 | 0.070 | 0.064 | 0.065 | 0.063 | 0.063 | 0.068 | 12.25 |
| .1) | | Freon 113 | 0.271 | 0.258 | 0.257 | 0.255 | 0.247 | 0.250 | 0.256 | 3.21 |
| .2) | | Acetone | 0.308 | 0.168 | 0.161 | 0.158 | 0.160 | 0.160 | 0.186 | 32.36 |
| | | ---- Linear regr., Force(0,0) ---- Coefficient = 0.9999 | | | | | | | | |
| | | Response Ratio = 0.00000 + 0.15956 *A | | | | | | | | |
| 3) | C | 1,1-Dichloroethene | 0.632 | 0.582 | 0.592 | 0.579 | 0.579 | 0.595 | 0.593 | 3.43 |
| 4) | | Iodomethane | 0.529 | 0.489 | 0.505 | 0.495 | 0.495 | 0.498 | 0.502 | 2.85 |
| 5) | | Methyl Acetate | 0.455 | 0.445 | 0.453 | 0.450 | 0.454 | 0.457 | 0.452 | 0.96 |
| 6) | | Carbon Disulfide | 1.102 | 0.987 | 0.991 | 0.973 | 0.979 | 1.006 | 1.006 | 4.80 |
| 7) | | Methylene Chloride | | 0.787 | 0.743 | 0.718 | 0.721 | 0.721 | 0.738 | 3.96 |
| 8) | | Acrylonitrile | 0.199 | 0.214 | 0.217 | 0.214 | 0.216 | 0.216 | 0.213 | 3.19 |
| 9) | | Methyl Tert Butyl E | 0.686 | 0.659 | 0.669 | 0.650 | 0.645 | 0.644 | 0.659 | 2.49 |
| 0) | | trans-1,2-Dichloroe | 0.646 | 0.591 | 0.605 | 0.588 | 0.578 | 0.576 | 0.597 | 4.38 |
| 1) | | Hexane | | 0.665 | 0.653 | 0.615 | 0.620 | 0.639 | 0.638 | 3.29 |
| 2) | | Vinyl acetate | 0.868 | 0.924 | 0.970 | 0.959 | 0.966 | 0.937 | 0.937 | 4.09 |
| 3) | | Di-isopropyl ether | 1.971 | 1.840 | 1.849 | 1.817 | 1.823 | 1.813 | 1.852 | 3.22 |
| 4) | P | 1,1-Dichloroethane | 0.710 | 0.660 | 0.683 | 0.653 | 0.642 | 0.636 | 0.664 | 4.19 |
| 5) | | ETBE | 1.389 | 1.304 | 1.309 | 1.266 | 1.260 | 1.251 | 1.296 | 3.97 |
| 6) | | 2-Butanone | 0.292 | 0.275 | 0.279 | 0.275 | 0.277 | 0.272 | 0.278 | 2.53 |
| 7) | | cis-1,2-Dichloroeth | 0.321 | 0.298 | 0.302 | 0.284 | 0.274 | 0.260 | 0.290 | 7.51 |
| 8) | | 2,2-Dichloropropane | 0.408 | 0.373 | 0.356 | 0.337 | 0.327 | 0.319 | 0.353 | 9.37 |
| 9) | | Bromochloromethane | 0.144 | 0.133 | 0.139 | 0.132 | 0.132 | 0.129 | 0.135 | 4.03 |
| 0) | C | Chloroform | 0.531 | 0.497 | 0.494 | 0.470 | 0.463 | 0.453 | 0.485 | 5.89 |
| 1) | | Tetrahydrofuran | 0.174 | 0.174 | 0.165 | 0.164 | 0.166 | 0.163 | 0.168 | 3.00 |
| 2) | S | Dibromofluoromethan | 0.268 | 0.262 | 0.259 | 0.254 | 0.251 | 0.249 | 0.257 | 2.73 |
| 3) | | 1,1,1-Trichloroetha | 0.446 | 0.420 | 0.415 | 0.404 | 0.394 | 0.395 | 0.412 | 4.71 |
| 4) | | Cyclohexane | 0.925 | 0.789 | 0.767 | 0.739 | 0.749 | 0.780 | 0.791 | 8.59 |
| 5) | | 1,1-Dichloropropene | 0.347 | 0.316 | 0.319 | 0.311 | 0.303 | 0.303 | 0.316 | 5.09 |
| 6) | | Carbon Tetrachlorid | 0.370 | 0.355 | 0.349 | 0.338 | 0.341 | 0.351 | 0.350 | 3.22 |
| 7) | S | 1,2-Dichloroethane- | 0.345 | 0.344 | 0.338 | 0.323 | 0.316 | 0.306 | 0.329 | 4.89 |
| 8) | | 1,2-Dichloroethane | 0.527 | 0.506 | 0.506 | 0.494 | 0.490 | 0.483 | 0.501 | 3.12 |
| 9) | | Benzene | 1.239 | 1.062 | 1.077 | 1.015 | 0.971 | 0.926 | 1.048 | 10.39 |
| 0) | | TAME | 0.859 | 0.833 | 0.823 | 0.788 | 0.751 | 0.719 | 0.796 | 6.69 |
| .) | | Trichloroethene | 0.331 | 0.287 | 0.291 | 0.282 | 0.275 | 0.270 | 0.289 | 7.57 |
| 2) | C | 1,2-Dichloropropane | 0.436 | 0.389 | 0.399 | 0.384 | 0.382 | 0.376 | 0.394 | 5.52 |
| ) | | Methylcyclohexane | 0.522 | 0.454 | 0.453 | 0.429 | 0.426 | 0.441 | 0.454 | 7.70 |
| ) | | Dibromomethane | 0.192 | 0.185 | 0.182 | 0.180 | 0.175 | 0.173 | 0.181 | 3.91 |
| ) | | Bromodichloromethan | 0.372 | 0.363 | 0.374 | 0.364 | 0.366 | 0.361 | 0.367 | 1.38 |
| ) | | 2-Nitropropane | 0.133 | 0.128 | 0.133 | 0.135 | 0.138 | 0.137 | 0.134 | 2.69 |
| ) | | 2-Chloroethyl vinyl | 0.267 | 0.264 | 0.266 | 0.253 | 0.237 | 0.222 | 0.252 | 7.25 |
| ) | | cis-1,3-Dichloropro | 0.460 | 0.441 | 0.448 | 0.432 | 0.431 | 0.421 | 0.439 | 3.19 |
| ) | | 4-Methyl-2-pentanon | 0.574 | 0.581 | 0.595 | 0.591 | 0.590 | 0.573 | 0.584 | 1.60 |
| ) | I | Chlorobenzene-d5 | ---------- | ---------- | ---------- | ISTD | ---------- | ---------- | | |
| ) | S | Toluene-d8 | 1.194 | 1.196 | 1.183 | 1.208 | 1.199 | 1.217 | 1.200 | 0.97 |
| ) | C | Toluene | 1.695 | 1.473 | 1.487 | 1.447 | 1.418 | 1.389 | 1.485 | 7.34 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 53) | | trans-1,3-Dichlorop | 0.542 | 0.515 | 0.515 | 0.507 | 0.505 | 0.495 | 0.513 | 3.11 |
| 54) | | 1,1,2-Trichloroetha | 0.291 | 0.284 | 0.290 | 0.284 | 0.279 | 0.274 | 0.284 | 2.31 |
| 55) | | 2-hexanone | 0.481 | 0.509 | 0.520 | 0.522 | 0.523 | 0.518 | 0.512 | 3.11 |
| 56) | | 1,3-Dichloropropane | 0.579 | 0.550 | 0.560 | 0.548 | 0.539 | 0.527 | 0.551 | 3.27 |
| 57) | | Tetrachloroethene | 0.433 | 0.388 | 0.391 | 0.379 | 0.383 | 0.386 | 0.393 | 5.07 |
| 58) | | Dibromochloromethan | 0.372 | 0.352 | 0.379 | 0.376 | 0.378 | 0.379 | 0.373 | 2.80 |
| 59) | | 1,2-Dibromoethane | 0.358 | 0.361 | 0.370 | 0.366 | 0.363 | 0.356 | 0.362 | 1.41 |
| 60) | | 1-Chlorohexane | 0.517 | 0.456 | 0.460 | 0.451 | 0.443 | 0.450 | 0.463 | 5.85 |
| 61) | P | Chlorobenzene | 1.084 | 1.018 | 1.024 | 1.003 | 0.983 | 0.956 | 1.011 | 4.28 |
| 62) | | 1,1,1,2-Tetrachloro | 0.390 | 0.381 | 0.388 | 0.386 | 0.381 | 0.375 | 0.383 | 1.45 |
| 63) | C | Ethylbenzene | 1.821 | 1.681 | 1.679 | 1.617 | 1.574 | 1.532 | 1.651 | 6.17 |
| 64) | | m,p-Xylene | 1.445 | 1.309 | 1.294 | 1.230 | 1.154 | 1.104 | 1.256 | 9.69 |
| 65) | | o-Xylene | 1.533 | 1.407 | 1.405 | 1.346 | 1.291 | 1.232 | 1.369 | 7.67 |
| 66) | | Styrene | 1.153 | 1.103 | 1.135 | 1.093 | 1.047 | 1.004 | 1.089 | 5.09 |
| 67) | P | Bromoform | 0.242 | 0.243 | 0.272 | 0.280 | 0.287 | 0.289 | 0.269 | 7.93 |
| 68) | I | 1,4-Dichlorobenzene-d | ----------ISTD---------- | | | | | | | |
| 69) | | Isopropylbenzene | 3.105 | 2.973 | 2.995 | 2.893 | 2.856 | 2.792 | 2.936 | 3.81 |
| 70) | | Cyclohexanone | | 0.054 | 0.047 | 0.047 | 0.047 | 0.048 | 0.049 | 6.37 |
| 71) | S | 4-Bromofluorobenzen | 0.910 | 0.921 | 0.921 | 0.924 | 0.921 | 0.930 | 0.921 | 0.72 |
| 72) | P | 1,1,2,2-Tetrachloro | 0.889 | 0.827 | 0.874 | 0.849 | 0.863 | 0.854 | 0.859 | 2.50 |
| 73) | | trans-1,4-Dichloro- | | 0.012 | 0.011 | 0.010 | 0.011 | 0.010 | 0.011 | 7.51 |
| 74) | | 1,2,3-Trichloroprop | 0.223 | 0.248 | 0.249 | 0.247 | 0.236 | 0.225 | 0.238 | 4.95 |
| 75) | | Bromobenzene | 0.957 | 0.848 | 0.880 | 0.842 | 0.811 | 0.775 | 0.852 | 7.35 |
| 76) | | n-Propylbenzene | 4.141 | 3.703 | 3.762 | 3.570 | 3.375 | 3.232 | 3.631 | 8.80 |
| 77) | | 1,3,5-Trimethylbenz | 2.792 | 2.603 | 2.633 | 2.501 | 2.376 | 2.287 | 2.532 | 7.24 |
| 78) | | 2-Chlorotoluene | 2.754 | 2.518 | 2.519 | 2.401 | 2.249 | 2.126 | 2.428 | 9.15 |
| 79) | | 4-Chlorotoluene | 2.580 | 2.308 | 2.394 | 2.336 | 2.253 | 2.178 | 2.342 | 5.90 |
| 80) | | tert-Butylbenzene | 1.643 | 1.457 | 1.532 | 1.449 | 1.429 | 1.403 | 1.486 | 5.95 |
| 81) | | 1,2,4-Trimethylbenz | 3.049 | 2.692 | 2.796 | 2.695 | 2.641 | 2.526 | 2.733 | 6.51 |
| 82) | | sec-Butylbenzene | 3.634 | 3.339 | 3.397 | 3.257 | 3.222 | 3.204 | 3.342 | 4.81 |
| 83) | | 4-Isopropyltoluene | 3.088 | 2.783 | 2.886 | 2.780 | 2.728 | 2.700 | 2.827 | 5.05 |
| 84) | | 1,3-Dichlorobenzene | 1.811 | 1.597 | 1.664 | 1.613 | 1.581 | 1.517 | 1.630 | 6.17 |
| 85) | | 1,4-Dichlorobenzene | 1.886 | 1.615 | 1.659 | 1.625 | 1.602 | 1.541 | 1.655 | 7.24 |
| 86) | | Benzyl chloride | 2.181 | 2.082 | 2.168 | 2.118 | 2.068 | 1.932 | 2.092 | 4.30 |
| 87) | | n-Butylbenzene | 3.113 | 2.770 | 2.827 | 2.685 | 2.623 | 2.570 | 2.765 | 7.05 |
| 88) | | 1,2-Dichlorobenzene | 1.858 | 1.642 | 1.669 | 1.617 | 1.595 | 1.533 | 1.652 | 6.72 |
| 89) | | 1,2-Dibromo-3-Chlor | 0.244 | 0.180 | 0.176 | 0.176 | 0.178 | 0.179 | 0.189 | 14.45 |
| 90) | | 1,2,4-Trichlorobenz | 1.528 | 1.323 | 1.375 | 1.317 | 1.304 | 1.286 | 1.355 | 6.63 |
| 91) | | Hexachlorobutadiene | 0.638 | 0.561 | 0.577 | 0.543 | 0.549 | 0.552 | 0.570 | 6.20 |
| 92) | | Naphthalene | 3.814 | 3.562 | 3.675 | 3.582 | 3.495 | 3.438 | 3.594 | 3.74 |
| 93) | | 1,2,3-Trichlorobenz | 1.488 | 1.252 | 1.309 | 1.248 | 1.238 | 1.218 | 1.292 | 7.79 |
| 94) | I | Tert Butyl alcohol-d1 | ----------ISTD---------- | | | | | | | |
| 95) | | Tert-Butyl alcohol | 1.992 | 1.533 | 1.538 | 1.534 | 1.527 | 1.511 | 1.606 | 11.80 |
| 96) | | Tert Amyl Alcohol | 1.483 | 1.330 | 1.331 | 1.357 | 1.358 | 1.319 | 1.363 | 4.47 |
| 97) | | 1,4-Dioxane | 0.088 | 0.095 | 0.114 | 0.114 | 0.114 | 0.113 | 0.106 | 11.13 |

#) = Out of Range

MSM0806.M Mon Aug 09 11:16:26 2004

# Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081204\B023880.D  Vial: 1
Acq On : 12 Aug 2004 10:19 am  Operator: Karenw
Sample : CC1032-40  Inst : MSVOA4
Misc : ms3525,vb1034,,,,,  Multiplr: 1.00
MS Integration Params: Med.p

Method : C:\MSDCHEM\1\METHODS\82600810.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Aug 10 16:48:55 2004
Response via : Multiple Level Calibration

KW 08/13/04

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Fluorobenzene | 1.000 | 1.000 | 0.0 | 182 | 0.00 | 9.55 |
| 2 | | Dichlorodifluoromethane | 0.371 | 0.341 | 8.1 | 174 | 0.00 | 4.12 |
| 3 | P | Chloromethane | 0.902 | 0.877 | 2.8 | 181 | 0.00 | 4.48 |
| 4 | C | Vinyl Chloride | 0.568 | 0.574 | -1.1 | 187 | 0.00 | 4.67 |
| 5 | | Bromomethane | 0.237 | 0.233 | 1.7 | 181 | 0.00 | 5.22 |
| 6 | | Chloroethane | 0.282 | 0.286 | -1.4 | 190 | 0.00 | 5.37 |
| 7 | | Trichlorofluoromethane | 0.479 | 0.466 | 2.7 | 188 | 0.00 | 5.67 |
| 8 | | Ethyl Ether | 0.382 | 0.405 | -6.0 | 194 | 0.00 | 5.98 |
| 9 | | 1,2-Dichlorotrifluoroetha | 0.487 | 0.471 | 3.3 | 187 | 0.00 | 6.05 |
| 10 | | Acrolein | 0.056 | 0.054 | 3.6 | 187 | 0.00 | 6.25 |
| 11 | | Freon 113 | 0.291 | 0.264 | 9.3 | 179 | 0.00 | 6.30 |
| 12 | C | 1,1-Dichloroethene | 0.722 | 0.639 | 11.5 | 173 | 0.00 | 6.38 |
| 13 | | Acetone | 0.286 | 0.281 | 1.7 | 187 | 0.00 | 6.42 |
| 14 | | Iodomethane | 0.378 | 0.336 | 11.1 | 176 | 0.00 | 6.64 |
| 15 | | Carbon Disulfide | 1.167 | 1.038 | 11.1 | 175 | 0.00 | 6.72 |
| 16 | | Methyl acetate | 0.443 | 0.435 | 1.8 | 189 | 0.00 | 6.75 |
| 17 | | Methylene Chloride | 0.842 | 0.800 | 5.0 | 181 | 0.00 | 7.00 |
| 18 | | Methyl Tert Butyl Ether | 0.686 | 0.659 | 3.9 | 180 | 0.00 | 7.15 |
| 19 | | trans-1,2-Dichloroethene | 0.640 | 0.574 | 10.3 | 173 | 0.00 | 7.23 |
| 20 | | Acrylonitrile | 0.180 | 0.185 | -2.8 | 176 | 0.00 | 7.27 |
| 21 | | Hexane | 0.627 | 0.666 | -6.2 | 196 | 0.00 | 7.42 |
| 22 | | Di-isopropyl ether | 2.105 | 2.010 | 4.5 | 182 | 0.00 | 7.63 |
| 23 | | Vinyl acetate | 0.943 | 0.983 | -4.2 | 188 | 0.00 | 7.68 |
| 24 | P | 1,1-Dichloroethane | 0.759 | 0.725 | 4.5 | 181 | 0.00 | 7.74 |
| 25 | | ETBE | 1.056 | 1.063 | -0.7 | 185 | 0.00 | 8.02 |
| 26 | | 2-Butanone | 0.325 | 0.332 | -2.2 | 186 | 0.00 | 8.33 |
| 27 | | 2,2-Dichloropropane | 0.191 | 0.199 | -4.2 | 186 | 0.00 | 8.35 |
| 28 | | cis-1,2-Dichloroethene | 0.324 | 0.303 | 6.5 | 180 | 0.00 | 8.37 |
| 29 | | Bromochloromethane | 0.126 | 0.113 | 10.3 | 176 | 0.00 | 8.64 |
| 30 | | Tetrahydrofuran | 0.167 | 0.150 | 10.2 | 180 | 0.00 | 8.65 |
| 31 | C | Chloroform | 0.561 | 0.508 | 9.4 | 176 | 0.00 | 8.66 |
| 32 | S | Dibromofluoromethane | 0.239 | 0.230 | 3.8 | 179 | 0.00 | 8.85 |
| 33 | | 1,1,1-Trichloroethane | 0.418 | 0.369 | 11.7 | 170 | 0.00 | 8.88 |
| 34 | | Cyclohexane | 0.827 | 0.779 | 5.8 | 182 | 0.00 | 8.91 |
| 35 | | Carbon Tetrachloride | 0.335 | 0.304 | 9.3 | 171 | 0.00 | 9.03 |
| 36 | | 1,1-Dichloropropene | 0.405 | 0.369 | 8.9 | 174 | 0.00 | 9.04 |
| 37 | S | 1,2-Dichloroethane-d4 | 0.407 | 0.388 | 4.7 | 177 | 0.00 | 9.25 |
| 38 | | TAME | 0.749 | 0.749 | 0.0 | 183 | 0.00 | 9.26 |
| 39 | | Benzene | 1.282 | 1.225 | 4.4 | 179 | 0.00 | 9.27 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081204\B023880.D  Vial: 1
Acq On : 12 Aug 2004 10:19 am  Operator: Karenw
Sample : CC1032-40  Inst : MSVOA4
Misc : ms3525,vb1034,,,,,  Multiplr: 1.00
MS Integration Params: Med.p

Method : C:\MSDCHEM\1\METHODS\82600810.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Aug 10 16:48:55 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T |
|---|---|---|---|---|---|---|---|---|
| 40 | | 1,2-Dichloroethane | 0.586 | 0.533 | 9.0 | 177 | 0.00 | 9.33 |
| 41 | | Trichloroethene | 0.318 | 0.286 | 10.1 | 178 | 0.00 | 9.92 |
| 42 | | Methylcyclohexane | 0.471 | 0.459 | 2.5 | 193 | 0.00 | 10.08 |
| 43 | C | 1,2-Dichloropropane | 0.440 | 0.411 | 6.6 | 179 | 0.00 | 10.20 |
| 44 | | Dibromomethane | 0.192 | 0.181 | 5.7 | 177 | 0.00 | 10.35 |
| 45 | | Bromodichloromethane | 0.409 | 0.392 | 4.2 | 180 | 0.00 | 10.45 |
| 46 | | 2-Chloroethyl vinyl ether | 0.144 | 0.148 | -2.8 | 194 | 0.00 | 10.68 |
| 47 | | 2-Nitropropane | 0.147 | 0.154 | -4.8 | 186 | 0.00 | 10.71 |
| 48 | | cis-1,3-Dichloropropene | 0.461 | 0.477 | -3.5 | 186 | 0.00 | 10.91 |
| 49 | | 4-Methyl-2-pentanone | 0.623 | 0.621 | 0.3 | 183 | 0.00 | 10.98 |
| 50 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 175 | 0.00 | 12.76 |
| 51 | S | Toluene-d8 | 1.274 | 1.258 | 1.3 | 175 | 0.00 | 11.16 |
| 52 | C | Toluene | 1.717 | 1.649 | 4.0 | 177 | 0.00 | 11.24 |
| 53 | | trans-1,3-Dichloropropene | 0.522 | 0.557 | -6.7 | 186 | 0.00 | 11.49 |
| 54 | | 1,1,2-Trichloroethane | 0.320 | 0.316 | 1.3 | 181 | 0.00 | 11.70 |
| 55 | | Tetrachloroethene | 0.373 | 0.342 | 8.3 | 171 | 0.00 | 11.82 |
| 56 | | 2-hexanone | 0.626 | 0.648 | -3.5 | 185 | 0.00 | 11.85 |
| 57 | | 1,3-Dichloropropane | 0.665 | 0.663 | 0.3 | 182 | 0.00 | 11.90 |
| 58 | | Dibromochloromethane | 0.336 | 0.342 | -1.8 | 183 | 0.00 | 12.14 |
| 59 | | 1,2-Dibromoethane | 0.360 | 0.361 | -0.3 | 176 | 0.00 | 12.32 |
| 60 | | 1-Chlorohexane | 0.507 | 0.506 | 0.2 | 178 | 0.00 | 12.63 |
| 61 | P | Chlorobenzene | 1.087 | 1.055 | 2.9 | 177 | 0.00 | 12.79 |
| 62 | C | Ethylbenzene | 1.960 | 1.899 | 3.1 | 178 | 0.00 | 12.82 |
| 63 | | 1,1,1,2-Tetrachloroethane | 0.349 | 0.341 | 2.3 | 177 | 0.00 | 12.85 |
| 64 | | m,p-Xylene | 1.557 | 1.514 | 2.8 | 177 | 0.00 | 12.93 |
| 65 | | o-Xylene | 1.624 | 1.582 | 2.6 | 176 | 0.00 | 13.39 |
| 66 | | Styrene | 1.104 | 1.152 | -4.3 | 179 | 0.00 | 13.41 |
| 67 | P | Bromoform | 0.206 | 0.234 | -13.6 | 194 | 0.00 | 13.71 |
| 68 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 177 | 0.00 | 15.30 |
| 69 | | Isopropylbenzene | 3.465 | 3.191 | 7.9 | 179 | 0.00 | 13.75 |
| 70 | | Cyclohexanone | 0.042 | 0.041 | 2.4 | 187 | 0.00 | 14.00 |
| 71 | S | 4-Bromofluorobenzene | 1.078 | 1.020 | 5.4 | 173 | 0.00 | 14.02 |
| 72 | P | 1,1,2,2-Tetrachloroethane | 1.049 | 1.000 | 4.7 | 187 | 0.00 | 14.13 |
| | | | True | Calc. | % Drift | | | |
| 73 | | trans-1,4-Dichloro-2-Bute | 40.000 | 43.773 | -9.4 | 203 | 0.00 | 14.20 |
| | | | AvgRF | CCRF | % Dev | | | |
| 74 | | n-Propylbenzene | 4.645 | 4.447 | 4.3 | 182 | 0.00 | 14.20 |

(#) = Out of Range

# Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081204\B023880.D  Vial: 1
Acq On : 12 Aug 2004 10:19 am  Operator: Karenw
Sample : CC1032-40  Inst : MSVOA4
Misc : ms3525,vb1034,,,,,  Multiplr: 1.00
MS Integration Params: Med.p

Method : C:\MSDCHEM\1\METHODS\82600810.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Aug 10 16:48:55 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T |
|---|---|---|---|---|---|---|---|---|
| 75 | | Bromobenzene | 0.884 | 0.820 | 7.2 | 175 | 0.00 | 14.22 |
| 76 | | 1,2,3-Trichloropropane | 0.270 | 0.246 | 8.9 | 171 | 0.00 | 14.23 |
| 77 | | 1,3,5-Trimethylbenzene | 3.000 | 2.826 | 5.8 | 182 | 0.00 | 14.37 |
| 78 | | 2-Chlorotoluene | 3.185 | 2.962 | 7.0 | 180 | 0.00 | 14.39 |
| 79 | | 4-Chlorotoluene | 2.821 | 2.605 | 7.7 | 175 | 0.00 | 14.50 |
| 80 | | tert-Butylbenzene | 1.817 | 1.737 | 4.4 | 187 | 0.00 | 14.74 |
| 81 | | 1,2,4-Trimethylbenzene | 3.055 | 2.906 | 4.9 | 184 | 0.00 | 14.81 |
| 82 | | sec-Butylbenzene | 3.483 | 3.604 | -3.5 | 191 | 0.00 | 14.98 |
| 83 | | 4-Isopropyltoluene | 2.646 | 2.727 | -3.1 | 189 | 0.00 | 15.12 |
| 84 | | 1,3-Dichlorobenzene | 1.518 | 1.426 | 6.1 | 179 | 0.00 | 15.23 |
| 85 | | 1,4-Dichlorobenzene | 1.591 | 1.467 | 7.8 | 179 | 0.00 | 15.32 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 86 | | Benzyl Chloride | 40.000 | 39.357 | 1.6 | 183 | 0.00 | 15.45 |
| | | ---------- | AvgRF | CCRF | % Dev | ---------- | | |
| 87 | | n-Butylbenzene | 2.965 | 3.032 | -2.3 | 197 | 0.00 | 15.57 |
| 88 | | 1,2-Dichlorobenzene | 1.473 | 1.404 | 4.7 | 180 | 0.00 | 15.76 |
| 89 | | 1,2-Dibromo-3-Chloropropa | 0.156 | 0.154 | 1.3 | 176 | 0.00 | 16.61 |
| 90 | | 1,2,4-Trichlorobenzene | 0.919 | 0.945 | -2.8 | 186 | 0.00 | 17.51 |
| 91 | | Hexachlorobutadiene | 0.420 | 0.459 | -9.3 | 205# | 0.00 | 17.59 |
| 92 | | Naphthalene | 2.253 | 2.271 | -0.8 | 182 | 0.00 | 17.84 |
| 93 | | 1,2,3-Trichlorobenzene | 0.837 | 0.843 | -0.7 | 180 | 0.00 | 18.13 |
| 94 | I | Tert Butyl alcohol-d10 | 1.000 | 1.000 | 0.0 | 186 | 0.00 | 6.87 |
| 95 | | Tert-Butyl Alcohol | 1.475 | 1.435 | 2.7 | 184 | 0.00 | 6.96 |
| 96 | | Tert amyl alcohol | 0.970 | 0.975 | -0.5 | 184 | 0.00 | 9.13 |
| | | ---------- | True | Calc. | % Drift | ---------- | | |
| 97 | | 1,4-Dioxane | 800.000 | 774.011 | 3.2 | 191 | 0.00 | 10.28 |

(0%) 0 of 93 compounds' %D > 20

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\081104\M0000079.D  Vial: 1
Acq On : 11 Aug 2004 9:27 am  Operator: NareshJ
Sample : cc1-40  Inst : MSVOA7
Misc : ms3515,vm4,,,,,  Multiplr: 1.00
MS Integration Params: Rteint.p

Method : C:\MSDCHEM\1\METHODS\MSM0806.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Aug 06 16:28:48 2004
Response via : Multiple Level Calibration

Min. RRF : 0.001 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Fluorobenzene | 1.000 | 1.000 | 0.0 | 85 | 0.00 | 10.14 |
| 2 | | Dichlorodifluoromethane | 0.149 | 0.139 | 6.7 | 82 | 0.01 | 4.20 |
| 3 | P | Chloromethane | 0.454 | 0.465 | -2.4 | 89 | 0.01 | 4.58 |
| 4 | C | Vinyl Chloride | 0.278 | 0.287 | -3.2 | 91 | 0.00 | 4.81 |
| | | | Amount | Calc. | %Drift | | | |
| 5 | | Bromomethane | 40.000 | 45.147 | -12.9 | 94 | 0.00 | 5.44 |
| | | | AvgRF | CCRF | %Dev | | | |
| 6 | | Chloroethane | 0.129 | 0.142 | -10.1 | 94 | 0.00 | 5.60 |
| 7 | | Trichlorofluoromethane | 0.219 | 0.260 | -18.7 | 97 | 0.00 | 5.96 |
| 8 | | 1,2-Dichlorotrifluoroetha | 0.222 | 0.237 | -6.8 | 94 | 0.00 | 6.40 |
| | | | Amount | Calc. | %Drift | | | |
| 9 | | Ethyl ether | 40.000 | 42.863 | -7.2 | 85 | 0.00 | 6.33 |
| | | | AvgRF | CCRF | %Dev | | | |
| 10 | | Acrolein | 0.068 | 0.046 | 32.4# | 60 | 0.00 | 6.65 |
| 11 | | Freon 113 | 0.256 | 0.285 | -11.3 | 95 | 0.00 | 6.66 |
| | | | Amount | Calc. | %Drift | | | |
| 12 | | Acetone | 200.000 | 274.596 | -37.3# | 118 | 0.00 | 6.84 |
| | | | AvgRF | CCRF | %Dev | | | |
| 13 | C | 1,1-Dichloroethene | 0.593 | 0.630 | -6.2 | 92 | 0.00 | 6.73 |
| 14 | | Iodomethane | 0.502 | 0.527 | -5.0 | 90 | 0.00 | 7.01 |
| 15 | | Methyl Acetate | 0.452 | 0.423 | 6.4 | 80 | 0.00 | 7.21 |
| 16 | | Carbon Disulfide | 1.006 | 1.073 | -6.7 | 94 | 0.00 | 7.09 |
| 17 | | Methylene Chloride | 0.738 | 0.779 | -5.6 | 92 | 0.00 | 7.42 |
| 18 | | Acrylonitrile | 0.213 | 0.198 | 7.0 | 78 | 0.00 | 7.79 |
| 19 | | Methyl Tert Butyl Ether | 0.659 | 0.686 | -4.1 | 90 | 0.00 | 7.65 |
| 20 | | trans-1,2-Dichloroethene | 0.597 | 0.627 | -5.0 | 90 | 0.00 | 7.70 |
| 21 | | Hexane | 0.638 | 0.693 | -8.6 | 95 | 0.00 | 7.89 |
| 22 | | Vinyl acetate | 0.937 | 0.909 | 3.0 | 80 | 0.00 | 8.21 |
| 23 | | Di-isopropyl ether | 1.852 | 1.900 | -2.6 | 89 | 0.00 | 8.15 |
| 24 | P | 1,1-Dichloroethane | 0.664 | 0.692 | -4.2 | 90 | 0.00 | 8.26 |
| 25 | | ETBE | 1.296 | 1.328 | -2.5 | 89 | 0.00 | 8.57 |
| 26 | | 2-Butanone | 0.278 | 0.283 | -1.8 | 87 | 0.00 | 8.91 |
| 27 | | cis-1,2-Dichloroethene | 0.290 | 0.306 | -5.5 | 91 | 0.00 | 8.92 |
| 28 | | 2,2-Dichloropropane | 0.353 | 0.378 | -7.1 | 95 | 0.00 | 8.91 |
| 29 | | Bromochloromethane | 0.135 | 0.140 | -3.7 | 90 | 0.00 | 9.21 |
| 30 | C | Chloroform | 0.485 | 0.505 | -4.1 | 91 | 0.00 | 9.24 |
| 31 | | Tetrahydrofuran | 0.168 | 0.152 | 9.5 | 79 | 0.00 | 9.22 |
| 32 | S | Dibromofluoromethane | 0.257 | 0.266 | -3.5 | 89 | 0.00 | 9.43 |
| 33 | | 1,1,1-Trichloroethane | 0.412 | 0.442 | -7.3 | 93 | 0.00 | 9.45 |
| 34 | | Cyclohexane | 0.791 | 0.819 | -3.5 | 94 | 0.00 | 9.46 |
| 35 | | 1,1-Dichloropropene | 0.316 | 0.338 | -7.0 | 92 | 0.00 | 9.61 |
| 36 | | Carbon Tetrachloride | 0.350 | 0.373 | -6.6 | 94 | 0.00 | 9.60 |
| 37 | S | 1,2-Dichloroethane-d4 | 0.329 | 0.329 | 0.0 | 86 | 0.00 | 9.85 |
| 38 | | 1,2-Dichloroethane | 0.501 | 0.513 | -2.4 | 88 | 0.00 | 9.93 |
| 39 | | Benzene | 1.048 | 1.078 | -2.9 | 90 | 0.00 | 9.86 |
| 40 | | TAME | 0.796 | 0.813 | -2.1 | 87 | 0.00 | 9.86 |
| 41 | | Trichloroethene | 0.289 | 0.290 | -0.3 | 87 | 0.00 | 10.52 |
| 42 | C | 1,2-Dichloropropane | 0.394 | 0.405 | -2.8 | 89 | 0.00 | 10.82 |
| 43 | | Methylcyclohexane | 0.454 | 0.492 | -8.4 | 97 | 0.00 | 10.68 |
| 44 | | Dibromomethane | 0.181 | 0.182 | -0.6 | 86 | 0.00 | 10.97 |
| 45 | | Bromodichloromethane | 0.367 | 0.379 | -3.3 | 88 | 0.00 | 11.08 |
| 46 | | 2-Nitropropane | 0.134 | 0.125 | 6.7 | 79 | 0.00 | 11.38 |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 47 | | 2-Chloroethyl vinyl ether | 0.252 | 0.246 | 2.4 | 82 | 0.00 | 11.32 |
| 48 | | cis-1,3-Dichloropropene | 0.439 | 0.451 | -2.7 | 88 | 0.00 | 11.54 |
| 49 | | 4-Methyl-2-pentanone | 0.584 | 0.550 | 5.8 | 79 | 0.00 | 11.64 |
| 50 | I | Chlorobenzene-d5 | 1.000 | 1.000 | 0.0 | 88 | 0.00 | 13.41 |
| 51 | S | Toluene-d8 | 1.200 | 1.187 | 1.1 | 86 | 0.00 | 11.80 |
| 52 | C | Toluene | 1.485 | 1.477 | 0.5 | 89 | 0.00 | 11.88 |
| 53 | | trans-1,3-Dichloropropene | 0.513 | 0.506 | 1.4 | 87 | 0.00 | 12.13 |
| 54 | | 1,1,2-Trichloroethane | 0.284 | 0.283 | 0.4 | 88 | 0.00 | 12.36 |
| 55 | | 2-hexanone | 0.512 | 0.479 | 6.4 | 80 | 0.00 | 12.52 |
| 56 | | 1,3-Dichloropropane | 0.551 | 0.550 | 0.2 | 88 | 0.00 | 12.56 |
| 57 | | Tetrachloroethene | 0.393 | 0.398 | -1.3 | 92 | 0.00 | 12.45 |
| 58 | | Dibromochloromethane | 0.373 | 0.367 | 1.6 | 86 | 0.00 | 12.79 |
| 59 | | 1,2-Dibromoethane | 0.362 | 0.355 | 1.9 | 85 | 0.00 | 12.98 |
| 60 | | 1-Chlorohexane | 0.463 | 0.471 | -1.7 | 92 | 0.00 | 13.29 |
| 61 | P | Chlorobenzene | 1.011 | 1.010 | 0.1 | 88 | 0.00 | 13.45 |
| 62 | | 1,1,1,2-Tetrachloroethane | 0.383 | 0.388 | -1.3 | 88 | 0.00 | 13.52 |
| 63 | C | Ethylbenzene | 1.651 | 1.671 | -1.2 | 91 | 0.00 | 13.48 |
| 64 | | m,p-Xylene | 1.256 | 1.271 | -1.2 | 91 | 0.00 | 13.60 |
| 65 | | o-Xylene | 1.369 | 1.376 | -0.5 | 90 | 0.00 | 14.05 |
| 66 | | Styrene | 1.089 | 1.089 | 0.0 | 87 | 0.00 | 14.08 |
| 67 | P | Bromoform | 0.269 | 0.264 | 1.9 | 83 | 0.00 | 14.38 |
| 68 | I | 1,4-Dichlorobenzene-d4 | 1.000 | 1.000 | 0.0 | 89 | 0.00 | 15.98 |
| 69 | | Isopropylbenzene | 2.936 | 2.989 | -1.8 | 92 | 0.00 | 14.42 |
| 70 | | Cyclohexanone | 0.049 | 0.043 | 12.2 | 82 | 0.00 | 14.69 |
| 71 | S | 4-Bromofluorobenzene | 0.921 | 0.908 | 1.4 | 88 | 0.00 | 14.69 |
| 72 | P | 1,1,2,2-Tetrachloroethane | 0.859 | 0.838 | 2.4 | 88 | 0.00 | 14.81 |
| 73 | | trans-1,4-Dichloro-2-bute | 0.011 | 0.010 | 9.1 | 86 | 0.00 | 14.56 |
| 74 | | 1,2,3-Trichloropropane | 0.238 | 0.227 | 4.6 | 82 | 0.00 | 14.91 |
| 75 | | Bromobenzene | 0.852 | 0.838 | 1.6 | 89 | 0.00 | 14.89 |
| 76 | | n-Propylbenzene | 3.631 | 3.679 | -1.3 | 92 | 0.00 | 14.87 |
| 77 | | 1,3,5-Trimethylbenzene | 2.532 | 2.578 | -1.8 | 92 | 0.00 | 15.05 |
| 78 | | 2-Chlorotoluene | 2.428 | 2.436 | -0.3 | 91 | 0.00 | 15.06 |
| 79 | | 4-Chlorotoluene | 2.342 | 2.342 | 0.0 | 90 | 0.00 | 15.18 |
| 80 | | tert-Butylbenzene | 1.486 | 1.511 | -1.7 | 93 | 0.00 | 15.42 |
| 81 | | 1,2,4-Trimethylbenzene | 2.733 | 2.747 | -0.5 | 91 | 0.00 | 15.48 |
| 82 | | sec-Butylbenzene | 3.342 | 3.428 | -2.6 | 94 | 0.00 | 15.67 |
| 83 | | 4-Isopropyltoluene | 2.827 | 2.886 | -2.1 | 93 | 0.00 | 15.79 |
| 84 | | 1,3-Dichlorobenzene | 1.630 | 1.615 | 0.9 | 89 | 0.00 | 15.90 |
| 85 | | 1,4-Dichlorobenzene | 1.655 | 1.635 | 1.2 | 90 | 0.00 | 16.00 |
| 86 | | Benzyl chloride | 2.092 | 1.988 | 5.0 | 84 | 0.00 | 16.14 |
| 87 | | n-Butylbenzene | 2.765 | 2.866 | -3.7 | 95 | 0.00 | 16.26 |
| 88 | | 1,2-Dichlorobenzene | 1.652 | 1.612 | 2.4 | 89 | 0.00 | 16.44 |
| 89 | | 1,2-Dibromo-3-Chloropropa | 0.189 | 0.154 | 18.5 | 78 | 0.00 | 17.31 |
| 90 | | 1,2,4-Trichlorobenzene | 1.355 | 1.342 | 1.0 | 91 | 0.00 | 18.21 |
| 91 | | Hexachlorobutadiene | 0.570 | 0.578 | -1.4 | 95 | 0.00 | 18.29 |
| 92 | | Naphthalene | 3.594 | 3.359 | 6.5 | 84 | 0.00 | 18.56 |
| 93 | | 1,2,3-Trichlorobenzene | 1.292 | 1.248 | 3.4 | 89 | 0.00 | 18.85 |
| 94 | I | Tert Butyl alcohol-d10 | 1.000 | 1.000 | 0.0 | 86 | 0.00 | 7.36 |
| 95 | | Tert-Butyl alcohol | 1.606 | 1.500 | 6.6 | 84 | 0.00 | 7.46 |
| 96 | | Tert Amyl Alcohol | 1.363 | 1.215 | 10.9 | 77 | 0.00 | 9.74 |
| 97 | | 1,4-Dioxane | 0.106 | 0.121 | -14.2 | 92 | 0.00 | 10.91 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

M0000005.D MSM0806.M Thu Aug 12 08:17:33 2004

# Volatile Internal Standard Area Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | VB1034-CC1032 | **Injection Date:** | 08/12/04 |
| **Lab File ID:** | B023880.D | **Injection Time:** | 10:19 |
| **Instrument ID:** | GCMSB | **Method:** | SW846 8260B |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT |
|---|---|---|---|---|---|---|---|---|
| Check Std | 2114370 | 9.55 | 1615246 | 12.76 | 867397 | 15.30 | 271766 | 6.87 |
| Upper Limit [a] | 4228740 | 10.05 | 3230492 | 13.26 | 1734794 | 15.80 | 543532 | 7.37 |
| Lower Limit [b] | 1057185 | 9.05 | 807623 | 12.26 | 433699 | 14.80 | 135883 | 6.37 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT |
|---|---|---|---|---|---|---|---|---|
| VB1034-BS | 1914760 | 9.55 | 1486299 | 12.76 | 786954 | 15.30 | 251674 | 6.87 |
| VB1034-MB | 1754521 | 9.55 | 1305868 | 12.76 | 567704 | 15.30 | 226385 | 6.87 |
| F25844-1 | 1672322 | 9.54 | 1218393 | 12.76 | 529055 | 15.30 | 203077 | 6.87 |
| ZZZZZZ | 1475116 | 9.55 | 1073867 | 12.76 | 471442 | 15.30 | 173958 | 6.87 |
| ZZZZZZ | 1353108 | 9.55 | 1017343 | 12.76 | 446584 | 15.30 | 160507 | 6.87 |
| ZZZZZZ | 1390358 | 9.55 | 1027677 | 12.76 | 491246 | 15.30 | 178778 | 6.87 |
| ZZZZZZ | 1889057 | 9.55 | 1433500 | 12.76 | 684816 | 15.30 | 237314 | 6.87 |
| ZZZZZZ | 1835024 | 9.55 | 1405736 | 12.76 | 659182 | 15.30 | 220874 | 6.86 |
| F25819-1 | 1940002 | 9.55 | 1433187 | 12.76 | 632903 | 15.30 | 199715 | 6.87 |
| F25844-1MS | 1839189 | 9.55 | 1544698 | 12.76 | 868237 | 15.30 | 226825 | 6.87 |
| F25844-1MSD | 2034402 | 9.55 | 1629596 | 12.76 | 905262 | 15.30 | 239320 | 6.87 |
| ZZZZZZ | 2030717 | 9.55 | 1484450 | 12.76 | 653899 | 15.30 | 238080 | 6.87 |
| ZZZZZZ | 1837596 | 9.55 | 1373976 | 12.76 | 594945 | 15.30 | 214376 | 6.87 |
| ZZZZZZ | 1823076 | 9.55 | 1396638 | 12.76 | 623745 | 15.30 | 209747 | 6.87 |
| ZZZZZZ | 1900513 | 9.55 | 1574109 | 12.76 | 900802 | 15.30 | 198064 | 6.87 |
| ZZZZZZ | 2073164 | 9.55 | 1555679 | 12.76 | 677374 | 15.30 | 239624 | 6.88 |
| ZZZZZZ | 2276510 | 9.55 | 1642427 | 12.76 | 702251 | 15.30 | 275910 | 6.87 |
| ZZZZZZ | 2465125 | 9.55 | 1785802 | 12.76 | 777535 | 15.30 | 298116 | 6.87 |

**IS 1** = Fluorobenzene
**IS 2** = Chlorobenzene-D5
**IS 3** = 1,4-Dichlorobenzene-d4
**IS 4** = Tert Butyl Alcohol-D10

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Volatile Internal Standard Area Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | VM4-CC1 | **Injection Date:** | 08/11/04 |
| **Lab File ID:** | M0000079.D | **Injection Time:** | 09:27 |
| **Instrument ID:** | GCMSM | **Method:** | SW846 8260B |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT |
|---|---|---|---|---|---|---|---|---|
| Check Std | 1323409 | 10.14 | 1071469 | 13.41 | 596307 | 15.98 | 204122 | 7.36 |
| Upper Limit [a] | 2646818 | 10.64 | 2142938 | 13.91 | 1192614 | 16.48 | 408244 | 7.86 |
| Lower Limit [b] | 661705 | 9.64 | 535735 | 12.91 | 298154 | 15.48 | 102061 | 6.86 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT |
|---|---|---|---|---|---|---|---|---|
| VM4-BS | 1348112 | 10.14 | 1085428 | 13.41 | 601207 | 15.97 | 223786 | 7.36 |
| VM4-MB | 1339187 | 10.14 | 1065905 | 13.41 | 591032 | 15.97 | 221652 | 7.36 |
| ZZZZZZ | 1336614 | 10.14 | 1064669 | 13.41 | 578179 | 15.97 | 215883 | 7.36 |
| ZZZZZZ | 1322672 | 10.14 | 1044477 | 13.41 | 569201 | 15.97 | 219446 | 7.36 |
| ZZZZZZ | 1331743 | 10.14 | 1049791 | 13.41 | 575566 | 15.97 | 223108 | 7.36 |
| ZZZZZZ | 1345703 | 10.14 | 1058672 | 13.41 | 577167 | 15.97 | 230371 | 7.36 |
| ZZZZZZ | 1334233 | 10.14 | 1052679 | 13.41 | 575678 | 15.97 | 230567 | 7.36 |
| F25811-1 | 1330315 | 10.14 | 1047660 | 13.41 | 573449 | 15.97 | 221792 | 7.36 |
| ZZZZZZ | 1295907 | 10.15 | 1027003 | 13.41 | 561258 | 15.97 | 220169 | 7.36 |
| ZZZZZZ | 1299823 | 10.14 | 1031191 | 13.41 | 562802 | 15.97 | 210699 | 7.36 |
| ZZZZZZ | 1292937 | 10.14 | 1019669 | 13.41 | 559640 | 15.97 | 222008 | 7.36 |
| F25819-2 | 1271373 | 10.14 | 1010729 | 13.41 | 550198 | 15.97 | 240572 | 7.36 |
| F25819-3 | 1244590 | 10.14 | 1001441 | 13.41 | 542589 | 15.97 | 241959 | 7.36 |
| F25819-4 | 1259303 | 10.14 | 1004576 | 13.41 | 542836 | 15.97 | 247332 | 7.37 |
| F25819-5 | 1226247 | 10.14 | 977766 | 13.41 | 531970 | 15.97 | 242572 | 7.36 |
| F25819-6 | 1215970 | 10.14 | 986091 | 13.41 | 541201 | 15.97 | 236218 | 7.36 |
| F25819-8 | 1212962 | 10.14 | 982055 | 13.41 | 541892 | 15.97 | 228101 | 7.36 |
| F25811-1MS | 1229345 | 10.14 | 1008889 | 13.41 | 564862 | 15.97 | 220082 | 7.36 |
| F25811-1MSD | 1261003 | 10.14 | 1029825 | 13.41 | 566789 | 15.97 | 233028 | 7.36 |
| ZZZZZZ | 1295895 | 10.14 | 1041628 | 13.41 | 564873 | 15.97 | 225179 | 7.36 |
| ZZZZZZ | 1264848 | 10.14 | 1020298 | 13.41 | 555875 | 15.97 | 219814 | 7.36 |
| ZZZZZZ | 1225108 | 10.14 | 999753 | 13.41 | 543639 | 15.97 | 217099 | 7.36 |

**IS 1** = Fluorobenzene
**IS 2** = Chlorobenzene-D5
**IS 3** = 1,4-Dichlorobenzene-d4
**IS 4** = Tert Butyl Alcohol-D10

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Volatile Surrogate Recovery Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Method:** EPA 504.1 **Matrix:** AQ

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 [a] |
|---|---|---|
| F25819-1 | MN22366.D | 94.0 |
| F25819-2 | MN22369.D | 105.0 |
| F25819-7 | MN22371.D | 104.0 [b] |
| F25819-8 | MN22372.D | 89.0 [b] |
| OP11047-BS | MN22350.D | 92.0 |
| OP11047-BS2 | MN22351.D | 82.0 |
| OP11047-MB | MN22349.D | 99.0 |
| OP11047-MS | MN22367.D | 92.0 |
| OP11047-MSD | MN22368.D | 101.0 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| S1 = 4-Bromofluorobenzene | 60-139% |

(a) Recovery from GC signal #2
(b) Surrogate recoveries corrected for double spike.

# GC Surrogate Retention Time Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | GMN801-ICC801 | **Injection Date:** | 08/05/04 |
| **Lab File ID:** | MN22343.D | **Injection Time:** | 11:41 |
| **Instrument ID:** | GCMN | **Method:** | EPA 504.1 |

| | S1 [a] RT |
|---|---|
| Check Std | 6.86 |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | S1 [a] RT |
|---|---|---|---|---|
| OP11047-MB | MN22349.D | 08/05/04 | 14:09 | 6.86 |
| OP11047-BS | MN22350.D | 08/05/04 | 14:34 | 6.86 |
| OP11047-BS2 | MN22351.D | 08/05/04 | 14:58 | 6.86 |
| ZZZZZZ | MN22352.D | 08/05/04 | 15:23 | 6.86 |
| ZZZZZZ | MN22353.D | 08/05/04 | 15:48 | 6.86 |
| ZZZZZZ | MN22354.D | 08/05/04 | 16:13 | 6.86 |
| ZZZZZZ | MN22355.D | 08/05/04 | 16:37 | 6.86 |
| ZZZZZZ | MN22356.D | 08/05/04 | 17:02 | 6.86 |
| ZZZZZZ | MN22357.D | 08/05/04 | 17:27 | 6.85 |
| ZZZZZZ | MN22358.D | 08/05/04 | 17:52 | 6.86 |

**Surrogate Compounds**

**S1** = 4-Bromofluorobenzene

(a) Retention time from GC signal #2

# GC Surrogate Retention Time Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | GMN801-CC801 | **Injection Date:** | 08/05/04 |
| **Lab File ID:** | MN22359.D | **Injection Time:** | 18:16 |
| **Instrument ID:** | GCMN | **Method:** | EPA 504.1 |

| | S1 [a] RT |
|---|---|
| Check Std | 6.86 |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | S1 [a] RT |
|---|---|---|---|---|
| ZZZZZZ | MN22360.D | 08/05/04 | 18:41 | 6.86 |
| ZZZZZZ | MN22361.D | 08/05/04 | 19:06 | 6.86 |
| ZZZZZZ | MN22362.D | 08/05/04 | 19:31 | 6.86 |
| ZZZZZZ | MN22363.D | 08/05/04 | 19:55 | 6.86 |
| ZZZZZZ | MN22364.D | 08/05/04 | 20:20 | 6.86 |
| ZZZZZZ | MN22365.D | 08/05/04 | 20:45 | 6.86 |
| F25819-1 | MN22366.D | 08/05/04 | 21:10 | 6.86 |
| OP11047-MS | MN22367.D | 08/05/04 | 21:35 | 6.86 |
| OP11047-MSD | MN22368.D | 08/05/04 | 21:59 | 6.86 |
| F25819-2 | MN22369.D | 08/05/04 | 22:24 | 6.85 |

**Surrogate Compounds**

**S1** = 4-Bromofluorobenzene

(a) Retention time from GC signal #2

# GC Surrogate Retention Time Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | GMN801-CC801 | **Injection Date:** | 08/05/04 |
| **Lab File ID:** | MN22370.D | **Injection Time:** | 22:49 |
| **Instrument ID:** | GCMN | **Method:** | EPA 504.1 |

| | S1 [a] RT |
|---|---|
| Check Std | 6.86 |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | S1 [a] RT |
|---|---|---|---|---|
| F25819-7 | MN22371.D | 08/05/04 | 23:14 | 6.85 |
| F25819-8 | MN22372.D | 08/05/04 | 23:39 | 6.86 |

**Surrogate Compounds**

**S1** = 4-Bromofluorobenzene

(a) Retention time from GC signal #2

# Method Blank Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP11047-MB | MN22349.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |

**The QC reported here applies to the following samples:** **Method:** EPA 504.1

F25819-1, F25819-2, F25819-7, F25819-8

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | ND | 0.020 | 0.010 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 99% | 60-139% |

Response Factor Report ECD 2

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Initial Calibration

Calibration Files
.125=MN22342.D 0.25=MN22343.D 0.50=MN22344.D 0.75=MN22345.D
1.0 =MN22346.D icv =MN22259.D

| | Compound | .125 | 0.25 | 0.50 | 0.75 | 1.0 | icv | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|
| 1) | 1,2-Dibromoethane | 6.250 | 5.721 | 5.413 | 5.289 | 5.283 | | 5.591 E4 | 7.31 |
| 2) S | 4-Bromofluorobenzen | 5.135 | 4.803 | 4.930 | 4.886 | 4.602 | | 4.871 E3 | 3.98 |
| 3) | 1,2,3-Trichloroprop | | | | | | | 0.000 | -1.00 |
| 4) | 1,2-Dibromo-3-chlor | 1.696 | 1.574 | 1.525 | 1.509 | 1.513 | | 1.563 E5 | 5.04 |

Signal #2

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1) | 1,2-Dibromoethane | 3.814 | 3.678 | 3.548 | 3.411 | 3.458 | | 3.582 E4 | 4.60 |
| 2) S | 4-Bromofluorobenzen | 3.487 | 3.112 | 2.971 | 3.156 | 3.045 | | 3.154 E3 | 6.30 |
| 3) | 1,2,3-Trichloroprop | | | | | | | 0.000 | -1.00 |
| 4) | 1,2-Dibromo-3-chlor | 9.260 | 8.749 | 8.647 | 8.703 | 8.940 | | 8.860 E4 | 2.81 |

(#) = Out of Range

504_1.M Fri Aug 06 12:33:36 2004 RPT1

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\0805EDB\MN22359.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\0805EDB\MN22359.D\ECD2A.CH
Acq On : 5 Aug 2004 6:16 pm Operator: aubreya
Sample : cc801-0.25 Inst : ECD 2
Misc : op11047,gmn801,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.249 | 0.4 | 97 | 0.00 | 4.58- 4.78 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 1.928 | 3.6 | 98 | 0.00 | 6.45- 6.65 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.262 | -4.8 | 104 | 0.00 | 9.03- 9.23 |

***** Signal #2 *****

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.237 | 5.2 | 92 | 0.00 | 4.95- 5.15 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 2.066 | -3.3 | 105 | 0.00 | 6.76- 6.96 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.255 | -2.0 | 103 | 0.00 | 9.39- 9.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
MN22343.D 504_1.M Fri Aug 06 12:34:00 2004 RPT1

# Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\0805EDB\MN22370.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\0805EDB\MN22370.D\ECD2A.CH
Acq On : 5 Aug 2004 10:49 pm Operator: aubreya
Sample : cc801-0.50 Inst : ECD 2
Misc : op11047,gmn801,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.500 | 0.442 | 11.6 | 91 | -0.01 | 4.58- 4.78 |
| 2 S | 4-Bromofluorobenzene | 4.000 | 3.550 | 11.3 | 88 | 0.00 | 6.45- 6.65 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.500 | 0.505 | -1.0 | 104 | 0.00 | 9.03- 9.23 |

***** Signal #2 *****

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.500 | 0.435 | 13.0 | 88 | -0.01 | 4.95- 5.15 |
| 2 S | 4-Bromofluorobenzene | 4.000 | 3.800 | 5.0 | 101 | 0.00 | 6.76- 6.96 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.500 | 0.514 | -2.8 | 105 | 0.00 | 9.39- 9.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
MN22344.D 504_1.M Sat Aug 07 09:17:18 2004 RPT1

0507

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\0805EDB\MN22373.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\0805EDB\MN22373.D\ECD2A.CH
Acq On : 6 Aug 2004 12:03 am Operator: aubreya
Sample : cc801-0.25 Inst : ECD 2
Misc : op11047,gmn801,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.239 | 4.4 | 94 | -0.02 | 4.58- 4.78 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 1.915 | 4.2 | 97 | 0.00 | 6.45- 6.65 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.266 | -6.4 | 106 | 0.00 | 9.03- 9.23 |

***** Signal #2 *****

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.237 | 5.2 | 92 | -0.01 | 4.95- 5.15 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 2.062 | -3.1 | 105 | 0.00 | 6.76- 6.96 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.262 | -4.8 | 106 | 0.00 | 9.39- 9.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
MN22343.D 504_1.M Sat Aug 07 09:16:09 2004 RPT1

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\0805EDB\MN22384.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\0805EDB\MN22384.D\ECD2A.CH
Acq On : 6 Aug 2004 4:36 am Operator: aubreya
Sample : cc801-0.50 Inst : ECD 2
Misc : op11046,gmn801,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.500 | 0.454 | 9.2 | 94 | -0.01 | 4.58- 4.78 |
| 2 S | 4-Bromofluorobenzene | 4.000 | 3.589 | 10.3 | 89 | 0.00 | 6.45- 6.65 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.500 | 0.514 | -2.8 | 105 | 0.00 | 9.03- 9.23 |

***** Signal #2 *****

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.500 | 0.450 | 10.0 | 91 | -0.01 | 4.95- 5.15 |
| 2 S | 4-Bromofluorobenzene | 4.000 | 3.902 | 2.4 | 104 | 0.00 | 6.76- 6.96 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.500 | 0.529 | -5.8 | 108 | 0.00 | 9.39- 9.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
MN22344.D 504_1.M Sat Aug 07 09:17:19 2004 RPT1

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\0805EDB\MN22395.D\ECD1B.CH Vial: 4
Signal #2 : C:\HPCHEM\2\DATA\0805EDB\MN22395.D\ECD2A.CH
Acq On : 6 Aug 2004 9:09 am Operator: aubreya
Sample : cc801-0.50 Inst : ECD 2
Misc : op11046,gmn801,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.500 | 0.451 | 9.8 | 93 | 0.00 | 4.58- 4.78 |
| 2 S | 4-Bromofluorobenzene | 4.000 | 3.601 | 10.0 | 89 | 0.00 | 6.45- 6.65 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.500 | 0.523 | -4.6 | 107 | 0.00 | 9.03- 9.23 |

***** Signal #2 *****

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.500 | 0.454 | 9.2 | 92 | 0.00 | 4.95- 5.15 |
| 2 S | 4-Bromofluorobenzene | 4.000 | 3.936 | 1.6 | 104 | 0.00 | 6.76- 6.96 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.500 | 0.532 | -6.4 | 109 | 0.00 | 9.39- 9.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
MN22344.D 504_1.M Fri Aug 06 16:09:13 2004 RPT1

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0805EDB\MN22398.D\ECD1B.CH Vial: 3
Acq On : 6 Aug 2004 10:22 am Operator: aubreya
Sample : cc801-0.25 Inst : ECD 2
Misc : op11046,gmn801,35.0,,,2,1,water Multiplr: 1.00
IntFile : events.e

Data File : C:\HPCHEM\2\DATA\0805EDB\MN22398.D\ECD2A.CH Vial: 3
Acq On : 6 Aug 2004 10:22 am Operator: aubreya
Sample : ecc801-0.25 Inst : ECD 2
Misc : op11046,gmn801,35.0,,,2,1,water Multiplr: 1.00
IntFile : events2.e

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.232 | 7.2 | 91 | 0.00 | 4.58- 4.78 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 1.905 | 4.7 | 97 | 0.00 | 6.45- 6.65 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.272 | -8.8 | 108 | 0.00 | 9.03- 9.23 |

***** Signal #2 *****

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.224 | 10.4 | 87 | 0.00 | 4.95- 5.15 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 2.115 | -5.8 | 107 | 0.00 | 6.76- 6.96 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.271 | -8.4 | 110 | 0.00 | 9.39- 9.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
MN22343.D 504_1.M Sat Aug 07 09:16:10 2004 RPT1

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\0805EDB\MN22408.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\0805EDB\MN22408.D\ECD2A.CH
Acq On : 6 Aug 2004 3:49 pm Operator: aubreya
Sample : cc801-0.25 Inst : ECD 2
Misc : op11046,gmn801,35.0,,,2,2,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.246 | 1.6 | 96 | 0.00 | 4.58- 4.78 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 2.094 | -4.7 | 106 | 0.00 | 6.45- 6.65 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.285 | -14.0 | 113 | 0.00 | 9.03- 9.23 |

***** Signal #2 *****

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.220 | 12.0 | 86 | 0.00 | 4.95- 5.15 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 2.164 | -8.2 | 110 | 0.00 | 6.76- 6.96 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.278 | -11.2 | 112 | 0.00 | 9.39- 9.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
MN22343.D 504_1.M Sat Aug 07 09:16:11 2004 RPT1

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\2\DATA\0805EDB\MN22412.D\ECD1B.CH Vial: 3
Signal #2 : C:\HPCHEM\2\DATA\0805EDB\MN22412.D\ECD2A.CH
Acq On : 6 Aug 2004 5:34 pm Operator: aubreya
Sample : ecc801-0.25 Inst : ECD 2
Misc : op11046,gmn801,35.0,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Aug 05 15:32:37 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.231 | 7.6 | 90 | 0.00 | 4.58- 4.78 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 2.076 | -3.8 | 105 | 0.00 | 6.45- 6.65 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.281 | -12.4 | 112 | 0.00 | 9.03- 9.23 |

***** Signal #2 *****

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 1,2-Dibromoethane | 0.250 | 0.214 | 14.4 | 83 | 0.00 | 4.95- 5.15 |
| 2 S | 4-Bromofluorobenzene | 2.000 | 2.198 | -9.9 | 111 | 0.00 | 6.76- 6.96 |
| 3 | 1,2,3-Trichloropropane | | ----------NA---------- | | | | |
| 4 | 1,2-Dibromo-3-chloropr | 0.250 | 0.282 | -12.8 | 114 | 0.00 | 9.39- 9.59 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
MN22343.D 504_1.M Sat Aug 07 12:49:37 2004 RPT1

# Semivolatile Surrogate Recovery Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Method:** SW846 8270C BY SIM **Matrix:** AQ

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 | S2 | S3 |
|---|---|---|---|---|
| F25819-1 | W021474.D | 79.0 | 79.0 | 74.0 |
| F25819-2 | W021475.D | 83.0 | 77.0 | 83.0 |
| F25819-8 | W021476.D | 85.0 | 78.0 | 91.0 |
| OP11065-BS | W021467.D | 94.0 | 84.0 | 96.0 |
| OP11065-MB | W021468.D | 71.0 | 65.0 | 84.0 |
| OP11065-MS | W021470.D | 93.0 | 86.0 | 91.0 |
| OP11065-MSD | W021471.D | 92.0 | 84.0 | 90.0 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| S1 = Nitrobenzene-d5 | 49-119% |
| S2 = 2-Fluorobiphenyl | 45-118% |
| S3 = Terphenyl-d14 | 46-135% |

# Method Blank Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP11065-MB | W021468.D | 1 | 08/12/04 | ME | 08/06/04 | OP11065 | SW1127 |

**The QC reported here applies to the following samples:** **Method:** SW846 8270C BY SIM

F25819-1, F25819-2, F25819-8

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 1.0 | 0.50 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 1.0 | 0.50 | ug/l | |
| 120-12-7 | Anthracene | ND | 1.0 | 0.25 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.20 | 0.10 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.20 | 0.10 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.20 | 0.10 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.20 | 0.10 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.20 | 0.10 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.20 | 0.10 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.20 | 0.10 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 1.0 | 0.25 | ug/l | |
| 86-73-7 | Fluorene | ND | 1.0 | 0.25 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.20 | 0.10 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | ND | 1.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.25 | ug/l | |
| 91-20-3 | Naphthalene | ND | 1.0 | 0.25 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 1.0 | 0.25 | ug/l | |
| 129-00-0 | Pyrene | ND | 1.0 | 0.25 | ug/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 71% | 49-119% |
| 321-60-8 | 2-Fluorobiphenyl | 65% | 45-118% |
| 1718-51-0 | Terphenyl-d14 | 84% | 46-135% |

# Instrument Performance Check (DFTPP)



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** SW1116-DFTPP
**Lab File ID:** W021248.D
**Instrument ID:** GCMSW
**Injection Date:** 07/31/04
**Injection Time:** 11:24

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 51 | 30.0 - 80.0% of mass 198 | 35994 | 41.0 | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.0 (0.0) [a] | Pass |
| 69 | Mass 69 relative abundance | 34067 | 38.9 | Pass |
| 70 | Less than 2.0% of mass 69 | 179 | 0.2 (0.53) [a] | Pass |
| 127 | 25.0 - 75.0% of mass 198 | 43504 | 49.6 | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.0 | Pass |
| 198 | Base peak, 100% relative abundance | 87685 | 100.0 | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 6164 | 7.0 | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 16508 | 18.8 | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 1406 | 1.6 | Pass |
| 441 | Present, but less than mass 443 | 6883 | 7.8 (78.6) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 42443 | 48.4 | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 8756 | 10.0 (20.6) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| SW1116-IC1116 | W021250.D | 07/31/04 | 12:14 | 00:50 | Initial cal 1 |
| SW1116-IC1116 | W021251.D | 07/31/04 | 12:45 | 01:21 | Initial cal 2 |
| SW1116-IC1116 | W021252.D | 07/31/04 | 13:17 | 01:53 | Initial cal 3 |
| SW1116-ICC1116 | W021253.D | 07/31/04 | 13:49 | 02:25 | Initial cal 4 |
| SW1116-IC1116 | W021254.D | 07/31/04 | 14:20 | 02:56 | Initial cal 5 |
| SW1116-IC1116 | W021255.D | 07/31/04 | 14:52 | 03:28 | Initial cal 6 |
| SW1116-IC1116 | W021256.D | 07/31/04 | 15:23 | 03:59 | Initial cal 7 |
| SW1116-ICV1116 | W021257.D | 07/31/04 | 15:54 | 04:30 | Initial cal verification 5 |
| OP10945-BS | W021258.D | 07/31/04 | 16:26 | 05:02 | Blank Spike |
| OP10945-MB | W021259.D | 07/31/04 | 16:57 | 05:33 | Method Blank |
| F25412-1 | W021263.D | 07/31/04 | 19:00 | 07:36 | (used for QC only; not part of job F25819) |
| OP10945-MS | W021264.D | 07/31/04 | 19:31 | 08:07 | Matrix Spike |
| OP10945-MSD | W021265.D | 07/31/04 | 20:02 | 08:38 | Matrix Spike Duplicate |
| ZZZZZZ | W021266.D | 07/31/04 | 20:32 | 09:08 | (unrelated sample) |
| ZZZZZZ | W021267.D | 07/31/04 | 21:03 | 09:39 | (unrelated sample) |
| ZZZZZZ | W021268.D | 07/31/04 | 21:34 | 10:10 | (unrelated sample) |
| ZZZZZZ | W021269.D | 07/31/04 | 22:05 | 10:41 | (unrelated sample) |
| ZZZZZZ | W021270.D | 07/31/04 | 22:35 | 11:11 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** SW1127-DFTPP
**Lab File ID:** W021463.D
**Instrument ID:** GCMSW
**Injection Date:** 08/12/04
**Injection Time:** 09:35

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 51 | 30.0 - 80.0% of mass 198 | 46529 | 43.5 | Pass |
| 68 | Less than 2.0% of mass 69 | 309 | 0.29 (0.76) [a] | Pass |
| 69 | Mass 69 relative abundance | 40533 | 37.9 | Pass |
| 70 | Less than 2.0% of mass 69 | 223 | 0.21 (0.55) [a] | Pass |
| 127 | 25.0 - 75.0% of mass 198 | 53659 | 50.1 | Pass |
| 197 | Less than 1.0% of mass 198 | 162 | 0.15 | Pass |
| 198 | Base peak, 100% relative abundance | 107061 | 100.0 | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 7158 | 6.7 | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 20775 | 19.4 | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 1935 | 1.8 | Pass |
| 441 | Present, but less than mass 443 | 8926 | 8.3 (77.4) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 57120 | 53.4 | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 11535 | 10.8 (20.2) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| SW1127-CC1116 | W021465.D | 08/12/04 | 10:25 | 00:50 | Continuing cal 4 |
| OP11065-BS | W021467.D | 08/12/04 | 11:27 | 01:52 | Blank Spike |
| OP11065-MB | W021468.D | 08/12/04 | 11:58 | 02:23 | Method Blank |
| F25789-10 | W021469.D | 08/12/04 | 12:30 | 02:55 | (used for QC only; not part of job F25819) |
| OP11065-MS | W021470.D | 08/12/04 | 13:01 | 03:26 | Matrix Spike |
| OP11065-MSD | W021471.D | 08/12/04 | 13:33 | 03:58 | Matrix Spike Duplicate |
| ZZZZZZ | W021472.D | 08/12/04 | 14:04 | 04:29 | (unrelated sample) |
| ZZZZZZ | W021473.D | 08/12/04 | 14:35 | 05:00 | (unrelated sample) |
| F25819-1 | W021474.D | 08/12/04 | 15:07 | 05:32 | OLFS-2406-MW41 |
| F25819-2 | W021475.D | 08/12/04 | 15:38 | 06:03 | OLFS-2406-MW38 |
| F25819-8 | W021476.D | 08/12/04 | 16:09 | 06:34 | OLFS-2406-RB01 |

Response Factor Report MSBNA01

Method : C:\HPCHEM\1\METHODS\SIM_PAH.M (RTE Integrator)
Title : PAH's by 8270 SIM
Last Update : Mon Aug 02 08:33:41 2004
Response via : Initial Calibration

08/2/04

Calibration Files
L1 =W021250.D L2 =W021251.D L3 =W021252.D L4 =W021253.D
L5 =W021254.D L6 =W021255.D L7 =W021256.D icv =W021257.D

| Compound | L1 | L2 | L3 | L4 | L5 | L6 | L7 | icv | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) I Naphthalene-d8 | | | | ----------ISTD---------- | | | | | | |
| 2) Nitrobenzene | 0.365 | 0.359 | 0.361 | 0.340 | 0.341 | 0.345 | 0.338 | | 0.350 | 3.22 |
| 3) N-nitroso-di | | 0.067 | 0.063 | 0.060 | 0.059 | 0.055 | 0.052 | | 0.059 | 8.97 |
| 4) Naphthalene | 1.171 | 1.120 | 1.119 | 1.059 | 1.059 | 1.033 | 1.016 | | 1.082 | 5.16 |
| 5) 2-Methylnaph | 0.764 | 0.732 | 0.735 | 0.693 | 0.689 | 0.671 | 0.650 | | 0.705 | 5.68 |
| 6) 1-Methylnaph | 0.682 | 0.659 | 0.663 | 0.624 | 0.629 | 0.603 | 0.603 | | 0.638 | 4.86 |
| 7) I Acenaphthene-d10 | | | | ----------ISTD---------- | | | | | | |
| 8) Hexachlorocy | | 0.130 | 0.150 | 0.146 | 0.161 | 0.162 | 0.161 | | 0.152 | 8.20 |
| 9) 2-Fluorobiph | 1.706 | 1.683 | 1.686 | 1.582 | 1.610 | 1.574 | 1.573 | | 1.631 | 3.62 |
| 0) Acenaphthyle | 2.278 | 2.191 | 2.201 | 2.106 | 2.081 | 2.041 | 2.010 | | 2.130 | 4.53 |
| 1) Acenaphthene | 1.400 | 1.338 | 1.352 | 1.288 | 1.291 | 1.251 | 1.224 | | 1.306 | 4.66 |
| 2) 2,4-Dinitrop | | 0.051 | 0.072 | 0.078 | 0.096 | 0.099 | 0.109 | | 0.084 | 25.19 |
| 3) 4-Nitropheno | | 0.117 | 0.131 | 0.135 | 0.139 | 0.146 | 0.141 | | 0.135 | 7.44 |
| 4) Fluorene | 1.545 | 1.455 | 1.460 | 1.388 | 1.379 | 1.334 | 1.323 | | 1.412 | 5.60 |
| 5) I Phenanthrene-d10 | | | | ----------ISTD---------- | | | | | | |
| 6) Phenanthrene | 1.377 | 1.324 | 1.319 | 1.253 | 1.248 | 1.226 | 1.194 | | 1.277 | 5.05 |
| 7) Anthracene | 1.356 | 1.329 | 1.338 | 1.282 | 1.263 | 1.228 | 1.200 | | 1.285 | 4.59 |
| 8) Fluoranthene | 1.279 | 1.229 | 1.257 | 1.211 | 1.205 | 1.172 | 1.153 | | 1.215 | 3.64 |
| 9) I Chrysene-d12 | | | | ----------ISTD---------- | | | | | | |
| 0) Pyrene | 2.231 | 2.225 | 2.276 | 2.131 | 2.112 | 2.066 | 2.019 | | 2.151 | 4.41 |
| 1) Terphenyl-d1 | 0.816 | 0.824 | 0.842 | 0.765 | 0.790 | 0.773 | 0.763 | | 0.796 | 3.96 |
| 2) Benzo[a]anth | 1.620 | 1.509 | 1.535 | 1.492 | 1.535 | 1.542 | 1.534 | | 1.538 | 2.62 |
| 3) Chrysene | 1.560 | 1.493 | 1.577 | 1.504 | 1.516 | 1.513 | 1.489 | | 1.522 | 2.21 |
| 4) I Perylene-d12 | | | | ----------ISTD---------- | | | | | | |
| 5) Benzo[b]fluo | 2.237 | 2.153 | 2.200 | 2.135 | 2.169 | 2.230 | 2.103 | | 2.175 | 2.28 |
| 6) Benzo[k]fluo | 1.989 | 1.977 | 2.107 | 2.073 | 2.182 | 2.290 | 2.238 | | 2.122 | 5.67 |
| 7) Benzo[a]pyre | 1.866 | 1.812 | 1.916 | 1.886 | 1.960 | 2.012 | 1.975 | | 1.918 | 3.60 |
| 8) Indeno[1,2,3 | 1.622 | 1.598 | 1.651 | 1.631 | 1.704 | 1.862 | 1.798 | | 1.695 | 5.87 |
| 9) Dibenz[a,h]a | 1.502 | 1.551 | 1.601 | 1.588 | 1.639 | 1.686 | 1.657 | | 1.603 | 3.97 |
| 0) Benzo[g,h,i] | 1.885 | 1.881 | 1.953 | 1.923 | 1.955 | 2.022 | 1.952 | | 1.939 | 2.50 |

) = Out of Range ### Number of calibration levels exceeded format ###

SIM_PAH.M Mon Aug 02 08:34:49 2004 ECD3

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\081204\W021465.D  Vial: 2
Acq On : 12 Aug 2004 10:25 am  Operator: marke
Sample : cc1116-4  Inst : MSBNA01
Misc : op11068,sw1127,1010,,,1,1,water  Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\SIM_PAH.M (RTE Integrator)
Title : PAH's by 8270 SIM
Last Update : Thu Aug 12 15:01:34 2004
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(min) | R.T. |
|---|---|---|---|---|---|---|---|---|
| 1 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 101 | 0.00 | 6.35 |
| 2 | S | Nitrobenzene-d5 | 0.350 | 0.379 | -8.3 | 112 | 0.00 | 5.66 |
| 3 | P | N-nitroso-di-n-propylamin | 0.059 | 0.072 | -22.0# | 121 | 0.00 | 5.53 |
| 4 | | Naphthalene | 1.082 | 1.142 | -5.5 | 109 | 0.00 | 6.38 |
| 5 | | 2-Methylnaphthalene | 0.705 | 0.768 | -8.9 | 112 | 0.01 | 7.20 |
| 6 | | 1-Methylnaphthalene | 0.638 | 0.689 | -8.0 | 111 | 0.00 | 7.34 |
| 7 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 106 | 0.00 | 8.73 |
| 8 | P | Hexachlorocyclopentadiene | 0.152 | 0.150 | 1.3 | 109 | 0.00 | 7.50 |
| 9 | S | 2-Fluorobiphenyl | 1.631 | 1.693 | -3.8 | 113 | 0.00 | 7.73 |
| 10 | | Acenaphthylene | 2.130 | 2.244 | -5.4 | 113 | 0.00 | 8.49 |
| 11 | C | Acenaphthene | 1.306 | 1.388 | -6.3 | 114 | 0.00 | 8.78 |
| 12 | P | 2,4-Dinitrophenol | 0.084 | 0.094 | -11.9 | 126 | 0.00 | 8.87 |
| 13 | P | 4-Nitrophenol | 0.135 | 0.149 | -10.4 | 116 | 0.01 | 9.02 |
| 14 | | Fluorene | 1.412 | 1.529 | -8.3 | 117 | 0.00 | 9.61 |
| 15 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 110 | 0.00 | 11.23 |
| 16 | | Phenanthrene | 1.277 | 1.352 | -5.9 | 119 | 0.00 | 11.26 |
| 17 | | Anthracene | 1.285 | 1.380 | -7.4 | 118 | 0.00 | 11.35 |
| 18 | C | Fluoranthene | 1.215 | 1.329 | -9.4 | 121 | 0.01 | 13.46 |
| 19 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 110 | 0.00 | 16.17 |
| 20 | | Pyrene | 2.151 | 2.308 | -7.3 | 119 | -0.02 | 13.86 |
| 21 | S | Terphenyl-d14 | 0.796 | 0.882 | -10.8 | 127 | -0.01 | 14.26 |
| 22 | | Benzo[a]anthracene | 1.538 | 1.678 | -9.1 | 124 | 0.00 | 16.14 |
| 23 | | Chrysene | 1.522 | 1.639 | -7.7 | 120 | 0.00 | 16.21 |
| 24 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 113 | 0.00 | 18.69 |
| 25 | | Benzo[b]fluoranthene | 2.175 | 2.292 | -5.4 | 121 | 0.00 | 18.07 |
| 26 | | Benzo[k]fluoranthene | 2.122 | 2.306 | -8.7 | 125 | 0.00 | 18.11 |
| 27 | C | Benzo[a]pyrene | 1.918 | 2.098 | -9.4 | 125 | 0.00 | 18.59 |
| 28 | | Indeno[1,2,3-cd]pyrene | 1.695 | 1.842 | -8.7 | 127 | 0.00 | 20.31 |
| 29 | | Dibenz[a,h]anthracene | 1.603 | 1.729 | -7.9 | 123 | 0.00 | 20.35 |
| 30 | | Benzo[g,h,i]perylene | 1.939 | 2.069 | -6.7 | 121 | -0.01 | 20.67 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0
W021253.D SIM_PAH.M  Wed Aug 18 16:06:39 2004  ECD3

# Semivolatile Internal Standard Area Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | SW1127-CC1116 | **Injection Date:** | 08/12/04 |
| **Lab File ID:** | W021465.D | **Injection Time:** | 10:25 |
| **Instrument ID:** | GCMSW | **Method:** | SW846 8270C BY SIM |

| | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| Check Std | 566489 | 6.35 | 271701 | 8.73 | 400854 | 11.23 | 237464 | 16.17 | 149333 | 18.69 |
| Upper Limit [a] | 1132978 | 6.85 | 543402 | 9.23 | 801708 | 11.73 | 474928 | 16.67 | 298666 | 19.19 |
| Lower Limit [b] | 283245 | 5.85 | 135851 | 8.23 | 200427 | 10.73 | 118732 | 15.67 | 74667 | 18.19 |

| Lab Sample ID | IS 1 AREA | RT | IS 2 AREA | RT | IS 3 AREA | RT | IS 4 AREA | RT | IS 5 AREA | RT |
|---|---|---|---|---|---|---|---|---|---|---|
| OP11065-BS | 592425 | 6.35 | 278922 | 8.73 | 410965 | 11.23 | 254259 | 16.17 | 158803 | 18.69 |
| OP11065-MB | 577893 | 6.35 | 275304 | 8.73 | 396455 | 11.22 | 245145 | 16.17 | 152548 | 18.69 |
| F25789-10 | 602882 | 6.35 | 287379 | 8.73 | 417763 | 11.22 | 254838 | 16.17 | 155357 | 18.69 |
| OP11065-MS | 593567 | 6.36 | 277755 | 8.73 | 403940 | 11.23 | 244998 | 16.17 | 147984 | 18.69 |
| OP11065-MSD | 581337 | 6.36 | 275740 | 8.73 | 407732 | 11.22 | 255696 | 16.17 | 155080 | 18.68 |
| ZZZZZZ | 562767 | 6.35 | 262678 | 8.73 | 378871 | 11.22 | 236011 | 16.17 | 148343 | 18.69 |
| ZZZZZZ | 564082 | 6.35 | 261294 | 8.73 | 384679 | 11.22 | 244706 | 16.17 | 153577 | 18.69 |
| F25819-1 | 608800 | 6.36 | 256501 | 8.73 | 368366 | 11.22 | 230161 | 16.17 | 144747 | 18.69 |
| F25819-2 | 556383 | 6.35 | 257070 | 8.73 | 377194 | 11.22 | 236664 | 16.17 | 147307 | 18.68 |
| F25819-8 | 575691 | 6.36 | 268378 | 8.73 | 389480 | 11.22 | 242692 | 16.17 | 152669 | 18.68 |

**IS 1** = Naphthalene-d8
**IS 2** = Acenaphthene-D10
**IS 3** = Phenanthrene-d10
**IS 4** = Chrysene-d12
**IS 5** = Perylene-d12

(a) Upper Limit = +100% of check standard area; Retention time +0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

# Semivolatile Surrogate Recovery Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Method:** FLORIDA-PRO **Matrix:** AQ

**Samples and QC shown here apply to the above method**

| Lab Sample ID | Lab File ID | S1 [a] |
|---|---|---|
| F25819-1 | OP41426.D | 91.0 |
| F25819-2 | OP41427.D | 90.0 |
| F25819-8 | OP41428.D | 101.0 |
| OP11063-BS | OP41404.D | 92.0 |
| OP11063-MB | OP41405.D | 97.0 |
| OP11063-MB | OP41468.D | 98.0 |
| OP11063-MS | OP41471.D | 77.0 |
| OP11063-MSD | OP41472.D | 81.0 |

| Surrogate Compounds | Recovery Limits |
|---|---|
| S1 = o-Terphenyl | 50-125% |

(a) Recovery from GC signal #1

# GC Surrogate Retention Time Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | GOP1268-CC1259 | **Injection Date:** | 08/07/04 |
| **Lab File ID:** | OP41403.D | **Injection Time:** | 17:45 |
| **Instrument ID:** | GCOP | **Method:** | FLORIDA-PRO |

| | S1 [a] RT |
|---|---|
| Check Std | 5.14 |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | S1 [a] RT |
|---|---|---|---|---|
| OP11063-BS | OP41404.D | 08/07/04 | 18:06 | 5.14 |
| OP11063-MB | OP41405.D | 08/07/04 | 18:27 | 5.14 |
| ZZZZZZ | OP41406.D | 08/07/04 | 18:48 | 5.14 |
| ZZZZZZ | OP41407.D | 08/07/04 | 19:10 | 5.14 |
| ZZZZZZ | OP41408.D | 08/07/04 | 19:31 | 5.14 |
| ZZZZZZ | OP41409.D | 08/07/04 | 19:52 | 5.14 |
| ZZZZZZ | OP41410.D | 08/07/04 | 20:13 | 5.14 |
| ZZZZZZ | OP41411.D | 08/07/04 | 20:34 | 5.14 |
| ZZZZZZ | OP41412.D | 08/07/04 | 20:56 | 5.14 |

**Surrogate Compounds**

**S1** = o-Terphenyl

(a) Retention time from GC signal #1

# GC Surrogate Retention Time Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | GOP1268-CC1259 | **Injection Date:** | 08/08/04 |
| **Lab File ID:** | OP41424.D | **Injection Time:** | 01:11 |
| **Instrument ID:** | GCOP | **Method:** | FLORIDA-PRO |

| | S1 [a] RT |
|---|---|
| Check Std | 5.14 |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | S1 [a] RT |
|---|---|---|---|---|
| ZZZZZZ | OP41425.D | 08/08/04 | 01:32 | 5.14 |
| F25819-1 | OP41426.D | 08/08/04 | 01:54 | 5.14 |
| F25819-2 | OP41427.D | 08/08/04 | 02:15 | 5.14 |
| F25819-8 | OP41428.D | 08/08/04 | 02:36 | 5.14 |
| ZZZZZZ | OP41429.D | 08/08/04 | 02:58 | 5.14 |

**Surrogate Compounds**

S1 = o-Terphenyl

(a) Retention time from GC signal #1

C3C0

# GC Surrogate Retention Time Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Check Std:** | GOP1269-CC1259 | **Injection Date:** | 08/09/04 |
| **Lab File ID:** | OP41467.D | **Injection Time:** | 15:49 |
| **Instrument ID:** | GCOP | **Method:** | FLORIDA-PRO |

| | S1 [a] RT |
|---|---|
| Check Std | 5.14 |

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | S1 [a] RT |
|---|---|---|---|---|
| OP11063-MB | OP41468.D | 08/09/04 | 16:10 | 5.14 |
| ZZZZZZ | OP41469.D | 08/09/04 | 16:32 | 5.13 |
| F25795-2 | OP41470.D | 08/09/04 | 16:53 | 5.14 |
| OP11063-MS | OP41471.D | 08/09/04 | 17:15 | 5.14 |
| OP11063-MSD | OP41472.D | 08/09/04 | 17:36 | 5.14 |

**Surrogate Compounds**

**S1** = o-Terphenyl

(a) Retention time from GC signal #1

# Method Blank Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP11063-MB | OP41405.D | 1 | 08/07/04 | AA | 08/06/04 | OP11063 | GOP1268 |

**The QC reported here applies to the following samples:** **Method:** FLORIDA-PRO

F25819-1, F25819-2, F25819-8

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C8-C40) | ND | 0.25 | 0.17 | mg/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 84-15-1 | o-Terphenyl | 97% | 50-125% |

# Method Blank Summary



**Job Number:** F25819
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP11063-MB | OP41468.D | 1 | 08/09/04 | AA | 08/06/04 | OP11063 | GOP1269 |

**The QC reported here applies to the following samples:** **Method:** FLORIDA-PRO

F25819-1, F25819-2, F25819-8

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C8-C40) | ND | 0.25 | 0.17 | mg/l | |

| CAS No. | Surrogate Recoveries | | Limits |
|---|---|---|---|
| 84-15-1 | o-Terphenyl | 98% | 50-125% |

Response Factor Report FID 2

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Sat Jul 24 14:01:16 2004
Response via : Initial Calibration

Calibration Files
1 =OP40971.D 2 =OP40972.D 3 =OP40973.D 4 =OP40974.D
5 =OP40975.D 6 =OP40976.D 7 =OP40977.D ICV =OP40305.D

| Compound | 1 | 2 | 3 | 4 | 5 | 6 | 7 | ICV | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) O-TERPHENYL | 2.545 | 2.517 | 2.512 | 2.524 | 2.587 | | | | 2.537 E4 | 1.21 |
| 2) TPH (C8-C40) | 2.137 | 2.325 | 2.360 | 2.381 | 2.444 | 2.322 | 2.228 | | 2.314 E4 | 4.41 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

FL_PRO_F.M Mon Jul 26 08:10:00 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41395.D
Acq On : 7 Aug 2004 2:55 pm
Sample : cc1259-1020
Misc : op11057,gop1268,1000,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 60.548 | -0.9 | 102 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1085.813 | -6.5 | 104 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Mon Aug 09 10:00:27 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41396.D  Vial: 2
Acq On : 7 Aug 2004 3:16 pm  Operator: aubreya
Sample : cc1259-340  Inst : FID 2
Misc : op11057,gop1268,1000,,,1,1,water  Multiplr: 1.00
IntFile : events.e

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 20.000 | 20.609 | -3.0 | 103 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 340.000 | 378.310 | -11.3 | 120 | 0.00 | 1.77- 9.85 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0
OP40971.D FL_PRO_F.M  Mon Aug 09 10:01:54 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41403.D  Vial: 1
Acq On : 7 Aug 2004 5:45 pm  Operator: aubreya
Sample : cc1259-1020  Inst : FID 2
Misc : op11057,gop1268,100,,,1,1,water  Multiplr: 1.00
IntFile : events.e

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 61.619 | -2.7 | 104 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1094.889 | -7.3 | 105 | 0.00 | 1.77- 9.85 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M  Mon Aug 09 10:00:27 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41413.D
Acq On : 7 Aug 2004 9:17 pm
Sample : cc1259-1020
Misc : op11063,gop1268,1050,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 61.905 | -3.2 | 104 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1099.434 | -7.8 | 106 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Mon Aug 09 10:00:27 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41424.D  Vial: 1
Acq On : 8 Aug 2004 1:11 am  Operator: aubreya
Sample : cc1259-1020  Inst : FID 2
Misc : op11063,gop1268,480,,,1,1,water  Multiplr: 1.00
IntFile : events.e

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 62.973 | -5.0 | 106 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1167.355 | -14.4 | 112 | 0.00 | 1.77- 9.85 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M  Mon Aug 09 10:00:27 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41430.D
Acq On : 8 Aug 2004 3:19 am
Sample : cc1259-1020
Misc : op11063,gop1268,1050,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 63.405 | -5.7 | 107 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1146.994 | -12.5 | 110 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Mon Aug 09 10:00:28 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41440.D
Acq On : 8 Aug 2004 6:52 am
Sample : cc1259-1020
Misc : op11060,gop1268,30.1,,,1,1,soil
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 64.988 | -8.3 | 109 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1153.452 | -13.1 | 111 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Mon Aug 09 10:00:28 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41451.D  Vial: 1
Acq On : 8 Aug 2004 10:47 am  Operator: aubreya
Sample : cc1259-1020  Inst : FID 2
Misc : op11060,gop1268,30.2,,,1,1,soil  Multiplr: 1.00
IntFile : events.e

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 68.437 | -14.1 | 115 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1219.120 | -19.5 | 117 | 0.00 | 1.77- 9.85 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M  Mon Aug 09 10:00:28 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0807PRO\OP41455.D  Vial: 1
Acq On : 8 Aug 2004 12:11 pm  Operator: aubreya
Sample : ecc1259-1020  Inst : FID 2
Misc : op11060,gop1268,30.5,,,1,1,soil  Multiplr: 1.00
IntFile : events.e

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 69.063 | -15.1 | 116 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1221.881 | -19.8 | 117 | 0.00 | 1.77- 9.85 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M  Mon Aug 09 10:00:28 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41456.D
Acq On : 9 Aug 2004 11:45 am
Sample : cc1259-1020
Misc : op11060,gop1269,30.0,,,1,1,soil
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 59.538 | 0.8 | 100 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1066.331 | -4.5 | 102 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Tue Aug 10 15:14:36 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41457.D
Acq On : 9 Aug 2004 12:18 pm
Sample : cc1259-340
Misc : op11060,gop1269,30.0,,,1,1,soil
IntFile : events.e

Vial: 2
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 20.000 | 20.279 | -1.4 | 101 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 340.000 | 374.411 | -10.1 | 119 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40971.D FL_PRO_F.M Tue Aug 10 15:13:51 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41467.D  Vial: 1
Acq On : 9 Aug 2004 3:49 pm  Operator: aubreya
Sample : cc1259-1020  Inst : FID 2
Misc : op11060,gop1269,30.9,,,1,1,soil  Multiplr: 1.00
IntFile : events.e

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 60.021 | -0.0 | 101 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1080.662 | -5.9 | 104 | 0.00 | 1.77- 9.85 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M  Tue Aug 10 15:14:36 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41473.D  Vial: 1
Acq On : 9 Aug 2004 5:58 pm  Operator: aubreya
Sample : cc1259-1020  Inst : FID 2
Misc : op11063,gop1269,480,,,1,1,water  Multiplr: 1.00
IntFile : events.e

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|---|
| 1 | S | O-TERPHENYL | 60.000 | 61.112 | -1.9 | 103 | 0.00 | 5.04- 5.24 |
| 2 | H | TPH (C8-C40) | 1020.000 | 1086.340 | -6.5 | 104 | 0.00 | 1.77- 9.85 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M  Tue Aug 10 15:14:36 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41484.D  Vial: 1
Acq On : 9 Aug 2004 9:51 pm  Operator: aubreya
Sample : cc1259-1020  Inst : FID 2
Misc : op11070,gop1269,1000,,,1,1,water  Multiplr: 1.00
IntFile : events.e

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 62.571 | -4.3 | 105 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1156.354 | -13.4 | 111 | 0.00 | 1.77- 9.85 |

(#) = Out of Range  SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M  Tue Aug 10 15:14:36 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41495.D
Acq On : 10 Aug 2004 1:42 am
Sample : cc1259-1020
Misc : op11070,gop1269,1040,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 62.613 | -4.4 | 105 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1120.938 | -9.9 | 108 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Tue Aug 10 15:14:36 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41501.D
Acq On : 10 Aug 2004 3:46 am
Sample : cc1259-1020
Misc : op11070,gop1269,1000,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 65.719 | -9.5 | 111 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1221.618 | -19.8 | 117 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Tue Aug 10 15:14:36 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41512.D
Acq On : 10 Aug 2004 8:05 am
Sample : cc1259-1020
Misc : op11059,gop1269,1050,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 61.347 | -2.2 | 103 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1044.848 | -2.4 | 100 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Tue Aug 10 15:14:37 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41521.D
Acq On : 10 Aug 2004 11:14 am
Sample : cc1259-1020
Misc : op11059,gop1269,920,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|---|
| 1 | S | O-TERPHENYL | 60.000 | 61.813 | -3.0 | 104 | 0.00 | 5.04- 5.24 |
| 2 | H | TPH (C8-C40) | 1020.000 | 1060.138 | -3.9 | 102 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Tue Aug 10 15:14:37 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41531.D
Acq On : 10 Aug 2004 2:49 pm
Sample : cc1259-1020
Misc : op11077,gop1269,1050,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 64.412 | -7.4 | 108 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1092.724 | -7.1 | 105 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Tue Aug 10 15:14:37 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41532.D
Acq On : 10 Aug 2004 3:10 pm
Sample : cc1259-340
Misc : op11077,gop1269,1050,,,1,1,water
IntFile : events.e

Vial: 2
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 20.000 | 22.164 | -10.8 | 110 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 340.000 | 382.928 | -12.6 | 122 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40971.D FL_PRO_F.M Tue Aug 10 15:28:49 2004

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0809PRO\OP41541.D
Acq On : 10 Aug 2004 6:26 pm
Sample : cc1259-1020
Misc : op11059,gop1269,1020,,,1,1,water
IntFile : events.e

Vial: 1
Operator: aubreya
Inst : FID 2
Multiplr: 1.00

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Mon Aug 09 09:00:05 2004
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Drift | Area% | Dev(min) | RT Window |
|---|---|---|---|---|---|---|---|
| 1 S | O-TERPHENYL | 60.000 | 62.640 | -4.4 | 105 | 0.00 | 5.04- 5.24 |
| 2 H | TPH (C8-C40) | 1020.000 | 1064.136 | -4.3 | 102 | 0.00 | 1.77- 9.85 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP40973.D FL_PRO_F.M Wed Aug 11 08:18:41 2004

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **G. WALKER** | **DATE:** | **OCTOBER 4, 2004** |
| **FROM:** | **BERNARD F SPADA III** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOC/EDB/PAH/TPH**
**CTO 274, NAS PENSACOLA**
**SDG F25789**

**SAMPLES:** 11/Aqueous

| | | |
|---|---|---|
| OLFS-2406-DMW42D | OLFS-2406-DMW43D | OLFS-2406-DMW44D |
| OLFS-2406-MW29 | OLFS-2406-MW39* | OLFS-2406-MW40* |
| OLFS-2406-MW42S | OLFS-2406-MW43S | OLFS-2406-MW44S |
| OLFS-2406-MW4S* | TRIP BLANK | |

OVERVIEW

The sample set for CTO 274, NAS Pensacola, SDG F25789 consists of ten (10) environmental aqueous samples and one (1) trip blank. All samples were analyzed for volatile organic compounds (VOC). The samples denoted with an asterisk (*) were also analyzed for ethylene dibromide (EDB), polynuclear aromatic hydrocarbons (PAH), and total petroleum hydrocarbons (TPH). The trip blank was also analyzed for EDB.

The sample was collected by Tetra Tech NUS on July 28, 29, and 30, 2004 and analyzed by Accutest Laboratories. All analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria using SW-846 Methods 8260B and 8310, EPA 504.1, and Florida PRO analytical and reporting protocols. The data contained in this SDG were validated with regard to the following parameters:

* • Data completeness
* • Holding times
* • Initial and continuing calibration
* • Laboratory method and field quality control blank results
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Problems affecting data quality are discussed below; documentation supporting these findings is presented in Appendix C. Qualified Analytical results are presented in Appendix A.

The text of this report is formulated to address only gross non-compliances resulting in the rejection of data and the elimination of false positives.

Volatile

Several MS/MSD non-compliances were noted. No qualifications were made on this basis because the un-spiked samples were not associated with this SDG.

EDB

No qualifications were assigned to this fraction.

PAH

The surrogates were double spiked in sample OLFS-2406-MW4S. The laboratory adjusted for the double spike in order to get acceptable percent recoveries. No qualifications were made on this basis.

TPH

No qualifications were assigned to this fraction.

EXECUTIVE SUMMARY

**Laboratory Performance Issues:** Surrogates were double spiked in one PAH sample.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the EPA Functional Guidelines for Organic Data Validation (10/99) and the NFESC guidelines. The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC guidelines and the Quality Assurance Project Plan (QAPP)."

Bernard F. Spada III

Tetra Tech NUS
Bernard F. Spada III
Chemist/Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:
1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as Reported by the Laboratory
3. Appendix C - Support Documentation

# APPENDIX A

## QUALIFIED ANALYTICAL RESULTS

**Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery 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 - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-DMW42D |
| samp_date | 7/28/2004 |
| lab_id | F25789-5 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.51 | J | P |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW42D |
| samp_date | 7/28/2004 |
| lab_id | F25789-5 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW43D |
| samp_date | 7/28/2004 |
| lab_id | F25789-7 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 1.6 | | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.53 | J | P |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-DMW43D |
| samp_date | 7/28/2004 |
| lab_id | F25789-7 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW44D |
| samp_date | 7/29/2004 |
| lab_id | F25789-9 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW44D |
| samp_date | 7/29/2004 |
| lab_id | F25789-9 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-MW29 |
| samp_date | 7/29/2004 |
| lab_id | F25789-2 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 5.1 | | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 308 | | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1.7 | J | P |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW29 |
| samp_date | 7/29/2004 |
| lab_id | F25789-2 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW39 |
| samp_date | 7/30/2004 |
| lab_id | F25789-11 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DIBROMOETHANE | 0.0088 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.54 | J | P |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.58 | J | P |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 2.7 | | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-MW39 |
| samp_date | 7/30/2004 |
| lab_id | F25789-11 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TRICHLOROETHENE | 0.5 | U | |
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW40 |
| samp_date | 7/30/2004 |
| lab_id | F25789-12 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DIBROMOETHANE | 0.0092 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.71 | J | P |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW40 |
| samp_date | 7/30/2004 |
| lab_id | F25789-12 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TRICHLOROETHENE | 0.5 | U | |
| VINYL CHLORIDE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-MW42S |
| samp_date | 7/28/2004 |
| lab_id | F25789-4 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.62 | J | P |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW42S |
| samp_date | 7/28/2004 |
| lab_id | F25789-4 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW43S |
| samp_date | 7/29/2004 |
| lab_id | F25789-6 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-MW43S |
| samp_date | 7/29/2004 |
| lab_id | F25789-6 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW44S |
| samp_date | 7/28/2004 |
| lab_id | F25789-8 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.65 | J | P |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |
| TRICHLOROETHENE | 0.5 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW44S |
| samp_date | 7/28/2004 |
| lab_id | F25789-8 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| VINYL CHLORIDE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OV

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-MW4S | nsample | OLFS-2406-MW4S | nsample | TRIP BLANK |
| samp_date | 7/30/2004 | samp_date | 7/30/2004 | samp_date | 7/30/2004 |
| lab_id | F25789-10 | lab_id | F25789-10 | lab_id | F25789-13 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DIBROMOETHANE | 0.0089 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TRICHLOROETHENE | 0.5 | U | |
| VINYL CHLORIDE | 0.5 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 0.5 | U | |
| 1,1,2,2-TETRACHLOROETHANE | 0.3 | U | |
| 1,1,2-TRICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHANE | 0.5 | U | |
| 1,1-DICHLOROETHENE | 0.5 | U | |
| 1,2-DIBROMOETHANE | 0.0087 | U | |
| 1,2-DICHLOROBENZENE | 0.5 | U | |
| 1,2-DICHLOROETHANE | 0.5 | U | |
| 1,2-DICHLOROPROPANE | 0.5 | U | |
| 1,3-DICHLOROBENZENE | 0.5 | U | |
| 1,4-DICHLOROBENZENE | 0.5 | U | |
| 2-CHLOROETHYL VINYL ETHER | 2.5 | U | |
| BENZENE | 0.5 | U | |
| BROMODICHLOROMETHANE | 0.5 | U | |
| BROMOFORM | 0.5 | U | |
| BROMOMETHANE | 1 | U | |
| CARBON TETRACHLORIDE | 0.5 | U | |
| CHLOROBENZENE | 0.5 | U | |
| CHLORODIBROMOMETHANE | 0.4 | U | |
| CHLOROETHANE | 1 | U | |
| CHLOROFORM | 0.5 | U | |
| CHLOROMETHANE | 1 | U | |
| CIS-1,2-DICHLOROETHENE | 0.5 | U | |
| CIS-1,3-DICHLOROPROPENE | 0.3 | U | |
| ETHYLBENZENE | 0.5 | U | |
| METHYL TERT-BUTYL ETHER | 0.5 | U | |
| METHYLENE CHLORIDE | 1 | U | |
| TETRACHLOROETHENE | 0.5 | U | |
| TOLUENE | 0.5 | U | |
| TOTAL XYLENES | 1 | U | |
| TRANS-1,2-DICHLOROETHENE | 0.5 | U | |
| TRANS-1,3-DICHLOROPROPENE | 0.3 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | TRIP BLANK |
| samp_date | 7/30/2004 |
| lab_id | F25789-13 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TRICHLOROETHENE | 0.5 | U | |
| VINYL CHLORIDE | 0.5 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: OS

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-MW39 | nsample | OLFS-2406-MW40 | nsample | OLFS-2406-MW4S |
| samp_date | 7/30/2004 | samp_date | 7/30/2004 | samp_date | 7/30/2004 |
| lab_id | F25789-11 | lab_id | F25789-12 | lab_id | F25789-10 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1-METHYLNAPHTHALENE | 0.24 | U | |
| 2-METHYLNAPHTHALENE | 0.24 | U | |
| ACENAPHTHENE | 0.48 | U | |
| ACENAPHTHYLENE | 0.48 | U | |
| ANTHRACENE | 0.24 | U | |
| BENZO(A)ANTHRACENE | 0.096 | U | |
| BENZO(A)PYRENE | 0.096 | U | |
| BENZO(B)FLUORANTHENE | 0.096 | U | |
| BENZO(G,H,I)PERYLENE | 0.096 | U | |
| BENZO(K)FLUORANTHENE | 0.096 | U | |
| CHRYSENE | 0.096 | U | |
| DIBENZO(A,H)ANTHRACENE | 0.096 | U | |
| FLUORANTHENE | 0.24 | U | |
| FLUORENE | 0.24 | U | |
| INDENO(1,2,3-CD)PYRENE | 0.096 | U | |
| NAPHTHALENE | 0.24 | U | |
| PHENANTHRENE | 0.24 | U | |
| PYRENE | 0.24 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1-METHYLNAPHTHALENE | 0.24 | U | |
| 2-METHYLNAPHTHALENE | 0.24 | U | |
| ACENAPHTHENE | 0.49 | U | |
| ACENAPHTHYLENE | 0.49 | U | |
| ANTHRACENE | 0.24 | U | |
| BENZO(A)ANTHRACENE | 0.097 | U | |
| BENZO(A)PYRENE | 0.097 | U | |
| BENZO(B)FLUORANTHENE | 0.097 | U | |
| BENZO(G,H,I)PERYLENE | 0.097 | U | |
| BENZO(K)FLUORANTHENE | 0.097 | U | |
| CHRYSENE | 0.097 | U | |
| DIBENZO(A,H)ANTHRACENE | 0.097 | U | |
| FLUORANTHENE | 0.24 | U | |
| FLUORENE | 0.24 | U | |
| INDENO(1,2,3-CD)PYRENE | 0.097 | U | |
| NAPHTHALENE | 0.24 | U | |
| PHENANTHRENE | 0.24 | U | |
| PYRENE | 0.24 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| 1-METHYLNAPHTHALENE | 0.24 | U | |
| 2-METHYLNAPHTHALENE | 0.24 | U | |
| ACENAPHTHENE | 0.48 | U | |
| ACENAPHTHYLENE | 0.48 | U | |
| ANTHRACENE | 0.24 | U | |
| BENZO(A)ANTHRACENE | 0.095 | U | |
| BENZO(A)PYRENE | 0.095 | U | |
| BENZO(B)FLUORANTHENE | 0.095 | U | |
| BENZO(G,H,I)PERYLENE | 0.095 | U | |
| BENZO(K)FLUORANTHENE | 0.095 | U | |
| CHRYSENE | 0.095 | U | |
| DIBENZO(A,H)ANTHRACENE | 0.095 | U | |
| FLUORANTHENE | 0.24 | U | |
| FLUORENE | 0.24 | U | |
| INDENO(1,2,3-CD)PYRENE | 0.095 | U | |
| NAPHTHALENE | 0.24 | U | |
| PHENANTHRENE | 0.24 | U | |
| PYRENE | 0.24 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: PET

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-MW39 | nsample | OLFS-2406-MW40 | nsample | OLFS-2406-MW4S |
| samp_date | 7/30/2004 | samp_date | 7/30/2004 | samp_date | 7/30/2004 |
| lab_id | F25789-11 | lab_id | F25789-12 | lab_id | F25789-10 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | MG/L | units | MG/L | units | MG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBONS | 1.01 | | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBONS | 0.16 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| TOTAL PETROLEUM HYDROCARBONS | 0.17 | U | |

# APPENDIX B

## RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW42D | | |
| **Lab Sample ID:** | F25789-5 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | N0000122.D | 1 | 08/10/04 | NJ | n/a | n/a | VN8 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.51 | 1.0 | 0.50 | ug/l | I |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW42D | | |
| **Lab Sample ID:** | F25789-5 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 94% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW43D | | |
| **Lab Sample ID:** | F25789-7 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000062.D | 1 | 08/10/04 | NJ | n/a | n/a | VM3 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 1.6 | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.53 | 1.0 | 0.50 | ug/l | I |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW43D | | |
| **Lab Sample ID:** | F25789-7 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 105% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 104% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 98% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | | 83-119% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW44D | | |
| **Lab Sample ID:** | F25789-9 | **Date Sampled:** | 07/29/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000084.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit I = Result > = MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW44D | | |
| **Lab Sample ID:** | F25789-9 | **Date Sampled:** | 07/29/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 103% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 98% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW29 | | |
| **Lab Sample ID:** | F25789-2 | **Date Sampled:** | 07/29/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000082.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | M0000090.D | 5 | 08/11/04 | NJ | n/a | n/a | VM4 |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | 5.0 ml |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 308 [a] | 5.0 | 2.5 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 5.1 | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected  MDL - Method Detection Limit  I = Result >= MDL but < RL  J = Estimated value
RL = Reporting Limit  V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range  N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW29 | | |
| **Lab Sample ID:** | F25789-2 | **Date Sampled:** | 07/29/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.7 | 3.0 | 1.0 | ug/l | I |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | 104% | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 90% | 102% | 73-126% |
| 2037-26-5 | Toluene-D8 | 98% | 100% | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 96% | 83-119% |

(a) Result is from Run# 2

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW39 | | |
| **Lab Sample ID:** | F25789-11 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000101.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.54 | 1.0 | 0.50 | ug/l | I |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.58 | 1.0 | 0.50 | ug/l | I |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 2.7 | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW39 | | |
| **Lab Sample ID:** | F25789-11 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | | 83-119% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW39 | | |
| **Lab Sample ID:** | F25789-11 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | EPA 504.1 EPA 504 | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | MN22363.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 39.8 ml | 2.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 0.0088 U | 0.018 | 0.0088 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 99% | | 60-139% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW40 | | |
| **Lab Sample ID:** | F25789-12 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000085.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.71 | 1.0 | 0.50 | ug/l | I |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW40 | | |
| **Lab Sample ID:** | F25789-12 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW40 | | |
| **Lab Sample ID:** | F25789-12 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | EPA 504.1 EPA 504 | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | MN22364.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 38.1 ml | 2.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 0.0092 U | 0.018 | 0.0092 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 110% | | 60-139% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW42S | | |
| **Lab Sample ID:** | F25789-4 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | N0000121.D | 1 | 08/10/04 | NJ | n/a | n/a | VN8 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.62 | 1.0 | 0.50 | ug/l | I |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW42S | | |
| **Lab Sample ID:** | F25789-4 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 93% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 98% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result > = MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW43S | | |
| **Lab Sample ID:** | F25789-6 | **Date Sampled:** | 07/29/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000083.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW43S | | |
| **Lab Sample ID:** | F25789-6 | **Date Sampled:** | 07/29/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW44S | | |
| **Lab Sample ID:** | F25789-8 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000063.D | 1 | 08/10/04 | NJ | n/a | n/a | VM3 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.65 | 1.0 | 0.50 | ug/l | I |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected  MDL - Method Detection Limit  I = Result >= MDL but < RL  J = Estimated value
RL = Reporting Limit  V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range  N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW44S | | |
| **Lab Sample ID:** | F25789-8 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 105% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 104% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result > = MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW4S | | |
| **Lab Sample ID:** | F25789-10 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000100.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW4S | | |
| **Lab Sample ID:** | F25789-10 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 105% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 103% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 99% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

C100

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW4S | | |
| **Lab Sample ID:** | F25789-10 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | EPA 504.1 EPA 504 | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | MN22362.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 39.3 ml | 2.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 0.0089 U | 0.018 | 0.0089 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 104% | | 60-139% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F25789-13 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | M0000086.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| Run #2 | | | | | | | |

| | Purge Volume |
|---|---|
| Run #1 | 5.0 ml |
| Run #2 | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-27-4 | Bromodichloromethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-25-2 | Bromoform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-90-7 | Chlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-00-3 | Chloroethane | 1.0 U | 1.0 | 1.0 | ug/l | |
| 67-66-3 | Chloroform | 0.50 U | 1.0 | 0.50 | ug/l | |
| 110-75-8 | 2-Chloroethyl vinyl ether | 2.5 U | 5.0 | 2.5 | ug/l | |
| 56-23-5 | Carbon tetrachloride | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-34-3 | 1,1-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-35-4 | 1,1-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 107-06-2 | 1,2-Dichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 78-87-5 | 1,2-Dichloropropane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 124-48-1 | Dibromochloromethane | 0.40 U | 1.0 | 0.40 | ug/l | |
| 156-59-2 | cis-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 541-73-1 | m-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 95-50-1 | o-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 106-46-7 | p-Dichlorobenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 156-60-5 | trans-1,2-Dichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.30 U | 1.0 | 0.30 | ug/l | |
| 100-41-4 | Ethylbenzene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 74-83-9 | Methyl bromide | 1.0 U | 1.0 | 1.0 | ug/l | |
| 74-87-3 | Methyl chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 75-09-2 | Methylene chloride | 1.0 U | 1.0 | 1.0 | ug/l | |
| 1634-04-4 | Methyl Tert Butyl Ether | 0.50 U | 1.0 | 0.50 | ug/l | |
| 71-55-6 | 1,1,1-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.30 U | 1.0 | 0.30 | ug/l | |
| 79-00-5 | 1,1,2-Trichloroethane | 0.50 U | 1.0 | 0.50 | ug/l | |
| 127-18-4 | Tetrachloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 108-88-3 | Toluene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 79-01-6 | Trichloroethylene | 0.50 U | 1.0 | 0.50 | ug/l | |
| 75-01-4 | Vinyl chloride | 0.50 U | 1.0 | 0.50 | ug/l | |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F25789-13 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8260B | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**VOA Special List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 1330-20-7 | Xylene (total) | 1.0 U | 3.0 | 1.0 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 104% | | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% | | 73-126% |
| 2037-26-5 | Toluene-D8 | 100% | | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 97% | | 83-119% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | TRIP BLANK | | |
| **Lab Sample ID:** | F25789-13 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Trip Blank Water | **Date Received:** | 07/31/04 |
| **Method:** | EPA 504.1 EPA 504 | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | MN22365.D | 1 | 08/05/04 | AA | 08/04/04 | OP11047 | GMN801 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 40.1 ml | 2.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 106-93-4 | 1,2-Dibromoethane | 0.0087 U | 0.017 | 0.0087 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 460-00-4 | 4-Bromofluorobenzene | 111% | | 60-139% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW39 | | |
| **Lab Sample ID:** | F25789-11 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8270C BY SIM SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | W021472.D | 1 | 08/12/04 | ME | 08/06/04 | OP11065 | SW1127 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1040 ml | 1.0 ml |
| Run #2 | | |

**BN PAH List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.48 U | 0.96 | 0.48 | ug/l | |
| 208-96-8 | Acenaphthylene | 0.48 U | 0.96 | 0.48 | ug/l | |
| 120-12-7 | Anthracene | 0.24 U | 0.96 | 0.24 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 0.096 U | 0.19 | 0.096 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 0.096 U | 0.19 | 0.096 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 0.096 U | 0.19 | 0.096 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 0.096 U | 0.19 | 0.096 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 0.096 U | 0.19 | 0.096 | ug/l | |
| 218-01-9 | Chrysene | 0.096 U | 0.19 | 0.096 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.096 U | 0.19 | 0.096 | ug/l | |
| 206-44-0 | Fluoranthene | 0.24 U | 0.96 | 0.24 | ug/l | |
| 86-73-7 | Fluorene | 0.24 U | 0.96 | 0.24 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.096 U | 0.19 | 0.096 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 0.24 U | 0.96 | 0.24 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 0.24 U | 0.96 | 0.24 | ug/l | |
| 91-20-3 | Naphthalene | 0.24 U | 0.96 | 0.24 | ug/l | |
| 85-01-8 | Phenanthrene | 0.24 U | 0.96 | 0.24 | ug/l | |
| 129-00-0 | Pyrene | 0.24 U | 0.96 | 0.24 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 93% | | 49-119% |
| 321-60-8 | 2-Fluorobiphenyl | 86% | | 45-118% |
| 1718-51-0 | Terphenyl-d14 | 69% | | 46-135% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW40 | | |
| **Lab Sample ID:** | F25789-12 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8270C BY SIM SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | W021473.D | 1 | 08/12/04 | ME | 08/06/04 | OP11065 | SW1127 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1030 ml | 1.0 ml |
| Run #2 | | |

**BN PAH List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.49 U | 0.97 | 0.49 | ug/l | |
| 208-96-8 | Acenaphthylene | 0.49 U | 0.97 | 0.49 | ug/l | |
| 120-12-7 | Anthracene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 218-01-9 | Chrysene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 206-44-0 | Fluoranthene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 86-73-7 | Fluorene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.097 U | 0.19 | 0.097 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 91-20-3 | Naphthalene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 85-01-8 | Phenanthrene | 0.24 U | 0.97 | 0.24 | ug/l | |
| 129-00-0 | Pyrene | 0.24 U | 0.97 | 0.24 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 83% | | 49-119% |
| 321-60-8 | 2-Fluorobiphenyl | 77% | | 45-118% |
| 1718-51-0 | Terphenyl-d14 | 74% | | 46-135% |

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW4S | | |
| **Lab Sample ID:** | F25789-10 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | SW846 8270C BY SIM SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | W021469.D | 1 | 08/12/04 | ME | 08/06/04 | OP11065 | SW1127 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1050 ml | 1.0 ml |
| Run #2 | | |

**BN PAH List**

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.48 U | 0.95 | 0.48 | ug/l | |
| 208-96-8 | Acenaphthylene | 0.48 U | 0.95 | 0.48 | ug/l | |
| 120-12-7 | Anthracene | 0.24 U | 0.95 | 0.24 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | 0.095 U | 0.19 | 0.095 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | 0.095 U | 0.19 | 0.095 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | 0.095 U | 0.19 | 0.095 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | 0.095 U | 0.19 | 0.095 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | 0.095 U | 0.19 | 0.095 | ug/l | |
| 218-01-9 | Chrysene | 0.095 U | 0.19 | 0.095 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | 0.095 U | 0.19 | 0.095 | ug/l | |
| 206-44-0 | Fluoranthene | 0.24 U | 0.95 | 0.24 | ug/l | |
| 86-73-7 | Fluorene | 0.24 U | 0.95 | 0.24 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.095 U | 0.19 | 0.095 | ug/l | |
| 90-12-0 | 1-Methylnaphthalene | 0.24 U | 0.95 | 0.24 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | 0.24 U | 0.95 | 0.24 | ug/l | |
| 91-20-3 | Naphthalene | 0.24 U | 0.95 | 0.24 | ug/l | |
| 85-01-8 | Phenanthrene | 0.24 U | 0.95 | 0.24 | ug/l | |
| 129-00-0 | Pyrene | 0.24 U | 0.95 | 0.24 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 94% [a] | | 49-119% |
| 321-60-8 | 2-Fluorobiphenyl | 86% [a] | | 45-118% |
| 1718-51-0 | Terphenyl-d14 | 76% [a] | | 46-135% |

(a) Surrogate recoveries corrected for double spike.

U = Not detected MDL - Method Detection Limit I = Result >= MDL but < RL J = Estimated value
RL = Reporting Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW39 | | |
| **Lab Sample ID:** | F25789-11 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | FLORIDA-PRO SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP41418.D | 1 | 08/07/04 | AA | 08/06/04 | OP11063 | GOP1268 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1020 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C8-C40) | 1.01 | 0.25 | 0.17 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 77% | | 50-125% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW40 | | |
| **Lab Sample ID:** | F25789-12 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | FLORIDA-PRO SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP41419.D | 1 | 08/07/04 | AA | 08/06/04 | OP11063 | GOP1268 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1040 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C8-C40) | 0.16 U | 0.24 | 0.16 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 93% | | 50-125% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW4S | | |
| **Lab Sample ID:** | F25789-10 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| **Method:** | FLORIDA-PRO SW846 3510C | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | OP41417.D | 1 | 08/07/04 | AA | 08/06/04 | OP11063 | GOP1268 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1010 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| | TPH (C8-C40) | 0.17 U | 0.25 | 0.17 | mg/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 95% | | 50-125% |

U = Not detected MDL - Method Detection Limit
RL = Reporting Limit
L = Indicates value exceeds calibration range

I = Result >= MDL but < RL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# APPENDIX C

## SUPPORT DOCUMENTATION

# HOLDTIME

**SDG** F25789

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| M | UG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-DMW34 | F25789-3 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-DMW42D | F25789-5 | NM | 07/28/2004 | 08/18/2004 | 08/20/2004 | 21 | 2 | 23 |
| M | UG/L | OLFS-2406-DMW43D | F25789-7 | NM | 07/28/2004 | 08/18/2004 | 08/20/2004 | 21 | 2 | 23 |
| M | UG/L | OLFS-2406-DMW44D | F25789-9 | NM | 07/29/2004 | 08/18/2004 | 08/20/2004 | 20 | 2 | 22 |
| M | UG/L | OLFS-2406-MW28 | F25789-1 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-MW42S | F25789-4 | NM | 07/28/2004 | 08/18/2004 | 08/20/2004 | 21 | 2 | 23 |
| M | UG/L | OLFS-2406-MW43S | F25789-6 | NM | 07/29/2004 | 08/18/2004 | 08/20/2004 | 20 | 2 | 22 |
| M | UG/L | OLFS-2406-MW44S | F25789-8 | NM | 07/28/2004 | 08/18/2004 | 08/20/2004 | 21 | 2 | 23 |
| | % | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| | % | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| | % | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| | UG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| | UG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| | UG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| EDB | % | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | % | TRIP BLANK | F25789-13 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | % | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | % | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | UG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | UG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | UG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | UG/L | TRIP BLANK | F25789-13 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| OV | % | OLFS-2406-DMW42D | F25789-5 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-DMW43D | F25789-7 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | % | OLFS-2406-MW43S | F25789-6 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-MW44S | F25789-8 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-DMW44D | F25789-9 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-MW29 | F25789-2 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | % | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | % | OLFS-2406-MW42S | F25789-4 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | % | TRIP BLANK | F25789-13 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW42S | F25789-4 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | UG/L | TRIP BLANK | F25789-13 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW43S | F25789-6 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-DMW44D | F25789-9 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW29 | F25789-2 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-DMW42D | F25789-5 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-DMW43D | F25789-7 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-MW44S | F25789-8 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| TPH | MG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/06/2004 | 08/07/2004 | 7 | 1 | 8 |
| TPH | MG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/06/2004 | 08/07/2004 | 7 | 1 | 8 |
| TPH | MG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/06/2004 | 08/07/2004 | 7 | 1 | 8 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Tetra-Tech NUS **Job No:** F25789

**Site:** NAS Pensacola CTO# 274 N2642 **Report Date** 9/1/2004 9:53:53 AM

12 Samples, 1 Trip Blank were collected on between 07/28/2004 and 07/30/2004 and were received at Accutest on 07/31/2004 properly preserved, at 3.4 Deg. C and intact. These Samples received an Accutest job number of F25789.A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

**Matrix:** AQ **Batch ID:** VM3

All samples were analyzed within the recommended method holding time.

Sample(s) F25763-1MS, F25763-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

MS/MSD Recovery for 2-Chloroethyl vinyl ether is outside control limits due to sample preservation. For method performance in clean matrix refer to Blank Spike data.

**Matrix:** AQ **Batch ID:** VM4

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25811-1MS, F25811-1MSD were used as the QC samples indicated.

MS/MSD Recovery for 2-Chloroethyl vinyl ether is outside control limits. See above

**Matrix:** AQ **Batch ID:** VN8

All samples were analyzed within the recommended method holding time.

Sample(s) F25751-1MS, F25751-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Blank Spike Recovery for Tetrachloroethylene is outside control limits. The recovery biased high, TCE not detected in the samples. Data integrity not compromised.

Matrix Spike Recoveries for 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, p-Dichlorobenzene, 1,1-Dichloroethane are outside control limits. Outside control limits due to high level in sample relative to spike amount and matrix interference. For method performance in clean matrix refer to Blank Spike data.

Matrix Spike Duplicate Recovery(s) for 1,1-Dichloroethane, 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Benzene, Chlorobenzene, cis-1,2-Dichloroethylene, p-Dichlorobenzene are outside control limits. See above.

Matrix Spike Recovery(s) for Benzene, Chlorobenzene, cis-1,2-Dichloroethylene are outside control limits. Outside control limits due to high level in sample relative to spike amount.

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ **Batch ID:** OP11065

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F25789-10MS, F25789-10MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

F25789-10 for 2-Fluorobiphenyl: Surrogate recoveries corrected for double spike.

F25789-10 for Terphenyl-d14: Surrogate recoveries corrected for double spike.

F25789-10 for Nitrobenzene-d5: Surrogate recoveries corrected for double spike.

## Volatiles by GC By Method EPA 504.1

**Matrix:** AQ **Batch ID:** OP11047

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F25819-8MS, F25819-8MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

## Extractables by GC By Method FLORIDA-PRO

**Matrix:** AQ **Batch ID:** OP11063

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F25795-2MS, F25795-2MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for TPH (C8-C40) are outside control limits. Outside control limits due to high level in sample relative to spike amount.

## Metals By Method SW846 6010B

**Matrix:** AQ **Batch ID:** MP7000

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25930-1MS, F25930-1MSD, F25930-1SDL, F25930-1DUP were used as the QC samples for metals.

RPD(s) for Duplicate for Lead are outside control limits. RPD acceptable due to low duplicate and sample concentrations.

RPD(s) for Serial Dilution for Lead are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Svetlana Izosimova, QAO

Date: September 01, 2004

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 4244 F25789 PAGE 1 OF 1

| | | | | |
|---|---|---|---|---|
| PROJECT NO: N2642 | FACILITY: OLF Saufley | PROJECT MANAGER Gerry Walker | PHONE NUMBER 850-385-9899 | LABORATORY NAME AND CONTACT: Accutest Lab SE |
| SAMPLERS (SIGNATURE) | | FIELD OPERATIONS LEADER Howard Engle | PHONE NUMBER 850-385-9899 | ADDRESS 4405 Vineland Rd Ste C150 |
| | | CARRIER/WAYBILL NUMBER 8350-5454-9023 (Fed-Ex) | | CITY, STATE Orlando FL 32811-7363 |

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): 3G 3G 2G 2G 1P
PRESERVATIVE USED: HCl, $Na_2S_2O_3$, N/A, $H_2SO_4$, $HNO_3$

| | DATE YEAR 7/30/04 8004 | TIME | SAMPLE ID | LOCATION ID | TOP DEPTH (FT) | BOTTOM DEPTH (FT) | MATRIX (GW, SO, SW, SD, QC, ETC.) | COLLECTION METHOD GRAP (G) COMP (C) | No. OF CONTAINERS | VOCs (8260) | EDB (504.1) | PAHs (8270 Sim) | TRPH (FL-PRO) | Total Lead (6010B) | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7/30 | 0955 | OLFS-2406-MW28 | MW28 | 46.03' | 80' | GW | G | 1 | | | | | X | | | | All times |
| 2 | 7/29 | 1845 | OLFS-2406-MW29 | MW29 | 38.37 | 80' | | | 4 | X | | | | X | | | | are Central |
| 3 | 7/30 | 1130 | OLFS-2406-DMW34 | DMW34 | 27.3' | 77' | | | 1 | | | | | X | | | | |
| 4 | 7/28 | 1015 | OLFS-2406-MW42S | MW42S | 33.27' | | | | 4 | X | | | | X | | | | see work |
| 5 | 7/28 | 1030 | OLFS-2406-DMW42D | DMW42D | 45.14 | | | | 4 | X | | | | X | | | | release # |
| 6 | 7/29 | 1515 | OLFS-2406-MW43S | MW43S | 18.8 | 51.3 | | | 4 | X | | | | X | | | | N2642-WR452 |
| 7 | 7/28 | 1335 | OLFS-2406-DMW43D | DMW43D | 19.33 | 133.2 | | | 4 | X | | | | X | | | | for detailed |
| 8 | 7/28 | 1745 | OLFS-2406-MW44S | MW44S | 29.04 | 56 | | | 4 | X | | | | X | | | | parameter list |
| 9 | 7/29 | 1740 | OLFS-2406-DMW44D | DMW44D | 28.89 | 130 | | | 4 | X | | | | X | | | | |
| 10 | 7/30 | 1450 | OLFS-2406-MW45 | MW45 | 35.25 | | | | 11 | X | X | X | X | X | | | | |
| 11 | 7/30 | 1545 | OLFS-2406-MW39 | MW39 | 36.02 | 56 | | | 11 | X | X | X | X | X | | | | |
| 12 | 7/30 | 1645 | OLFS-2406-MW40 | MW40 | 41.15 | 56 | | | 11 | X | X | X | X | X | | | | |
| 13 | | | Trip Blank | | | | QC | | 6 | X | X | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 1. RELINQUISHED BY William Howard Engle | DATE 7/30/04 | TIME 19:00 | 1. RECEIVED BY FX | DATE 7/29/04 | TIME |
| 2. RELINQUISHED BY FX | DATE 7/31/04 | TIME 9:00 | 2. RECEIVED BY | DATE 7/31/04 | TIME 9:00 |
| 3. RELINQUISHED BY | DATE | TIME | 3. RECEIVED BY | DATE | TIME |

COMMENTS 2.6 3.4

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R

# Instrument Performance Check (BFB)



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VM1-BFB
**Lab File ID:** M0000001.D
**Instrument ID:** GCMSM
**Injection Date:** 08/06/04
**Injection Time:** 09:54

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 40600 | 32.3 | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 50752 | 40.3 | Pass |
| 95 | Base peak, 100% relative abundance | 125866 | 100.0 | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 8206 | 6.5 | Pass |
| 173 | Less than 2.0% of mass 174 | 597 | 0.47 (0.55) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 108026 | 85.8 | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 8242 | 6.5 (7.6) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 103914 | 82.6 (96.2) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 6925 | 5.5 (6.7) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VM1-IC1 | M0000002.D | 08/06/04 | 10:09 | 00:15 | Initial cal 1 |
| VM1-IC1 | M0000003.D | 08/06/04 | 10:36 | 00:42 | Initial cal 5 |
| VM1-IC1 | M0000004.D | 08/06/04 | 11:03 | 01:09 | Initial cal 20 |
| VM1-ICC1 | M0000005.D | 08/06/04 | 11:31 | 01:37 | Initial cal 40 |
| VM1-IC1 | M0000006.D | 08/06/04 | 11:59 | 02:05 | Initial cal 70 |
| VM1-IC1 | M0000007.D | 08/06/04 | 12:26 | 02:32 | Initial cal 100 |
| VM1-MB | M0000009.D | 08/06/04 | 13:21 | 03:27 | Method Blank |
| F25856-1 | M0000010.D | 08/06/04 | 14:55 | 05:01 | (used for QC only; not part of job F25789) |
| ZZZZZZ | M0000011.D | 08/06/04 | 15:23 | 05:29 | (unrelated sample) |
| ZZZZZZ | M0000012.D | 08/06/04 | 15:50 | 05:56 | (unrelated sample) |
| ZZZZZZ | M0000013.D | 08/06/04 | 16:18 | 06:24 | (unrelated sample) |
| ZZZZZZ | M0000014.D | 08/06/04 | 16:46 | 06:52 | (unrelated sample) |
| ZZZZZZ | M0000015.D | 08/06/04 | 17:13 | 07:19 | (unrelated sample) |
| VM1-BS | M0000016.D | 08/06/04 | 17:41 | 07:47 | Blank Spike |
| F25856-1MS | M0000017.D | 08/06/04 | 18:09 | 08:15 | Matrix Spike |
| F25856-1MSD | M0000018.D | 08/06/04 | 18:37 | 08:43 | Matrix Spike Duplicate |
| ZZZZZZ | M0000019.D | 08/06/04 | 19:05 | 09:11 | (unrelated sample) |
| ZZZZZZ | M0000020.D | 08/06/04 | 19:33 | 09:39 | (unrelated sample) |
| ZZZZZZ | M0000021.D | 08/06/04 | 20:01 | 10:07 | (unrelated sample) |
| ZZZZZZ | M0000022.D | 08/06/04 | 20:29 | 10:35 | (unrelated sample) |
| ZZZZZZ | M0000023.D | 08/06/04 | 20:57 | 11:03 | (unrelated sample) |

# Instrument Performance Check (BFB)



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VM3-BFB
**Lab File ID:** M0000051.D
**Instrument ID:** GCMSM
**Injection Date:** 08/10/04
**Injection Time:** 12:04

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 32842 | 31.3 | | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 41277 | 39.3 | | Pass |
| 95 | Base peak, 100% relative abundance | 105026 | 100.0 | | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7157 | 6.8 | | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.0 | (0.0) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 88306 | 84.1 | | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 6304 | 6.0 | (7.1) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 84621 | 80.6 | (95.8) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 5584 | 5.3 | (6.6) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VM3-CC1 | M0000052.D | 08/10/04 | 12:23 | 00:19 | Continuing cal 40 |
| VM3-BS | M0000053.D | 08/10/04 | 12:53 | 00:49 | Blank Spike |
| VM3-MB | M0000054.D | 08/10/04 | 13:21 | 01:17 | Method Blank |
| ZZZZZZ | M0000055.D | 08/10/04 | 13:53 | 01:49 | (unrelated sample) |
| ZZZZZZ | M0000056.D | 08/10/04 | 14:23 | 02:19 | (unrelated sample) |
| ZZZZZZ | M0000057.D | 08/10/04 | 14:51 | 02:47 | (unrelated sample) |
| ZZZZZZ | M0000058.D | 08/10/04 | 15:19 | 03:15 | (unrelated sample) |
| ZZZZZZ | M0000059.D | 08/10/04 | 15:47 | 03:43 | (unrelated sample) |
| ZZZZZZ | M0000060.D | 08/10/04 | 16:25 | 04:21 | (unrelated sample) |
| ZZZZZZ | M0000061.D | 08/10/04 | 16:54 | 04:50 | (unrelated sample) |
| F25789-7 | M0000062.D | 08/10/04 | 17:23 | 05:19 | OLFS-2406-DMW43D |
| F25789-8 | M0000063.D | 08/10/04 | 17:51 | 05:47 | OLFS-2406-MW44S |
| F25763-1 | M0000064.D | 08/10/04 | 18:19 | 06:15 | (used for QC only; not part of job F25789) |
| F25763-1MS | M0000065.D | 08/10/04 | 18:46 | 06:42 | Matrix Spike |
| F25763-1MSD | M0000066.D | 08/10/04 | 19:14 | 07:10 | Matrix Spike Duplicate |
| ZZZZZZ | M0000067.D | 08/10/04 | 19:41 | 07:37 | (unrelated sample) |
| ZZZZZZ | M0000068.D | 08/10/04 | 20:08 | 08:04 | (unrelated sample) |
| ZZZZZZ | M0000069.D | 08/10/04 | 20:36 | 08:32 | (unrelated sample) |
| ZZZZZZ | M0000070.D | 08/10/04 | 21:03 | 08:59 | (unrelated sample) |
| ZZZZZZ | M0000071.D | 08/10/04 | 21:31 | 09:27 | (unrelated sample) |
| ZZZZZZ | M0000072.D | 08/10/04 | 21:58 | 09:54 | (unrelated sample) |
| ZZZZZZ | M0000073.D | 08/10/04 | 22:25 | 10:21 | (unrelated sample) |
| ZZZZZZ | M0000074.D | 08/10/04 | 22:53 | 10:49 | (unrelated sample) |
| ZZZZZZ | M0000075.D | 08/10/04 | 23:20 | 11:16 | (unrelated sample) |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F25763-1MS | M0000065.D | 1 | 08/10/04 | NJ | n/a | n/a | VM3 |
| F25763-1MSD | M0000066.D | 1 | 08/10/04 | NJ | n/a | n/a | VM3 |
| F25763-1 [a] | M0000064.D | 1 | 08/10/04 | NJ | n/a | n/a | VM3 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25789-7, F25789-8

| CAS No. | Compound | F25763-1 ug/l | Q | Spike ug/l | MS ug/l | MS % | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 1.0 U | | 25 | 26.2 | 105 | 25.5 | 102 | 3 | 72-125/7 |
| 75-27-4 | Bromodichloromethane | 2.0 U | | 25 | 23.6 | 94 | 23.4 | 94 | 1 | 72-120/8 |
| 75-25-2 | Bromoform | 2.0 U | | 25 | 23.9 | 96 | 23.6 | 94 | 1 | 55-127/11 |
| 108-90-7 | Chlorobenzene | 2.0 U | | 25 | 24.8 | 99 | 24.4 | 98 | 2 | 79-113/7 |
| 75-00-3 | Chloroethane | 2.0 U | | 25 | 30.6 | 122 | 29.4 | 118 | 4 | 56-164/14 |
| 67-66-3 | Chloroform | 2.0 U | | 25 | 25.3 | 101 | 24.4 | 98 | 4 | 75-120/8 |
| 110-75-8 | 2-Chloroethyl vinyl ether | 5.0 U | | 125 | ND | 0* | ND | 0* | nc | 8-137/18 |
| 56-23-5 | Carbon tetrachloride | 2.0 U | | 25 | 25.6 | 102 | 24.5 | 98 | 4 | 56-145/12 |
| 75-34-3 | 1,1-Dichloroethane | 2.0 U | | 25 | 25.9 | 104 | 25.4 | 102 | 2 | 70-122/10 |
| 75-35-4 | 1,1-Dichloroethylene | 2.0 U | | 25 | 23.9 | 96 | 22.9 | 92 | 4 | 61-137/15 |
| 107-06-2 | 1,2-Dichloroethane | 2.0 U | | 25 | 24.3 | 97 | 23.8 | 95 | 2 | 64-124/7 |
| 78-87-5 | 1,2-Dichloropropane | 2.0 U | | 25 | 25.0 | 100 | 24.4 | 98 | 2 | 74-123/8 |
| 124-48-1 | Dibromochloromethane | 2.0 U | | 25 | 24.2 | 97 | 23.9 | 96 | 1 | 63-119/9 |
| 156-59-2 | cis-1,2-Dichloroethylene | 2.0 U | | 25 | 25.9 | 104 | 25.3 | 101 | 2 | 74-125/9 |
| 10061-01-5 | cis-1,3-Dichloropropene | 2.0 U | | 25 | 24.0 | 96 | 23.3 | 93 | 3 | 65-112/10 |
| 541-73-1 | m-Dichlorobenzene | 2.0 U | | 25 | 25.0 | 100 | 24.4 | 98 | 2 | 74-114/7 |
| 95-50-1 | o-Dichlorobenzene | 2.0 U | | 25 | 24.7 | 99 | 24.2 | 97 | 2 | 73-114/8 |
| 106-46-7 | p-Dichlorobenzene | 2.0 U | | 25 | 24.7 | 99 | 24.2 | 97 | 2 | 74-112/7 |
| 156-60-5 | trans-1,2-Dichloroethylene | 2.0 U | | 25 | 24.8 | 99 | 24.1 | 96 | 3 | 70-127/11 |
| 10061-02-6 | trans-1,3-Dichloropropene | 2.0 U | | 25 | 23.2 | 93 | 23.1 | 92 | 0 | 59-116/11 |
| 100-41-4 | Ethylbenzene | 2.0 U | | 25 | 25.4 | 102 | 25.1 | 100 | 1 | 73-119/8 |
| 74-83-9 | Methyl bromide | 2.0 U | | 25 | 33.7 | 135 | 31.2 | 125 | 8 | 52-172/16 |
| 74-87-3 | Methyl chloride | 2.0 U | | 25 | 33.5 | 134 | 31.4 | 126 | 6 | 53-155/19 |
| 75-09-2 | Methylene chloride | 5.0 U | | 25 | 23.7 | 95 | 22.9 | 92 | 3 | 61-129/11 |
| 1634-04-4 | Methyl Tert Butyl Ether | 2.0 U | | 25 | 28.0 | 112 | 27.2 | 109 | 3 | 61-129/9 |
| 71-55-6 | 1,1,1-Trichloroethane | 2.0 U | | 25 | 26.2 | 105 | 25.1 | 100 | 4 | 72-133/8 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 2.0 U | | 25 | 26.4 | 106 | 25.5 | 102 | 3 | 64-120/10 |
| 79-00-5 | 1,1,2-Trichloroethane | 2.0 U | | 25 | 24.5 | 98 | 24.3 | 97 | 1 | 72-116/9 |
| 127-18-4 | Tetrachloroethylene | 2.0 U | | 25 | 25.1 | 100 | 25.0 | 100 | 0 | 70-126/9 |
| 108-88-3 | Toluene | 2.0 U | | 25 | 25.0 | 100 | 24.4 | 98 | 2 | 67-123/8 |
| 79-01-6 | Trichloroethylene | 2.0 U | | 25 | 24.4 | 98 | 24.4 | 98 | 0 | 73-117/10 |
| 75-01-4 | Vinyl chloride | 1.0 U | | 25 | 32.1 | 128 | 29.7 | 119 | 8 | 63-161/18 |
| 1330-20-7 | Xylene (total) | 6.0 U | | 75 | 76.1 | 101 | 75.2 | 100 | 1 | 73-122/7 |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F25763-1MS | M0000065.D | 1 | 08/10/04 | NJ | n/a | n/a | VM3 |
| F25763-1MSD | M0000066.D | 1 | 08/10/04 | NJ | n/a | n/a | VM3 |
| F25763-1 [a] | M0000064.D | 1 | 08/10/04 | NJ | n/a | n/a | VM3 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25789-7, F25789-8

| CAS No. | Surrogate Recoveries | MS | MSD | F25763-1 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 103% | 102% | 103% | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101% | 102% | 103% | 73-126% |
| 2037-26-5 | Toluene-D8 | 98% | 98% | 98% | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 99% | 99% | 83-119% |

(a) Sample was not preserved to a pH < 2. confirmation run.

# Instrument Performance Check (BFB)



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VM4-BFB
**Lab File ID:** M0000078.D
**Instrument ID:** GCMSM
**Injection Date:** 08/11/04
**Injection Time:** 09:01

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 32288 | 31.5 | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 40365 | 39.3 | Pass |
| 95 | Base peak, 100% relative abundance | 102637 | 100.0 | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 7137 | 7.0 | Pass |
| 173 | Less than 2.0% of mass 174 | 234 | 0.23 (0.27) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 86554 | 84.3 | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 6243 | 6.1 (7.2) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 83237 | 81.1 (96.2) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 5431 | 5.3 (6.5) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VM4-CC1 | M0000079.D | 08/11/04 | 09:27 | 00:26 | Continuing cal 40 |
| VM4-BS | M0000080.D | 08/11/04 | 09:57 | 00:56 | Blank Spike |
| VM4-MB | M0000081.D | 08/11/04 | 10:25 | 01:24 | Method Blank |
| F25789-2 | M0000082.D | 08/11/04 | 11:00 | 01:59 | OLFS-2406-MW29 |
| F25789-6 | M0000083.D | 08/11/04 | 11:27 | 02:26 | OLFS-2406-MW43S |
| F25789-9 | M0000084.D | 08/11/04 | 11:54 | 02:53 | OLFS-2406-DMW44D |
| F25789-12 | M0000085.D | 08/11/04 | 12:22 | 03:21 | OLFS-2406-MW40 |
| F25789-13 | M0000086.D | 08/11/04 | 12:50 | 03:49 | TRIP BLANK |
| F25811-1 | M0000087.D | 08/11/04 | 13:19 | 04:18 | (used for QC only; not part of job F25789) |
| ZZZZZZ | M0000088.D | 08/11/04 | 13:46 | 04:45 | (unrelated sample) |
| ZZZZZZ | M0000089.D | 08/11/04 | 14:16 | 05:15 | (unrelated sample) |
| F25789-2 | M0000090.D | 08/11/04 | 14:45 | 05:44 | OLFS-2406-MW29 |
| ZZZZZZ | M0000092.D | 08/11/04 | 15:43 | 06:42 | (unrelated sample) |
| ZZZZZZ | M0000093.D | 08/11/04 | 16:11 | 07:10 | (unrelated sample) |
| ZZZZZZ | M0000094.D | 08/11/04 | 16:39 | 07:38 | (unrelated sample) |
| ZZZZZZ | M0000095.D | 08/11/04 | 17:07 | 08:06 | (unrelated sample) |
| ZZZZZZ | M0000096.D | 08/11/04 | 17:35 | 08:34 | (unrelated sample) |
| ZZZZZZ | M0000097.D | 08/11/04 | 18:03 | 09:02 | (unrelated sample) |
| F25811-1MS | M0000098.D | 08/11/04 | 18:31 | 09:30 | Matrix Spike |
| F25811-1MSD | M0000099.D | 08/11/04 | 18:59 | 09:58 | Matrix Spike Duplicate |
| F25789-10 | M0000100.D | 08/11/04 | 19:26 | 10:25 | OLFS-2406-MW4S |
| F25789-11 | M0000101.D | 08/11/04 | 19:54 | 10:53 | OLFS-2406-MW39 |
| ZZZZZZ | M0000102.D | 08/11/04 | 20:21 | 11:20 | (unrelated sample) |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F25811-1MS | M0000098.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| F25811-1MSD | M0000099.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| F25811-1 | M0000087.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25789-2, F25789-6, F25789-9, F25789-10, F25789-11, F25789-12, F25789-13

| CAS No. | Compound | F25811-1 ug/l | Q | Spike ug/l | MS ug/l | MS % | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | ND | | 25 | 26.7 | 107 | 25.8 | 103 | 3 | 72-125/7 |
| 75-27-4 | Bromodichloromethane | ND | | 25 | 23.7 | 95 | 23.7 | 95 | 0 | 72-120/8 |
| 75-25-2 | Bromoform | ND | | 25 | 23.5 | 94 | 23.2 | 93 | 1 | 55-127/11 |
| 108-90-7 | Chlorobenzene | ND | | 25 | 24.9 | 100 | 24.1 | 96 | 3 | 79-113/7 |
| 75-00-3 | Chloroethane | ND | | 25 | 32.6 | 130 | 29.8 | 119 | 9 | 56-164/14 |
| 67-66-3 | Chloroform | ND | | 25 | 25.2 | 101 | 24.8 | 99 | 2 | 75-120/8 |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | | 125 | ND | 0* | ND | 0* | nc | 8-137/18 |
| 56-23-5 | Carbon tetrachloride | ND | | 25 | 25.1 | 100 | 24.8 | 99 | 1 | 56-145/12 |
| 75-34-3 | 1,1-Dichloroethane | ND | | 25 | 26.8 | 107 | 25.7 | 103 | 4 | 70-122/10 |
| 75-35-4 | 1,1-Dichloroethylene | ND | | 25 | 23.6 | 94 | 23.1 | 92 | 2 | 61-137/15 |
| 107-06-2 | 1,2-Dichloroethane | ND | | 25 | 24.9 | 100 | 24.3 | 97 | 2 | 64-124/7 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 25 | 25.8 | 103 | 25.3 | 101 | 2 | 74-123/8 |
| 124-48-1 | Dibromochloromethane | ND | | 25 | 24.0 | 96 | 23.9 | 96 | 0 | 63-119/9 |
| 156-59-2 | cis-1,2-Dichloroethylene | ND | | 25 | 25.9 | 104 | 25.3 | 101 | 2 | 74-125/9 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 25 | 24.0 | 96 | 23.8 | 95 | 1 | 65-112/10 |
| 541-73-1 | m-Dichlorobenzene | ND | | 25 | 24.3 | 97 | 23.8 | 95 | 2 | 74-114/7 |
| 95-50-1 | o-Dichlorobenzene | ND | | 25 | 23.8 | 95 | 24.0 | 96 | 1 | 73-114/8 |
| 106-46-7 | p-Dichlorobenzene | ND | | 25 | 24.2 | 97 | 23.9 | 96 | 1 | 74-112/7 |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | 25 | 25.5 | 102 | 24.3 | 97 | 5 | 70-127/11 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 25 | 22.7 | 91 | 22.5 | 90 | 1 | 59-116/11 |
| 100-41-4 | Ethylbenzene | ND | | 25 | 25.4 | 102 | 24.5 | 98 | 4 | 73-119/8 |
| 74-83-9 | Methyl bromide | ND | | 25 | 32.9 | 132 | 28.7 | 115 | 14 | 52-172/16 |
| 74-87-3 | Methyl chloride | ND | | 25 | 36.4 | 146 | 33.7 | 135 | 8 | 53-155/19 |
| 75-09-2 | Methylene chloride | ND | | 25 | 24.3 | 97 | 24.2 | 97 | 0 | 61-129/11 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 25 | 27.5 | 110 | 28.1 | 112 | 2 | 61-129/9 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 25 | 26.0 | 104 | 25.2 | 101 | 3 | 72-133/8 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 25 | 25.1 | 100 | 25.0 | 100 | 0 | 64-120/10 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 25 | 24.4 | 98 | 24.4 | 98 | 0 | 72-116/9 |
| 127-18-4 | Tetrachloroethylene | ND | | 25 | 25.2 | 101 | 24.3 | 97 | 4 | 70-126/9 |
| 108-88-3 | Toluene | 0.53 | J | 25 | 25.3 | 99 | 24.4 | 95 | 4 | 67-123/8 |
| 79-01-6 | Trichloroethylene | ND | | 25 | 24.7 | 99 | 23.8 | 95 | 4 | 73-117/10 |
| 75-01-4 | Vinyl chloride | ND | | 25 | 34.5 | 138 | 31.4 | 126 | 9 | 63-161/18 |
| 1330-20-7 | Xylene (total) | 6.8 | | 75 | 76.9 | 93 | 74.3 | 90 | 3 | 73-122/7 |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F25811-1MS | M0000098.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| F25811-1MSD | M0000099.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |
| F25811-1 | M0000087.D | 1 | 08/11/04 | NJ | n/a | n/a | VM4 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25789-2, F25789-6, F25789-9, F25789-10, F25789-11, F25789-12, F25789-13

| CAS No. | Surrogate Recoveries | MS | MSD | F25811-1 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 105% | 104% | 103% | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% | 103% | 102% | 73-126% |
| 2037-26-5 | Toluene-D8 | 100% | 97% | 100% | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 96% | 97% | 97% | 83-119% |

# Instrument Performance Check (BFB)



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VN7-BFB
**Lab File ID:** N0000086.D
**Instrument ID:** GCMSN
**Injection Date:** 08/09/04
**Injection Time:** 10:36

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 17230 | 24.2 | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 30640 | 43.1 | Pass |
| 95 | Base peak, 100% relative abundance | 71160 | 100.0 | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 4989 | 7.0 | Pass |
| 173 | Less than 2.0% of mass 174 | 236 | 0.33 (0.46) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 50965 | 71.6 | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 3869 | 5.4 (7.6) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 48776 | 68.5 (95.7) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 3388 | 4.8 (6.9) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VN7-IC7 | N0000087.D | 08/09/04 | 11:43 | 01:07 | Initial cal 1 |
| VN7-IC7 | N0000088.D | 08/09/04 | 12:10 | 01:34 | Initial cal 5 |
| VN7-IC7 | N0000089.D | 08/09/04 | 12:37 | 02:01 | Initial cal 20 |
| VN7-ICC7 | N0000090.D | 08/09/04 | 13:03 | 02:27 | Initial cal 40 |
| VN7-IC7 | N0000091.D | 08/09/04 | 13:30 | 02:54 | Initial cal 70 |
| VN7-IC7 | N0000092.D | 08/09/04 | 13:57 | 03:21 | Initial cal 100 |

# Instrument Performance Check (BFB)



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** VN8-BFB
**Lab File ID:** N0000098.D
**Instrument ID:** GCMSN
**Injection Date:** 08/10/04
**Injection Time:** 11:33

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 16585 | 24.5 | Pass |
| 75 | 30.0 - 60.0% of mass 95 | 28829 | 42.7 | Pass |
| 95 | Base peak, 100% relative abundance | 67594 | 100.0 | Pass |
| 96 | 5.0 - 9.0% of mass 95 | 4801 | 7.1 | Pass |
| 173 | Less than 2.0% of mass 174 | 0 | 0.0 (0.0) [a] | Pass |
| 174 | 50.0 - 100.0% of mass 95 | 51261 | 75.8 | Pass |
| 175 | 5.0 - 9.0% of mass 174 | 3610 | 5.3 (7.0) [a] | Pass |
| 176 | 95.0 - 101.0% of mass 174 | 48944 | 72.4 (95.5) [a] | Pass |
| 177 | 5.0 - 9.0% of mass 176 | 3298 | 4.9 (6.7) [b] | Pass |

(a) Value is % of mass 174
(b) Value is % of mass 176

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| VN8-CC7 | N0000099.D | 08/10/04 | 11:59 | 00:26 | Continuing cal 40 |
| VN8-BS | N0000100.D | 08/10/04 | 12:28 | 00:55 | Blank Spike |
| VN8-MB | N0000101.D | 08/10/04 | 12:55 | 01:22 | Method Blank |
| ZZZZZZ | N0000102.D | 08/10/04 | 13:29 | 01:56 | (unrelated sample) |
| ZZZZZZ | N0000103.D | 08/10/04 | 13:56 | 02:23 | (unrelated sample) |
| F25751-1 | N0000105.D | 08/10/04 | 14:52 | 03:19 | (used for QC only; not part of job F25789) |
| F25751-1MS | N0000106.D | 08/10/04 | 15:18 | 03:45 | Matrix Spike |
| F25751-1MSD | N0000107.D | 08/10/04 | 15:45 | 04:12 | Matrix Spike Duplicate |
| ZZZZZZ | N0000108.D | 08/10/04 | 16:12 | 04:39 | (unrelated sample) |
| ZZZZZZ | N0000109.D | 08/10/04 | 16:39 | 05:06 | (unrelated sample) |
| ZZZZZZ | N0000110.D | 08/10/04 | 17:05 | 05:32 | (unrelated sample) |
| ZZZZZZ | N0000111.D | 08/10/04 | 17:32 | 05:59 | (unrelated sample) |
| ZZZZZZ | N0000112.D | 08/10/04 | 17:59 | 06:26 | (unrelated sample) |
| ZZZZZZ | N0000113.D | 08/10/04 | 18:25 | 06:52 | (unrelated sample) |
| ZZZZZZ | N0000114.D | 08/10/04 | 18:52 | 07:19 | (unrelated sample) |
| ZZZZZZ | N0000115.D | 08/10/04 | 19:19 | 07:46 | (unrelated sample) |
| ZZZZZZ | N0000116.D | 08/10/04 | 19:45 | 08:12 | (unrelated sample) |
| ZZZZZZ | N0000117.D | 08/10/04 | 20:15 | 08:42 | (unrelated sample) |
| ZZZZZZ | N0000119.D | 08/10/04 | 21:08 | 09:35 | (unrelated sample) |
| F25789-4 | N0000121.D | 08/10/04 | 22:04 | 10:31 | OLFS-2406-MW42S |
| F25789-5 | N0000122.D | 08/10/04 | 22:31 | 10:58 | OLFS-2406-DMW42D |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F25751-1MS | N0000106.D | 2 | 08/10/04 | NJ | n/a | n/a | VN8 |
| F25751-1MSD | N0000107.D | 2 | 08/10/04 | NJ | n/a | n/a | VN8 |
| F25751-1 | N0000105.D | 2 | 08/10/04 | NJ | n/a | n/a | VN8 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25789-4, F25789-5

| CAS No. | Compound | F25751-1 ug/l | Q | Spike ug/l | MS ug/l | MS % | MSD ug/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| 71-43-2 | Benzene | 223 | E | 50 | 155 | -136* [a] | 152 | -142* [a] | 2 | 72-125/7 |
| 75-27-4 | Bromodichloromethane | ND | | 50 | 49.4 | 99 | 49.1 | 98 | 1 | 72-120/8 |
| 75-25-2 | Bromoform | ND | | 50 | 53.5 | 107 | 53.5 | 107 | 0 | 55-127/11 |
| 108-90-7 | Chlorobenzene | 247 | E | 50 | 134 | -226* [a] | 133 | -228* [a] | 1 | 79-113/7 |
| 75-00-3 | Chloroethane | ND | | 50 | 43.2 | 86 | 38.9 | 78 | 10 | 56-164/14 |
| 67-66-3 | Chloroform | ND | | 50 | 50.1 | 100 | 49.4 | 99 | 1 | 75-120/8 |
| 110-75-8 | 2-Chloroethyl vinyl ether | ND | | 250 | ND | 0* | ND | 0* | nc | 8-137/18 |
| 56-23-5 | Carbon tetrachloride | ND | | 50 | 51.5 | 103 | 50.5 | 101 | 2 | 56-145/12 |
| 75-34-3 | 1,1-Dichloroethane | 121 | | 50 | 93.0 | -56* [a] | 90.6 | -61* [a] | 3 | 70-122/10 |
| 75-35-4 | 1,1-Dichloroethylene | 10.3 | | 50 | 49.4 | 78 | 48.1 | 76 | 3 | 61-137/15 |
| 107-06-2 | 1,2-Dichloroethane | 63.0 | | 50 | 76.4 | 27* | 74.6 | 23* | 2 | 64-124/7 |
| 78-87-5 | 1,2-Dichloropropane | ND | | 50 | 50.5 | 101 | 50.7 | 101 | 0 | 74-123/8 |
| 124-48-1 | Dibromochloromethane | ND | | 50 | 50.3 | 101 | 50.4 | 101 | 0 | 63-119/9 |
| 156-59-2 | cis-1,2-Dichloroethylene | 322 | E | 50 | 165 | -314* [a] | 162 | -320* [a] | 2 | 74-125/9 |
| 10061-01-5 | cis-1,3-Dichloropropene | ND | | 50 | 45.2 | 90 | 45.0 | 90 | 0 | 65-112/10 |
| 541-73-1 | m-Dichlorobenzene | 7.8 | | 50 | 53.5 | 91 | 53.8 | 92 | 1 | 74-114/7 |
| 95-50-1 | o-Dichlorobenzene | 5.9 | | 50 | 53.3 | 95 | 53.3 | 95 | 0 | 73-114/8 |
| 106-46-7 | p-Dichlorobenzene | 61.8 | | 50 | 69.7 | 16* | 69.8 | 16* | 0 | 74-112/7 |
| 156-60-5 | trans-1,2-Dichloroethylene | ND | | 50 | 48.3 | 97 | 47.4 | 95 | 2 | 70-127/11 |
| 10061-02-6 | trans-1,3-Dichloropropene | ND | | 50 | 47.1 | 94 | 46.5 | 93 | 1 | 59-116/11 |
| 100-41-4 | Ethylbenzene | 14.0 | | 50 | 56.0 | 84 | 55.3 | 83 | 1 | 73-119/8 |
| 74-83-9 | Methyl bromide | ND | | 50 | 47.3 | 95 | 44.2 | 88 | 7 | 52-172/16 |
| 74-87-3 | Methyl chloride | ND | | 50 | 54.9 | 110 | 51.3 | 103 | 7 | 53-155/19 |
| 75-09-2 | Methylene chloride | 2.6 | | 50 | 45.3 | 85 | 44.5 | 84 | 2 | 61-129/11 |
| 1634-04-4 | Methyl Tert Butyl Ether | ND | | 50 | 56.6 | 113 | 56.2 | 112 | 1 | 61-129/9 |
| 71-55-6 | 1,1,1-Trichloroethane | ND | | 50 | 50.6 | 101 | 49.5 | 99 | 2 | 72-133/8 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | ND | | 50 | 54.2 | 108 | 55.0 | 110 | 1 | 64-120/10 |
| 79-00-5 | 1,1,2-Trichloroethane | ND | | 50 | 49.5 | 99 | 49.9 | 100 | 1 | 72-116/9 |
| 127-18-4 | Tetrachloroethylene | ND | | 50 | 52.0 | 104 | 51.1 | 102 | 2 | 70-126/9 |
| 108-88-3 | Toluene | 1.1 | J | 50 | 50.0 | 98 | 50.2 | 98 | 0 | 67-123/8 |
| 79-01-6 | Trichloroethylene | 1.8 | J | 50 | 51.4 | 99 | 51.5 | 99 | 0 | 73-117/10 |
| 75-01-4 | Vinyl chloride | ND | | 50 | 50.6 | 101 | 47.5 | 95 | 6 | 63-161/18 |
| 1330-20-7 | Xylene (total) | ND | | 150 | 154 | 103 | 152 | 101 | 1 | 73-122/7 |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| F25751-1MS | N0000106.D | 2 | 08/10/04 | NJ | n/a | n/a | VN8 |
| F25751-1MSD | N0000107.D | 2 | 08/10/04 | NJ | n/a | n/a | VN8 |
| F25751-1 | N0000105.D | 2 | 08/10/04 | NJ | n/a | n/a | VN8 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25789-4, F25789-5

| CAS No. | Surrogate Recoveries | MS | MSD | F25751-1 | Limits |
|---|---|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 100% | 100% | 99% | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 101% | 101% | 101% | 73-126% |
| 2037-26-5 | Toluene-D8 | 97% | 97% | 97% | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 100% | 101% | 101% | 83-119% |

(a) Outside control limits due to high level in sample relative to spike amount.

# Blank Spike Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VN8-BS | N0000100.D | 1 | 08/10/04 | NJ | n/a | n/a | VN8 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25789-4, F25789-5

| CAS No. | Compound | Spike ug/l | BSP ug/l | BSP % | Limits |
|---|---|---|---|---|---|
| 71-43-2 | Benzene | 25 | 25.4 | 102 | 80-120 |
| 75-27-4 | Bromodichloromethane | 25 | 25.5 | 102 | 75-120 |
| 75-25-2 | Bromoform | 25 | 27.7 | 111 | 60-129 |
| 108-90-7 | Chlorobenzene | 25 | 25.8 | 103 | 82-112 |
| 75-00-3 | Chloroethane | 25 | 20.0 | 80 | 67-148 |
| 67-66-3 | Chloroform | 25 | 25.1 | 100 | 78-118 |
| 110-75-8 | 2-Chloroethyl vinyl ether | 125 | 123 | 98 | 23-132 |
| 56-23-5 | Carbon tetrachloride | 25 | 27.4 | 110 | 69-137 |
| 75-34-3 | 1,1-Dichloroethane | 25 | 25.2 | 101 | 75-117 |
| 75-35-4 | 1,1-Dichloroethylene | 25 | 23.4 | 94 | 67-134 |
| 107-06-2 | 1,2-Dichloroethane | 25 | 24.4 | 98 | 68-121 |
| 78-87-5 | 1,2-Dichloropropane | 25 | 25.3 | 101 | 78-122 |
| 124-48-1 | Dibromochloromethane | 25 | 26.4 | 106 | 68-118 |
| 156-59-2 | cis-1,2-Dichloroethylene | 25 | 25.7 | 103 | 81-120 |
| 10061-01-5 | cis-1,3-Dichloropropene | 25 | 26.1 | 104 | 73-115 |
| 541-73-1 | m-Dichlorobenzene | 25 | 26.5 | 106 | 78-116 |
| 95-50-1 | o-Dichlorobenzene | 25 | 26.2 | 105 | 77-115 |
| 106-46-7 | p-Dichlorobenzene | 25 | 25.7 | 103 | 77-113 |
| 156-60-5 | trans-1,2-Dichloroethylene | 25 | 24.5 | 98 | 74-125 |
| 10061-02-6 | trans-1,3-Dichloropropene | 25 | 24.8 | 99 | 69-115 |
| 100-41-4 | Ethylbenzene | 25 | 25.6 | 102 | 82-115 |
| 74-83-9 | Methyl bromide | 25 | 21.7 | 87 | 60-165 |
| 74-87-3 | Methyl chloride | 25 | 23.1 | 92 | 58-152 |
| 75-09-2 | Methylene chloride | 25 | 23.1 | 92 | 66-125 |
| 1634-04-4 | Methyl Tert Butyl Ether | 25 | 28.0 | 112 | 67-127 |
| 71-55-6 | 1,1,1-Trichloroethane | 25 | 26.4 | 106 | 78-132 |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 25 | 24.3 | 97 | 67-119 |
| 79-00-5 | 1,1,2-Trichloroethane | 25 | 24.6 | 98 | 74-115 |
| 127-18-4 | Tetrachloroethylene | 25 | 36.7 | 147* | 75-126 |
| 108-88-3 | Toluene | 25 | 25.6 | 102 | 81-114 |
| 79-01-6 | Trichloroethylene | 25 | 26.8 | 107 | 80-115 |
| 75-01-4 | Vinyl chloride | 25 | 22.5 | 90 | 70-151 |
| 1330-20-7 | Xylene (total) | 75 | 79.0 | 105 | 81-118 |

# Blank Spike Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| VN8-BS | N0000100.D | 1 | 08/10/04 | NJ | n/a | n/a | VN8 |

**The QC reported here applies to the following samples:** **Method:** SW846 8260B

F25789-4, F25789-5

| CAS No. | Surrogate Recoveries | BSP | Limits |
|---|---|---|---|
| 1868-53-7 | Dibromofluoromethane | 101% | 86-115% |
| 17060-07-0 | 1,2-Dichloroethane-D4 | 102% | 73-126% |
| 2037-26-5 | Toluene-D8 | 97% | 86-112% |
| 460-00-4 | 4-Bromofluorobenzene | 99% | 83-119% |

# Instrument Performance Check (DFTPP)



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

**Sample:** SW1116-DFTPP
**Lab File ID:** W021248.D
**Instrument ID:** GCMSW
**Injection Date:** 07/31/04
**Injection Time:** 11:24

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | Pass/Fail |
|---|---|---|---|---|
| 51 | 30.0 - 80.0% of mass 198 | 35994 | 41.0 | Pass |
| 68 | Less than 2.0% of mass 69 | 0 | 0.0 (0.0) [a] | Pass |
| 69 | Mass 69 relative abundance | 34067 | 38.9 | Pass |
| 70 | Less than 2.0% of mass 69 | 179 | 0.2 (0.53) [a] | Pass |
| 127 | 25.0 - 75.0% of mass 198 | 43504 | 49.6 | Pass |
| 197 | Less than 1.0% of mass 198 | 0 | 0.0 | Pass |
| 198 | Base peak, 100% relative abundance | 87685 | 100.0 | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 6164 | 7.0 | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 16508 | 18.8 | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 1406 | 1.6 | Pass |
| 441 | Present, but less than mass 443 | 6883 | 7.8 (78.6) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 42443 | 48.4 | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 8756 | 10.0 (20.6) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| SW1116-IC1116 | W021250.D | 07/31/04 | 12:14 | 00:50 | Initial cal 1 |
| SW1116-IC1116 | W021251.D | 07/31/04 | 12:45 | 01:21 | Initial cal 2 |
| SW1116-IC1116 | W021252.D | 07/31/04 | 13:17 | 01:53 | Initial cal 3 |
| SW1116-ICC1116 | W021253.D | 07/31/04 | 13:49 | 02:25 | Initial cal 4 |
| SW1116-IC1116 | W021254.D | 07/31/04 | 14:20 | 02:56 | Initial cal 5 |
| SW1116-IC1116 | W021255.D | 07/31/04 | 14:52 | 03:28 | Initial cal 6 |
| SW1116-IC1116 | W021256.D | 07/31/04 | 15:23 | 03:59 | Initial cal 7 |
| SW1116-ICV1116 | W021257.D | 07/31/04 | 15:54 | 04:30 | Initial cal verification 5 |
| OP10945-BS | W021258.D | 07/31/04 | 16:26 | 05:02 | Blank Spike |
| OP10945-MB | W021259.D | 07/31/04 | 16:57 | 05:33 | Method Blank |
| F25412-1 | W021263.D | 07/31/04 | 19:00 | 07:36 | (used for QC only; not part of job F25789) |
| OP10945-MS | W021264.D | 07/31/04 | 19:31 | 08:07 | Matrix Spike |
| OP10945-MSD | W021265.D | 07/31/04 | 20:02 | 08:38 | Matrix Spike Duplicate |
| ZZZZZZ | W021266.D | 07/31/04 | 20:32 | 09:08 | (unrelated sample) |
| ZZZZZZ | W021267.D | 07/31/04 | 21:03 | 09:39 | (unrelated sample) |
| ZZZZZZ | W021268.D | 07/31/04 | 21:34 | 10:10 | (unrelated sample) |
| ZZZZZZ | W021269.D | 07/31/04 | 22:05 | 10:41 | (unrelated sample) |
| ZZZZZZ | W021270.D | 07/31/04 | 22:35 | 11:11 | (unrelated sample) |

# Instrument Performance Check (DFTPP)



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| | | | |
|---|---|---|---|
| **Sample:** | SW1127-DFTPP | **Injection Date:** | 08/12/04 |
| **Lab File ID:** | W021463.D | **Injection Time:** | 09:35 |
| **Instrument ID:** | GCMSW | | |

| m/e | Ion Abundance Criteria | Raw Abundance | % Relative Abundance | | Pass/Fail |
|---|---|---|---|---|---|
| 51 | 30.0 - 80.0% of mass 198 | 46529 | 43.5 | | Pass |
| 68 | Less than 2.0% of mass 69 | 309 | 0.29 | (0.76) [a] | Pass |
| 69 | Mass 69 relative abundance | 40533 | 37.9 | | Pass |
| 70 | Less than 2.0% of mass 69 | 223 | 0.21 | (0.55) [a] | Pass |
| 127 | 25.0 - 75.0% of mass 198 | 53659 | 50.1 | | Pass |
| 197 | Less than 1.0% of mass 198 | 162 | 0.15 | | Pass |
| 198 | Base peak, 100% relative abundance | 107061 | 100.0 | | Pass |
| 199 | 5.0 - 9.0% of mass 198 | 7158 | 6.7 | | Pass |
| 275 | 10.0 - 30.0% of mass 198 | 20775 | 19.4 | | Pass |
| 365 | 1.0 - 100.0% of mass 198 | 1935 | 1.8 | | Pass |
| 441 | Present, but less than mass 443 | 8926 | 8.3 | (77.4) [b] | Pass |
| 442 | 40.0 - 100.0% of mass 198 | 57120 | 53.4 | | Pass |
| 443 | 17.0 - 23.0% of mass 442 | 11535 | 10.8 | (20.2) [c] | Pass |

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

**This check applies to the following Samples, MS, MSD, Blanks, and Standards:**

| Lab Sample ID | Lab File ID | Date Analyzed | Time Analyzed | Hours Lapsed | Client Sample ID |
|---|---|---|---|---|---|
| SW1127-CC1116 | W021465.D | 08/12/04 | 10:25 | 00:50 | Continuing cal 4 |
| OP11065-BS | W021467.D | 08/12/04 | 11:27 | 01:52 | Blank Spike |
| OP11065-MB | W021468.D | 08/12/04 | 11:58 | 02:23 | Method Blank |
| F25789-10 | W021469.D | 08/12/04 | 12:30 | 02:55 | OLFS-2406-MW4S |
| OP11065-MS | W021470.D | 08/12/04 | 13:01 | 03:26 | Matrix Spike |
| OP11065-MSD | W021471.D | 08/12/04 | 13:33 | 03:58 | Matrix Spike Duplicate |
| F25789-11 | W021472.D | 08/12/04 | 14:04 | 04:29 | OLFS-2406-MW39 |
| F25789-12 | W021473.D | 08/12/04 | 14:35 | 05:00 | OLFS-2406-MW40 |
| ZZZZZZ | W021474.D | 08/12/04 | 15:07 | 05:32 | (unrelated sample) |
| ZZZZZZ | W021475.D | 08/12/04 | 15:38 | 06:03 | (unrelated sample) |
| ZZZZZZ | W021476.D | 08/12/04 | 16:09 | 06:34 | (unrelated sample) |

# Matrix Spike/Matrix Spike Duplicate Summary



**Job Number:** F25789
**Account:** TETRFLTA Tetra-Tech NUS
**Project:** NAS Pensacola CTO# 274 N2642

| Sample | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| OP11063-MS | OP41471.D | 5 | 08/09/04 | AA | 08/06/04 | OP11063 | GOP1269 |
| OP11063-MSD | OP41472.D | 5 | 08/09/04 | AA | 08/06/04 | OP11063 | GOP1269 |
| F25795-2 | OP41470.D | 10 | 08/09/04 | AA | 08/06/04 | OP11063 | GOP1269 |

**The QC reported here applies to the following samples:** **Method:** FLORIDA-PRO

F25789-10, F25789-11, F25789-12

| CAS No. | Compound | F25795-2 mg/l | Q | Spike mg/l | MS mg/l | MS % | MSD mg/l | MSD % | RPD | Limits Rec/RPD |
|---|---|---|---|---|---|---|---|---|---|---|
| | TPH (C8-C40) | 10.7 | | 1.77 | 11.2 | 28* [a] | 11.3 | 34* [a] | 1 | 52-140/20 |

| CAS No. | Surrogate Recoveries | MS | MSD | F25795-2 | Limits |
|---|---|---|---|---|---|
| 84-15-1 | o-Terphenyl | 77% | 81% | 72% | 50-125% |

(a) Outside control limits due to high level in sample relative to spike amount.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **G. WALKER** | **DATE:** | **OCTOBER 4, 2004** |
| **FROM:** | **ERIN M. FAUST** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION – LEAD**
**CTO – 274 NAS PENSACOLA**
**SAMPLE DELIVERY GROUP (SDG) – F25789**

**SAMPLES:** 11/Aqueous/

| | | |
|---|---|---|
| OLFS-2406-DMW34 | OLFS-2406-DMW42D | OLFS-2406-DMW43D |
| OLFS-2406-DMW44D | OLFS-2406-MW28 | OLFS-2406-MW39 |
| OLFS-2406-MW40 | OLFS-2406-MW42S | OLFS-2406-MW43S |
| OLFS-2406-MW44S | OLFS-2406-MW4S | |

Overview

The sample set for CTO 274, NAS Pensacola, SDG F25789, consists of eleven (11) groundwater environmental samples.

All samples were analyzed for lead. The samples were collected by TetraTech NUS on July 28, 29 and 30, 2004 and analyzed by Accutest Laboratories, Southeast under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control (QA/QC) criteria. Lead analyses were conducted using SW-846 method 6010B.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

| Analyte | Maximum Concentration | Action Level |
|---|---|---|
| Lead | 4.0 µg/L | 20.0 µg/L |

An action level of 5X the maximum concentration has been used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results, less than the action level, reported for lead were qualified "U" as a result of laboratory blank contamination.

Executive Summary

**Laboratory Performance:** Lead was present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", July 2002 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Erin M Faust

Tetra Tech NUS
Erin M. Faust
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

# APPENDIX A
## QUALIFIED ANALYTICAL RESULTS

**Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery 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 - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: M

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-DMW34 | nsample | OLFS-2406-DMW42D | nsample | OLFS-2406-DMW43D |
| samp_date | 7/30/2004 | samp_date | 7/28/2004 | samp_date | 7/28/2004 |
| lab_id | F25789-3 | lab_id | F25789-5 | lab_id | F25789-7 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 15.2 | U | A |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | A |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 8.9 | U | A |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: M

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-DMW44D | nsample | OLFS-2406-MW28 | nsample | OLFS-2406-MW39 |
| samp_date | 7/29/2004 | samp_date | 7/30/2004 | samp_date | 7/30/2004 |
| lab_id | F25789-9 | lab_id | F25789-1 | lab_id | F25789-11 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 19.3 | U | A |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: M

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-MW40 | nsample | OLFS-2406-MW42S | nsample | OLFS-2406-MW43S |
| samp_date | 7/30/2004 | samp_date | 7/28/2004 | samp_date | 7/29/2004 |
| lab_id | F25789-12 | lab_id | F25789-4 | lab_id | F25789-6 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 3.1 | U | A |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 5.1 | U | A |

# PROJ_NO: 2642

SDG: F25789 MEDIA: WATER DATA FRACTION: M

| | | | |
|---|---|---|---|
| nsample | OLFS-2406-MW44S | nsample | OLFS-2406-MW4S |
| samp_date | 7/28/2004 | samp_date | 7/30/2004 |
| lab_id | F25789-8 | lab_id | F25789-10 |
| qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 4.1 | U | A |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

# APPENDIX B
## RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW34 | | |
| **Lab Sample ID:** | F25789-3 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 15.2 | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW42D | | |
| **Lab Sample ID:** | F25789-5 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 I | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW43D | | |
| **Lab Sample ID:** | F25789-7 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 8.9 | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW44D | | |
| **Lab Sample ID:** | F25789-9 | **Date Sampled:** | 07/29/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW28 | | |
| **Lab Sample ID:** | F25789-1 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 19.3 | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW39 | | |
| **Lab Sample ID:** | F25789-11 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW40 | | |
| **Lab Sample ID:** | F25789-12 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 3.1 I | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW42S | | |
| **Lab Sample ID:** | F25789-4 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW43S | | |
| **Lab Sample ID:** | F25789-6 | **Date Sampled:** | 07/29/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 5.1 | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW44S | | |
| **Lab Sample ID:** | F25789-8 | **Date Sampled:** | 07/28/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 4.1 I | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW4S | | |
| **Lab Sample ID:** | F25789-10 | **Date Sampled:** | 07/30/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 07/31/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/18/04 | 08/20/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3937
(2) Prep QC Batch: MP7000

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

# APPENDIX C
## SUPPORT DOCUMENTATION

TETRA TECH NUS, INC. | CHAIN OF CUSTODY | NUMBER 4244 F25789 | PAGE 1 OF 1

| PROJECT NO: | FACILITY: | PROJECT MANAGER | PHONE NUMBER | LABORATORY NAME AND CONTACT: |
|---|---|---|---|---|
| N2642 | OLF Sanford | Gerry Walker | 850-385-9899 | Accutest Lab SE |
| SAMPLERS (SIGNATURE) | | FIELD OPERATIONS LEADER: Howard Engle | PHONE NUMBER: 850-385-9899 | ADDRESS: 4405 Vineland Rd Ste C150 |
| | | CARRIER/WAYBILL NUMBER: 8350-5454-9023 (Fed-Ex) | | CITY, STATE: Orlando FL 32811-7363 |

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): 3G 3G 2G 2G 1P
PRESERVATIVE USED: HCl, $Na_2S_2O_3$, N/A, $H_2SO_4$, HNO3

| | DATE YEAR 7/30/04 8004 | TIME | SAMPLE ID | LOCATION ID | TOP DEPTH (FT) | BOTTOM DEPTH (FT) | MATRIX (GW, SO, SW, SD, QC, ETC.) | COLLECTION METHOD GRAP (G) COMP (C) | No. OF CONTAINERS | VOCs (8260) | EDB (504.1) | PAHs (8270 Sim) | TRPH (FL-PRO) | Total Lead (6010B) | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7/30 | 0955 | OLFS-2406-MW28 | MW28 | 46.03' | 80' | GW | G | 1 | | | | | X | | | | All times |
| 2 | 7/29 | 1845 | OLFS-2406-MW29 | MW29 | 38.37 | 80' | | | 4 | X | | | | X | | | | are Central |
| 3 | 7/30 | 1130 | OLFS-2406-DMW34 | DMW34 | 27.3' | 77' | | | 1 | | | | | X | | | | |
| 4 | 7/28 | 1015 | OLFS-2406-MW42S | MW42S | 33.27' | | | | 4 | X | | | | X | | | | see work |
| 5 | 7/28 | 1030 | OLFS-2406-DMW42D | DMW42D | 45.14 | | | | 4 | X | | | | X | | | | Release # |
| 6 | 7/29 | 1545 | OLFS-2406-MW43S | MW43S | 18.8 | 51.3 | | | 4 | X | | | | X | | | | N2642-WR452 |
| 7 | 7/28 | 1335 | OLFS-2406-DMW43D | DMW43D | 71.33 | 133.2 | | | 4 | X | | | | X | | | | for detailed |
| 8 | 7/28 | 1745 | OLFS-2406-MW44S | MW44S | 29.04 | 56 | | | 4 | X | | | | X | | | | parameter list |
| 9 | 7/29 | 1740 | OLFS-2406-DMW44D | DMW44D | 28.89 | 130 | | | 4 | X | | | | X | | | | |
| 10 | 7/30 | 1450 | OLFS-2406-MW45 | MW45 | 35.25 | | | | 11 | X | X | X | X | X | | | | |
| 11 | 7/30 | 1545 | OLFS-2406-MW39 | MW39 | 36.02 | 56 | | | 11 | X | X | X | X | X | | | | |
| 12 | 7/30 | 1645 | OLFS-2406-MW40 | MW40 | 41.15 | 56 | | | 11 | X | X | X | X | X | | | | |
| 13 | | | Trip Blank | | | | QC | | 6 | X | X | | | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| 1. RELINQUISHED BY: William Howard Engle | DATE: 7/30/04 | TIME: 19:00 | 1. RECEIVED BY: FX | DATE: 7/29/04 | TIME: — |
| 2. RELINQUISHED BY: FX | DATE: 7/31/04 | TIME: 9:00 | 2. RECEIVED BY: [signature] | DATE: 7/31/04 | TIME: 9:00 |
| 3. RELINQUISHED BY | DATE | TIME | 3. RECEIVED BY | DATE | TIME |

COMMENTS: 2.6 3.4

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R

# HOLDTIME

SDG F25789

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| M | UG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-DMW34 | F25789-3 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-DMW42D | F25789-5 | NM | 07/28/2004 | 08/18/2004 | 08/20/2004 | 21 | 2 | 23 |
| M | UG/L | OLFS-2406-DMW43D | F25789-7 | NM | 07/28/2004 | 08/18/2004 | 08/20/2004 | 21 | 2 | 23 |
| M | UG/L | OLFS-2406-DMW44D | F25789-9 | NM | 07/29/2004 | 08/18/2004 | 08/20/2004 | 20 | 2 | 22 |
| M | UG/L | OLFS-2406-MW28 | F25789-1 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/18/2004 | 08/20/2004 | 19 | 2 | 21 |
| M | UG/L | OLFS-2406-MW42S | F25789-4 | NM | 07/28/2004 | 08/18/2004 | 08/20/2004 | 21 | 2 | 23 |
| M | UG/L | OLFS-2406-MW43S | F25789-6 | NM | 07/29/2004 | 08/18/2004 | 08/20/2004 | 20 | 2 | 22 |
| M | UG/L | OLFS-2406-MW44S | F25789-8 | NM | 07/28/2004 | 08/18/2004 | 08/20/2004 | 21 | 2 | 23 |
| | % | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| | % | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| | % | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| | UG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| | UG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| | UG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/06/2004 | 08/12/2004 | 7 | 6 | 13 |
| EDB | % | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | % | TRIP BLANK | F25789-13 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | % | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | % | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | UG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | UG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | UG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| EDB | UG/L | TRIP BLANK | F25789-13 | NM | 07/30/2004 | 08/04/2004 | 08/05/2004 | 5 | 1 | 6 |
| OV | % | OLFS-2406-DMW42D | F25789-5 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-DMW43D | F25789-7 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | % | OLFS-2406-MW43S | F25789-6 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-MW44S | F25789-8 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-DMW44D | F25789-9 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-MW29 | F25789-2 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | % | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | % | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | % | OLFS-2406-MW42S | F25789-4 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | % | TRIP BLANK | F25789-13 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW42S | F25789-4 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | UG/L | TRIP BLANK | F25789-13 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW43S | F25789-6 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-DMW44D | F25789-9 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/11/2004 | 08/11/2004 | 12 | 0 | 12 |
| OV | UG/L | OLFS-2406-MW29 | F25789-2 | NM | 07/29/2004 | 08/11/2004 | 08/11/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-DMW42D | F25789-5 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-DMW43D | F25789-7 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| OV | UG/L | OLFS-2406-MW44S | F25789-8 | NM | 07/28/2004 | 08/10/2004 | 08/10/2004 | 13 | 0 | 13 |
| TPH | MG/L | OLFS-2406-MW40 | F25789-12 | NM | 07/30/2004 | 08/06/2004 | 08/07/2004 | 7 | 1 | 8 |
| TPH | MG/L | OLFS-2406-MW39 | F25789-11 | NM | 07/30/2004 | 08/06/2004 | 08/07/2004 | 7 | 1 | 8 |
| TPH | MG/L | OLFS-2406-MW4S | F25789-10 | NM | 07/30/2004 | 08/06/2004 | 08/07/2004 | 7 | 1 | 8 |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Tetra-Tech NUS **Job No:** F25789

**Site:** NAS Pensacola CTO# 274 N2642 **Report Date** 9/1/2004 9:53:53 AM

12 Samples, 1 Trip Blank were collected on between 07/28/2004 and 07/30/2004 and were received at Accutest on 07/31/2004 properly preserved, at 3.4 Deg. C and intact. These Samples received an Accutest job number of F25789.A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

**Matrix:** AQ **Batch ID:** VM3

All samples were analyzed within the recommended method holding time.

Sample(s) F25763-1MS, F25763-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

MS/MSD Recovery for 2-Chloroethyl vinyl ether is outside control limits due to sample preservation. For method performance in clean matrix refer to Blank Spike data.

**Matrix:** AQ **Batch ID:** VM4

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25811-1MS, F25811-1MSD were used as the QC samples indicated.

MS/MSD Recovery for 2-Chloroethyl vinyl ether is outside control limits. See above

**Matrix:** AQ **Batch ID:** VN8

All samples were analyzed within the recommended method holding time.

Sample(s) F25751-1MS, F25751-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Blank Spike Recovery for Tetrachloroethylene is outside control limits. The recovery biased high, TCE not detected in the samples. Data integrity not compromised.

Matrix Spike Recoveries for 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, p-Dichlorobenzene, 1,1-Dichloroethane are outside control limits. Outside control limits due to high level in sample relative to spike amount and matrix interference. For method performance in clean matrix refer to Blank Spike data.

Matrix Spike Duplicate Recovery(s) for 1,1-Dichloroethane, 1,2-Dichloroethane, 2-Chloroethyl vinyl ether, Benzene, Chlorobenzene, cis-1,2-Dichloroethylene, p-Dichlorobenzene are outside control limits. See above.

Matrix Spike Recovery(s) for Benzene, Chlorobenzene, cis-1,2-Dichloroethylene are outside control limits. Outside control limits due to high level in sample relative to spike amount.

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ **Batch ID:** OP11065

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F25789-10MS, F25789-10MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

F25789-10 for 2-Fluorobiphenyl: Surrogate recoveries corrected for double spike.

F25789-10 for Terphenyl-d14: Surrogate recoveries corrected for double spike.

F25789-10 for Nitrobenzene-d5: Surrogate recoveries corrected for double spike.

## Volatiles by GC By Method EPA 504.1

**Matrix:** AQ **Batch ID:** OP11047

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F25819-8MS, F25819-8MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

## Extractables by GC By Method FLORIDA-PRO

**Matrix:** AQ **Batch ID:** OP11063

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F25795-2MS, F25795-2MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for TPH (C8-C40) are outside control limits. Outside control limits due to high level in sample relative to spike amount.

## Metals By Method SW846 6010B

**Matrix:** AQ **Batch ID:** MP7000

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25930-1MS, F25930-1MSD, F25930-1SDL, F25930-1DUP were used as the QC samples for metals.

RPD(s) for Duplicate for Lead are outside control limits. RPD acceptable due to low duplicate and sample concentrations.

RPD(s) for Serial Dilution for Lead are outside control limits. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Svetlana Izosimova, QAO

Date: September 01, 2004

Accutest Laboratories

# Sample Summary

Tetra-Tech NUS

**Job No:** F25789

NAS Pensacola CTO# 274 N2642
Project No: N2642-WR452

| Sample Number | Collected Date | Collected Time By | Received | Matrix Code | Matrix Type | Client Sample ID |
|---|---|---|---|---|---|---|
| F25789-1 | 07/30/04 | 09:55 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-MW28 |
| F25789-2 | 07/29/04 | 18:45 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-MW29 |
| F25789-3 | 07/30/04 | 11:30 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-DMW34 |
| F25789-4 | 07/28/04 | 10:15 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-MW42S |
| F25789-5 | 07/28/04 | 10:30 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-DMW42D |
| F25789-6 | 07/29/04 | 15:45 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-MW43S |
| F25789-7 | 07/28/04 | 13:35 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-DMW43D |
| F25789-8 | 07/28/04 | 17:45 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-MW44S |
| F25789-9 | 07/29/04 | 17:40 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-DMW44D |
| F25789-10 | 07/30/04 | 14:50 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-MW4S |
| F25789-11 | 07/30/04 | 15:45 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-MW39 |
| F25789-12 | 07/30/04 | 16:45 WE | 07/31/04 | AQ | Ground Water | OLFS-2406-MW40 |
| F25789-13 | 07/30/04 | 00:00 WE | 07/31/04 | AQ | Trip Blank Water | TRIP BLANK |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3937  Units: ug/l

| Metal | ICV True | ICV Results | % Rec | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | anr | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 2030 | 101.5 | 2000 | 2020 | 101.0 | 2000 | 2060 | 103.0 |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



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CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3937  Units: ug/l

| Metal | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | anr | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 2050 | 102.5 | 2000 | 2040 | 102.0 | 2000 | 2020 | 101.0 |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



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CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC
QC Limits: 90 to 110 % Recovery

Date Analyzed: 08/20/04
Run ID: MA3937

Methods: SW846 6010B
Units: ug/l

| Metal | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | anr | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 2000 | 100.0 | 2000 | 2000 | 100.0 | 2000 | 1990 | 99.5 |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3937  Units: ug/l

| Metal | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | anr | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 2030 | 101.5 | 2000 | 1970 | 98.5 | 2000 | 1970 | 98.5 |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



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CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3937  Units: ug/l

| Metal | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | anr | | | | | | | | |
| Antimony | | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 1980 | 99.0 | 2000 | 1940 | 97.0 | 2000 | 1900 | 95.0 |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | anr | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Thallium | | | | | | | | | |
| Tin | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3937  Units: ug/l

| Metal | CCV True | CCV Results | % Rec |
|---|---|---|---|
| Aluminum | anr | | |
| Antimony | | | |
| Arsenic | anr | | |
| Barium | anr | | |
| Beryllium | anr | | |
| Cadmium | anr | | |
| Calcium | anr | | |
| Chromium | anr | | |
| Cobalt | | | |
| Copper | anr | | |
| Iron | anr | | |
| Lead | 2000 | 1960 | 98.0 |
| Magnesium | | | |
| Manganese | anr | | |
| Molybdenum | anr | | |
| Nickel | anr | | |
| Potassium | anr | | |
| Selenium | anr | | |
| Silver | anr | | |
| Sodium | anr | | |
| Thallium | | | |
| Tin | | | |
| Vanadium | | | |
| Zinc | anr | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC
QC Limits: result < RL

Date Analyzed: 08/20/04
Run ID: MA3937

Methods: SW846 6010B
Units: ug/l

| Metal | RL | IDL | ICB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.6 | anr | | | | | | | |
| Antimony | 5.0 | 1.5 | | | | | | | | |
| Arsenic | 10 | 2.8 | anr | | | | | | | |
| Barium | 200 | .5 | anr | | | | | | | |
| Beryllium | 4.0 | .3 | anr | | | | | | | |
| Cadmium | 5.0 | .3 | anr | | | | | | | |
| Calcium | 1000 | 3.8 | anr | | | | | | | |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .5 | | | | | | | | |
| Copper | 25 | .44 | anr | | | | | | | |
| Iron | 300 | 7.1 | anr | | | | | | | |
| Lead | 5.0 | 1.2 | 3.5 | <5.0 | 1.8 | <5.0 | 4.0 | <5.0 | 3.5 | <5.0 |
| Magnesium | 5000 | 9.9 | | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .75 | anr | | | | | | | |
| Nickel | 40 | 1.1 | anr | | | | | | | |
| Potassium | 5000 | 14 | anr | | | | | | | |
| Selenium | 10 | 2 | anr | | | | | | | |
| Silver | 10 | .6 | anr | | | | | | | |
| Sodium | 5000 | 150 | anr | | | | | | | |
| Thallium | 10 | 1.5 | | | | | | | | |
| Tin | 50 | 1.5 | | | | | | | | |
| Vanadium | 50 | .47 | | | | | | | | |
| Zinc | 20 | .59 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC
QC Limits: result < RL

Date Analyzed: 08/20/04
Run ID: MA3937

Methods: SW846 6010B
Units: ug/l

| Metal | RL | IDL | CCB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.6 | anr | | | | | | | |
| Antimony | 5.0 | 1.5 | | | | | | | | |
| Arsenic | 10 | 2.8 | anr | | | | | | | |
| Barium | 200 | .5 | anr | | | | | | | |
| Beryllium | 4.0 | .3 | anr | | | | | | | |
| Cadmium | 5.0 | .3 | anr | | | | | | | |
| Calcium | 1000 | 3.8 | anr | | | | | | | |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .5 | | | | | | | | |
| Copper | 25 | .44 | anr | | | | | | | |
| Iron | 300 | 7.1 | anr | | | | | | | |
| Lead | 5.0 | 1.2 | 2.8 | <5.0 | 0.97 | <5.0 | 1.0 | <5.0 | 2.4 | <5.0 |
| Magnesium | 5000 | 9.9 | | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .75 | anr | | | | | | | |
| Nickel | 40 | 1.1 | anr | | | | | | | |
| Potassium | 5000 | 14 | anr | | | | | | | |
| Selenium | 10 | 2 | anr | | | | | | | |
| Silver | 10 | .6 | anr | | | | | | | |
| Sodium | 5000 | 150 | anr | | | | | | | |
| Thallium | 10 | 1.5 | | | | | | | | |
| Tin | 50 | 1.5 | | | | | | | | |
| Vanadium | 50 | .47 | | | | | | | | |
| Zinc | 20 | .59 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



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BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC
QC Limits: result < RL

Date Analyzed: 08/20/04
Run ID: MA3937

Methods: SW846 6010B
Units: ug/l

| Metal | RL | IDL | CCB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.6 | anr | | | | | | | |
| Antimony | 5.0 | 1.5 | | | | | | | | |
| Arsenic | 10 | 2.8 | anr | | | | | | | |
| Barium | 200 | .5 | anr | | | | | | | |
| Beryllium | 4.0 | .3 | anr | | | | | | | |
| Cadmium | 5.0 | .3 | anr | | | | | | | |
| Calcium | 1000 | 3.8 | anr | | | | | | | |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .5 | | | | | | | | |
| Copper | 25 | .44 | anr | | | | | | | |
| Iron | 300 | 7.1 | anr | | | | | | | |
| Lead | 5.0 | 1.2 | 1.5 | <5.0 | 2.1 | <5.0 | 1.9 | <5.0 | 2.0 | <5.0 |
| Magnesium | 5000 | 9.9 | | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .75 | anr | | | | | | | |
| Nickel | 40 | 1.1 | anr | | | | | | | |
| Potassium | 5000 | 14 | anr | | | | | | | |
| Selenium | 10 | 2 | anr | | | | | | | |
| Silver | 10 | .6 | anr | | | | | | | |
| Sodium | 5000 | 150 | anr | | | | | | | |
| Thallium | 10 | 1.5 | | | | | | | | |
| Tin | 50 | 1.5 | | | | | | | | |
| Vanadium | 50 | .47 | | | | | | | | |
| Zinc | 20 | .59 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



0616

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC
QC Limits: result < RL

Date Analyzed: 08/20/04
Run ID: MA3937

Methods: SW846 6010B
Units: ug/l

| Metal | RL | IDL | CCB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.6 | anr | | | | | | | |
| Antimony | 5.0 | 1.5 | | | | | | | | |
| Arsenic | 10 | 2.8 | anr | | | | | | | |
| Barium | 200 | .5 | anr | | | | | | | |
| Beryllium | 4.0 | .3 | anr | | | | | | | |
| Cadmium | 5.0 | .3 | anr | | | | | | | |
| Calcium | 1000 | 3.8 | anr | | | | | | | |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .5 | | | | | | | | |
| Copper | 25 | .44 | anr | | | | | | | |
| Iron | 300 | 7.1 | anr | | | | | | | |
| Lead | 5.0 | 1.2 | 1.3 | <5.0 | 2.9 | <5.0 | 2.5 | <5.0 | 2.5 | <5.0 |
| Magnesium | 5000 | 9.9 | | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .75 | anr | | | | | | | |
| Nickel | 40 | 1.1 | anr | | | | | | | |
| Potassium | 5000 | 14 | anr | | | | | | | |
| Selenium | 10 | 2 | anr | | | | | | | |
| Silver | 10 | .6 | anr | | | | | | | |
| Sodium | 5000 | 150 | anr | | | | | | | |
| Thallium | 10 | 1.5 | | | | | | | | |
| Tin | 50 | 1.5 | | | | | | | | |
| Vanadium | 50 | .47 | | | | | | | | |
| Zinc | 20 | .59 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



0617

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

QC Batch ID: MP7000
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/18/04

| Metal | RL | IDL | MB raw | final |
|---|---|---|---|---|
| Aluminum | 200 | 6.6 | | |
| Antimony | 5.0 | 1.5 | | |
| Arsenic | 10 | 2.8 | | |
| Barium | 200 | .5 | | |
| Beryllium | 4.0 | .3 | | |
| Cadmium | 5.0 | .3 | | |
| Calcium | 1000 | 3.8 | | |
| Chromium | 10 | .4 | | |
| Cobalt | 50 | .5 | | |
| Copper | 25 | .44 | | |
| Iron | 300 | 7.1 | anr | |
| Lead | 5.0 | 1.2 | 1.7 | <5.0 |
| Magnesium | 5000 | 9.9 | | |
| Manganese | 15 | .16 | anr | |
| Molybdenum | 50 | .75 | | |
| Nickel | 40 | 1.1 | | |
| Potassium | 5000 | 14 | | |
| Selenium | 10 | 2 | | |
| Silver | 10 | .6 | | |
| Sodium | 5000 | 150 | | |
| Thallium | 10 | 1.5 | | |
| Tin | 50 | 1.5 | | |
| Vanadium | 50 | .47 | | |
| Zinc | 20 | .59 | | |

Associated samples MP7000: F25789-1, F25789-3, F25789-4, F25789-5, F25789-6, F25789-7, F25789-8, F25789-9, F25789-10, F25789-11, F25789-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

QC Batch ID: MP7000
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/18/04

| Metal | BSP Result | Spikelot MPFLICP | % Rec | QC Limits |
|---|---|---|---|---|
| Aluminum | | | | |
| Antimony | | | | |
| Arsenic | | | | |
| Barium | | | | |
| Beryllium | | | | |
| Cadmium | | | | |
| Calcium | | | | |
| Chromium | | | | |
| Cobalt | | | | |
| Copper | | | | |
| Iron | anr | | | |
| Lead | 1000 | 1000 | 100.0 | 80-120 |
| Magnesium | | | | |
| Manganese | anr | | | |
| Molybdenum | | | | |
| Nickel | | | | |
| Potassium | | | | |
| Selenium | | | | |
| Silver | | | | |
| Sodium | | | | |
| Thallium | | | | |
| Tin | | | | |
| Vanadium | | | | |
| Zinc | | | | |

Associated samples MP7000: F25789-1, F25789-3, F25789-4, F25789-5, F25789-6, F25789-7, F25789-8, F25789-9, F25789-10, F25789-11, F25789-12

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MP 2000

# Metals Digestion Log: Water

Method of Digestion: SW846-3010A/3005A/EPA 200.7/3030C (CIRCLE ONE) Temp: 94° Thermometer ID 104

| | HNO3 | HCl | Spk. Sol.* | Amount Used* |
|---|---|---|---|---|
| Added: | | | 1 Acc 333 | .25ml |
| | | | 2 Acc 344 | 1.0ml |
| | | | 3 Mct 1264 | .5ml |
| Mfg: | Fisher | Fisher | | |
| Lot# | 1103040 | ~~0527480~~ 4103101 | Digestion Tube Lot# | A 311LS162 |

| Sample # | Init. Vol/Wt | Fin. Vol/Wt | Date | Comments |
|---|---|---|---|---|
| MB 8/18/04 | 50 mL | 50ml | 8/18/04 | |
| SB | | | | |
| MS ~~F25982-2~~ F25930-1.11 | | | | |
| MSD | | | | |
| Dup | | | | |
| 1 QC | | | | |
| 2 F25930-2.11 | | | | |
| 3 -3.11 | | | | |
| 4 -4.11 | | | | |
| 5 F25789-1.1 | | | | |
| 6 -3.1 | | | | |
| 7 -4.5 | | | | |
| 8 -5.5 | | | | |
| 9 -6.5 | | | | Sediment |
| 10 -7.5 | | | | |
| 11 -8.5 | | | | |
| 12 -9.5 | | | | |
| 13 -10.13 | | | | |
| 14 -11.13 | | | | Sediment |
| 15 -12.13 | | | | Sediment |
| 16 F26045-1.7 | | | | Sediment |
| 17 F25932-1.16 | | | | |
| 18 -2.16 | | | | |
| 19 -5.16 | | | | Sediment |
| 20 | | | | |

Analyst [signature] Date 8/18/04

QC Review [signature] Date 8.18.04

Rev. 01/12/04 DJM * Used For SB, MS, MSD Page Number: 000035

0646

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 08/20/04
Run ID: MA3937

Methods: SW846 6010B

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:13 | MA3937-ICV1 | 1 | | |
| 10:15 | MA3937-ICB1 | 1 | | |
| 10:21 | MA3937-CRI1 | 1 | | |
| 10:27 | MA3937-ICSA1 | 1 | | |
| 10:28 | MA3937-ICSAB1 | 1 | | |
| 10:30 | MA3937-CCV1 | 1 | | |
| 10:35 | MA3937-CCB1 | 1 | | |
| 10:39 | MP6984-MB1 | 1 | | |
| 10:42 | MP6984-B1 | 1 | | |
| 10:48 | F25756-11 | 1 | | (sample used for QC only; not part of login F25789) |
| 10:52 | MP6984-D1 | 1 | | |
| 10:55 | MP6984-SD1 | 5 | | |
| 10:59 | MP6984-S1 | 1 | | |
| 11:02 | MP6984-S2 | 1 | | |
| 11:08 | ZZZZZZ | 1 | | |
| 11:12 | ZZZZZZ | 1 | | |
| 11:16 | ZZZZZZ | 1 | | |
| 11:19 | MA3937-CCV2 | 1 | | |
| 11:24 | MA3937-CCB2 | 1 | | |
| 11:28 | ZZZZZZ | 1 | | |
| 11:32 | ZZZZZZ | 1 | | |
| 11:36 | ZZZZZZ | 1 | | |
| 11:39 | ZZZZZZ | 1 | | |
| 11:43 | ZZZZZZ | 1 | | |
| 11:46 | ZZZZZZ | 1 | | |
| 11:50 | ZZZZZZ | 1 | | |
| 11:54 | ZZZZZZ | 1 | | |
| 11:57 | ZZZZZZ | 1 | | |
| 12:01 | ZZZZZZ | 1 | | |
| 12:05 | MA3937-CCV3 | 1 | | |
| 12:09 | MA3937-CCB3 | 1 | | |
| 12:28 | ZZZZZZ | 1 | | |
| 12:32 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3937
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 12:35 | ZZZZZZ | 1 | | |
| 12:39 | ZZZZZZ | 1 | | |
| 12:42 | ZZZZZZ | 1 | | |
| 12:46 | ZZZZZZ | 1 | | |
| 12:52 | MP6986-MB1 | 1 | | |
| 12:56 | MP6986-B1 | 1 | | |
| 13:02 | F25860-3 | 1 | | (sample used for QC only; not part of login F25789) |
| 13:06 | MP6986-D1 | 1 | | |
| 13:10 | MA3937-CCV4 | 1 | | |
| 13:14 | MA3937-CCB4 | 1 | | |
| 13:18 | MP6986-SD1 | 5 | | |
| 13:21 | MP6986-S1 | 1 | | |
| 13:25 | MP6986-S2 | 1 | | |
| 13:32 | ZZZZZZ | 1 | | |
| 13:35 | ZZZZZZ | 1 | | |
| 13:39 | ZZZZZZ | 1 | | |
| 13:42 | ZZZZZZ | 1 | | |
| 13:46 | ZZZZZZ | 1 | | |
| 13:50 | ZZZZZZ | 1 | | |
| 13:53 | ZZZZZZ | 1 | | |
| 13:57 | MA3937-CCV5 | 1 | | |
| 14:02 | MA3937-CCB5 | 1 | | |
| 14:05 | ZZZZZZ | 1 | | |
| 14:09 | ZZZZZZ | 1 | | |
| 14:12 | ZZZZZZ | 1 | | |
| 14:16 | ZZZZZZ | 1 | | |
| 14:20 | ZZZZZZ | 1 | | |
| 14:23 | ZZZZZZ | 1 | | |
| 14:27 | ZZZZZZ | 1 | | |
| 14:31 | ZZZZZZ | 1 | | |
| 14:34 | ZZZZZZ | 1 | | |
| 14:38 | ZZZZZZ | 1 | | |
| 14:41 | MA3937-CCV6 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3937
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:46 | MA3937-CCB6 | 1 | | |
| 14:50 | ZZZZZZ | 1 | | |
| 14:53 | ZZZZZZ | 1 | | |
| 14:57 | MP6998-MB1 | 1 | | |
| 15:01 | MP6998-B1 | 1 | | |
| 15:07 | F26029-3 | 1 | | (sample used for QC only; not part of login F25789) |
| 15:11 | MP6998-D1 | 1 | | |
| 15:14 | MP6998-SD1 | 5 | | |
| 15:18 | MP6998-S1 | 1 | | |
| 15:22 | MP6998-S2 | 1 | | |
| 15:28 | ZZZZZZ | 1 | | |
| 15:32 | MA3937-CCV7 | 1 | | |
| 15:36 | MA3937-CCB7 | 1 | | |
| 15:40 | ZZZZZZ | 1 | | |
| 15:44 | ZZZZZZ | 1 | | |
| 15:47 | ZZZZZZ | 1 | | |
| 15:51 | ZZZZZZ | 1 | | |
| 15:55 | ZZZZZZ | 1 | | |
| 15:58 | ZZZZZZ | 1 | | |
| 16:02 | ZZZZZZ | 1 | | |
| 16:05 | ZZZZZZ | 1 | | |
| 16:09 | ZZZZZZ | 1 | | |
| 16:13 | ZZZZZZ | 1 | | |
| 16:16 | MA3937-CCV8 | 1 | | |
| 16:21 | MA3937-CCB8 | 1 | | |
| 16:25 | ZZZZZZ | 1 | | |
| 16:28 | ZZZZZZ | 1 | | |
| 16:33 | MA3937-CRI2 | 1 | | |
| 16:36 | MA3937-CCV9 | 1 | | |
| 16:41 | MA3937-CCB9 | 1 | | |
| 16:51 | MP7005-MB1 | 1 | | |
| 17:06 | MP7005-B1 | 1 | | |
| 17:11 | F25933-4 | 1 | | (sample used for QC only; not part of login F25789) |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3937
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:15 | MP7005-D1 | 1 | | |
| 17:19 | MP7005-SD1 | 5 | | |
| 17:22 | MP7005-S1 | 1 | | |
| 17:26 | MP7005-S2 | 1 | | |
| 17:31 | ZZZZZZ | 1 | | |
| 17:35 | ZZZZZZ | 1 | | |
| 17:39 | ZZZZZZ | 1 | | |
| 17:42 | MA3937-CCV10 | 1 | | |
| 17:47 | MA3937-CCB10 | 1 | | |
| 17:50 | ZZZZZZ | 1 | | |
| 17:54 | ZZZZZZ | 1 | | |
| 17:58 | ZZZZZZ | 1 | | |
| 18:01 | ZZZZZZ | 1 | | |
| 18:05 | ZZZZZZ | 1 | | |
| 18:09 | ZZZZZZ | 1 | | |
| 18:12 | ZZZZZZ | 1 | | |
| 18:16 | ZZZZZZ | 1 | | |
| 18:19 | ZZZZZZ | 1 | | |
| 18:23 | ZZZZZZ | 1 | | |
| 18:27 | MA3937-CCV11 | 1 | | |
| 18:31 | MA3937-CCB11 | 1 | | |
| 18:35 | ZZZZZZ | 1 | | |
| 18:39 | ZZZZZZ | 1 | | |
| 18:42 | ZZZZZZ | 1 | | |
| 18:46 | ZZZZZZ | 1 | | |
| 18:49 | MP7005-MB2 | 1 | | |
| 18:53 | MP7004-MB1 | 1 | | |
| 18:57 | MP7004-B1 | 1 | | |
| 19:01 | F25768-1 | 1 | | (sample used for QC only; not part of login F25789) |
| 19:05 | MP7004-D1 | 1 | | |
| 19:08 | ZZZZZZ | 1 | | |
| 19:12 | MA3937-CCV12 | 1 | | |
| 19:17 | MA3937-CCB12 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3937
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 19:20 | MP7004-B2 | 1 | | |
| 19:25 | MP7004-MB2 | 1 | | |
| 19:29 | MP7004-B3 | 1 | | |
| 19:33 | MP7004-SD1 | 5 | | |
| 19:37 | MP7000-MB1 | 1 | | |
| 19:40 | MP7000-B1 | 1 | | |
| 19:46 | F25930-1 | 1 | | (sample used for QC only; not part of login F25789) |
| 19:50 | MP7000-D1 | 1 | | |
| 19:53 | MP7000-SD1 | 5 | | |
| 19:57 | MP7000-S1 | 1 | | |
| 20:01 | MA3937-CCV13 | 1 | | |
| 20:06 | MA3937-CCB13 | 1 | | |
| 20:10 | MP7000-S2 | 1 | | |
| 20:15 | ZZZZZZ | 1 | | |
| 20:19 | ZZZZZZ | 1 | | |
| 20:23 | ZZZZZZ | 1 | | |
| 20:26 | F25789-1 | 1 | | |
| 20:30 | F25789-3 | 1 | | |
| 20:33 | F25789-4 | 1 | | |
| 20:37 | F25789-5 | 1 | | |
| 20:41 | F25789-6 | 1 | | |
| 20:44 | F25789-7 | 1 | | |
| 20:48 | MA3937-CCV14 | 1 | | |
| 20:53 | MA3937-CCB14 | 1 | | |
| 20:56 | F25789-8 | 1 | | |
| 21:00 | F25789-9 | 1 | | |
| 21:03 | F25789-10 | 1 | | |
| 21:07 | F25789-11 | 1 | | |
| 21:11 | F25789-12 | 1 | | |
| ----------> Last reportable sample/prep for job F25789 | | | | |
| 21:14 | ZZZZZZ | 1 | | |
| 21:18 | ZZZZZZ | 1 | | |
| 21:22 | ZZZZZZ | 1 | | |
| 21:25 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25789
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082006.ASC  Date Analyzed: 08/20/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3937
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 21:30 | MA3937-CRI3 | 1 | | |
| 21:33 | MA3937-CCV15 | 1 | | |
| 21:38 | MA3937-CCB15 | 1 | | |

----------> Last reportable CCB for job F25789
Refer to raw data for calibration curve and standards.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **G. WALKER** | **DATE:** | **SEPTEMBER 15, 2004** |
| **FROM:** | **ETHAN G. LEE** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION – LEAD**
**NAS PENSACOLA – CTO 274**
**SAMPLE DELIVERY GROUP (SDG) – F25819**

**SAMPLES:** 6/AQUEOUS/

| | | |
|---|---|---|
| OLFS-2406-DMW13 | OLFS-2406-DMW32 | OLFS-2406-DMW37 |
| OLFS-2406-MW38 | OLFS-2406-MW41 | OLFS-2406-RB01 |

Overview

The sample set for NAS Pensacola, CTO 274, SDG F25819, consists of five (5) aqueous environmental samples and one (1) rinse blank.

The samples were analyzed for lead. The samples were collected by Tetra Tech NUS on July 31, 2004 and analyzed by Accutest Laboratories Southeast, Inc. Lead analyses were conducted using SW846 method 6010B.

Metals analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

| Analyte | Maximum Concentration | Action Level |
|---|---|---|
| Lead | 2.7 ug/L | 13.5 ug/L |

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. The positive result below the action level for lead was qualified as nondetected (U) due to laboratory blank contamination.

Executive Summary

**Laboratory Performance:** Lead was present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", July 2002 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Ethan G. Lee
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

# APPENDIX A

## QUALIFIED ANALYTICAL RESULTS

**Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery 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 - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: M

| | |
|---|---|
| nsample | OLFS-2406-DMW13 |
| samp_date | 7/31/2004 |
| lab_id | F25819-4 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW32 |
| samp_date | 7/31/2004 |
| lab_id | F25819-3 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

| | |
|---|---|
| nsample | OLFS-2406-DMW37 |
| samp_date | 7/31/2004 |
| lab_id | F25819-5 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

# PROJ_NO: 2642

SDG: F25819 MEDIA: WATER DATA FRACTION: M

| | |
|---|---|
| nsample | OLFS-2406-MW38 |
| samp_date | 7/31/2004 |
| lab_id | F25819-2 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

| | |
|---|---|
| nsample | OLFS-2406-MW41 |
| samp_date | 7/31/2004 |
| lab_id | F25819-1 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 11.8 | U | A |

| | |
|---|---|
| nsample | OLFS-2406-RB01 |
| samp_date | 7/31/2004 |
| lab_id | F25819-8 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 2.9 | U | |

# APPENDIX B

## RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW13 | | |
| **Lab Sample ID:** | F25819-4 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/21/04 | 08/24/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3944
(2) Prep QC Batch: MP7017

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW32 | | |
| **Lab Sample ID:** | F25819-3 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/21/04 | 08/24/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3944
(2) Prep QC Batch: MP7017

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

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Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-DMW37 | | |
| **Lab Sample ID:** | F25819-5 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/21/04 | 08/24/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3944
(2) Prep QC Batch: MP7017

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW38 | | |
| **Lab Sample ID:** | F25819-2 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/21/04 | 08/24/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3944
(2) Prep QC Batch: MP7017

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW41 | | |
| **Lab Sample ID:** | F25819-1 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/03/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 11.8 | 5.0 | 2.9 | ug/l | 1 | 08/21/04 | 08/24/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3944
(2) Prep QC Batch: MP7017

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-RB01 | | |
| **Lab Sample ID:** | F25819-8 | **Date Sampled:** | 07/31/04 |
| **Matrix:** | AQ - Equipment Blank | **Date Received:** | 08/03/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|
| Lead | 2.9 U | 5.0 | 2.9 | ug/l | 1 | 08/21/04 | 08/24/04 DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3944
(2) Prep QC Batch: MP7017

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

# APPENDIX C

## SUPPORT DOCUMENTATION

# HOLDTIME

SDG F25819

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| M | UG/L | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-DMW13 | F25819-4 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-DMW32 | F25819-3 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-DMW37 | F25819-5 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| M | UG/L | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/21/2004 | 08/24/2004 | 21 | 3 | 24 |
| | % | OLFS-2406-MW41-PAH | F25819-1 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | % | OLFS-2406-RB01-PAH | F25819-8 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | % | OLFS-2406-MW38-PAH | F25819-2 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | UG/L | OLFS-2406-MW41-PAH | F25819-1 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | UG/L | OLFS-2406-RB01-PAH | F25819-8 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| | UG/L | OLFS-2406-MW38-PAH | F25819-2 | NM | 07/31/2004 | 08/06/2004 | 08/12/2004 | 6 | 6 | 12 |
| EDB | % | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | % | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | % | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| EDB | % | TRIP BLANK | F25819-7 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | UG/L | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | UG/L | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | UG/L | TRIP BLANK | F25819-7 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| EDB | UG/L | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/04/2004 | 08/05/2004 | 4 | 1 | 5 |
| OV | % | OLFS-2406-DMW32 | F25819-3 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | OLFS-2406-DMW37 | F25819-5 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/12/2004 | 08/12/2004 | 12 | 0 | 12 |
| OV | % | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | TRIP BLANK | F25819-6 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | % | OLFS-2406-DMW13 | F25819-4 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | TRIP BLANK | F25819-6 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-DMW13 | F25819-4 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-DMW32 | F25819-3 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-DMW37 | F25819-5 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |
| OV | UG/L | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/11/2004 | 08/11/2004 | 11 | 0 | 11 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | UG/L | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/12/2004 | 08/12/2004 | 12 | 0 | 12 |
| TPH | MG/L | OLFS-2406-MW38 | F25819-2 | NM | 07/31/2004 | 08/06/2004 | 08/08/2004 | 6 | 2 | 8 |
| TPH | MG/L | OLFS-2406-RB01 | F25819-8 | NM | 07/31/2004 | 08/06/2004 | 08/08/2004 | 6 | 2 | 8 |
| TPH | MG/L | OLFS-2406-MW41 | F25819-1 | NM | 07/31/2004 | 08/06/2004 | 08/08/2004 | 6 | 2 | 8 |

TETRA TECH NUS, INC. CHAIN OF CUSTODY NUMBER 42 F25817 PAGE 1 OF 1

| PROJECT NO: | FACILITY: | PROJECT MANAGER | PHONE NUMBER | LABORATORY NAME AND CONTACT: |
|---|---|---|---|---|
| N2642 | OLF Sawfley | Gerry Walker | 385-9899 (850) | Accutest Labs SE (Sue Bell) |
| SAMPLERS (SIGNATURE) | | FIELD OPERATIONS LEADER | PHONE NUMBER | ADDRESS |
| William Howard Engle, Louis Tryll | | Howard Engle | 850-385-9899 | 4405 Vineland Rd Ste CLS |
| | | CARRIER/WAYBILL NUMBER | | CITY, STATE |
| | | | | Orlando, FL 32811-7363 |

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): 3G / 3G / 2G / 2G / 1P

PRESERVATIVE USED: HCl / $H_2S_2O_3$ / N/A / $H_2SO_4$ / $HNO_3$

| | DATE YEAR 2004 | TIME | SAMPLE ID | LOCATION ID | TOP DEPTH (FT) | BOTTOM DEPTH (FT) | MATRIX (GW, SO, SW, SD, QC, ETC.) | COLLECTION METHOD GRAB (G) COMP (C) | No. OF CONTAINERS | VOCs (8260) | EDB (504.1) | PAHs (8270 sim) | TRPH (FL-PRO) | Total Lead (6010) | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7/31 | 1050 | OLFS-2406-MW41 | MW41 | 40.2 | 56 | GW | G | 11 | X | X | X | X | X | | | All times are |
| 2 | | 1140 | OLFS-2406-MW38 | MW38 | 41.22 | 56 | | | 11 | X | X | X | X | X | | | Central |
| 3 | | 1300 | OLFS-2406-DMW32 | MW32 | 28.13 | 135.7 | | | 4 | X | | | | X | | | |
| 4 | | 1430 | OLFS-2406-DMW13 | DMW13 | 43.73 | 142 | | | 4 | X | | | | X | | | see Work Release |
| 5 | | 1550 | OLFS-2406-DMW37 | DMW37 | 47.09 | 136 | | | 4 | X | | | | X | | | N2642-WR452 |
| 6/7 | | | Trip Blank | | | | QC | | 6 | X | X | | | | | | for detailed |
| 8 | 7/31 | 1450 | OLFS-2406-RB1 | | | | | | 11 | X | X | X | X | X | | | parameter list |

| | | | | | |
|---|---|---|---|---|---|
| 1. RELINQUISHED BY: William Howard Engle | DATE 8/2/04 | TIME 1630 | 1. RECEIVED BY: FX | DATE | TIME |
| 2. RELINQUISHED BY: FX | DATE | TIME | 2. RECEIVED BY: [illegible] | DATE 8/3/04 | TIME 09:00 |
| 3. RELINQUISHED BY | DATE | TIME | 3. RECEIVED BY | DATE | TIME |

COMMENTS: 3-2 3-6

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

FORM NO. TINUS 4/0

Southeast
ACCUTEST.
Laboratories

09/02/04

# Technical Report for

Tetra-Tech NUS

NAS Pensacola CTO# 274 N2642

N2642-WR452

Accutest Job Number: F25819

Sampling Date: 07/31/04

Report to:

Tetra-Tech,Inc.
661 Andersen Drive
Foster Plaza 7
Pittsburgh, PA 15520-2745

ATTN: Amy Thomson

Total number of pages in report: 773

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Tetra-Tech NUS **Job No:** F25819

**Site:** NAS Pensacola CTO# 274 N2642 **Report Date** 9/2/2004 1:47:12 PM

6 Samples and 1 Trip Blank were collected on 07/31/2004 and were received at Accutest on 08/03/2004 properly preserved, at 3.6 Deg. C and intact. These Samples received an Accutest job number of F25819.A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Volatiles by GCMS By Method SW846 8260B

**Matrix:** AQ **Batch ID:** VB1034

All samples were analyzed within the recommended method holding time.

Sample(s) F25844-1MS, F25844-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

MS/MSD Recovery for Trichloroethylene is outside control limits. Outside control limits due to high level in sample relative to spike amount. For method performance in clean matrix refer to Blank Spike data

RPD(s) for MSD for 1,2-Dichloropropane, 2-Chloroethyl vinyl ether are outside control limits for sample F25844-1MSD, F25844-1MSD. Probable cause due to sample non-homogeneity.

**Matrix:** AQ **Batch ID:** VM4

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25811-1MS, F25811-1MSD were used as the QC samples indicated.

MS/MSD Recovery for 2-Chloroethyl vinyl ether is outside control limits due to sampe preservation.

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ **Batch ID:** OP11065

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25789-10MS, F25789-10MSD were used as the QC samples indicated.

## Volatiles by GC By Method EPA 504.1

**Matrix:** AQ **Batch ID:** OP11047

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25819-8MS, F25819-8MSD were used as the QC samples indicated.

F25819-8 for 4-Bromofluorobenzene: Surrogate recoveries corrected for double spike.

F25819-7 for 4-Bromofluorobenzene: Surrogate recoveries corrected for double spike.

## Extractables by GC By Method FLORIDA-PRO

**Matrix:** AQ **Batch ID:** OP11063

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F25795-2MS, F25795-2MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for TPH (C8-C40) are outside control limits. Outside control limits due to high level in sample relative to spike amount.

## Metals By Method SW846 6010B

**Matrix:** AQ **Batch ID:** MP7017

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F25954-1DUP, F25954-1MS, F25954-1MSD, F25954-1SDL were used as the QC samples for metals.

RPD(s) for Serial Dilution for Lead are outside control limits. Probable cause due to sample non-homogeneity.

MP7017-SD1 for Lead: Serial dilution indicates possible matrix interference.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

Svetlana Izosimova, QAO

Date: September 02, 2004

Accutest Laboratories

# Sample Summary

Tetra-Tech NUS

**Job No:** F25819

NAS Pensacola CTO# 274 N2642
Project No: N2642-WR452

| Sample Number | Collected Date | Time By | Received | Matrix Code | Type | Client Sample ID |
|---|---|---|---|---|---|---|
| F25819-1 | 07/31/04 | 10:50 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-MW41 |
| F25819-2 | 07/31/04 | 11:40 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-MW38 |
| F25819-3 | 07/31/04 | 13:00 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-DMW32 |
| F25819-4 | 07/31/04 | 14:30 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-DMW13 |
| F25819-5 | 07/31/04 | 15:50 WH | 08/03/04 | AQ | Ground Water | OLFS-2406-DMW37 |
| F25819-6 | 07/31/04 | 00:00 WH | 08/03/04 | AQ | Trip Blank Water | TRIP BLANK |
| F25819-7 | 07/31/04 | 00:00 WH | 08/03/04 | AQ | Trip Blank Water | TRIP BLANK |
| F25819-8 | 07/31/04 | 14:50 WH | 08/03/04 | AQ | Equipment Blank | OLFS-2406-RB01 |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC  Date Analyzed: 08/24/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3944  Units: ug/l

| Metal | ICV True | ICV Results | % Rec | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | |
| Antimony | anr | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 2040 | 102.0 | 2000 | 2050 | 102.5 | 2000 | 1970 | 98.5 |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



0546

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC  Date Analyzed: 08/24/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3944  Units: ug/l

| Metal | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | | | | | | | | | |
| Antimony | anr | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 1970 | 98.5 | 2000 | 1990 | 99.5 | 2000 | 1990 | 99.5 |
| Magnesium | | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | | | | | | | | | |
| Vanadium | | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



0547

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC  Date Analyzed: 08/24/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3944  Units: ug/l

| Metal | CCV True | CCV Results | % Rec |
|---|---|---|---|
| Aluminum | | | |
| Antimony | anr | | |
| Arsenic | anr | | |
| Barium | anr | | |
| Beryllium | anr | | |
| Cadmium | anr | | |
| Calcium | | | |
| Chromium | anr | | |
| Cobalt | | | |
| Copper | anr | | |
| Iron | anr | | |
| Lead | 2000 | 2010 | 100.5 |
| Magnesium | | | |
| Manganese | anr | | |
| Molybdenum | | | |
| Nickel | anr | | |
| Potassium | | | |
| Selenium | anr | | |
| Silver | anr | | |
| Sodium | anr | | |
| Thallium | anr | | |
| Tin | | | |
| Vanadium | | | |
| Zinc | anr | | |

(*) Outside of QC limits
(anr) Analyte not requested



0548

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

QC Batch ID: MP7017
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/21/04

| Metal | RL | IDL | MB raw | final |
|---|---|---|---|---|
| Aluminum | 200 | 6.6 | | |
| Antimony | 5.0 | 1.5 | | |
| Arsenic | 10 | 2.8 | | |
| Barium | 200 | .5 | | |
| Beryllium | 4.0 | .3 | | |
| Cadmium | 5.0 | .3 | | |
| Calcium | 1000 | 3.8 | | |
| Chromium | 10 | .4 | | |
| Cobalt | 50 | .5 | | |
| Copper | 25 | .44 | | |
| Iron | 300 | 7.1 | | |
| Lead | 5.0 | 1.2 | 1.7 | <5.0 |
| Magnesium | 5000 | 9.9 | | |
| Manganese | 15 | .16 | | |
| Molybdenum | 50 | .75 | | |
| Nickel | 40 | 1.1 | | |
| Potassium | 5000 | 14 | | |
| Selenium | 10 | 2 | | |
| Silver | 10 | .6 | | |
| Sodium | 5000 | 150 | | |
| Thallium | 10 | 1.5 | | |
| Tin | 50 | 1.5 | | |
| Vanadium | 50 | .47 | | |
| Zinc | 20 | .59 | | |

Associated samples MP7017: F25819-1, F25819-2, F25819-3, F25819-4, F25819-5, F25819-8

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested



0554

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC
QC Limits: result < RL

Date Analyzed: 08/24/04
Run ID: MA3944

Methods: SW846 6010B
Units: ug/l

| Metal | RL | IDL | ICB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.6 | | | | | | | | |
| Antimony | 5.0 | 1.5 | anr | | | | | | | |
| Arsenic | 10 | 2.8 | anr | | | | | | | |
| Barium | 200 | .5 | anr | | | | | | | |
| Beryllium | 4.0 | .3 | anr | | | | | | | |
| Cadmium | 5.0 | .3 | anr | | | | | | | |
| Calcium | 1000 | 3.8 | | | | | | | | |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .5 | | | | | | | | |
| Copper | 25 | .44 | anr | | | | | | | |
| Iron | 300 | 7.1 | anr | | | | | | | |
| Lead | 5.0 | 1.2 | 2.7 | <5.0 | 1.7 | <5.0 | 2.6 | <5.0 | 1.6 | <5.0 |
| Magnesium | 5000 | 9.9 | | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .75 | | | | | | | | |
| Nickel | 40 | 1.1 | anr | | | | | | | |
| Potassium | 5000 | 14 | | | | | | | | |
| Selenium | 10 | 2 | anr | | | | | | | |
| Silver | 10 | .6 | anr | | | | | | | |
| Sodium | 5000 | 150 | anr | | | | | | | |
| Thallium | 10 | 1.5 | anr | | | | | | | |
| Tin | 50 | 1.5 | | | | | | | | |
| Vanadium | 50 | .47 | | | | | | | | |
| Zinc | 20 | .59 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



0543

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC
QC Limits: result < RL

Date Analyzed: 08/24/04
Run ID: MA3944

Methods: SW846 6010B
Units: ug/l

| Metal | RL | IDL | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.6 | | | | | | |
| Antimony | 5.0 | 1.5 | | | | | | |
| Arsenic | 10 | 2.8 | anr | | | | | |
| Barium | 200 | .5 | anr | | | | | |
| Beryllium | 4.0 | .3 | anr | | | | | |
| Cadmium | 5.0 | .3 | anr | | | | | |
| Calcium | 1000 | 3.8 | | | | | | |
| Chromium | 10 | .4 | anr | | | | | |
| Cobalt | 50 | .5 | | | | | | |
| Copper | 25 | .44 | anr | | | | | |
| Iron | 300 | 7.1 | anr | | | | | |
| Lead | 5.0 | 1.2 | 1.8 | <5.0 | 2.4 | <5.0 | 0.57 | <5.0 |
| Magnesium | 5000 | 9.9 | | | | | | |
| Manganese | 15 | .16 | anr | | | | | |
| Molybdenum | 50 | .75 | | | | | | |
| Nickel | 40 | 1.1 | anr | | | | | |
| Potassium | 5000 | 14 | | | | | | |
| Selenium | 10 | 2 | anr | | | | | |
| Silver | 10 | .6 | anr | | | | | |
| Sodium | 5000 | 150 | anr | | | | | |
| Thallium | 10 | 1.5 | anr | | | | | |
| Tin | 50 | 1.5 | | | | | | |
| Vanadium | 50 | .47 | | | | | | |
| Zinc | 20 | .59 | anr | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



0544

MP 7017

# Metals Digestion Log: Water

Method of Digestion: SW846-3010A/3005A/EPA 200.7/3030C (CIRCLE ONE) Temp: 73° Thermometer ID 104

| | HNO3 | HCl | Spk. Sol.* | Amount Used* |
|---|---|---|---|---|
| Added: | | | 1 Acc 383 | .25 ml |
| | | | 2 Acc 344 | 1.0 ml |
| | | | 3 Met 1264 | .5 ml |
| Mfg: | Fisher | Fisher | | |
| Lot# | 1103 4030 exp 8/21 | 4103101 | Digestion Tube Lot# | A3115162 |

| Sample # | Init. Vol/Wt | Fin. Vol/Wt | Date | Comments |
|---|---|---|---|---|
| MB 8/21/04 | 50 mL | 50 ml | 8/21/04 | |
| SB ↓ | ↓ | ↓ | ↓ | |
| MS F25954-1.6 | | | | |
| MSD ↓ | | | | |
| Dup ↓ | | | | |
| 1 QC ↓ | | | | |
| 2 F25943-1.9 | | | | |
| 3 ↓ 2.9 | | | | |
| 4 3.9 | | | | |
| 5 4.9 | | | | |
| 6 ↓ 5.9 | | | | |
| 7 F25819-1.13 | | | | sediment |
| 8 ↓ -2.13 | | | | |
| 9 -3.5 | | | | |
| 10 -4.5 | | | | |
| 11 ↓ -5.5 | | | | |
| 12 F25819-8.13 | | | | WEB |
| 13 F25960-2.4 | | | | cloudy |
| 14 ↓ -3.4 ↓ exhi | | | | |
| 15 ↓ -4.5 | | | | |
| 16 F25972-2.6 | | | | |
| 17 F25975 -7.9 | | | | sediment |
| 18 F25977-1.11 | | | | |
| 19 ↓ -2.11 | ↓ | ↓ | ↓ | |
| 20 | | | | |

Analyst [signature] Date 8/21/04

QC Review [signature] Date 8/23/04

Rev. 01/12/04 DJM * Used For SB, MS, MSD Page Number: 000040

0570

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC  Date Analyzed: 08/24/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3944
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 10:47 | MA3944-ICV1 | 1 | | |
| 10:49 | MA3944-ICB1 | 1 | | |
| 10:55 | MA3944-CRI1 | 1 | | |
| 11:05 | MA3944-ICSA1 | 1 | | |
| 11:08 | MA3944-ICSAB1 | 1 | | |
| 11:15 | MA3944-CCV1 | 1 | | |
| 11:20 | MA3944-CCB1 | 1 | | |
| 11:23 | MP7016-MB1 | 1 | | |
| 11:27 | MP7016-B1 | 1 | | |
| 11:33 | F26066-10 | 1 | | (sample used for QC only; not part of login F25819) |
| 11:36 | MP7016-D1 | 1 | | |
| 11:40 | MP7016-SD1 | 5 | | |
| 11:43 | MP7016-S1 | 1 | | |
| 11:47 | MP7016-S2 | 1 | | |
| 11:53 | ZZZZZZ | 1 | | |
| 11:56 | ZZZZZZ | 1 | | |
| 12:00 | ZZZZZZ | 1 | | |
| 12:03 | MA3944-CCV2 | 1 | | |
| 12:08 | MA3944-CCB2 | 1 | | |
| 12:12 | MP7016-B2 | 1 | | |
| 12:17 | MP7016-MB2 | 1 | | |
| 12:25 | MP7024-MB1 | 1 | | |
| 12:28 | MP7024-B1 | 1 | | |
| 12:34 | F25753-2A | 1 | | (sample used for QC only; not part of login F25819) |
| 12:37 | MP7024-D1 | 1 | | |
| 12:41 | MP7024-SD1 | 5 | | |
| 12:45 | MP7024-S1 | 1 | | |
| 12:48 | MP7024-S2 | 1 | | |
| 12:57 | MA3944-CCV3 | 1 | | |
| 13:02 | MA3944-CCB3 | 1 | | |
| 13:06 | ZZZZZZ | 1 | | |
| 13:09 | ZZZZZZ | 1 | | |
| 13:13 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC  Date Analyzed: 08/24/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3944
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 13:17 | ZZZZZZ | 1 | | |
| 13:20 | MP7024-MB2 | 1 | | |
| 13:24 | MP7024-B2 | 1 | | |
| 13:29 | MP7025-MB1 | 1 | | |
| 13:33 | MP7025-B1 | 1 | | |
| 13:39 | ZZZZZZ | 1 | | |
| 13:42 | MP7025-B2 | 1 | | |
| 13:47 | MA3944-CCV4 | 1 | | |
| 13:51 | MA3944-CCB4 | 1 | | |
| 13:55 | MP7017-MB1 | 1 | | |
| 13:59 | MP7017-B1 | 1 | | |
| 14:04 | F25954-1 | 1 | | (sample used for QC only; not part of login F25819) |
| 14:08 | MP7017-D1 | 1 | | |
| 14:11 | MP7017-SD1 | 5 | | |
| 14:15 | MP7017-S1 | 1 | | |
| 14:19 | MP7017-S2 | 1 | | |
| 14:24 | ZZZZZZ | 1 | | |
| 14:28 | ZZZZZZ | 1 | | |
| 14:31 | ZZZZZZ | 1 | | |
| 14:35 | MA3944-CCV5 | 1 | | |
| 14:40 | MA3944-CCB5 | 1 | | |
| 14:43 | ZZZZZZ | 1 | | |
| 14:47 | ZZZZZZ | 1 | | |
| 14:51 | F25819-1 | 1 | | |
| 14:54 | F25819-2 | 1 | | |
| 14:58 | F25819-3 | 1 | | |
| 15:01 | F25819-4 | 1 | | |
| 15:05 | F25819-5 | 1 | | |
| 15:09 | F25819-8 | 1 | | |
| ----------> | Last reportable sample/prep for job F25819 | | | |
| 15:12 | ZZZZZZ | 1 | | |
| 15:16 | ZZZZZZ | 1 | | |
| 15:20 | MA3944-CCV6 | 1 | | |
| 15:24 | MA3944-CCB6 | 1 | | |
| ----------> | Last reportable CCB for job F25819 | | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC  Date Analyzed: 08/24/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3944
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 15:28 | ZZZZZZ | 1 | | |
| 15:31 | ZZZZZZ | 1 | | |
| 15:35 | ZZZZZZ | 1 | | |
| 15:39 | ZZZZZZ | 1 | | |
| 15:42 | ZZZZZZ | 1 | | |
| 15:46 | MA3944-CCV7 | 1 | | |
| 15:51 | MA3944-CCB7 | 1 | | |
| 16:04 | MP7018-MB1 | 1 | | |
| 16:08 | MP7018-B1 | 1 | | |
| 16:14 | F25979-1 | 1 | | (sample used for QC only; not part of login F25819) |
| 16:17 | MP7018-D1 | 1 | | |
| 16:21 | MP7018-SD1 | 5 | | |
| 16:24 | MP7018-S1 | 1 | | |
| 16:28 | MP7018-S2 | 1 | | |
| 16:34 | ZZZZZZ | 1 | | |
| 16:37 | ZZZZZZ | 1 | | |
| 16:41 | ZZZZZZ | 1 | | |
| 16:45 | MA3944-CCV8 | 1 | | |
| 16:49 | MA3944-CCB8 | 1 | | |
| 16:53 | ZZZZZZ | 1 | | |
| 16:56 | ZZZZZZ | 1 | | |
| 17:00 | ZZZZZZ | 1 | | |
| 17:04 | ZZZZZZ | 1 | | |
| 17:07 | ZZZZZZ | 1 | | |
| 17:11 | ZZZZZZ | 1 | | |
| 17:15 | ZZZZZZ | 1 | | |
| 17:18 | ZZZZZZ | 1 | | |
| 17:22 | ZZZZZZ | 1 | | |
| 17:25 | ZZZZZZ | 1 | | |
| 17:29 | MA3944-CCV9 | 1 | | |
| 17:34 | MA3944-CCB9 | 1 | | |
| 17:37 | ZZZZZZ | 1 | | |
| 17:41 | ZZZZZZ | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC  Date Analyzed: 08/24/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3944
Parameters: Pb

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:45 | MP7029-MB1 | 1 | | |
| 17:48 | MP7029-B1 | 1 | | |
| 17:54 | F25850-18 | 1 | | (sample used for QC only; not part of login F25819) |
| 17:57 | MP7029-D1 | 1 | | |
| 18:01 | MP7029-SD1 | 5 | | |
| 18:05 | MP7029-S1 | 1 | | |
| 18:08 | MP7029-S2 | 1 | | |
| 18:14 | ZZZZZZ | 1 | | |
| 18:18 | MA3944-CCV10 | 1 | | |
| 18:22 | MA3944-CCB10 | 1 | | |
| 18:26 | ZZZZZZ | 1 | | |
| 18:29 | ZZZZZZ | 1 | | |
| 18:33 | ZZZZZZ | 1 | | |
| 18:37 | ZZZZZZ | 1 | | |
| 18:40 | ZZZZZZ | 1 | | |
| 18:44 | ZZZZZZ | 1 | | |
| 18:47 | ZZZZZZ | 1 | | |
| 18:51 | ZZZZZZ | 1 | | |
| 18:55 | ZZZZZZ | 1 | | |
| 18:58 | ZZZZZZ | 1 | | |
| 19:02 | MA3944-CCV11 | 1 | | |
| 19:07 | MA3944-CCB11 | 1 | | |
| 19:10 | ZZZZZZ | 1 | | |
| 19:14 | ZZZZZZ | 1 | | |
| 19:22 | MP7022-MB1 | 1 | | |
| 19:26 | MP7022-B1 | 1 | | |
| 19:31 | F25992-2 | 1 | | (sample used for QC only; not part of login F25819) |
| 19:35 | MP7022-D1 | 1 | | |
| 19:39 | MP7022-SD1 | 5 | | |
| 19:42 | MP7022-S1 | 1 | | |
| 19:46 | MP7022-S2 | 1 | | |
| 19:50 | MA3944-CCV12 | 1 | | |
| 19:55 | MA3944-CCB12 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 08/24/04
Run ID: MA3944

Methods: SW846 6010B

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 19:59 | ZZZZZZ | 1 | | |
| 20:02 | ZZZZZZ | 1 | | |
| 20:06 | ZZZZZZ | 1 | | |
| 20:10 | ZZZZZZ | 1 | | |
| 20:13 | ZZZZZZ | 1 | | |
| 20:17 | ZZZZZZ | 1 | | |
| 20:20 | ZZZZZZ | 1 | | |
| 20:24 | MP7022-MB2 | 1 | | |
| 20:28 | ZZZZZZ | 1 | | |
| 20:35 | MA3944-CCV13 | 1 | | |
| 20:40 | MA3944-CCB13 | 1 | | |
| 20:43 | ZZZZZZ | 1 | | |
| 20:47 | ZZZZZZ | 1 | | |
| 20:50 | ZZZZZZ | 1 | | |
| 20:54 | ZZZZZZ | 1 | | |
| 20:58 | ZZZZZZ | 1 | | |
| 21:05 | MP7026-MB1 | 1 | | |
| 21:09 | MP7026-B1 | 1 | | |
| 21:14 | F25850-1 | 1 | | (sample used for QC only; not part of login F25819) |
| 21:18 | MP7026-D1 | 1 | | |
| 21:21 | MA3944-CCV14 | 1 | | |
| 21:26 | MA3944-CCB14 | 1 | | |
| 21:30 | MP7026-SD1 | 5 | | |
| 21:33 | MP7026-S1 | 1 | | |
| 21:37 | MP7026-S2 | 1 | | |
| 21:42 | ZZZZZZ | 1 | | |
| 21:46 | ZZZZZZ | 1 | | |
| 21:50 | ZZZZZZ | 1 | | |
| 21:53 | ZZZZZZ | 1 | | |
| 21:57 | ZZZZZZ | 1 | | |
| 22:01 | ZZZZZZ | 1 | | |
| 22:04 | ZZZZZZ | 1 | | |
| 22:08 | MA3944-CCV15 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F25819
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR082407.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 08/24/04
Run ID: MA3944

Methods: SW846 6010B

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 22:12 | MA3944-CCB15 | 1 | | |
| 22:16 | ZZZZZZ | 1 | | |
| 22:20 | ZZZZZZ | 1 | | |
| 22:23 | ZZZZZZ | 1 | | |
| 22:27 | ZZZZZZ | 1 | | |
| 22:31 | ZZZZZZ | 1 | | |
| 22:34 | ZZZZZZ | 1 | | |
| 22:38 | ZZZZZZ | 1 | | |
| 22:42 | ZZZZZZ | 1 | | |
| 22:45 | ZZZZZZ | 1 | | |
| 22:49 | ZZZZZZ | 1 | | |
| 22:52 | MA3944-CCV16 | 1 | | |
| 22:57 | MA3944-CCB16 | 1 | | |
| 23:01 | ZZZZZZ | 1 | | |
| 23:04 | ZZZZZZ | 1 | | |
| 23:09 | MA3944-CRI2 | 1 | | |
| 23:13 | MA3944-CCV17 | 1 | | |
| 23:17 | MA3944-CCB17 | 1 | | |

Refer to raw data for calibration curve and standards.

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **G. WALKER** | **DATE:** | **OCTOBER 1, 2004** |
| **FROM:** | **ETHAN G. LEE** | **COPIES:** | **DV FILE** |

**SUBJECT:** **INORGANIC DATA VALIDATION – LEAD**
**NAS PENSACOLA – CTO 274**
**SAMPLE DELIVERY GROUP (SDG) – F26160**

**SAMPLES:** 1/AQUEOUS/

OLFS-2406-MW43D

Overview

The sample set for NAS Pensacola, CTO 274, SDG F26160, consists of one (1) aqueous environmental sample.

The sample was analyzed for lead. The sample was collected by Tetra Tech NUS on August 18, 2004 and analyzed by Accutest Laboratories Southeast, Inc. Lead analyses were conducted using SW846 method 6010B.

Metals analyses were conducted using Inductively Coupled Plasma (ICP) methodologies.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Recoveries
• Laboratory Blank Analyses
* • Detection Limits

* - All quality control criteria were met for this parameter.

Laboratory Blank Analyses

The following contaminant was detected in the laboratory method/preparation blanks at the following maximum concentration:

| Analyte | Maximum Concentration | Action Level |
|---|---|---|
| Lead | 3.7 ug/L | 18.5 ug/L |

An action level of 5X the maximum concentration was used to evaluate the sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. The positive result below the action level for lead was qualified as nondetected (U) due to laboratory blank contamination.

Executive Summary

**Laboratory Performance:** Lead was present in the laboratory method/preparation blanks.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Review", July 2002 and the NFESC document entitled "Navy IRCDQM" (September 1999).

The text of this report has been formulated to address only those problem areas affecting data quality.

"I attest that the data referenced herein were validated according to the agreed upon validation criteria as specified in the NFESC Guidelines and the Quality Assurance Project Plan (QAPP)."

Tetra Tech NUS
Ethan G. Lee
Environmental Scientist

Tetra Tech NUS
Joseph A. Samchuck
Quality Assurance Officer

Attachments:

1. Appendix A - Qualified Analytical Results
2. Appendix B - Results as reported by the Laboratory
3. Appendix C - Support Documentation

# APPENDIX A

## QUALIFIED ANALYTICAL RESULTS

**Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery 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 - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

# PROJ_NO: 2642

SDG: F26160 MEDIA: WATER DATA FRACTION: M

| | |
|---|---|
| nsample | OLFS-2406-MW43D |
| samp_date | 8/18/2004 |
| lab_id | F26160-1 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Val Qual | Qual Code |
|---|---|---|---|
| LEAD | 3.6 | U | A |

# APPENDIX B

## RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| **Client Sample ID:** | OLFS-2406-MW43D | | |
| **Lab Sample ID:** | F26160-1 | **Date Sampled:** | 08/18/04 |
| **Matrix:** | AQ - Ground Water | **Date Received:** | 08/19/04 |
| | | **Percent Solids:** | n/a |
| **Project:** | NAS Pensacola CTO# 274 N2642 | | |

**Metals Analysis**

| Analyte | Result | RL | MDL | Units | DF | Prep | Analyzed | By | Method | Prep Method |
|---|---|---|---|---|---|---|---|---|---|---|
| Lead | 3.6 I | 5.0 | 2.9 | ug/l | 1 | 09/13/04 | 09/14/04 | DM | SW846 6010B [1] | SW846 3010A [2] |

(1) Instrument QC Batch: MA3969
(2) Prep QC Batch: MP7092

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
I = Indicates a result >= MDL but < RL

# APPENDIX C

## SUPPORT DOCUMENTATION

# HOLDTIME

SDG F26160

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| M | UG/L | OLFS-2406-MW43D | F26160-1 | NM | 08/18/2004 | 09/13/2004 | 09/14/2004 | 26 | 1 | 27 |

ACCUTEST

# CHAIN OF CUSTODY

495 TECHNOLOGY CENTER WEST • BUILDING ONE
MARLBOROUGH, MA 01752
TEL: 508-481-6200 • FAX: 508-481-7753

ACCUTEST JOB #: 626160
ACCUTEST QUOTE #:

## CLIENT INFORMATION

NAME: Tetra Tech NUS
ADDRESS: 1401 Oven Park Dr. Ste 201
CITY, STATE, ZIP: Tall FL 32301
SEND REPORT TO: Gerald Walker
PHONE #: 850-385-8887

## FACILITY INFORMATION

PROJECT NAME: OLF Saufley
LOCATION: Site 2406
PROJECT NO.: N2642
FAX #: 850-385-9866

## ANALYTICAL INFORMATION

Total Lead (6010)

## 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 | Total Lead (6010) | LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | OLFS-2406-MW43D | 8/18/04 | 1515 | HE | GW | 1 | | | X | | | X | |

## DATA TURNAROUND INFORMATION

- ☐ 14 DAYS STANDARD
- ☐ 7 DAYS *RUSH*
- ☐ 48 HOUR EMERGENCY
- ☒ OTHER 30 day

APPROVED BY:

14 DAY TURNAROUND HARDCOPY. EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

## DATA DELIVERABLE INFORMATION

- ☐ STANDARD
- ☐ COMMERCIAL "B"
- ☐ DISK DELIVERABLE
- ☐ STATE FORMS
- ☒ OTHER (SPECIFY) See Comments Section

## COMMENTS/REMARKS

See MSA# MSA-0402-N4113-06
WR# N2642-WR452(SS)

## 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. [signature] | 8/18/04 1600 | 1. Fx | 2. Fx | 8/19/04 0940 | 2. [signature] |
| RELINQUISHED BY: 3. | DATE TIME: | RECEIVED BY: 3. | RELINQUISHED BY: 4. | DATE TIME: | RECEIVED BY: 4. |
| RELINQUISHED BY: 5. | DATE TIME: | RECEIVED BY: 5. | SEAL # 26 | PRESERVE WHERE APPLICABLE ☐ | ON ICE ☐ TEMPERATURE ____ C |

# SAMPLE DELIVERY GROUP CASE NARRATIVE

**Client:** Tetra-Tech NUS **Job No:** F26160

**Site:** NAS Pensacola CTO# 274 N2642 **Report Date:** 9/17/2004 2:57:24 PM

1 Sample was collected on 08/18/2004 and received at Accutest on 08/19/2004 properly preserved, at 2.6 Deg. C and intact. This Sample received an Accutest job number of F26160. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

## Metals by Method SW846 6010B

**Matrix:** AQ **Batch ID:** MP7092

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Samples F26304-8MS, F26304-8MSD, F26304-8SDL, F26304-8DUP were used as the QC samples for metals.

RPD for Duplicate for Lead is outside control limits for sample MP7092-D1. RPD acceptable due to low duplicate and sample concentrations.

RPD for Serial Dilution for Lead is outside control limits for sample MP7092-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

Date: Sept 17, 2004

Ellen Pampel, Inorganic QA (signature on file)

**Friday, September 17, 2004**

Accutest Laboratories

# Sample Summary

Tetra-Tech NUS

**Job No:** F26160

NAS Pensacola CTO# 274 N2642
Project No: N2642-WR#452(SS)/ Site 2406

| Sample Number | Collected Date | Collected Time By | Received | Matrix Code | Matrix Type | Client Sample ID |
|---|---|---|---|---|---|---|
| F26160-1 | 08/18/04 | 15:13 HE | 08/19/04 | AQ | Ground Water | OLFS-2406-MW43D |

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR091404.ASC  Date Analyzed: 09/14/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3969  Units: ug/l

| Metal | ICV True | ICV Results | % Rec | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|---|---|---|
| Aluminum | anr | | | | | | | | |
| Antimony | anr | | | | | | | | |
| Arsenic | anr | | | | | | | | |
| Barium | anr | | | | | | | | |
| Beryllium | anr | | | | | | | | |
| Cadmium | anr | | | | | | | | |
| Calcium | anr | | | | | | | | |
| Chromium | anr | | | | | | | | |
| Cobalt | anr | | | | | | | | |
| Copper | anr | | | | | | | | |
| Iron | anr | | | | | | | | |
| Lead | 2000 | 1960 | 98.0 | 2000 | 2000 | 100.0 | 2000 | 2010 | 100.5 |
| Magnesium | anr | | | | | | | | |
| Manganese | anr | | | | | | | | |
| Molybdenum | | | | | | | | | |
| Nickel | anr | | | | | | | | |
| Potassium | anr | | | | | | | | |
| Selenium | anr | | | | | | | | |
| Silver | anr | | | | | | | | |
| Sodium | anr | | | | | | | | |
| Thallium | anr | | | | | | | | |
| Tin | | | | | | | | | |
| Vanadium | anr | | | | | | | | |
| Zinc | anr | | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR091404.ASC  Date Analyzed: 09/14/04  Methods: SW846 6010B
QC Limits: 90 to 110 % Recovery  Run ID: MA3969  Units: ug/l

| Metal | CCV True | CCV Results | % Rec | CCV True | CCV Results | % Rec |
|---|---|---|---|---|---|---|
| Aluminum | anr | | | | | |
| Antimony | anr | | | | | |
| Arsenic | anr | | | | | |
| Barium | anr | | | | | |
| Beryllium | anr | | | | | |
| Cadmium | anr | | | | | |
| Calcium | anr | | | | | |
| Chromium | anr | | | | | |
| Cobalt | anr | | | | | |
| Copper | anr | | | | | |
| Iron | anr | | | | | |
| Lead | 2000 | 2030 | 101.5 | 2000 | 2040 | 102.0 |
| Magnesium | anr | | | | | |
| Manganese | anr | | | | | |
| Molybdenum | | | | | | |
| Nickel | anr | | | | | |
| Potassium | anr | | | | | |
| Selenium | anr | | | | | |
| Silver | anr | | | | | |
| Sodium | anr | | | | | |
| Thallium | anr | | | | | |
| Tin | | | | | | |
| Vanadium | anr | | | | | |
| Zinc | anr | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

QC Batch ID: MP7092
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/13/04

| Metal | RL | IDL | MB raw | final |
|---|---|---|---|---|
| Aluminum | 200 | 6.6 | | |
| Antimony | 5.0 | 1.5 | | |
| Arsenic | 10 | 2.8 | | |
| Barium | 200 | .5 | anr | |
| Beryllium | 4.0 | .3 | | |
| Cadmium | 5.0 | .3 | | |
| Calcium | 1000 | 3.8 | | |
| Chromium | 10 | .4 | | |
| Cobalt | 50 | .5 | | |
| Copper | 25 | .44 | anr | |
| Iron | 300 | 7.1 | anr | |
| Lead | 5.0 | 1.2 | 0.68 | <5.0 |
| Magnesium | 5000 | 9.9 | | |
| Manganese | 15 | .16 | | |
| Molybdenum | 50 | .75 | | |
| Nickel | 40 | 1.1 | | |
| Potassium | 5000 | 14 | | |
| Selenium | 10 | 2 | | |
| Silver | 10 | .6 | | |
| Sodium | 5000 | 150 | | |
| Thallium | 10 | 1.5 | | |
| Tin | 50 | 1.5 | | |
| Vanadium | 50 | .47 | | |
| Zinc | 20 | .59 | anr | |

Associated samples MP7092: F26160-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested



0026

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR091404.ASC
QC Limits: result < RL

Date Analyzed: 09/14/04
Run ID: MA3969

Methods: SW846 6010B
Units: ug/l

| Metal | RL | IDL | ICB raw | final | CCB raw | final | CCB raw | final | CCB raw | final |
|---|---|---|---|---|---|---|---|---|---|---|
| Aluminum | 200 | 6.6 | anr | | | | | | | |
| Antimony | 5.0 | 1.5 | anr | | | | | | | |
| Arsenic | 10 | 2.8 | anr | | | | | | | |
| Barium | 200 | .5 | anr | | | | | | | |
| Beryllium | 4.0 | .3 | anr | | | | | | | |
| Cadmium | 5.0 | .3 | anr | | | | | | | |
| Calcium | 1000 | 3.8 | anr | | | | | | | |
| Chromium | 10 | .4 | anr | | | | | | | |
| Cobalt | 50 | .5 | anr | | | | | | | |
| Copper | 25 | .44 | anr | | | | | | | |
| Iron | 300 | 7.1 | anr | | | | | | | |
| Lead | 5.0 | 1.2 | 3.7 | <5.0 | 3.0 | <5.0 | 2.2 | <5.0 | 2.6 | <5.0 |
| Magnesium | 5000 | 9.9 | anr | | | | | | | |
| Manganese | 15 | .16 | anr | | | | | | | |
| Molybdenum | 50 | .75 | | | | | | | | |
| Nickel | 40 | 1.1 | anr | | | | | | | |
| Potassium | 5000 | 14 | anr | | | | | | | |
| Selenium | 10 | 2 | anr | | | | | | | |
| Silver | 10 | .6 | anr | | | | | | | |
| Sodium | 5000 | 150 | anr | | | | | | | |
| Thallium | 10 | 1.5 | anr | | | | | | | |
| Tin | 50 | 1.5 | | | | | | | | |
| Vanadium | 50 | .47 | anr | | | | | | | |
| Zinc | 20 | .59 | anr | | | | | | | |

(*) Outside of QC limits
(anr) Analyte not requested



0016

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR091404.ASC
QC Limits: result < RL

Date Analyzed: 09/14/04
Run ID: MA3969

Methods: SW846 6010B
Units: ug/l

| Metal | RL | IDL | CCB raw | final |
|---|---|---|---|---|
| Aluminum | 200 | 6.6 | anr | |
| Antimony | 5.0 | 1.5 | anr | |
| Arsenic | 10 | 2.8 | anr | |
| Barium | 200 | .5 | anr | |
| Beryllium | 4.0 | .3 | anr | |
| Cadmium | 5.0 | .3 | anr | |
| Calcium | 1000 | 3.8 | anr | |
| Chromium | 10 | .4 | anr | |
| Cobalt | 50 | .5 | anr | |
| Copper | 25 | .44 | anr | |
| Iron | 300 | 7.1 | anr | |
| Lead | 5.0 | 1.2 | 1.3 | <5.0 |
| Magnesium | 5000 | 9.9 | anr | |
| Manganese | 15 | .16 | anr | |
| Molybdenum | 50 | .75 | | |
| Nickel | 40 | 1.1 | anr | |
| Potassium | 5000 | 14 | anr | |
| Selenium | 10 | 2 | anr | |
| Silver | 10 | .6 | anr | |
| Sodium | 5000 | 150 | anr | |
| Thallium | 10 | 1.5 | anr | |
| Tin | 50 | 1.5 | | |
| Vanadium | 50 | .47 | anr | |
| Zinc | 20 | .59 | anr | |

(*) Outside of QC limits
(anr) Analyte not requested

mP 7092

# Metals Digestion Log: Water

Method of Digestion: SW846-3010A/3005A/EPA 200.7/3030C (CIRCLE ONE) Temp: 93° Thermometer ID 104

| | HNO3 | HCl | Spk. Sol.* | Amount Used* |
|---|---|---|---|---|
| Added: | | | 1 Acc 333 | .25ml |
| | | | 2 Met 1204 | .50ml |
| | | | 3 Acc 352 | 1.0 ml |
| Mfg: | Fisher | Fisher | | |
| Lot# | 1104030 | 4103101 | Digestion Tube Lot# | ~~A405CS149~~ A405CS149 exp 9/13 |

| Sample # | Init. Vol/Wt | Fin. Vol/Wt | Date | Comments |
|---|---|---|---|---|
| MB 9/13/04 | 50 mL | 50ml | 9/13/04 | |
| SB ↓ | ↓ | ↓ | ↓ | |
| MS F26304-8.19 | | | | Qc requested |
| MSD ↓ | | | | ↓ |
| Dup | | | | |
| 1 QC ↓ | | | | ↓ |
| 2 F26160-1.1 | | | | |
| 3 F26304-1.7 | | | | |
| 4 -2.7 | | | | |
| 5 -3.7 | | | | |
| 6 -4.7 | | | | |
| 7 -5.7 | | | | |
| 8 -6.7 | | | | |
| 9 -7.7 | | | | |
| 10 -9.7 | | | | sediment |
| 11 -10.7 | | | | |
| 12 F26308-1.14 | | | | Sediment |
| 13 F26308-2.14 | | | | |
| 14 F26308-4.14 | | | | |
| 15 F26302-2.9 | | | | |
| 16 ↓ -3.9 | | | | |
| 17 F26309-4.11 | | | | sediment, yellow color, odor |
| 18 -5.11 | | | | sediment, odor |
| 19 -6.11 | | | | sediment |
| 20 -7.11 | ↓ | ↓ | ↓ | sediment |

Analyst [signature] Date 9/13/04

QC Review [signature] Date 9/13/04

Rev. 01/12/04 DJM *Used For SB, MS, MSD Page Number: 0040

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR091404.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 09/14/04
Run ID: MA3969

Methods: SW846 6010B

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 09:08 | MA3969-ICV1 | 1 | | |
| 09:10 | MA3969-ICB1 | 1 | | |
| 09:14 | MA3969-CRI1 | 1 | | |
| 09:20 | MA3969-ICSA1 | 1 | | |
| 09:21 | MA3969-ICSAB1 | 1 | | |
| 09:24 | MA3969-CCV1 | 1 | | |
| 09:29 | MA3969-CCB1 | 1 | | |
| 09:33 | MP7094-MB1 | 1 | | |
| 09:37 | MP7094-B1 | 1 | | |
| 09:43 | F26327-1 | 1 | | (sample used for QC only; not part of login F26160) |
| 09:47 | MP7094-D1 | 1 | | |
| 09:51 | MP7094-SD1 | 5 | | |
| 09:54 | MP7094-S1 | 1 | | |
| 09:58 | MP7094-S2 | 1 | | |
| 10:04 | ZZZZZZ | 1 | | |
| 10:08 | ZZZZZZ | 1 | | |
| 10:12 | ZZZZZZ | 1 | | |
| 10:16 | MA3969-CCV2 | 1 | | |
| 10:21 | MA3969-CCB2 | 1 | | |
| 10:24 | ZZZZZZ | 1 | | |
| 10:28 | ZZZZZZ | 1 | | |
| 10:32 | ZZZZZZ | 1 | | |
| 10:36 | ZZZZZZ | 1 | | |
| 10:40 | ZZZZZZ | 1 | | |
| 10:44 | MP7092-MB1 | 1 | | |
| 10:47 | MP7092-B1 | 1 | | |
| 10:53 | F26304-8 | 1 | | (sample used for QC only; not part of login F26160) |
| 10:57 | MP7092-D1 | 1 | | |
| 11:01 | MP7092-SD1 | 5 | | |
| 11:05 | MA3969-CCV3 | 1 | | |
| 11:10 | MA3969-CCB3 | 1 | | |
| 12:04 | MP7092-S1 | 1 | | |
| 12:08 | MP7092-S2 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR091404.ASC  Date Analyzed: 09/14/04  Methods: SW846 6010B
Analyst: DM  Run ID: MA3969
Parameters: Pb

| | Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|---|
| | 12:14 | F26160-1 | 1 | | |
| ----------> | Last reportable sample/prep for job F26160 | | | | |
| | 12:18 | ZZZZZZ | 1 | | |
| | 12:22 | ZZZZZZ | 1 | | |
| | 12:26 | ZZZZZZ | 1 | | |
| | 12:30 | ZZZZZZ | 1 | | |
| | 12:33 | ZZZZZZ | 1 | | |
| | 12:37 | ZZZZZZ | 1 | | |
| | 12:41 | ZZZZZZ | 1 | | |
| | 12:45 | MA3969-CCV4 | 1 | | |
| | 12:50 | MA3969-CCB4 | 1 | | |
| ----------> | Last reportable CCB for job F26160 | | | | |
| | 12:54 | ZZZZZZ | 1 | | |
| | 12:57 | ZZZZZZ | 1 | | |
| | 13:01 | ZZZZZZ | 1 | | |
| | 13:05 | ZZZZZZ | 1 | | |
| | 13:09 | ZZZZZZ | 1 | | |
| | 13:13 | ZZZZZZ | 1 | | |
| | 13:16 | ZZZZZZ | 1 | | |
| | 13:20 | ZZZZZZ | 1 | | |
| | 13:27 | ZZZZZZ | 1 | | |
| | 13:31 | ZZZZZZ | 1 | | |
| | 13:35 | MA3969-CCV5 | 1 | | |
| | 13:40 | MA3969-CCB5 | 1 | | |
| | 13:47 | ZZZZZZ | 1 | | |
| | 13:50 | MP7093-MB1 | 1 | | |
| | 14:00 | F26316-3 | 1 | | (sample used for QC only; not part of login F26160) |
| | 14:04 | MP7093-D1 | 1 | | |
| | 14:08 | MP7093-SD1 | 5 | | |
| | 14:12 | MP7093-S1 | 1 | | |
| | 14:16 | MP7093-S2 | 1 | | |
| | 14:22 | ZZZZZZ | 1 | | |
| | 14:25 | ZZZZZZ | 1 | | |
| | 14:29 | MA3969-CCV6 | 1 | | |
| | 14:34 | MA3969-CCB6 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR091404.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 09/14/04
Run ID: MA3969

Methods: SW846 6010B

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 14:38 | ZZZZZZ | 1 | | |
| 14:42 | ZZZZZZ | 1 | | |
| 14:46 | ZZZZZZ | 1 | | |
| 14:50 | ZZZZZZ | 1 | | |
| 14:53 | ZZZZZZ | 1 | | |
| 14:57 | ZZZZZZ | 1 | | |
| 15:01 | ZZZZZZ | 1 | | |
| 15:05 | ZZZZZZ | 1 | | |
| 15:09 | ZZZZZZ | 1 | | |
| 15:12 | ZZZZZZ | 1 | | |
| 15:16 | MA3969-CCV7 | 1 | | |
| 15:21 | MA3969-CCB7 | 1 | | |
| 15:25 | ZZZZZZ | 1 | | |
| 15:29 | ZZZZZZ | 1 | | |
| 15:33 | ZZZZZZ | 1 | | |
| 15:36 | ZZZZZZ | 1 | | |
| 15:40 | ZZZZZZ | 1 | | |
| 15:44 | ZZZZZZ | 1 | | |
| 15:48 | ZZZZZZ | 1 | | |
| 15:54 | MA3969-CCV8 | 1 | | |
| 15:59 | MA3969-CCB8 | 1 | | |
| 16:10 | MP7093-B1 | 1 | | |
| 16:18 | MP7091-MB1 | 1 | | |
| 16:21 | MP7091-B1 | 1 | | |
| 16:27 | F26281-2A | 1 | | (sample used for QC only; not part of login F26160) |
| 16:31 | MP7091-D1 | 1 | | |
| 16:35 | MP7091-SD1 | 5 | | |
| 16:39 | MP7091-S1 | 1 | | |
| 16:43 | MP7091-S2 | 1 | | |
| 16:49 | ZZZZZZ | 1 | | |
| 16:53 | ZZZZZZ | 1 | | |
| 16:56 | MA3969-CCV9 | 1 | | |
| 17:01 | MA3969-CCB9 | 1 | | |

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F26160
Account: TETRFLTA - Tetra-Tech NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR091404.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 09/14/04
Run ID: MA3969

Methods: SW846 6010B

| Time | Sample Description | Dilution Factor | PS Recov | Comments |
|---|---|---|---|---|
| 17:05 | ZZZZZZ | 1 | | |
| 17:09 | ZZZZZZ | 1 | | |
| 17:13 | ZZZZZZ | 1 | | |
| 17:17 | ZZZZZZ | 1 | | |
| 17:20 | ZZZZZZ | 1 | | |
| 17:24 | ZZZZZZ | 1 | | |
| 17:28 | ZZZZZZ | 1 | | |
| 17:32 | ZZZZZZ | 1 | | |
| 17:36 | ZZZZZZ | 1 | | |
| 17:39 | ZZZZZZ | 1 | | |
| 17:43 | MA3969-CCV10 | 1 | | |
| 17:48 | MA3969-CCB10 | 1 | | |
| 17:52 | ZZZZZZ | 1 | | |
| 17:56 | ZZZZZZ | 1 | | |
| 18:00 | ZZZZZZ | 1 | | |
| 18:03 | ZZZZZZ | 1 | | |
| 18:07 | ZZZZZZ | 1 | | |
| 18:11 | MP7091-MB2 | 1 | | |
| 18:15 | ZZZZZZ | 1 | | |
| 18:20 | MA3969-CRI2 | 1 | | |
| 18:24 | MA3969-CCV11 | 1 | | |
| 18:29 | MA3969-CCB11 | 1 | | |

Refer to raw data for calibration curve and standards.

# PROJ_NO: 2642

SDG: 7769 MEDIA: WATER DATA FRACTION: OV

| | | | | | |
|---|---|---|---|---|---|
| nsample | OLFS-2406-MW46 | nsample | OLFS-2406-MW46 | nsample | OLFS-2406-MW47 |
| samp_date | 3/4/2005 | samp_date | 3/4/2005 | samp_date | 3/4/2005 |
| lab_id | 7769-001 | lab_id | 7769-001 | lab_id | 7769-002 |
| qc_type | NM | qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | | DUP_OF: | |

| Parameter | Result | Lab Qual | Val Qual | Qual Code |
|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 1 | U | U | |
| 1,1,2,2-TETRACHLOROETHANE | 1 | U | U | |
| 1,1,2-TRICHLOROETHANE | 1 | U | U | |
| 1,1,2-TRICHLOROTRIFLUOROETHANE | 1 | U | U | |
| 1,1-DICHLOROETHANE | 1 | U | U | |
| 1,1-DICHLOROETHENE | 1 | U | U | |
| 1,2,4-TRICHLOROBENZENE | 1 | U | U | |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 | U | U | |
| 1,2-DIBROMOETHANE | 1 | U | U | |
| 1,2-DICHLOROBENZENE | 1 | U | U | |
| 1,2-DICHLOROETHANE | 1 | U | U | |
| 1,2-DICHLOROPROPANE | 1 | U | U | |
| 1,3-DICHLOROBENZENE | 1 | U | U | |
| 1,4-DICHLOROBENZENE | 1 | U | U | |
| 2-BUTANONE | 5 | U | U | |
| 2-HEXANONE | 5 | U | U | |
| 4-METHYL-2-PENTANONE | 5 | U | U | |
| ACETONE | 7.1 | | | |
| BENZENE | 1 | U | U | |
| BROMODICHLOROMETHANE | 1 | U | U | |
| BROMOFORM | 1 | U | U | |
| BROMOMETHANE | 1 | U | U | |
| CARBON DISULFIDE | 1 | U | U | |
| CARBON TETRACHLORIDE | 1 | U | U | |
| CHLOROBENZENE | 1 | U | U | |
| CHLORODIBROMOMETHANE | 1 | U | U | |
| CHLOROETHANE | 1 | U | U | |
| CHLOROFORM | 1 | U | U | |
| CHLOROMETHANE | 1 | U | U | |
| CIS-1,2-DICHLOROETHENE | 1 | U | U | |
| CIS-1,3-DICHLOROPROPENE | 1 | U | U | |
| CYCLOHEXANE | 1 | U | U | |

| Parameter | Result | Lab Qual | Val Qual | Qual Code |
|---|---|---|---|---|
| DICHLORODIFLUOROMETHANE | 1 | U | U | |
| ETHYLBENZENE | 1 | U | U | |
| ISOPROPYLBENZENE | 1 | U | U | |
| METHYL ACETATE | 1 | U | U | |
| METHYL CYCLOHEXANE | 1 | U | U | |
| METHYL TERT-BUTYL ETHER | 1 | U | U | |
| METHYLENE CHLORIDE | 2 | U | U | |
| STYRENE | 1 | U | U | |
| TETRACHLOROETHENE | 1 | U | U | |
| TOLUENE | 0.58 | I | J | P |
| TOTAL 1,2-DICHLOROETHENE | 1 | U | U | |
| TOTAL XYLENES | 3 | U | U | |
| TRANS-1,2-DICHLOROETHENE | 1 | U | U | |
| TRANS-1,3-DICHLOROPROPENE | 1 | U | U | |
| TRICHLOROETHENE | 1 | U | U | |
| TRICHLOROFLUOROMETHANE | 1 | U | U | |
| VINYL CHLORIDE | 1 | U | U | |

| Parameter | Result | Lab Qual | Val Qual | Qual Code |
|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 1 | U | U | |
| 1,1,2,2-TETRACHLOROETHANE | 1 | U | U | |
| 1,1,2-TRICHLOROETHANE | 1 | U | U | |
| 1,1,2-TRICHLOROTRIFLUOROETHANE | 1 | U | U | |
| 1,1-DICHLOROETHANE | 1 | U | U | |
| 1,1-DICHLOROETHENE | 1 | U | U | |
| 1,2,4-TRICHLOROBENZENE | 1 | U | U | |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 | U | U | |
| 1,2-DIBROMOETHANE | 1 | U | U | |
| 1,2-DICHLOROBENZENE | 1 | U | U | |
| 1,2-DICHLOROETHANE | 1 | U | U | |
| 1,2-DICHLOROPROPANE | 1 | U | U | |
| 1,3-DICHLOROBENZENE | 1 | U | U | |
| 1,4-DICHLOROBENZENE | 1 | U | U | |
| 2-BUTANONE | 5 | U | U | |
| 2-HEXANONE | 5 | U | U | |
| 4-METHYL-2-PENTANONE | 5 | U | U | |
| ACETONE | 4.3 | I | J | P |
| BENZENE | 1 | U | U | |
| BROMODICHLOROMETHANE | 1 | U | U | |
| BROMOFORM | 1 | U | U | |
| BROMOMETHANE | 1 | U | U | |
| CARBON DISULFIDE | 1 | U | U | |
| CARBON TETRACHLORIDE | 1 | U | U | |
| CHLOROBENZENE | 1 | U | U | |
| CHLORODIBROMOMETHANE | 1 | U | U | |
| CHLOROETHANE | 1 | U | U | |
| CHLOROFORM | 1 | U | U | |
| CHLOROMETHANE | 1 | U | U | |
| CIS-1,2-DICHLOROETHENE | 1 | U | U | |
| CIS-1,3-DICHLOROPROPENE | 1 | U | U | |
| CYCLOHEXANE | 1 | U | U | |

# PROJ_NO: 2642

SDG: 7769 MEDIA: WATER DATA FRACTION: OV

| | |
|---|---|
| nsample | OLFS-2406-MW47 |
| samp_date | 3/4/2005 |
| lab_id | 7769-002 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Lab Qual | Val Qual | Qual Code |
|---|---|---|---|---|
| DICHLORODIFLUOROMETHANE | 1 | U | U | |
| ETHYLBENZENE | 1 | U | U | |
| ISOPROPYLBENZENE | 1 | U | U | |
| METHYL ACETATE | 1 | U | U | |
| METHYL CYCLOHEXANE | 1 | U | U | |
| METHYL TERT-BUTYL ETHER | 0.35 | I | J | P |
| METHYLENE CHLORIDE | 2 | U | U | |
| STYRENE | 1 | U | U | |
| TETRACHLOROETHENE | 1 | U | U | |
| TOLUENE | 0.35 | I | J | P |
| TOTAL 1,2-DICHLOROETHENE | 1 | U | U | |
| TOTAL XYLENES | 3 | U | U | |
| TRANS-1,2-DICHLOROETHENE | 1 | U | U | |
| TRANS-1,3-DICHLOROPROPENE | 1 | U | U | |
| TRICHLOROETHENE | 1 | U | U | |
| TRICHLOROFLUOROMETHANE | 1 | U | U | |
| VINYL CHLORIDE | 1 | U | U | |

| | |
|---|---|
| nsample | TB02413 |
| samp_date | 3/4/2005 |
| lab_id | 7769-003 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Lab Qual | Val Qual | Qual Code |
|---|---|---|---|---|
| 1,1,1-TRICHLOROETHANE | 1 | U | U | |
| 1,1,2,2-TETRACHLOROETHANE | 1 | U | U | |
| 1,1,2-TRICHLOROETHANE | 1 | U | U | |
| 1,1,2-TRICHLOROTRIFLUOROETHANE | 1 | U | U | |
| 1,1-DICHLOROETHANE | 1 | U | U | |
| 1,1-DICHLOROETHENE | 1 | U | U | |
| 1,2,4-TRICHLOROBENZENE | 1 | U | U | |
| 1,2-DIBROMO-3-CHLOROPROPANE | 1 | U | U | |
| 1,2-DIBROMOETHANE | 1 | U | U | |
| 1,2-DICHLOROBENZENE | 1 | U | U | |
| 1,2-DICHLOROETHANE | 1 | U | U | |
| 1,2-DICHLOROPROPANE | 1 | U | U | |
| 1,3-DICHLOROBENZENE | 1 | U | U | |
| 1,4-DICHLOROBENZENE | 1 | U | U | |
| 2-BUTANONE | 5 | U | U | |
| 2-HEXANONE | 5 | U | U | |
| 4-METHYL-2-PENTANONE | 5 | U | U | |
| ACETONE | 5 | U | U | |
| BENZENE | 1 | U | U | |
| BROMODICHLOROMETHANE | 1 | U | U | |
| BROMOFORM | 1 | U | U | |
| BROMOMETHANE | 1 | U | U | |
| CARBON DISULFIDE | 1 | U | U | |
| CARBON TETRACHLORIDE | 1 | U | U | |
| CHLOROBENZENE | 1 | U | U | |
| CHLORODIBROMOMETHANE | 1 | U | U | |
| CHLOROETHANE | 1 | U | U | |
| CHLOROFORM | 0.52 | I | J | P |
| CHLOROMETHANE | 0.78 | I | J | P |
| CIS-1,2-DICHLOROETHENE | 1 | U | U | |
| CIS-1,3-DICHLOROPROPENE | 1 | U | U | |
| CYCLOHEXANE | 1 | U | U | |

| | |
|---|---|
| nsample | TB02413 |
| samp_date | 3/4/2005 |
| lab_id | 7769-003 |
| qc_type | NM |
| units | UG/L |
| Pct_Solids | |
| DUP_OF: | |

| Parameter | Result | Lab Qual | Val Qual | Qual Code |
|---|---|---|---|---|
| DICHLORODIFLUOROMETHANE | 1 | U | U | |
| ETHYLBENZENE | 1 | U | U | |
| ISOPROPYLBENZENE | 1 | U | U | |
| METHYL ACETATE | 1 | U | U | |
| METHYL CYCLOHEXANE | 1 | U | U | |
| METHYL TERT-BUTYL ETHER | 1 | U | U | |
| METHYLENE CHLORIDE | 2 | U | U | |
| STYRENE | 1 | U | U | |
| TETRACHLOROETHENE | 1 | U | U | |
| TOLUENE | 1 | U | U | |
| TOTAL 1,2-DICHLOROETHENE | 1 | U | U | |
| TOTAL XYLENES | 3 | U | U | |
| TRANS-1,2-DICHLOROETHENE | 1 | U | U | |
| TRANS-1,3-DICHLOROPROPENE | 1 | U | U | |
| TRICHLOROETHENE | 1 | U | U | |
| TRICHLOROFLUOROMETHANE | 1 | U | U | |
| VINYL CHLORIDE | 1 | U | U | |

# PROJ_NO: 2642

SDG: 7769 MEDIA: WATER DATA FRACTION: PAH

| | | | |
|---|---|---|---|
| nsample | OLFS-2406-MW46 | nsample | OLFS-2406-MW47 |
| samp_date | 3/4/2005 | samp_date | 3/4/2005 |
| lab_id | 7769-001 | lab_id | 7769-002 |
| qc_type | NM | qc_type | NM |
| units | UG/L | units | UG/L |
| Pct_Solids | | Pct_Solids | |
| DUP_OF: | | DUP_OF: | |

| Parameter | Result | Lab Qual | Val Qual | Qual Code |
|---|---|---|---|---|
| 1-METHYLNAPHTHALENE | 0.2 | U | U | |
| 2-METHYLNAPHTHALENE | 0.059 | I | J | P |
| ACENAPHTHENE | 0.2 | U | U | |
| ACENAPHTHYLENE | 0.2 | U | U | |
| ANTHRACENE | 0.2 | U | U | |
| BENZO(A)ANTHRACENE | 0.2 | U | U | |
| BENZO(A)PYRENE | 0.2 | U | U | |
| BENZO(B)FLUORANTHENE | 0.2 | U | U | |
| BENZO(G,H,I)PERYLENE | 0.2 | U | U | |
| BENZO(K)FLUORANTHENE | 0.2 | U | U | |
| CHRYSENE | 0.2 | U | U | |
| DIBENZO(A,H)ANTHRACENE | 0.2 | U | U | |
| FLUORANTHENE | 0.2 | U | U | |
| FLUORENE | 0.2 | U | U | |
| INDENO(1,2,3-CD)PYRENE | 0.2 | U | U | |
| NAPHTHALENE | 0.075 | I | J | P |
| PHENANTHRENE | 0.2 | U | U | |
| PYRENE | 0.2 | U | U | |

| Parameter | Result | Lab Qual | Val Qual | Qual Code |
|---|---|---|---|---|
| 1-METHYLNAPHTHALENE | 0.2 | U | U | |
| 2-METHYLNAPHTHALENE | 0.2 | U | U | |
| ACENAPHTHENE | 0.2 | U | U | |
| ACENAPHTHYLENE | 0.2 | U | U | |
| ANTHRACENE | 0.2 | U | U | |
| BENZO(A)ANTHRACENE | 0.2 | U | U | |
| BENZO(A)PYRENE | 0.2 | U | U | |
| BENZO(B)FLUORANTHENE | 0.2 | U | U | |
| BENZO(G,H,I)PERYLENE | 0.2 | U | U | |
| BENZO(K)FLUORANTHENE | 0.2 | U | U | |
| CHRYSENE | 0.2 | U | U | |
| DIBENZO(A,H)ANTHRACENE | 0.2 | U | U | |
| FLUORANTHENE | 0.2 | U | U | |
| FLUORENE | 0.2 | U | U | |
| INDENO(1,2,3-CD)PYRENE | 0.2 | U | U | |
| NAPHTHALENE | 0.2 | U | U | |
| PHENANTHRENE | 0.2 | U | U | |
| PYRENE | 0.2 | U | U | |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

SDG 7769

EPA SAMPLE NO.

OLFS-2406-MW46

| | | | |
|---|---|---|---|
| Lab Name: | ACCURA ANALYTICAL LAB | Contract: | N2642 |
| Lab Code: | ACCURA | SAS NO. : | |
| Case No. : | 7769 | SDG NO. : | |
| Matrix (soil/water): | WATER | Lab Sample Id: | 7769-001 |
| Sample wt/vol: | 25.00 (g/mL) ML | Lab File ID: | J030905\J15788 |
| Level (low/med): | LOW | Date Received: | 03/07/05 |
| % Moisture: not dec. | | Date Analyzed: | 03/09/05 |
| GC Column: | ZB-624 ID: .25 (mm) | Dilution Factor: | 1.0 |
| Soil Extract Volume | (μ L) | Soil Aliquot Volume: | (μ L) |

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 1.0 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.0 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1.0 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1.0 | U |
| 75-34-3 | 1,1-Dichloroethane | 1.0 | U |
| 75-35-4 | 1,1-Dichloroethene | 1.0 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | U |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.0 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 1.0 | U |
| 78-87-5 | 1,2-Dichloropropane | 1.0 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | U |
| 78-93-3 | 2-Butanone | 5.0 | U |
| 591-78-6 | 2-Hexanone | 5.0 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.0 | U |
| 67-64-1 | Acetone | 7.1 | |
| 71-43-2 | Benzene | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1.0 | U |
| 75-25-2 | Bromoform | 1.0 | U |
| 74-83-9 | Bromomethane | 1.0 | U |
| 75-15-0 | Carbon Disulfide | 1.0 | U |
| 56-23-5 | Carbon Tetrachloride | 1.0 | U |
| 108-90-7 | Chlorobenzene | 1.0 | U |
| 75-00-3 | Chloroethane | 1.0 | U |
| 67-66-3 | Chloroform | 1.0 | U |
| 74-87-3 | Chloromethane | 1.0 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1.0 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

QLFS-2406-MW46

| | | | |
|---|---|---|---|
| Lab Name: | ACCURA ANALYTICAL LAB | Contract: | N2642 |
| Lab Code: | ACCURA | SAS NO. : | |
| Case No. : | 7769 | SDG NO. : | |
| Matrix (soil/water): | WATER | Lab Sample Id: | 7769-001 |
| Sample wt/vol: | 25.00 (g/mL) ML | Lab File ID: | J030905\J15788 |
| Level (low/med): | LOW | Date Received: | 03/07/05 |
| % Moisture: not dec. | | Date Analyzed: | 03/09/05 |
| GC Column: | ZB-624 ID: .25 (mm) | Dilution Factor: | 1.0 |
| Soil Extract Volume | (μ L) | Soil Aliquot Volume: | (μ L) |

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 1.0 | U |
| 110-82-7 | Cyclohexane | 1.0 | U |
| 124-48-1 | Dibromochloromethane | 1.0 | U |
| 75-71-8 | Dichlorodifluoromethane | 1.0 | U |
| 100-41-4 | Ethylbenzene | 1.0 | U |
| 98-82-8 | Isopropylbenzene | 1.0 | U |
| 79-20-9 | Methyl Acetate | 1.0 | U |
| 1634-04-4 | Methyl tert-butyl ether | 1.0 | U |
| 108-87-2 | Methylcyclohexane | 1.0 | U |
| 75-09-2 | Methylene Chloride | 2.0 | U |
| 100-42-5 | Styrene | 1.0 | U |
| 127-18-4 | Tetrachloroethene | 1.0 | U |
| 108-88-3 | Toluene | 0.58 | I |
| 156-60-5 | trans-1,2-dichloroethene | 1.0 | U |
| 10061-02-6 | trans-1,3-dichloropropene | 1.0 | U |
| 79-01-6 | Trichloroethene | 1.0 | U |
| 75-69-4 | Trichlorofluoromethane | 1.0 | U |
| 75-01-4 | Vinyl Chloride | 1.0 | U |
| 1330-20-7 | Xylenes, Total | 3.0 | U |

1A

# VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OLFS-2406-MW47

Lab Name: ACCURA ANALYTICAL LAB

Contract: N2642

Lab Code: ACCURA

SAS NO. :

Case No. : 7769

SDG NO. :

Matrix (soil/water): WATER

Lab Sample Id: 7769-002

Sample wt/vol: 25.00 (g/mL) ML

Lab File ID: J030905\J15789

Level (low/med): LOW

Date Received: 03/07/05

% Moisture: not dec.

Date Analyzed: 03/09/05

GC Column: ZB-624 ID: .25 (mm)

Dilution Factor: 1.0

Soil Extract Volume (μ L)

Soil Aliquot Volume: (μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 1.0 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.0 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1.0 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1.0 | U |
| 75-34-3 | 1,1-Dichloroethane | 1.0 | U |
| 75-35-4 | 1,1-Dichloroethene | 1.0 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | U |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.0 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 1.0 | U |
| 78-87-5 | 1,2-Dichloropropane | 1.0 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | U |
| 78-93-3 | 2-Butanone | 5.0 | U |
| 591-78-6 | 2-Hexanone | 5.0 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.0 | U |
| 67-64-1 | Acetone | 4.3 | I |
| 71-43-2 | Benzene | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1.0 | U |
| 75-25-2 | Bromoform | 1.0 | U |
| 74-83-9 | Bromomethane | 1.0 | U |
| 75-15-0 | Carbon Disulfide | 1.0 | U |
| 56-23-5 | Carbon Tetrachloride | 1.0 | U |
| 108-90-7 | Chlorobenzene | 1.0 | U |
| 75-00-3 | Chloroethane | 1.0 | U |
| 67-66-3 | Chloroform | 1.0 | U |
| 74-87-3 | Chloromethane | 1.0 | U |
| 156-59-2 | cis-1,2-Dichloroethene | 1.0 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

OLFS-2406-MW47

Lab Name: ACCURA ANALYTICAL LAB

Contract: N2642

Lab Code: ACCURA

SAS NO. :

Case No. : 7769

SDG NO. :

Matrix (soil/water): WATER

Lab Sample Id: 7769-002

Sample wt/vol: 25.00 (g/mL) ML

Lab File ID: J030905\J15789

Level (low/med): LOW

Date Received: 03/07/05

% Moisture: not dec.

Date Analyzed: 03/09/05

GC Column: ZB-624 ID: .25 (mm)

Dilution Factor: 1.0

Soil Extract Volume (μ L)

Soil Aliquot Volume: (μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 1.0 | U |
| 110-82-7 | Cyclohexane | 1.0 | U |
| 124-48-1 | Dibromochloromethane | 1.0 | U |
| 75-71-8 | Dichlorodifluoromethane | 1.0 | U |
| 100-41-4 | Ethylbenzene | 1.0 | U |
| 98-82-8 | Isopropylbenzene | 1.0 | U |
| 79-20-9 | Methyl Acetate | 1.0 | U |
| 1634-04-4 | Methyl tert-butyl ether | 0.35 | I |
| 108-87-2 | Methylcyclohexane | 1.0 | U |
| 75-09-2 | Methylene Chloride | 2.0 | U |
| 100-42-5 | Styrene | 1.0 | U |
| 127-18-4 | Tetrachloroethene | 1.0 | U |
| 108-88-3 | Toluene | 0.35 | I |
| 156-60-5 | trans-1,2-dichloroethene | 1.0 | U |
| 10061-02-6 | trans-1,3-dichloropropene | 1.0 | U |
| 79-01-6 | Trichloroethene | 1.0 | U |
| 75-69-4 | Trichlorofluoromethane | 1.0 | U |
| 75-01-4 | Vinyl Chloride | 1.0 | U |
| 1330-20-7 | Xylenes, Total | 3.0 | U |

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB02413

Lab Name: ACCURA ANALYTICAL LAB

Contract: N2642

Lab Code: ACCURA

SAS NO. :

Case No. : 7769

SDG NO. :

Matrix (soil/water): WATER

Lab Sample Id: 7769-003

Sample wt/vol: 25.00 (g/mL) ML

Lab File ID: J030905\J15785

Level (low/med): LOW

Date Received: 03/07/05

% Moisture: not dec.

Date Analyzed: 03/09/05

GC Column: ZB-624 ID: .25 (mm)

Dilution Factor: 1.0

Soil Extract Volume (μ L)

Soil Aliquot Volume: (μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 71-55-6 | 1,1,1-Trichloroethane | 1.0 | U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 1.0 | U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-Trifluoroethane | 1.0 | U |
| 79-00-5 | 1,1,2-Trichloroethane | 1.0 | U |
| 75-34-3 | 1,1-Dichloroethane | 1.0 | U |
| 75-35-4 | 1,1-Dichloroethene | 1.0 | U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | U |
| 96-12-8 | 1,2-Dibromo-3-Chloropropane | 1.0 | U |
| 106-93-4 | 1,2-Dibromoethane | 1.0 | U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | U |
| 107-06-2 | 1,2-Dichloroethane | 1.0 | U |
| 540-59-0 | 1,2-Dichloroethene (total) | 1.0 | U |
| 78-87-5 | 1,2-Dichloropropane | 1.0 | U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | U |
| 78-93-3 | 2-Butanone | 5.0 | U |
| 591-78-6 | 2-Hexanone | 5.0 | U |
| 108-10-1 | 4-Methyl-2-Pentanone | 5.0 | U |
| 67-64-1 | Acetone | 5.0 | U |
| 71-43-2 | Benzene | 1.0 | U |
| 75-27-4 | Bromodichloromethane | 1.0 | U |
| 75-25-2 | Bromoform | 1.0 | U |
| 74-83-9 | Bromomethane | 1.0 | U |
| 75-15-0 | Carbon Disulfide | 1.0 | U |
| 56-23-5 | Carbon Tetrachloride | 1.0 | U |
| 108-90-7 | Chlorobenzene | 1.0 | U |
| 75-00-3 | Chloroethane | 1.0 | U |
| 67-66-3 | Chloroform | 0.52 | I |
| 74-87-3 | Chloromethane | 0.78 | I |
| 156-59-2 | cis-1,2-Dichloroethene | 1.0 | U |

1B

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

TB02413

Lab Name: ACCURA ANALYTICAL LAB

Contract: N2642

Lab Code: ACCURA

SAS NO. :

Case No. : 7769

SDG NO. :

Matrix (soil/water): WATER

Lab Sample Id: 7769-003

Sample wt/vol: 25.00 (g/mL) ML

Lab File ID: J030905\J15785

Level (low/med): LOW

Date Received: 03/07/05

% Moisture: not dec.

Date Analyzed: 03/09/05

GC Column: ZB-624 ID: .25 (mm)

Dilution Factor: 1.0

Soil Extract Volume (μ L)

Soil Aliquot Volume: (μ L)

CONCENTRATION UNITS (ug/L or ug/Kg) ug/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 10061-01-5 | cis-1,3-Dichloropropene | 1.0 | U |
| 110-82-7 | Cyclohexane | 1.0 | U |
| 124-48-1 | Dibromochloromethane | 1.0 | U |
| 75-71-8 | Dichlorodifluoromethane | 1.0 | U |
| 100-41-4 | Ethylbenzene | 1.0 | U |
| 98-82-8 | Isopropylbenzene | 1.0 | U |
| 79-20-9 | Methyl Acetate | 1.0 | U |
| 1634-04-4 | Methyl tert-butyl ether | 1.0 | U |
| 108-87-2 | Methylcyclohexane | 1.0 | U |
| 75-09-2 | Methylene Chloride | 2.0 | U |
| 100-42-5 | Styrene | 1.0 | U |
| 127-18-4 | Tetrachloroethene | 1.0 | U |
| 108-88-3 | Toluene | 1.0 | U |
| 156-60-5 | trans-1,2-dichloroethene | 1.0 | U |
| 10061-02-6 | trans-1,3-dichloropropene | 1.0 | U |
| 79-01-6 | Trichloroethene | 1.0 | U |
| 75-69-4 | Trichlorofluoromethane | 1.0 | U |
| 75-01-4 | Vinyl Chloride | 1.0 | U |
| 1330-20-7 | Xylenes, Total | 3.0 | U |

1D

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

OLFS-2406-MW46

Lab Name : ACCURA ANALYTICAL LAB Contract: N2642

Lab Code : ACCURA Case No.: 7769 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 7769-001

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B031505\B47887

Level : (low/med) LOW Date Received: 03/07/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 03/09/05

Concentrated Extract Volume: 1000 (µ L) Date Analyzed: 03/15/05

Injection Volume: 2.0 (µ L) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

| CAS NO. | COMPOUND | CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L | Q |
|---|---|---|---|
| 90-12-0 | 1-Methylnaphthalene | 0.20 | U |
| 91-57-6 | 2-Methylnaphthalene | 0.059 | I |
| 83-32-9 | Acenaphthene | 0.20 | U |
| 208-96-8 | Acenaphthylene | 0.20 | U |
| 120-12-7 | Anthracene | 0.20 | U |
| 56-55-3 | Benzo(a)anthracene | 0.20 | U |
| 50-32-8 | Benzo(a)pyrene | 0.20 | U |
| 205-99-2 | Benzo(b)fluoranthene | 0.20 | U |
| 191-24-2 | Benzo(g,h,i)perylene | 0.20 | U |
| 207-08-9 | Benzo(k)fluoranthene | 0.20 | U |
| 218-01-9 | Chrysene | 0.20 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 0.20 | U |
| 206-44-0 | Fluoranthene | 0.20 | U |
| 86-73-7 | Fluorene | 0.20 | U |
| 193-39-5 | Indeno(1,2,3-c,d)Pyrene | 0.20 | U |
| 91-20-3 | Naphthalene | 0.075 | I |
| 85-01-8 | Phenanthrene | 0.20 | U |
| 129-00-0 | Pyrene | 0.20 | U |

1C

SEMIVOLATILE ORGANICS ANALYSES DATA SHEET

EPA SAMPLE NO.

OLFS-2406-MW47

Lab Name : ACCURA ANALYTICAL LAB Contract: N2642

Lab Code : ACCURA Case No.: 7769 SAS No. _____ SDG No.: N/A

Matrix : (soil/water) WATER Lab Sample Id: 7769-002

Sample wt/vol: 1000 (g/ml): ML Lab File ID: 1B031505\B47888

Level : (low/med) LOW Date Received: 03/07/05

% Moisture: _____ Decanted: (Y/N) N Date Extracted: 03/09/05

Concentrated Extract Volume: 1000 (µL) Date Analyzed: 03/15/05

Injection Volume: 2.0 (µL) Dilution Factor: 1.0

GPC Cleanup (Y/N): N pH: N/A Extraction : (Type) SW3520C

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

| CAS NO. | COMPOUND | | Q |
|---|---|---|---|
| 90-12-0 | 1-Methylnaphthalene | 0.20 | U |
| 91-57-6 | 2-Methylnaphthalene | 0.20 | U |
| 83-32-9 | Acenaphthene | 0.20 | U |
| 208-96-8 | Acenaphthylene | 0.20 | U |
| 120-12-7 | Anthracene | 0.20 | U |
| 56-55-3 | Benzo(a)anthracene | 0.20 | U |
| 50-32-8 | Benzo(a)pyrene | 0.20 | U |
| 205-99-2 | Benzo(b)fluoranthene | 0.20 | U |
| 191-24-2 | Benzo(g,h,i)perylene | 0.20 | U |
| 207-08-9 | Benzo(k)fluoranthene | 0.20 | U |
| 218-01-9 | Chrysene | 0.20 | U |
| 53-70-3 | Dibenz(a,h)Anthracene | 0.20 | U |
| 206-44-0 | Fluoranthene | 0.20 | U |
| 86-73-7 | Fluorene | 0.20 | U |
| 193-39-5 | Indeno(1,2,3-c,d)Pyrene | 0.20 | U |
| 91-20-3 | Naphthalene | 0.20 | U |
| 85-01-8 | Phenanthrene | 0.20 | U |
| 129-00-0 | Pyrene | 0.20 | U |

WO# 7+07

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 1801 | PAGE 1 OF 1

| | | | | |
|---|---|---|---|---|
| PROJECT NO: 2612 | FACILITY: OLF Sandlers | PROJECT MANAGER Gerry Walker | PHONE NUMBER 850-385-9899 | LABORATORY NAME/AND CONTACT: Acura Analytical / David Fuller |
| SAMPLERS (SIGNATURE) William Howell | | FIELD OPERATIONS LEADER Howard Engle | PHONE NUMBER 850-385-9899 | ADDRESS 6017 Finanera Dr |
| | | CARRIER/WAYBILL NUMBER | | CITY, STATE Norcross, GA 30071 |

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G
PRESERVATIVE USED: 4°C 4°C

| DATE YEAR 2005 | TIME | SAMPLE ID | LOCATION ID | TOP DEPTH (FT) | BOTTOM DEPTH (FT) | MATRIX (GW, SO, SW, SD, QC, ETC.) | COLLECTION METHOD GRAB (G) COMP (C) | No. OF CONTAINERS | TYPE OF ANALYSIS: PAH (8310 SIM) | TYPE OF ANALYSIS: VOC (TCL List) | COMMENTS 7769 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/4 | 1240 | OLFS-2406-MW#46 | MW46 | 40.97 | 52.05 | GW | G | 5 | 2 | 3 | See WR# 001 |
| ↓ | 1345 | -MW47 | MW47 | 42.69 | 56.69 | ↓ | ↓ | 5 | ↓ | ↓ | 1001473 002 |
| | | TB02413 | N/A | | | | | 3 | | | under 003 |
| | | | | | | | | | | | MSA # |
| | | | | | | | | | | | MSA-0402-N4113-05 |

| | | | | | |
|---|---|---|---|---|---|
| 1. RELINQUISHED BY | DATE 3/4/05 | TIME 1600 | 1. RECEIVED BY | DATE 3/7/05 | TIME 0925 |
| 2. RELINQUISHED BY | DATE | TIME | 2. RECEIVED BY | DATE | TIME |
| 3. RELINQUISHED BY | DATE | TIME | 3. RECEIVED BY | DATE | TIME |

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

# HOLDTIME

SDG 7769

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| OV | % | TB02413 | 7769-003 | NM | 3/4/2005 | 3/9/2005 | 3/9/2005 | 5 | 0 | 5 |
| OV | % | OLFS-2406-MW47 | 7769-002 | NM | 3/4/2005 | 3/9/2005 | 3/9/2005 | 5 | 0 | 5 |
| OV | % | OLFS-2406-MW46 | 7769-001 | NM | 3/4/2005 | 3/9/2005 | 3/9/2005 | 5 | 0 | 5 |
| OV | UG/L | TB02413 | 7769-003 | NM | 3/4/2005 | 3/9/2005 | 3/9/2005 | 5 | 0 | 5 |
| OV | UG/L | OLFS-2406-MW47 | 7769-002 | NM | 3/4/2005 | 3/9/2005 | 3/9/2005 | 5 | 0 | 5 |
| OV | UG/L | OLFS-2406-MW46 | 7769-001 | NM | 3/4/2005 | 3/9/2005 | 3/9/2005 | 5 | 0 | 5 |
| SIM | % | OLFS-2406-MW47 | 7769-002 | NM | 3/4/2005 | 3/9/2005 | 3/15/2005 | 5 | 6 | 11 |
| SIM | % | OLFS-2406-MW46 | 7769-001 | NM | 3/4/2005 | 3/9/2005 | 3/15/2005 | 5 | 6 | 11 |
| SIM | UG/L | OLFS-2406-MW47 | 7769-002 | NM | 3/4/2005 | 3/9/2005 | 3/15/2005 | 5 | 6 | 11 |
| SIM | UG/L | OLFS-2406-MW46 | 7769-001 | NM | 3/4/2005 | 3/9/2005 | 3/15/2005 | 5 | 6 | 11 |