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SITE ASSESSMENT REPORT ADDENDUM FOR UNDERGROUND STORAGE TANK SITE 2406 NAVAL EDUCATION AND TRAINING PROFESSIONAL DEVELOPMENT AND TECHNICAL CENTER (NETPDTC) NAS SAUFLEY FIELD FL

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SITE ASSESSMENT REPORT ADDENDUM
FOR
UST SITE 2406, OUTLYING LANDING FIELD SAUFLEY
NAVAL EDUCATION and TRAINING PROFESSIONAL DEVELOPMENT and TECHNICAL CENTER

NAVAL AIR STATION PENSACOLA
PENSACOLA, FLORIDA

COMPREHENSIVE LONG-TERM
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ACRONYMS

AST	Aboveground Storage Tank
AVGAS	Aviation Gasoline
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
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
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FID	Flame Ionization Detector
FL-PRO	Florida Petroleum Range Organics
Ft	feet
GCTLs	Groundwater Cleanup Target Levels
HSA	Hollow Stem Auger
ID	Inside Diameter
mg/kg	milligrams per kilogram
MSL	relative groundwater elevation
NAAS	Naval Auxiliary Air Station
NAS	Naval Air Station
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
SOUTHNAVFACENGCOM	Southern Division, Naval Facilities Engineering Command
SWL	Static Water Level
TCA	Tetrachlorethane
TOC	Top Of Casing
TRPH	Total Recoverable Petroleum Hydrocarbon
TtNUS	Tetra Tech NUS, Inc.
µg/L	micrograms per liter
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOA	Volatile Organic Aromatic
VOC	Volatile Organic Compounds

PROFESSIONAL CERTIFICATION

Site Assessment Report Addendum
UST Site 2406, Outlying Landing Field Saufley
Naval Air Station Pensacola, Pensacola, Florida

This Site Assessment Report Addendum 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.
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9/12/03
Date

EXECUTIVE SUMMARY

Tetra Tech NUS, Inc. (TtNUS) has been authorized by Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) to prepare site assessment reports for petroleum impacted sites at Naval Air Station (NAS) Pensacola in Escambia County, Florida. This Site Assessment Report Addendum (SARA) has been prepared to evaluate impact to soil and groundwater resulting from operation of underground storage tanks and a fuel transfer line located at UST Site 2406, Outlying Landing Field (OLF) Saufley.

Site Assessment

The following activities were conducted as part of this SARA:

- Review of available Navy documents to identify potential sources and receptors for petroleum hydrocarbons in the vicinity of Underground Storage Tank (UST) Site 2406.
- Assessment of the nature and extent of petroleum constituents in soil and groundwater in the vicinity of UST Site 2406 using direct push technology (DPT) methods for soil and groundwater sampling and mobile laboratory analysis.
- Installation of six shallow permanent monitoring wells, 13 intermediate monitoring wells, and two deep monitoring wells.
- Collection of groundwater samples from the permanent monitoring wells for laboratory analysis of volatile organic aromatics (VOAs), polynuclear aromatic hydrocarbons (PAHs), ethylene dibromide (EDB), total recoverable petroleum hydrocarbons (TRPH), and lead.
- Comparison of soil analytical results to the Soil Cleanup Target Levels (SCTLs) and the 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 and Recommendations

The conclusions based on the data collected during the site assessment performed by TtNUS at UST Site 2406, OLF Saufley, are summarized as follows:

- Free-product was detected in six shallow monitoring wells in the vicinity of the aviation gasoline (AVGAS) UST area and fuel distribution pipelines, approximately at the intersection of Raby Avenue and McKinnon Street.

- Field screening samples and laboratory analytical data indicate an area of soil contamination in the vicinity of the free product plume.

- Laboratory analyses of soil samples with organic vapor analysis (OVA) results greater than 50 parts per million (ppm) indicate that concentrations of petroleum constituents in site soil are greater than the Soil Cleanup Target Levels (SCTLs).

- Groundwater sampling results from DPT and monitoring wells indicate that concentrations of dissolved petroleum contaminants of concern in site groundwater exceed GCTLs.

- No GCTL exceedances were detected in the deep monitoring wells.

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

Recommendations

Based upon the hydrogeological and chemical data presented in this SARA and the requirements of Chapter 62-770, F.A.C., TtNUS recommends that a remedial action plan (RAP) be implemented 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 piping system should be conducted, and immediate recovery of free product should be initiated.

1.0 SITE DESCRIPTION AND BACKGROUND INFORMATION

TtNUS, under contract to the Department of Navy, SOUTHNAVFACENGCOM, has completed this SARA to document the additional site assessment performed at UST Site 2406, OLF Saufley Field, Naval Education and Training Professional Development and Technical Center (NETPDTC) located in Pensacola, Florida. The SAR Summary Sheet is included in Appendix A.

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 which 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. 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" fuel line distributed the AVGAS or jet fuel to the landing field from the UST area. In addition to the USTs and fuel product 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 Naval Air Station 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 outlying landing field 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 Naval Education and Training Professional Development and Technical Center 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.

less than 50 ppm and the soil sample laboratory analytical results were less than FDEP Soil Cleanup Target Levels (SCTLs). Three new monitoring wells were installed, one shallow well screened at the water table (OLFS-2406-MW11), one intermediate well (OLFS-2406-DMW12 screened from 65-70 feet bls), and one deep well (OLFS-2406-DMW13 screened from 130-140 feet). Slug tests were conducted on two intermediate monitoring wells (OLFS-2406-DMW10 and OLFS-2406-DMW12) and one deep monitoring well (OLFS-2406-DMW13) to provide site specific hydraulic conductivity data. Groundwater samples were collected from OLFS-2406-DMW10, OLFS-2406-DMW12, and OLFS-2406-DMW13. These groundwater samples were also analyzed for gasoline and kerosene analytical group parameters. At this time water table wells OLFS-2406-MW3, OLFS-2406-MW4, and OLFS-2406-MW11 were dry likely due to drought conditions. Results of the additional site assessment indicated that a groundwater sample from monitoring well OLFS-2406-DMW12 contained EDB (0.024 micrograms per liter [µg/L]) and benzene (400 µg/L) at concentrations exceeding FDEP's GCTLs of 0.02 and 1µg/L, respectively.

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 (OLFS-2406-DMW-14, OLFS-2406-DMW-15, and OLFS-2406-DMW-16) surrounding monitoring well OLFS-2406-DMW-12. In October and November 2001, groundwater samples were collected from six monitoring wells including: OLFS-2406-MW10, OLFS-2406-MW12, OLFS-2406-MW13, OLFS-2406-MW14, OLFS-2406-MW15, and OLFS-2406-MW16 and analyzed for gasoline and kerosene analytical group parameters. Appendix B includes an analytical summary table and laboratory results for this additional groundwater sampling event.

The analytical results for the additional sampling event indicated that benzene was present in four of the monitoring wells at concentrations ranging from 40 to 6,200 µg/L (estimated). The detected concentrations exceeded the FDEP GCTL of 1µg/L for benzene. Ethylbenzene, total xylenes and toluene were detected in the groundwater sample from monitoring well OLFS-2406-MW16 at concentrations of 170 µg/L (estimated), 539 µg/L (estimated), and 3,100 µg/L (estimated), respectively. All three detected concentrations exceeded the respective FDEP GCTLs. 1,2-Dichloroethene was detected in the groundwater sample from monitoring well OLFS-2406-MW12 at a concentration (13 µg/L) exceeding the FDEP GCTL of 3 µg/L. Total xylenes, chloroform, and methylene chloride were also detected in groundwater samples collected during the sampling event; however, detected concentrations did not exceed the FDEP GCTLs.

Because of the elevated concentrations detected in the deep monitoring wells located at the site, SOUTHNAVFACENGCOM determined that additional investigation and assessment was warranted and authorized the work completed within this report.

2.0 SITE ASSESSMENT METHODOLOGY

Soil and groundwater assessment data were collected in order to determine the nature and extent of petroleum impact due to past operation of the two former UST areas, the 10" fuel transfer line, and the two ASTs located near Building 2406. The following activities were conducted as part of the site assessment:

- Quality Assurance
- Soil Assessment
- Groundwater Assessment
- Aquifer Characterization

The site assessment methods used during this investigation are discussed below. The results of the investigation are presented in Chapters Three and Four.

2.1 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 soil or 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. Organic Vapor Analyses (OVAs) were made using a Photovac MicroFID (FID) as required by FDEP. Prior to each day's activities, the 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 a Horiba U-10 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 C.

Groundwater sampling activities were performed in accordance with the procedures prescribed in DEP-SOP-001/01. Soil and groundwater samples were collected in containers provided by the laboratory. As part of the groundwater sampling event, quality control samples (e.g. field duplicate, 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.

2.2 SOIL ASSESSMENT

The soil screening investigation was conducted at UST Site 2406 to further evaluate the extent of the petroleum contamination in the soil previously detected during the initial Site Assessment. During the soil screening investigation, 33 soil borings were advanced using Direct-Push Technology (DPT) methods (Figure 2-1). Soil samples from the borings were collected for OVA screening and selected samples were submitted for on-site laboratory analysis. Additional soil samples were collected for analysis at an off-site fixed-base laboratory to confirm the on-site laboratory analysis. During the DPT field investigation, each soil boring was advanced to the water table, located approximately 45 to 55 feet bls.

2.2.1 Soil Lithologic Descriptions

Soil borings for the site assessment were advanced with a DPT rig using soil core samplers. The soil core samplers were four feet long and were 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 C.

2.2.2 Organic Vapor Analysis

Soil samples were collected at four-foot intervals for headspace screening in accordance with the procedures outlined in 62-770.200(8) F.A.C. However, in some instances, multiple discreet samples were collected and analyzed from within the four-foot interval. For example, two discreet samples were collected and analyzed from the 28 to 32 foot interval of boring NASP2406SB29 (NASP2406SB29 28' and NASP2406SB29 32'). From each four-foot interval, two 16-ounce glass jars were half-filled with soil, sealed with aluminum foil, and labeled. The soil samples were allowed to equilibrate to ambient air temperature. The FID response to total organic vapor was measured by inserting the FID probe through the foil sample cover and recording the highest instrument reading on the soil boring log.

2.2.3 Mobile Laboratory Soil Analysis

Nineteen soil samples were submitted to an on-site mobile laboratory for analysis. Most of the soil samples submitted for mobile laboratory analysis were collected at soil boring locations with positive headspace screening responses. The soil samples were collected from the soil boring sample interval with the highest headspace screening response. The soil samples submitted to the mobile laboratory were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX). The mobile laboratory analytical report is provided in Appendix D.

2.2.4 Soil Sampling for Fixed-Base Laboratory Analysis

Four soil samples were collected from UST Site 2406 for off-site fixed-base laboratory analysis to correlate the results of the headspace screening with laboratory analyses. Fixed-base laboratory analytical samples were collected from intervals reported to have low, medium, and high FID responses.

The soil samples were analyzed for VOAs using SW-846 Method 8260B, PAHs using SW-846 Method 8310, and TRPH using the Florida petroleum range organics (FL-PRO) method. The laboratory analytical report is included in Appendix E.

2.3 GROUNDWATER ASSESSMENT

The additional groundwater assessment was conducted at UST Site 2406 to determine the extent of petroleum impact to site groundwater reported during the initial Site Assessment. Groundwater samples were collected at each soil boring location during the DPT investigation and analyzed at an on-site mobile laboratory. Following the DPT investigation, permanent monitoring wells were installed at the site. The locations for the new monitoring wells were based on the data collected during the DPT investigation.

2.3.1 DPT Groundwater Sampling

Shallow groundwater samples were collected for on-site screening from 33 soil boring locations advanced with the DPT rig (Figure 2-1). After soil core samples were collected to water table, approximately 45 - 55 feet bls, water samples were collected with a retractable screen groundwater sampler. The groundwater water sampler was pushed approximately two feet below the water table and the retractable screen was deployed. Groundwater samples were collected from the sampler using a manual inertial pumping and submitted to the on-site laboratory and analyzed for BTEX. An additional deep groundwater sample was

collected from an interval of 75 – 80 feet bls at all boring locations. The mobile laboratory analytical report is provided in Appendix D.

Three confirmation samples were collected for analysis at an off-site fixed-base laboratory to verify the results of the mobile laboratory analyses. The confirmation samples were analyzed for BTEX (EPA Method 8260B). The laboratory analytical reports are presented in Appendix E.

2.3.2 Monitoring Well Locations

Following the DPT investigation, six shallow monitoring wells (OLFS-2406-MW17 through OLFS-2406-MW22), thirteen intermediate monitoring wells (OLFS-2406-DMW23 through OLFS-2406-DMW31 and OLFS-2406-DMW33 through OLFS-2406-DMW36), and two deep monitoring wells (OLFS-2406-DMW32 and OLFS-2406-DMW37) were installed at the site (Figure 2-2). Screening data obtained during the DPT investigation were evaluated to determine the locations of the new wells. Monitoring wells OLFS-2406-MW17 through OLFS-2406-MW22 were installed within the free-product plume, which was identified based on mobile laboratory data. OLFS2406-DMW24 through OLFS-2406-DMW26 and OLFS-2406-DMW30 through OLFS-2406-DMW36 were installed at the edge of the petroleum contamination plume in soil based as indicated by the OVA results. OLFS-2406-DMW23, OLFS-2406-DMW27 through OLFS-2406-DMW29, and OLFS-2406-DMW37 were installed within the petroleum contamination plume (Figure 2-2), but outside of the free product plume. These new monitoring wells were used for groundwater sampling and collecting data to evaluate aquifer properties.

2.3.3 Monitoring Well Installation

The majority of the monitoring well borings were drilled with a truck-mounted drill rig using 4.25-inch inside diameter (ID) hollow stem augers (HSA) creating a nominal borehole diameter of approximately 8.25-inches. Monitoring wells OLFS-2406-DMW32 and OLFS-2406-DMW37 were installed with a tractor and trailer mounted Rotosonic drill rig using 4.25-inch 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 installed to approximately 55 feet bls with a 10-foot screen section that bracketed the water table. Eleven intermediate monitoring wells were installed to approximately 80 feet bls, two intermediate monitoring wells were installed to approximately 65 feet bls, and the two deep monitoring wells (OLFS-2406-DMW32 and OLFS-2406-DMW37) were installed to approximately 135 feet bls. All of the intermediate and deep monitoring wells were constructed of 2-inch ID, flush-threaded, schedule 40 PVC riser and 5-feet of 0.010-inch slot well screen with a 6-inch point cap.

The annulus around each well was filled approximately two to three feet above the top of the screen with US Standard Sieve size 20/40 silica sand, followed by a two 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 steel manhole. The manhole was set in a 24-inch square concrete apron finished slightly above grade. A monitoring well installation is illustrated on Figure 2-3. Monitoring well construction details are summarized on Table 2-1 and the monitoring well completion diagrams are provided in Appendix C.

During the groundwater sampling event which followed the monitoring well installation, it was determined that OLFS-2406-DMW34 was not recharging at a rate sufficient for groundwater sampling. This well was installed to an approximate depth of 65 feet bls because of a tight clay formation at 80 feet bls. Because this well was not producing, a replacement well (OLFS-2406-MW34R) was installed in the same area to an approximate depth of 65 feet bls; however, the replacement well was constructed with fifteen feet of 0.010-inch slot well screen as opposed to a five foot well screen. Although the replacement well's recharge rate was still slow, it did recharge adequately for groundwater sampling.

2.3.4 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 C.

2.3.5 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 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 while the wells were purged. Groundwater sample log sheets are provided in Appendix C.

The groundwater samples collected from each monitoring well were analyzed for Volatile Organic Compounds (VOC; EPA SW-846 Method 8260B), PAHs (EPA SW-846 Method 8270C), EDB using EPA

Method 504.1, TRPH (FL-PRO) and Lead (EPA SW-846 Method 3010A/6010B). Groundwater laboratory analytical reports are presented in Appendix E.

2.4 AQUIFER CHARACTERIZATION

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

2.4.1 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-MW4 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-MW4. The survey data calculations are included in Appendix C.

2.4.2 Static Water Level Measurements

A round of depth-to-groundwater measurements was made in all site monitoring wells on January 6, 2003. Measurements were made from the reference points marked on the tops of the well casings with an electronic water level indicator. SWL measurements were made to the nearest 0.01-foot. Groundwater elevations were calculated from the TOC survey elevations and the SWL measurements. The depths to water measurements are included in Appendix C.

2.4.3 Slug Tests

Slug tests were conducted to estimate the aquifer horizontal hydraulic conductivity at one intermediate monitoring well and one deep monitoring well at the site. The well locations, OLFS-2406-DMW30 and OLFS-2406-DMW31, (Figure 2-2) were selected because they were downgradient of the source area. The shallow wells were not selected because they were located in the free-product plume.

Prior to conducting the tests, the monitoring wells were opened and allowed to equilibrate to ambient conditions. Once a well had stabilized, SWL and total well depth were recorded and used to calculate the height of the water column in the well. A pressure transducer was installed in the well and the water level was allowed to re-stabilize. The pressure transducer was connected to a data logger to record water levels during the slug tests.

To begin each test, a solid PVC slug was used to displace water in the well and the data logger was started. The data logger recorded the return of groundwater to the static level after removal of the slug. Hydraulic conductivity values were calculated from the recovery data by the Bouwer and Rice (1976) method for unconfined aquifers using the AQTESOLV™ computer program. Data logger records and test analysis plots are included in Appendix F.

3.0 GEOLOGY AND HYDROGEOLOGY

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

3.1 SITE STRATIGRAPHY

Interpretation of site lithology and stratigraphy was based on visual examination of soil cores collected from soil borings during the DPT investigation and drill cuttings observed during the monitoring well installation. Data from selected soil boring were used to prepare an East-West and a North-South stratigraphic cross section of the site (Figures 3-1 and 3-2, respectively). Soil boring logs from the DPT investigation are included in Appendix B.

3.1.1 Regional Stratigraphy

The lithologies encountered in the soil borings at UST Site 2406 are consistent with descriptions of the Pleistocene Terrace deposits and Citronelle Formation (Undifferentiated). This stratigraphic unit is described as sand with lenses of clay and gravel (Marsh, 1966). The sand is light-yellowish brown to reddish-brown color, very fine to very coarse and poorly sorted. Logs and carbonaceous zones are present in places. Fossils are extremely rare except near the coast. These formations together with the underlying Miocene Coarse Clastics comprise the surficial sand and gravel aquifer. The Pensacola Clay Aquiclude, underlying the Miocene Coarse Clastics, is typically the lower-confining unit for the area. The Pensacola Clay is estimated to occur approximately 400 to 600 feet below sea level in the vicinity of NAS Pensacola (Marsh, 1966).

3.1.2 Local Lithology and Stratigraphy

The typical lithology at the site consists of 6 distinct layers: brown silty clayey sand (0-4 feet bls), reddish-brown silty clayey sand (4-30 ft bls), light-brown and yellowish-brown silty sand (10-50 ft bls), light grey silty clayey sand (40-70 ft bls), yellowish-orange silty clayey sand (70-90 ft bls), and gray silty sand (below 90 ft bls). East-West and North-South lithologic cross sections showing the subsurface material were completed

and are included as figures 3-1 and 3-2, respectively. The plan view of the lithologic cross sections is shown on figure 2-2. These layers were found in borings to the west and southwest of Building 2406 from ground surface to depths of approximately 135 feet.

3.2 SITE HYDROGEOLOGY

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

3.2.1 Static Water Level and Groundwater Elevations

Static water level (SWL) measurement data were recorded from site monitoring wells in January 2003 (Table 3-1). The SWL measurement data and the relative elevations from the well TOC survey were used to determine relative groundwater elevations at each well.

The SWL measurements in the shallow wells ranged from 40.98 feet below top of casing (BTOC) in OLFS-2406-MW17 to 45.23 feet BTOC in OLFS-2406-MW07. The relative groundwater elevations in the shallow wells ranged from 83.65 feet in OLFS-2406-MW9 and OLFS-2406-MW03 to 88.95 feet in OLFS-2406-MW17. Although free product was present in six monitoring wells, the water levels from these wells were corrected for density differences of free product.

The SWL measurements in the intermediate wells ranged from 28.45 feet BTOC in OLFS-2406-DMW31 to 48.91 ft BTOC in OLFS-2406-DMW34. The relative groundwater elevations in the intermediate wells ranged from 74.17 ft. in OLFS-2406-DMW25 to 88.06 ft. in OLFS-2406DMW27 and OLFS-2406-DMW33.

The SWL measurement in the deep wells ranged from 28.88 feet BTOC in OLFS-2406-DMW32 to 48.38 feet BTOC in OLFS-2406-DMW37. The relative groundwater elevation in the deep wells ranged from 79.62 feet in OLFS-2406-DMW32 to 81.55 feet in OLFS-2406-DMW-37.

The on-site groundwater vertical gradient was evaluated by reviewing data from monitoring well pairs: OLFS-2406-MW17 and OLFS-2406-DMW37 and OLFS-2406-DMW31 and OLFS-2406-DMW32. The relative groundwater elevation in deep well OLFS-2406-DMW37 was 7.4 feet lower than in the adjacent shallow well OLFS-2406-MW17. The vertical distance from the bottom of the screened interval of OLFS-2406-MW17 (39.5 to 54.5 feet BTOC) to the bottom of the screened interval of OLFS-2406-DMW37 (95

to 100 feet BTOC) is 45.5 feet. The difference in groundwater elevation and screened interval indicate a downward vertical gradient of approximately 0.16 feet/foot.

The relative groundwater elevation in deep well OLFS-2406-DMW32 was 0.25 feet lower than in the adjacent intermediate well OLFS-2406-DMW31. The vertical distance from the bottom of the screened interval of OLFS-2406-DMW31 (74.5 – 79.5 feet BTOC) to the bottom of the screened interval of OLFS-2406-DMW32 (130 – 135 feet BTOC) is 55.5 feet. The difference in groundwater elevation and screened interval indicate a downward vertical gradient of approximately 0.005 feet/foot.

3.2.2 Groundwater Flow Direction

To evaluate the direction of groundwater flow at the site, the groundwater elevations from the shallow, intermediate, and deep site monitoring wells were plotted on a site map (Figures 3-3, 3-4, and 3-5). Groundwater elevation isocontours were drawn from the plotted data. Groundwater flow direction is predicted to be perpendicular to the elevation isocontours. Interpretation of data from the site gauging event indicates that groundwater flow in the shallow (45 to 55 ft bls) screened groundwater interval is to the northeast (Figure 3-3); groundwater flow in the intermediate (65 to 80 ft bls) screened groundwater interval is generally to the west (Figure 3-4); and the groundwater flow in the deep (130 to 135 ft bls) screened groundwater interval is to the northwest (Figure 3-5).

It should be noted that groundwater in the southwest area of the base in the intermediate screened groundwater interval appears to flow to the north. There appears to be a trough located in the aquifer in the western area of the base. Groundwater in the intermediate screened interval appears to be flowing from the north/northeast and the south/southwest area of the base to this trough. Because this trough is located on the western side of the base, the overall groundwater flow is to the west.

3.2.3 Water Table Gradient

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

The groundwater flow gradient was determined using the following equation:

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

Where:

I = the hydraulic gradient
h_1 = the water elevation at point 1, the highest value

h_2 = the water elevation at point 2, the lowest value
d = the horizontal distance between point 1 and point 2 parallel to the direction of groundwater flow

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

In January 2003, the relative groundwater elevation in OLFS-2406-MW17, 88.95 feet, was the highest value and the groundwater elevation in OLFS-2406-MW08, 83.40 feet, was the lowest value in the shallow monitoring wells parallel to the groundwater flow. The horizontal distance parallel to groundwater flow is approximately 470 feet. These data indicate the average hydraulic gradient of 0.01 feet/foot for the shallow wells.

3.2.4 Hydraulic Conductivity

Hydraulic conductivity values for the site were calculated from the slug test data from monitoring wells OLFS-2406-DMW30 and OLFS-2406-DMW31, screened from 74.5 to 79.5 feet BTOC and monitoring well OLFS-2406-DMW32, screened from 130 to 135 feet BTOC. The slug test results are summarized in Table 3-2. The slug test data records and analytical plots are included in Appendix E.

The slug test results for the two shallower monitoring wells (OLFS-2406-DMW30 and OLFS-2406-DMW31) show hydraulic conductivity ranges between 0.003001 feet/minute (OLFS-2406-DMW31) and 0.01694 feet/minute (OLFS-2406-DMW30). The geometric mean of the hydraulic conductivity values for the shallower wells at the site is approximately 0.007 feet/minute or 10.08 feet/day. The slug test results for the deeper well (OLFS-2406-DMW32) show hydraulic conductivity ranges between 0.102 feet/minute and 0.1141 feet/minute. The geometric mean of the hydraulic conductivity values for the OLFS-2406-DMW32 location is approximately 0.1 feet/minute or 144 feet/day.

The slug test data indicate an order of magnitude variation in hydraulic conductivity in the two shallower monitoring wells, OLFS-2406-DMW30 and OLFS-2406-DMW31. This variation may be due to higher silt content in the soil where OLFS-2406-DMW31 is located.

3.2.5 Aquifer Transmissivity

A site-specific transmissivity was calculated from the slug test hydraulic conductivity values by using the following equation:

$T=Kb_e$

Where:

T = transmissivity
K= hydraulic conductivity (ft/day)
b_e = affected aquifer thickness

The surficial aquifer in the vicinity of UST Site 2406 is estimated to have an overall saturated thickness of 500 feet. The geometric mean of the slug test results for the deepest well, OLFS-2406-DMW32, was 144 feet/day. This value was used as a conservative estimate of the hydraulic conductivity of the surficial aquifer. Using the hydraulic conductivity of 144 ft/day and 500 feet for the affected aquifer thickness, the transmissivity value for the shallow surficial aquifer is estimated at 72,000 square feet per day.

3.2.6 Groundwater Velocity

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

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

Where:

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

Data from soil borings advanced during the DPT investigation indicate that silty fine, medium grained sand, and silty clay are the typical lithologies at the site. Review of standard literature suggests that a representative effective porosity for this lithology is approximately 30% (Heath, 1983).

Using an average hydraulic conductivity of 10.08 feet/day, an average hydraulic gradient of 0.01 feet/foot, and an effective porosity value of 30%, the estimated average groundwater velocity for the shallow zone at the site was calculated at 0.336 feet/day.

Using an average hydraulic conductivity of 144 feet/day, an average hydraulic gradient of 0.01 feet/foot, and an effective porosity value of 30%, the estimated groundwater velocity for the deeper zone (OLFS-2406-DMW32) was calculated at 4.8 feet/day.

3.2.7 Potable Water Supply Well Survey

Two potable water supply wells, PW03 and PW04, were in service at OLF Saufley until May 1994. The wells were officially abandoned in-place in April 1996. Potable water supply well inventory data are presented in Table 3-3. The main source of potable water for OLF Saufley is a well field located at the Naval Technical Training Center (NTTC) Corry Station, located to the north of Bayou Grande. The water from this well field is pumped from the sand-and-gravel aquifer.

3.2.8 Surface Water

The nearest surface water bodies in the vicinity of UST Site 2406 are Perdido River, Perdido Bay, Eight Mile Creek, and Eleven Mile Creek. Perdido River is located approximately a half mile west of OLF Saufley along the western boundary of the base, and empties into Perdido Bay approximately one mile south of OLF Saufley. Eight Mile Creek, running east to west, and Eleven Mile Creek, running north to south, are located three-quarters of a mile north of UST Site 2406 within the OLF Saufley boundary. Eight Mile Creek empties into Eleven Mile Creek within the OLF Saufley boundary, and Eleven Mile Creek empties into Perdido River approximately a half mile west of the base.

4.0 SITE ASSESSMENT RESULTS

Soil and groundwater samples were collected during the site assessment to evaluate the extent of petroleum impact resulting from past UST, AST, and fuel line operations at or near UST Site 2406. The OVA screening results were evaluated following the appropriate 62-770 F.A.C. guidelines. The results of laboratory soil analyses were compared to the SCTLs established in Chapter 62-777 F.A.C. The results of groundwater analyses were compared to the GCTLs established in Chapter 62-777 F.A.C.

4.1 SOIL ASSESSMENT RESULTS

Soil samples were collected from soil borings advanced at UST Site 2406 for OVA. Selected samples were analyzed on site at a mobile laboratory. Soil samples representing low, medium, and high OVA results detected during the site assessment were submitted to an off-site fixed-based laboratory for analysis.

4.1.1 DPT Headspace Screening Results

Thirty-three soil borings were advanced at UST Site 2406 during the site assessment. Soil samples for OVA screening were collected at four-foot intervals from each soil boring. Although OVA screening samples were collected at four-foot intervals, in some instances multiple discreet samples were collected from the same sample interval and analyzed. A summary of the soil OVA results is presented in Table 4-1.

Soil samples for OVA were not collected from the 0-4 foot bls boring interval at UST Site 2406. Samples were not collected to allow hand auger confirmation that buried utilities were not present at the location and because spills to the surface soil have not been reported. Therefore the most likely source of contamination are the USTs and the underground fuel transfer pipeline which are subsurface features at the site.

The OVA data indicates that no contamination is present in the 4-25 foot bls interval. In the 25-44 foot bls interval, nine soil borings (OLFS-2406-SB7, OLFS-2406-SB21, OLFS-2406-SB24, OLFS-2406-SB25, OLFS-2406-SB26, OLFS-2406-SB27, OLFS-2406-SB28, OLFS-2406-SB29, and OLFS-2406-SB30) had non-carbon filtered (uncorrected) OVA results above 50 parts per million (ppm). This indicates excessively contaminated soil as defined in Chapter 62-770. Carbon filtered (corrected) OVA results were not made at the time of the soil screening investigation; therefore corrected headspace screening data are not available. OVA results are presented in Figure 4-1.

4.1.2 Mobile Laboratory Soil Sample Screening Results

Nineteen soil samples were submitted for mobile laboratory screening analysis from twelve of the soil boring locations at the site (Figure 4-2). A single soil sample was collected from seven of the soil borings, whereas, multiple soil samples from different depths were collected from OLFS-2406-SB2, OLFS-2406-SB21, OLFS-2406-SB24, OLFS-2406-SB25, and OLFS-2406-SB29. In order to confirm the OVA results, the soil samples were collected from intervals with OVA results ranging from 0 to >5000 ppm. The soil samples were analyzed for BTEX at the mobile laboratory. The analytical results are summarized in Table 4-2. The mobile laboratory analytical report is included in Appendix C.

Analysis of soil samples collected from borings OLFS-2406-SB2 and OLFS-2406-SB29 at 4 feet bls, and from OLFS-2406-SB2 at the 8-12 foot bls interval indicated no elevated concentrations above instrument detection limits. These results confirm the absence of elevated OVA results in the same intervals. Mobile lab screening analysis also confirmed contamination in the 25–44 foot bls interval. The results are summarized as follows:

- Benzene was detected in soil samples from four soil borings at concentrations ranging from 0.017 to 9.8 mg/kg. All of the detected concentrations except soil boring OLFS-2406-SB25 30' exceeded FDEP SCTLs for DE1 (1.1 milligram per kilogram [mg/kg]), DE2 (1.6 mg/kg), and LE (0.007 mg/kg). However because all of the samples were collected from depths greater than 2 feet bls, direct exposure is not a concern. The detected concentration in soil boring OLFS-2406-SB25 30' was 0.017 which exceeds the FDEP SCTL for LE, but not the DE1 and DE2 SCTLs.
- Ethylbenzene, Toluene, and total xylenes were all detected at elevated concentrations in seven borings (OLFS-2406-SB7 40-45', OLFS-2406-SB21 40', OLFS-2406-SB25 30', OLFS-2406-SB25 44', OLFS-2406-SB29 32', OLFS-2406-SB29 44', and OLFS-2406-SB30 44'). Six of the seven soil borings (excluding OLFS-2406-SB25 30') contain all these compounds at concentrations exceeding the FDEP SCTL for LE (0.60, 0.50, 0.20 mg/kg, respectively). In addition, a single occurrence of Toluene was reported in sample OLFS-2406-SB28 41' at a concentration below the FDEP SCTLs.
- Toluene was detected above the DE1 SCTL (380 mg/kg) in boring OLFS-2406-SB30 44'

Although the mobile lab analysis did confirm contamination in the 25 – 44 foot bls interval, there were soil borings with high OVA results that were not confirmed by the mobile lab analysis. Soil borings OLFS-2406-SB24 33', OLFS-2406-SB24 38', OLFS-2406-SB25 32', OLFS-2406-SB26 40', and OLFS-2406-SB28 41' all had OVA results indicating excessively contaminated soil; however, the mobile lab analysis indicates no BTEX contamination is present.

4.1.3 Fixed-Based Laboratory Soil Sample Confirmatory Results

Four soil samples were collected for off-site fixed-based laboratory confirmatory analysis to correlate OVA and mobile lab analysis results with contaminant concentrations (Figure 4-3). The sample intervals were selected to correspond with low (OLFS-2406-SB26-40 at 51 ppm), medium (OLFS-2406-SB21-29 at 432 ppm and OLFS-2406-SB21-40 1,200 ppm), and high (OLFS-2406-SB28-44 at >2256 ppm) OVA results detected during OVA screening. The soil samples were submitted to an off-site laboratory to be analyzed for VOAs, PAHs, and TRPH. The off-site laboratory soil samples (OLFS-2406-SB21-29, OLFS-2406-SB21-40, OLFS-2406-SB26-40, and OLFS-2406-SB28-44) collected during the site assessment are summarized in Table 4-3, and the results of the off-site laboratory analyses are summarized in Table 4-4.

Three VOAs (benzene, ethylbenzene, and total xylenes) were detected in two of the four soil samples analyzed at the off-site laboratory. Toluene was detected in all four soil samples at concentration ranging from 0.0053 to 554 mg/kg. Benzene was detected in samples OLFS-2406-SB21-40 and OLFS-2406-SB28-44 above the DE1, DE2, and LE SCTLs. However because the samples were recovered from depths greater than 2 feet bls direct exposure is not a concern. Ethylbenzene and total xylenes were also detected in these two samples above the LE SCTLs. Toluene was detected in sample OLFS-2406-SB21-40 and OLFS-2406-SB28-44 above the LE SCTL.

PAHs were not detected in the soil samples collected during the site assessment; however, TRPH was detected in two samples, OLFS-2406-SB21-40 and OLFS-2406-SB28-44. TRPH was detected above the FDEP DE1 (340 mg/kg) and LE SCTL in sample OLFS-2406-SB28-44. Again, because this sample was collected from a depth of 44 feet bls direct exposure is not a concern. The validated laboratory analytical data is included in Appendix E.

4.2 GROUNDWATER ASSESSMENT RESULTS

Groundwater samples were collected from soil borings during the DPT screening investigation for mobile laboratory analysis. In addition a single groundwater sample from monitoring well OLFS-2406-DMW16 was collected for mobile laboratory analysis. Three of the groundwater samples were submitted to an off-site fixed-based laboratory to verify the results of the on-site analyses. Following the DPT investigation, groundwater samples were collected from fifteen newly installed monitoring wells (6 shallow [55 ft bls], 7 intermediate [65 – 80 ft bls], and 2 deep [>80 ft bls]).

4.2.1 Mobile Laboratory Groundwater Screening Results

Groundwater samples were submitted for mobile laboratory screening analysis from 33 DPT soil boring locations and the existing deep monitoring well OLFS-2406-DMW16. Shallow groundwater samples were collected at the water table in each of the DPT soil boring locations at depths ranging from 45 to 55 feet bls (Figure 4-4), as well as, deep groundwater samples, 65 to 80 feet bls, in 20 of the DPT borings (Figure 4-5). The groundwater samples were analyzed for BTEX at the mobile laboratory. The mobile laboratory shallow and deep groundwater sample screening results are summarized in Tables 4-5 and 4-6, respectively. The mobile laboratory analytical report is included in Appendix D.

DPT Shallow Groundwater Screening Results

Benzene was detected in 16 of the 33 shallow groundwater samples at concentrations ranging from 0.8 to 9,000 µg/L. However only 12 of the detected concentrations were above the FDEP Groundwater Cleanup Target Level (GCTL) of 1 µg/L. Elevated concentrations of Toluene occurred in 24 of the 33 groundwater samples ranging from 1.0 to 59,000 µg/L; however, only 7 samples contained concentrations above the FDEP GCTL of 40 µg/L. Eight of the 33 shallow groundwater samples contained detectable levels of ethylbenzene at concentrations ranging from 1.0 to 2,800 µg/L, including 5 samples with concentrations above the FDEP GCTL of 30 µg/L. Total xylenes were detected in 11 of the 33 groundwater samples at concentrations ranging from 1.4 to 5,800 µg/L. Of the 11 total xylenes detections, only 5 were reported above the FDEP GCTL of 20 µg/L. The shallow groundwater screening results are presented in Figure 4-4.

DPT Deep Groundwater Screening Results

Benzene was detected in 11 of the 21 deep groundwater samples at concentrations ranging from 1.2 to 8,800 µg/L. All of the elevated detected concentrations were above the FDEP GCTL of 1 µg/L. Toluene was reported present in 5 of the 21 groundwater samples at concentrations ranging from 1.0 to 400 µg/L. One sample contained a toluene concentration (400 µg/L) above the FDEP GCTL of 40µg/L. One of the 21 deep groundwater samples (NASP-2406-SB49 80') was reported with an elevated concentration of ethylbenzene (27.6 µg/L). However, the concentration was less than the FDEP GCTL of 30 µg/L. Total xylenes were detected in 2 of the 21 groundwater deep samples. Both of the groundwater samples with detectable levels of total xylenes contained total xylenes above the FDEP GCTL of 20 µg/L. The deep groundwater screening results are presented in Figure 4-5.

Existing Monitoring Well Groundwater Result

Benzene, toluene, ethylbenzene, and total xylenes were detected in the groundwater sample from OLFS-2406-DMW16 at concentrations of 3,400, 160, 880, and 360 µg/L, respectively. All of the detected concentrations exceeded the FDEP GCTLs.

4.2.2 Fixed-Base Laboratory Groundwater Confirmation Results

Three confirmation samples, OLFS-2406-SB21-GW45, OLFS-2406-SB26-GW48, and OLFS-2406-SB28-GW48, collected during the DPT screening investigation were sent to an off-site fixed-based laboratory for confirmatory analysis. The three samples were chosen from locations that represent the range (low, medium, and high) of BTEX concentrations detected during the mobile laboratory screening analysis. The results of the groundwater laboratory analyses are summarized in Table 4-7, and the validated laboratory analytical data is included in Appendix D.

All BTEX constituents were detected in confirmation samples, OLFS-2406-SB21-GW45 (high concentration) and OLFS-2406-SB28-GW48 (medium concentration) with a similar concentration range as detected in the on-site mobile lab screening analyses. All concentrations exceeded the respective FDEP GCTLs.

The BTEX concentrations in the confirmation sample OLFS-2406-SB26-GW48 (representing the low range) were below the FDEP GCTLs, or not detected, and were similar to concentrations detected in the on-site mobile lab analysis.

4.2.3 Monitoring Well Sampling Results

Groundwater samples were collected from thirteen intermediate (65 to 80 feet bls) and two deep (130 to 135 feet bls) monitoring wells at the site (Figure 4-6). The shallow monitoring wells were not sampled due to the presence of free product (Figure 4-9). Groundwater samples collected from the monitoring wells were analyzed for VOCs (including EDB), PAHs, TRPH, and Lead. The results of the groundwater laboratory analyses are summarized in Table 4-8, and the validated laboratory analytical data is included in Appendix D.

Intermediate Monitoring Well Groundwater Samples

Seven VOCs (1,2-dibromoethane [EDB], 1,2-dichloroethane [EDC], benzene, chloroform, ethylbenzene, toluene, and total xylenes) were detected in the intermediate groundwater samples. The intermediate groundwater samples also contained detectable levels of three PAH compounds: 1-methylnaphthalene,

2-methylnaphthalene, and naphthalene. Lead and TRPH were also detected in the intermediate groundwater samples.

EDB was detected in three groundwater samples (OLFS-2406-DMW-28, OLFS-2406-DMW29 and OLFS-2406-DMW33) at concentrations (0.031, 0.048 and 0.23 μg/L, respectively) above the FDEP GCLT of 0.02 μg/L. Elevated concentrations of EDC were reported in two groundwater samples (OLFS-2406-DMW29, and OLFS-2406-DMW33) at concentrations (4.8, and 4.8 μg/L, respectively), above the FDEP GCTL of 3 μg/L.

Seven groundwater samples were reported with detectable levels of benzene at concentrations ranging from 0.58 (estimated) to 15,600 μg/L. Benzene concentrations exceeded the FDEP GCTL of 1 μg/L in five of the groundwater samples.

Detectable levels of chloroform (0.92 [estimated], 1.3, and 0.97 [estimated] μg/L) were reported in three groundwater samples (OLFS-2406-DMW24, OLFS-2406-DMW27, and OLFS-2406-DMW31, respectively). All reported concentrations were below the FDEP GCTL of 5.7 μg/L. Elevated concentrations (837 and 120 μg/L) of ethylbenzene were reported in two groundwater samples (OLFS-2406-DMW23 and OLFS-2406-DMW25, respectively) above the FDEP GCTL of 30 μg/L.

Toluene was reported in four groundwater samples including two groundwater samples (OLFS-2406-DMW23 and OLFS-2406-DMW25) with concentrations (10,700 and 2,930 μg/L, respectively) above the FDEP GCTL of 40 μg/L. Elevated concentrations of total xylenes were reported in three groundwater samples. However, only two samples (OLFS-2406-DMW23 [2,480 μg/L] and OLFS-2406-DMW25 [580 μg/L]) had concentrations of total xylenes exceeding the FDEP GCTL of 20 μg/L.

1-methylnaphthalene was reported in one groundwater sample (OLFS-2406-DMW23) below the FDEP GCTL of 20 μg/L. Similarly, 2-methylnaphthalene was reported in two groundwater samples (OLFS-2406-DMW23 and OLFS-2406-DMW25) below the FDEP GCTL of 20 μg/L. Three groundwater samples (OLFS-2406-DMW23, OLFS-2406-DMW25, and OLFS-2406-DMW26) were reported with naphthalene concentrations below the FDEP GCTL of 20 μg/L, and five groundwater samples (OLFS-2406-DMW23, OLFS-2406-DMW25, OLFS-2406-DMW28, OLFS-2406-DMW29, and OLFS-2406-DMW31) were reported with TRPH concentrations below the FDEP GCTL of 5 mg/L. Lead; however, was reported in two groundwater samples (OLFS-2406-DMW29 and OLFS-2406-DMW34R) with elevated concentrations (17.9 and 69.5 μg/L, respectively) above the FDEP GCTL of 15 μg/L.

Deep Monitoring Well Groundwater Samples

Detected concentrations of contaminants were not reported in the deep monitoring well groundwater samples, OLFS-2406-DMW32 and OLFS-2406-DMW37.

5.0 DISCUSSION

Data and documents provided by the Navy and data collected during this site assessment were used to evaluate the current site conditions. The significant findings from the site assessment activities are discussed below.

5.1 SOURCE OF HYDROCARBONS

Three petroleum systems have been identified at or near UST Site 2406, all or parts of which, are likely possible sources of petroleum releases to environmental media and 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 product 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 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 soil and groundwater in the vicinity of Building 2406, but the extent of the contamination was not completely delineated at that time.

5.2 SITE CONDITIONS

The site is underlain by silty sand and sandy units typical of the shallow sand and gravel aquifer. These units are expected to extend to a depth of approximately 500 feet where the top of the Pensacola Clay has been mapped (Marsh, 1966).

Depth to water in the shallow monitoring wells installed at the site ranged from approximately 40.98 feet to 46.5 feet BTOC. The relative groundwater elevation (MSL) in the shallow monitoring wells ranged from 83.65 feet to 88.94 feet. The shallow groundwater flow at the site is to the east, while the intermediate groundwater flow is generally to the west with localized variations. The average hydraulic gradient for the site was calculated to be approximately 0.01 feet/foot.

Depth to water in the intermediate monitoring wells installed at the site ranged from approximately 28.45 feet to 48.91 feet BTOC. The MSL in the intermediate monitoring wells ranged from 74.17 feet to 88.06 feet.

Depth to water in the deep monitoring wells installed at the site ranged from approximately 28.88 feet to 48.38 feet BTOC. The MSL in the deep wells ranged from 74.17 feet to 88.06 feet. The groundwater elevation in the deep well, OLFS-2406-DMW37, was lower than the groundwater elevation in the adjacent shallow well, OLFS-2406-MW17, resulting in a downward vertical gradient of approximately 0.16 feet/foot. Similarly, the groundwater elevation in the deep well, OLFS-2406-DMW32, was slightly lower that the groundwater elevation in the adjacent intermediate well, OLFS-2406-DMW32, resulting in a downward vertical gradient of approximately 0.004 feet/foot.

Hydraulic conductivity values for the site were determined from slug tests and averaged approximately 10.08 feet/day for the intermediate monitoring wells (OLFS-2406-DMW30 and OLFS-2406-DMW31). The groundwater flow velocity was calculated from gradient and hydraulic conductivity values and is estimated at 0.336 feet/day. The calculated hydraulic conductivity values for the deep monitoring well (OLFS-2406-DMW32) were higher than the hydraulic conductivity values for the intermediate monitoring wells. The average hydraulic conductivity for the deep well was 144 feet/day. Using the same gradient and effective porosity values as for the intermediate monitoring wells, the groundwater velocity in the deep well is estimated at 4.8 feet/day.

Two potable water supply wells (PW03 and PW04) were identified within a 0.50-mile radius of the site; however, both water supply wells have been abandoned.

5.3 FREE PRODUCT

Free product was detected in six shallow monitoring wells in the vicinity of the AVGAS UST area and fuel distribution pipelines, roughly at the intersection of Raby Avenue and McKinnon Street (Figure 5-1). Measured product thickness ranged from <0.1 inch to 1.08 feet. A petroleum release may have occurred in the vicinity of the USTs or pump house and the free product may have migrated in the local direction of groundwater flow.

5.4 SOIL ASSESSMENT

During the investigation, soil borings were advanced to a depth of approximately 80 feet bls at 33 locations. The results of the assessment indicate that petroleum constituents are present in the site soil as shown in Figure 5-1. 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 indicate "excessively contaminated soil" is 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 indicate that benzene, toluene, ethylbenzene, total xylenes, and TRPH concentrations above FDEP SCTLs are present in the soil, within the area of "excessively contaminated soil".

5.5 GROUNDWATER ASSESSMENT

Groundwater samples were collected at 33 soil boring locations for mobile laboratory analysis. Groundwater samples were also collected from 15 monitoring wells at the site and submitted for fixed-base laboratory analysis.

Based on the results of the groundwater assessment, concentrations of dissolved petroleum constituents are present from the water table (approximately 45 feet bls) to approximately 130 feet bls (Figure 5-1). Locations with GCTL exceedances comprise 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 from the off-site laboratory indicate that benzene, toluene, ethylbenzene, total xylenes, EDB, EDC, and lead are present in the groundwater above FDEP GCTLs.

6.0 CONCLUSIONS AND RECOMMENDATION

The conclusions based on the data collected during the site assessment performed by TtNUS at UST Site 2406, OLF Saufley, are summarized as follows:

- 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 SAR Addendum 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 recommends 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

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TABLE 2-1
NEWLY INSTALLED MONITORING WELL CONSTRUCTION DETAILS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Well No.	Date Installed	Drilling Method	Top of Casing (TOC) Elevation*	A/G Riser Length, If Applicable	Total Well Depth[1] (FBTOC)	Screened Interval[2] (FBTOC)	Well Diameter (Inches)	Lithology of Screened Interval
OLFS-2406-MW17	12/11/2002	HSA	129.93	FM	53.90	39.5 - 54.5	2	Gray silty sand
OLFS-2406-MW18	12/12/2002	HSA	129.60	FM	55.00	39.5 - 54.5	2	Light gray silty sand
OLFS-2406-MW19	12/13/2002	HSA	130.29	FM	55.63	39.5 - 54.5	2	Light brown to buff silty sand
OLFS-2406-MW20	12/12/2002	HSA	129.63	FM	55.74	39.5 - 54.5	2	Light buff to white silty sand
OLFS-2406-MW21	12/13/2002	HSA	129.46	FM	55.85	39.5 - 54.5	2	Light brown to buff silty sand
OLFS-2406-MW22	12/14/2002	HSA	130.28	FM	54.80	39.5 - 54.5	2	Light gray to white silty sand
OLFS-2406-DMW23	12/19/2002	HSA	129.24	FM	81.18	74.5 - 79.5	2	Yellowish brown silty sand
OLFS-2406-DMW24	12/18/2002	HSA	127.85	FM	81.25	74.5 - 79.5	2	Yellowish brown silty sand
OLFS-2406-DMW25	12/17/2002	HSA	120.92	FM	81.23	74.5 - 79.5	2	Yellowish brown silty sand
OLFS-2406-DMW26	12/17/2002	HSA	130.07	FM	65.85	59.5 - 64.5	2	Yellowish orange silty clayey sand
OLFS-2406-DMW27	12/16/2002	HSA	129.29	FM	66.44	59.5 - 64.5	2	Yellowish brown clayey formation
OLFS-2406-DMW28	12/19/2002	HSA	128.44	FM	80.13	74.5 - 79.5	2	Yellowish brown silty sand
OLFS-2406-DMW29	12/18/2002	HSA	119.42	FM	80.40	74.5 - 79.5	2	Light gray to pinkish gray silty clayey sand
OLFS-2406-DMW30	12/17/2002	HSA	120.00	FM	81.80	74.5 - 79.5	2	Light brown silty clayey sand
OLFS-2406-DMW31	12/16/2002	HSA	108.32	FM	79.35	74.5 - 79.5	2	Yellowish orange silty clayey sand
OLFS-2406-DMW32	12/16/2002	HSA	108.50	FM	135.70	130 - 135	2	grey silty sand
OLFS-2406-DMW33	12/18/2002	HSA	119.56	FM	80.25	74.5 - 79.5	2	Yellowish brown silty clayey sand
OLFS-2406-DMW34	12/19/2002	HSA	125.32	FM	77.90	74.5 - 79.5	2	Light gray to grayish brown silty clayey sand
OLFS-2406-DMW34R	3/6/2003	HSA	N/A	FM	65.90	49.5 - 64.5	2	Light gray to grayish brown silty clayey sand
OLFS-2406-DMW35	12/15/2002	HSA	130.11	FM	81.12	74.5 - 79.5	2	Light gray silty clay
OLFS-2406-DMW36	12/15/2002	HSA	128.47	FM	79.12	74.5 - 79.5	2	Yellowish orange silty clayey sand
OLFS-2406-DMW37	12/18/2002	HSA	129.93	FM	135.80	130 - 135	2	Orange silty sand

Notes:
[1] measurement recorded in the field
[2] measurement estimated during well construction
TOC = Top Of Casing
A/G = Above Ground
FBTOC = Feet Below Top of Casing
HSA = Hollow Stem Auger
FM = Flush Mount
N/A = Not Available
* = Benchmark is arbitrary at 127.94 ft. at OLFS-2406-MW4

TABLE 3-1
GROUNDWATER ELEVATION SUMMARY
UST SITE 2406 - JANUARY 6, 2003

SITE ASSESSMENT REPORT ADDENDUM
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	43.83	ND	NA	83.88
OLFS-2406-MW02	128.54	46.74	37 - 47	44.53	ND	NA	84.01
OLFS-2406-MW03	128.45	47.6	37 - 47	44.8	ND	NA	83.65
OLFS-2406-MW05	127.69	46.39	37 - 47	43.50	ND	NA	84.19
OLFS-2406-MW06	128.68	45.57	37 - 47	44.87	ND	NA	83.81
OLFS-2406-MW07	128.67	46.18	37 - 47	45.23	ND	NA	83.44
OLFS-2406-MW08	128.12	45.9	37 - 47	44.72	ND	NA	83.40
OLFS-2406-MW09	128.79	45.8	37 - 47	45.14	ND	NA	83.65
OLFS-2406-MW11	128.7	47.00	37 - 47	44.68	ND	NA	84.02
OLFS-2406-MW17	129.93	53.90	39.5 - 54.5	40.98	39.90	1.08	88.95***
OLFS-2406-MW18*	129.60	55.00	39.5 - 54.5	41.09	41.03	0.06	88.51***
OLFS-2406-MW19	130.29	55.63	39.5 - 54.5	42.35	42.25	< 0.10	87.94***
OLFS-2406-MW20	129.63	55.74	39.5 - 54.5	41.19	41.01	0.18	88.44***
OLFS-2406-MW21	129.46	55.85	39.5 - 54.5	41.89	41.79	0.10	87.57***
OLFS-2406-MW22	130.28	54.80	39.5 - 54.5	42.00	41.60	0.40	88.28***
INTERMEDIATE							
OLFS-2406-MW04	127.94	71.42	37 - 47	43.72	ND	NA	84.22
OLFS-2406-DMW10	128.54	67.00	62 - 67	45.25	ND	NA	83.29
OLFS-2406-DMW12	128.71	69.88	60 - 69	45.23	ND	NA	83.48
OLFS-2406-DMW14	128.12	72.00	65 - 70	46.50	ND	NA	81.62
OLFS-2406-DMW15	128.73	70.09	65 - 70	45.46	ND	NA	83.27
OLFS-2406-DMW16	128.9	70.49	65 - 70	45.60	ND	NA	83.3
OLFS-2406-DMW23	129.24	81.18	74.5 - 79.5	45.24	ND	NA	84.00
OLFS-2406-DMW24	127.85	81.25	74.5 - 79.5	42.88	ND	NA	84.97
OLFS-2406-DMW25	120.92	81.23	74.5 - 79.5	46.75	ND	NA	74.17
OLFS-2406-DMW26	130.07	65.85	59.5 - 64.5	45.00	ND	NA	85.07
OLFS-2406-DMW27	129.29	66.44	59.5 - 64.5	41.23	ND	NA	88.06
OLFS-2406-DMW28	128.44	80.13	74.5 - 79.5	46.61	ND	NA	81.83
OLFS-2406-DMW29	119.42	80.40	74.5 - 79.5	39.02	ND	NA	80.40
OLFS-2406-DMW30	120.00	81.80	74.5 - 79.5	35.45	ND	NA	84.55
OLFS-2406-DMW31	108.32	79.35	74.5 - 79.5	28.45	ND	NA	79.87
OLFS-2406-DMW33	119.56	80.25	74.5 - 79.5	31.50	ND	NA	88.06
OLFS-2406-DMW34	125.32	77.90	74.5 - 79.5	48.91	ND	NA	76.41
OLFS-2406-DMW34R	N/A	65.90	60 - 65	48.10	ND	NA	N/A
OLFS-2406-DMW35	130.11	81.12	74.5 - 79.5	46.66	ND	NA	83.45
OLFS-2406-DMW36	128.47	79.12	74.5 - 79.5	45.93	ND	NA	82.54
DEEP							
OLFS-2406-DMW13	128.28	142.00	137 - 142	46.5	ND	NA	81.78
OLFS-2406-DMW32	108.50	135.70	130 - 135	28.88	ND	NA	79.62
OLFS-2406-DMW37	129.93	135.80	130 - 135	48.38	ND	NA	81.55

Notes:

TOC = Top Of Casing
ft BTOC = feet below top of casing
* = Water level data from 12/16/2002
** = 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
ND = Free Product not detected
NA = Not Applicable
N/A = Not Available

TABLE 3-2
SLUG TEST RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Well Designation	Screen Length (ft)	Screened Interval (ft)	Water Column (ft)	Calculated Hydraulic Conductivities (ft/min)		
OLFS-2406-DMW30	5	74.5-79.5	41.92	0.01778	0.01635	0.01694
OLFS-2406-DMW31	5	74.5-79.5	50.93	0.003234	0.003258	0.003001
OLFS-2406-DMW32	5	130-135	110.8	0.102	0.1141	0.1032

NOTES:
ft/min = feet per minute

TABLE 3-3
POTABLE WATER SUPPLY WELL DATA
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

WELL DESIGNATION	LOCATION Latitude / Longitude	TOTAL DEPTH (ft bls)	SCREENED INTERVAL (ft bls)	DIAMETER CASING/SCREEN (inches)
PW03	30° 27' 14" / 87° 20' 27"	214	105-160	8
PW04	30° 27' 49" / 87° 20' 35"	200	110-160	8

NOTE: ft bls = feet below land surface
wells were abandoned in place in 1996
PW03 = Potable Water Well #3
PW04 = Potable Water Well #4

TABLE 4-1
OVA SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

SAMPLE LOCATION NO.	SAMPLE DATE	DEPTH TO WATER (ft bls)	SAMPLE INTERVAL (ft bls)	TOTAL OVA READING (ppm)	COMMENTS
OLFS2406SB1	10/23/02	55	4-8	0	
			40-45	0	
			55	0	collected GW
			80	0	collected GW
OLFS2406SB2	10/24/02	55	4-8	0	
			8-12	0	
			40-44	0	
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB3	10/24/02	55	4-8	0	
			40-44	0	
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB4	10/25/02	55	4-8	0	
			40-44	0	
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB5	10/25/02	55	4-8	0	
			40-45	0	
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB6	10/26/02	45	4-8	0	
			44	NA	collected GW
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB7	10/26/02	55	4-8	0	
			40-45	0	
			50-55	>1000	
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB8	10/27/02	55	4-8	0	
			40-44	0	
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB9	10/27/02	55	4-8	0	
			40-44	0	
			80	NA	collected GW
OLFS2406SB10	10/28/02	55	4-8	0	
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB11	10/28/02	55	4-8	NA	
			55	NA	collected GW
			80	NA	collected GW

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
OVA SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

SAMPLE LOCATION NO.	SAMPLE DATE	DEPTH TO WATER (ft bls)	SAMPLE INTERVAL (ft bls)	TOTAL OVA READING (ppm)	COMMENTS
OLFS2406SB12	10/29/02	55	4-8	NA	
			55	NA	collected GW
			80	NA	collected GW
OLFS2406SB13	10/30/02	55	55	NA	collected GW
			80	NA	collected GW
OLFS2406SB14	10/30/02	55	55	NA	collected GW
			80	NA	collected GW
OLFS2406SB15	10/30/02	55	55	NA	collected GW
			80	NA	collected GW
OLFS2406SB16	10/30/02	50	65	NA	collected GW
OLFS2406SB17	10/31/02	50	65	NA	collected GW
			80	NA	collected GW
OLFS2406SB18	10/31/02	50	55	NA	collected GW
			80	NA	collected GW
OLFS2406SB19	10/31/02	50	55	NA	collected GW
			80	NA	collected GW
OLFS2406SB20	11/1/02	55	55	NA	collected GW
			80	NA	collected GW
OLFS2406SB21	11/1/02	45	5-9	0	
			9-13	0	
			13-17	0	
			17-21	0	
			21-25	0	
			25-29	432	
			29-33	3,397	
			33-37	488	
			37-41	1,200	
			41-45	3,300	
			45	NA	collected GW
OLFS2406SB22	11/2/02	45	45	NA	collected GW
			80	NA	collected GW
OLFS2406SB23	11/2/02	45	50	NA	collected GW
			80	NA	collected GW
OLFS2406SB24	11/2/02	45	25-29	12	
			29-33	166	
			36-40	79	
			45	NA	collected GW (free product)

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
OVA SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

SAMPLE LOCATION NO.	SAMPLE DATE	DEPTH TO WATER (ft bls)	SAMPLE INTERVAL (ft bls)	TOTAL OVA READING (ppm)	COMMENTS
OLFS2406SB25	11/4/02	45	4-8	0	
			8-12	0	
			12-16	0	
			16-20	0	
			20-24	0	
			24-28	0	
			28-32	607	
			32-36	402	
			36-40	>4995	
			40-44	>4995	
			45	NA	collected GW
OLFS2406SB26	11/4/02	45	28-32	110	
			40-44	51	
			48	NA	collected GW
OLFS2406SB27	11/4/02	45	28-32	38	
			40-44	0	
			48	NA	collected GW
OLFS2406SB28	11/4/02	45	28-32	182	
			40-44	422	
			45	>2256	
			48	NA	collected GW
OLFS2406SB29	11/5/02	45	28-32	1,839	
			40-44	>5000	
			48	NA	collected GW
OLFS2406SB30	11/5/02	45	28-32	3,417	
			40-44	>5000	
			48	NA	collected GW
OLFS2406SB31	11/5/02	45	28-32	0	
			40-44	0	
			48	NA	collected GW
OLFS2406SB32	11/6/02	45	28-32	0	
			40-44	0	
			48	NA	collected GW
OLFS2406SB33	11/6/02	45	50	NA	collected GW
			80	NA	collected GW

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
SUMMARY OF CONTAMINANTS DETECTED IN SOIL SAMPLES
MOBILE LABORATORY SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS2406SB2 4'-8'	OLFS2406SB2 8'-12'	OLFS2406SB5 40'-45'	OLFS2406SB6 40'-45'	OLFS2406SB7 40'-45'	OLFS2406SB21 29'
Sample Location		SB-2	SB-2	SB-5	SB-6	SB-7	SB-21
Sample Depth (ft bls)		4-8	8-12	40-45	40-45	40-45	29
Analysis Date		10/24/2002	10/24/2002	10/25/2002	10/26/2002	10/26/2002	11/1/2002
	DE1[1] / DE2[2] / LE[3] (mg/kg)						
VOAs [4] (mg/kg)							
Benzene	1.1 / 1.6 / 0.007	–	–	–	–	**11**	–
Ethylbenzene	1100 / 8400 / 0.60	–	–	–	–	**37**	–
Toluene	380 / 2600 / 0.50	–	–	–	–	**330**	–
Total Xylenes	5900 / 40000 / 0.20	–	–	–	–	**100**	–

Sample No.		OLFS2406SB21 40'	OLFS2406SB24 33'	OLFS2406SB24 38'	OLFS2406SB25 30'	OLFS2406SB25 32'	OLFS2406SB25 44'
Sample Location		SB-21	SB-24	SB-24	SB-25	SB-25	SB-25
Sample Depth (ft)		40	33	38	30	32	44
Analysis Date		11/1/2002	11/2/2002	11/2/2002	11/4/2002	11/4/2002	11/4/2002
	DE1[1] / DE2[2] / LE[3] (mg/kg)						
VOAs [4] (mg/kg)							
Benzene	1.1 / 1.6 / 0.007	–	–	–	**0.017**	–	–
Ethylbenzene	1100 / 8400 / 0.60	**14**	–	–	0.013	–	**11**
Toluene	380 / 2600 / 0.50	**42**	–	–	0.24	–	**50**
Total Xylenes	5900 / 40000 / 0.20	**51.6**	–	–	0.034	–	**35**

[1] Direct Exposure Residential as provided in Chapter 62-777, F.A.C.
[2] Direct Exposure Industrial as provided in Chapter 62-777, F.A.C.
[3] Leachability based on Groundwater as provided in Chapter 62-777, F.A.C.
[4] VOAs = Volatile Organic Aromatics (SW-846 8260B)

Notes:
mg/kg = milligrams per kilogram
– = Analyte not detected above the instrument detection limit
F.A.C. = Florida Administrative Code
ft bls = feet below land surface

TABLE 4-2
SUMMARY OF CONTAMINANTS DETECTED IN SOIL SAMPLES
MOBILE LABORATORY SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS2406SB26 40'	OLFS2406SB28 41'	OLFS2406SB29 4'	OLFS2406SB29 32'	OLFS2406SB29 44'	OLFS2406SB30 44'
Sample Location		SB-26	SB-28	SB-29	SB-29	SB-29	SB-30
Sample Depth (ft bls)		40	41	4	32	44	44
Analysis Date		11/4/2002	11/4/2002	11/5/2002	11/5/2002	11/5/2002	11/5/2002
	DE1[1] / DE2[2] / LE[3] (mg/kg)						
VOAs [4] (mg/kg)							
Benzene	**1.1 / 1.6 / 0.007**	--	--	--	--	**9.8**	**2.4**
Ethylbenzene	1100 / 8400 / **0.60**	--	--	--	**19.0**	**63**	**62**
Toluene	**380** / 2600 / **0.50**	--	0.016	--	**48**	**360**	**570**
Total Xylenes	5900 / 40000 / **0.20**	--	--	--	**61**	**107**	**293**

Sample No.		OLFS2406SB31 44'
Sample Location		SB-31
Sample Depth (ft)		44
Analysis Date		11/5/2002
	DE1[1] / DE2[2] / LE[3] (mg/kg)	
VOAs [4] (mg/kg)		
Benzene	1.1 / 1.6 / 0.007	--
Ethylbenzene	1100 / 8400 / 0.60	--
Toluene	380 / 2600 / 0.50	--
Total Xylenes	5900 / 40000 / 0.20	--

[1] Direct Exposure Residential as provided in Chapter 62-777, F.A.C.
[2] Direct Exposure Industrial as provided in Chapter 62-777, F.A.C.
[3] Leachability based on Groundwater as provided in Chapter 62-777, F.A.C.
[4] VOAs = Volatile Organic Aromatics (SW-846 8260B)

Notes:
mg/kg = milligrams per kilogram
-- = Analyte not detected above the instrument detection limit
F.A.C. = Florida Administrative Code
ft bls = feet below land surface

TABLE 4-3
SOIL SAMPLES SUBMITTED FOR FIXED-BASE LABORATORY CONFIRMATORY ANALYSIS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample ID	Sample Depth (ft bls)	OVA Response	OVA Range	Analyses
OLFS2406SB21-29	25 - 29	432 ppm	Medium	VOAs / TRPH
OLFS2406SB21-40	37 - 41	1200 ppm	High	VOAs / TRPH
OLFS2406SB26-40	40 - 44	50.7 ppm	Low	VOAs / TRPH
OLFS2406SB28-44	40 - 44	422 ppm	Medium	VOAs / TRPH

Notes:
OVA - Organic Vapor Analysis
ppm - Parts per million
ft bls = feet below land surface
VOAs - Volatile Organic Aromatics
TRPH - Total Recoverable Petroleum Hydrocarbons

TABLE 4-4
SUMMARY OF CONTAMINANTS DETECTED IN SUBSURFACE SOIL CONFIRMATION SAMPLES
FIXED-BASE LABORATORY RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS2406SB21-29	OLFS2406SB21-40	OLFS2406SB26-40	OLFS2406SB28-44
Sample Location		SB-21	SB-21	SB-26	SB-28
Sample Depth (ft bls)		29	40	40	44
Collect Date		11/1/2002	11/1/2002	11/4/2002	11/4/2002
	DE[1] / DE[2] / LE[3] (mg/kg)				
OVA Range		**Medium**	**High**	**Low**	**Low**
VOAs [4] (mg/kg)					
Benzene	**1.1** / **1.6** / **0.007**	–	**9.78**	–	**4.56**
Ethylbenzene	1100 / 8400 / **0.60**	–	**62.9**	–	**72.2**
Toluene	**380** / 2600 / **0.50**	0.0091	**372**	0.0053	**554**
Total Xylenes	5900 / 40000 / **0.20**	–	**236**	–	**299**
PAH[5] (mg/kg)		ND	ND	ND	ND
TRPH [6] (mg/kg)	**340** / 2500 / **340**	–	87.8	–	**364**

[1] Direct Exposure Residential Limit from Chapter 62-777, F.A.C.
[2] Direct Exposure Industrial Limit from Chapter 62-777, F.A.C.
[3] Leachability Limit based on Groundwater from Chapter 62-777, F.A.C.
[4] VOAs = Volatile Organic Aromatics (SW-846 8260B)
[5] PAH = Polycyclic Aromatic Hydrocarbon (SW-846 8310)
[6] TRPH = Total Recoverable Petroleum Hydrocarbons (FDEP-FLPRO)

Notes: **Bold** indicates an exceedance of limits. **Bold** indicates which regulatory limit has been exceeded.
ft bls = feet below land surface
mg/kg = milligrams per kilogram
– = Analyte not detected above the instrument detection limit
TRPH = Total Recoverable Petroleum Hydrocarbons
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection
FLPRO = Florida Petroleum Range Organics
ND = Not Detected

TABLE 4-5
SUMMARY OF CONTAMINANTS DETECTED IN SHALLOW GROUNDWATER
MOBILE LABORATORY SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		NASP2406SB1 45'-49'	NASP2406SB2 50'-54'	NASP2406SB3 50'-55'	NASP2406SB4 50'-55'	NASP2406SB5 50'-55'	NASP2406SB6 50'-55'
Sample Location		SB-1	SB-2	SB-3	SB-4	SB-5	SB-6
Sample Depth (ft bls)		55	55	55	55	55	55
Analysis Date		10/23/2002	10/24/2002	10/24/2002	10/25/2002	10/25/2002	10/26/2002
	GCTL[1] (µg/L)						
VOAs [2] (µg/L)							
Benzene	**1**	–	–	–	**2.1**	–	**550**
Ethylbenzene	30	–	–	–	–	–	–
Toluene	**40**	1.7	1.1	1.3	–	–	**1400**
Total Xylenes	20	–	–	–	–	–	–

Sample No.		NASP2406SB7 50'-55'	NASP2406SB8 50'-55'	NASP2406SB9 50'-55'	NASP2406SB10 45'	NASP2406SB11 45'	NASP2406SB12 45'
Sample Location		SB-7	SB-8	SB-9	SB-10	SB-11	SB-12
Sample Depth (ft bls)		55	55	55	45	45	45
Analysis Date		10/26/2002	10/27/2002	10/28/2002	10/28/2002	10/29/2002	10/29/2002
	GCTL[1] (µg/L)						
VOAs [2] (µg/L)							
Benzene	**1**	**7200**	–	0.8 I	0.8 I	**1.1**	–
Ethylbenzene	**30**	**2500**	–	1.0	–	–	–
Toluene	**40**	**59000**	3.5	8.8	2.9	4.3	1.5
Total Xylenes	**20**	**5800**	–	3.0	–	1.4	–

[1] Groundwater Cleanup Target Level as provided in Chapter 62-777, F.A.C.
[2] VOAs = Volatile Organic Aromatics (SW-846 8260B)

Notes:
- ft bls = feet below land surface
- µg/L = micrograms per liter
- – = Analyte not detected above the instrument detection limit
- I = Compound detected at a concentration between the Method Detection Limit and the Reporting Limit
- F.A.C. = Florida Administrative Code

TABLE 4-5
SUMMARY OF CONTAMINANTS DETECTED IN SHALLOW GROUNDWATER
MOBILE LABORATORY SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		NASP2406SB13 45'	NASP2406SB14 45'	NASP2406SB15 45'	NASP2406SB16 50'	NASP2406SB17 50'	NASP2406SB18 50'
Sample Location		SB-13	SB-14	SB-15	SB-16	SB-17	SB-18
Sample Depth (ft bls)		45	45	45	50	50	50
Analysis Date		10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/31/2002	10/31/2002
	GCTL[1] (µg/L)						
VOAs [2] (µg/L)							
Benzene	1	**2.3**	0.8 I	–	–	–	–
Ethylbenzene	30	–	–	–	–	–	–
Toluene	40	5.2	–	–	4.3	–	–
Total Xylenes	20	–	–	–	2.6	–	–

Sample No.		NASP2406SB19 50'	NASP2406SB20 45'	NASP2406SB21 45'	NASP2406SB22 45'	NASP2406SB23 50'	NASP2406SB24 50'
Sample Location		SB-19	SB-20	SB-21	SB-22	SB-23	SB-24
Sample Depth (ft bls)		50'	45'	45'	45'	50'	50'
Analysis Date		10/31/2002	11/1/2002	11/1/2002	11/2/2002	11/2/2002	11/3/2002
	GCTL[1] (µg/L)						
VOAs [2] (µg/L)							
Benzene	1	–	–	**3300**	–	**24.6**	–
Ethylbenzene	30	–	–	**1600**	–	–	–
Toluene	40	–	–	**37000**	–	1.0	3.7
Total Xylenes	20	–	–	**4000**	–	16.1	–

[1] Groundwater Cleanup Target Level as provided in Chapter 62-777, F.A.C.
[2] VOAs = Volatile Organic Aromatics (SW-846 8260B)

Notes:
ft bls = feet below land surface
µg/L = micrograms per liter
– = Analyte not detected above the instrument detection limit
I = Compound detected at a concentration between the Method Detection Limit and the Reporting Limit
F.A.C. = Florida Administrative Code

TABLE 4-5
SUMMARY OF CONTAMINANTS DETECTED IN SHALLOW GROUNDWATER
MOBILE LABORATORY SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		NASP2406SB25 50'	NASP2406SB26 48'	NASP2406SB27 48'	NASP2406SB28 45'	NASP2406SB29 48'	NASP2406SB30 48'
Sample Location		SB-25	SB-26	SB-27	SB-28	SB-29	SB-30
Sample Depth (ft bls)		50	48	48	45	48	48
Analysis Date		11/4/2002	11/4/2002	11/4/2002	11/4/2002	11/5/2002	11/5/2002
	GCTL[1] (µg/L)						
VOAs [2] (µg/L)							
Benzene	**1**	**9000**	**1.2**	--	**1200**	**4800**	**52**
Ethylbenzene	**30**	--	3.5	--	**440**	**2800**	**160**
Toluene	**40**	**5800**	9.0	2.8	**16000**	**42000**	**790**
Total Xylenes	**20**	--	3.3	--	**1680**	**4700**	**340**

Sample No.		NASP2406SB31 48'	NASP2406SB32 48'	NASP2406SB33 50'
Sample Location		SB-31	SB-32	SB-33
Sample Depth (ft bls)		48	48	50
Analysis Date		11/5/2002	11/6/2002	11/6/2002
	GCTL[1] (µg/L)			
VOAs [2] (µg/L)				
Benzene	**1**	--	**3.5**	--
Ethylbenzene	30	--	11.9	--
Toluene	40	4.0	25.2	2.5
Total Xylenes	20	--	6.7	--

[1] Groundwater Cleanup Target Level as provided in Chapter 62-777, F.A.C.
[2] VOAs = Volatile Organic Aromatics (SW-846 8260B)

Notes:
- ft bls = feet below land surface
- µg/L = micrograms per liter
- -- = Analyte not detected above the instrument detection limit
- I = Compound detected at a concentration between the Method Detection Limit and the Reporting Limit
- F.A.C. = Florida Administrative Code

TABLE 4-6
SUMMARY OF CONTAMINANTS DETECTED IN DEEP GROUNDWATER
MOBILE LABORATORY SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		NASP2406SB1 76'-80'	NASP2406SB3 75'-80'	NASP2406SB4 75'-80'	NASP2406SB5 75'-80'	NASP2406SB6 75'-80'	NASP2406SB8 75'-80'
Sample Location		SB-1	SB-3	SB-4	SB-5	SB-6	SB-8
Sample Depth (ft bls)		80	80	80	80	80	80
Analysis Date		10/223/2002	10/24/2002	10/25/2002	10/25/2002	10/26/2002	10/27/2002
	GCTL[1] (µg/L)						
VOAs [2] (µg/L)							
Benzene	1	**1.2**	**520**	**2500**	**8800**	**5200**	--
Ethylbenzene	30	--	--	--	--	--	--
Toluene	40	1.0	--	--	--	**400**	1.5
Total Xylenes	20	--	--	--	--	--	--

Sample No.		NASP2406SB9 80'	NASP2406SB10 80'	NASP2406SB11 80'	NASP2406SB12 80'	NASP2406SB13 80'	NASP2406SB14 80'
Sample Location		SB-9	SB-10	SB-11	SB-12	SB-13	SB-14
Sample Depth (ft bls)		80	80	80	80	80	80
Analysis Date		10/28/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002	10/30/2002
	GCTL[1] (µg/L)						
VOAs [2] (µg/L)							
Benzene	1	--	--	**1200**	**2200**	**2800**	--
Ethylbenzene	30	--	--	--	--	--	--
Toluene	40	2.0	1.4	--	--	--	--
Total Xylenes	20	--	--	--	--	--	--

[1] Groundwater Cleanup Target Level as provided in Chapter 62-777, F.A.C.
[2] VOAs = Volatile Organic Aromatics (SW-846 8260B)

Notes:
- ft bls = feet below land surface
- µg/L = micrograms per liter
- -- = Analyte not detected above the instrument detection limit
- I = Compound detected at a concentration between the Method Detection Limit and the Reporting Limit
- F.A.C. = Florida Administrative Code

TABLE 4-6
SUMMARY OF CONTAMINANTS DETECTED IN DEEP GROUNDWATER
MOBILE LABORATORY SCREENING RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		NASP2406SB15 80'	NASP2406SB16 65'	NASP2406SB17 65'	NASP2406SB18 80'	NASP2406SB19 80'	NASP2406SB20 80'
Sample Location		SB-15	SB-16	SB-17	SB-18	SB-19	SB-20
Sample Depth (ft bls)		80	65	65	80	80	80
Analysis Date		10/30/2002	10/31/2002	10/31/2002	10/31/2002	10/31/2002	11/1/2002
	GCTL[1] (µg/L)						
VOAs [2] (µg/L)							
Benzene	**1**	–	**430**	–	–	**1200**	–
Ethylbenzene	30	–	–	–	–	27.6	–
Toluene	40	–	–	–	–	–	–
Total Xylenes	**20**	–	–	–	–	**32.2**	–

Sample No.		NASP2406SB22 80'	NASP2406SB23 80'	NASP2406SB33 80'	NASP2406DMW16
Sample Location		SB-22	SB-23	SB-33	DMW 16
Sample Depth (ft bls)		80	80	80	OLFS2406DMW16
Analysis Date		11/2/2002	11/2/2002	11/6/2002	10/24/2002
	GCTL[1] (µg/L)				
VOAs [2] (µg/L)					
Benzene	**1**	–	**2600**	–	**3400**
Ethylbenzene	**30**	–	–	–	**160**
Toluene	**40**	–	–	1.8	**880**
Total Xylenes	**20**	–	**69**	–	**360**

[1] Groundwater Cleanup Target Level as provided in Chapter 62-777, F.A.C.
[2] VOAs = Volatile Organic Aromatics (SW-846 8260B)

Notes:
- ft bls = feet below land surface
- µg/L = micrograms per liter
- – = Analyte not detected above the instrument detection limit
- I = Compound detected at a concentration between the Method Detection Limit and the Reporting Limit
- F.A.C. = Florida Administrative Code

TABLE 4-7
SUMMARY OF CONTAMINANTS DETECTED IN CONFIRMATION GROUNDWATER SAMPLES
FIXED-BASE LABORATORY RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS2406SB21GW45	OLFS2406SB26GW48	OLFS2406SB28GW48	TRIP BLANK
Sample Location		SB-21	SB-26	SB-28	NA
Sample Depth (ft bls)		45	45	48	NA
Collect Date		11/1/2002	11/4/2002	11/4/2002	11/4/2002
	GCTL[1]				
		High	**Low**	**Medium**	
VOAs [(2)] (µg/L)					
Benzene	1	**4590**	0.99 J	**1190**	--
Ethylbenzene	30	**2090**	--	**221 J**	--
Toluene	40	**48200**	8.1	**13500**	--
Total Xylenes	20	**7470**	--	**851**	--

[1] Groundwater Cleanup Target Level from Chapter 62-777, F.A.C.
[2] VOAs = Volatile Organic Aromatics (SW-846 8260B)

Notes: **Bold** indicates an exceedance of limits.
ft bls = feet below land surface
µg/L = micrograms per liter
J = Denotes compound was detected at an estimated concentration
-- = Analyte not detected above the instrument detection limit
F.A.C. = Florida Administrative Code

TABLE 4-8
SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER
FIXED-BASE LABORATORY RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS-2406-DMW-23	OLFS-2406-DMW-24	OLFS-2406-DMW-25	OLFS-2406-DMW-26	OLFS-2406-DMW-27
Sample Location		DMW-23	DMW-24	DMW-25	DMW-26	DMW-27
Collect Date		1/7/2003	1/7/2003	1/7/2003	1/7/2003	1/7/2003
Sample Depth (ft bls)		74.5-79.5	74.5-79.5	74.5-79.5	59.5-64.5	59.5-64.5
	GCTL[1] (µg/L)					
VOCs [2] (µg/L)						
1,2-Dibromoethane (EDB)	0.02	–	–	–	–	–
1,2-Dichloroethane (EDC)	3	–	–	–	–	–
Benzene	1	**15600**	0.66 J	**4190**	–	0.58 J
Chloroform	5.7	–	0.92 J	–	–	1.3
Ethylbenzene	30	**837**	–	**120**	–	–
Toluene	40	**10700**	0.61 J	**2930**	1	–
Xylenes, Total	20	**2480**	–	**580**	–	–
PAHs [3] (µg/L)						
1-Methylnaphthalene	20	3.1	–	–	–	–
2-Methylnaphthalene	20	3.6	–	1.1 J	–	–
Naphthalene	20	5.8	–	1.5 J	0.69 J	–
TRPH [4] (mg/L)	5	4.01	–	1.17	–	–
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 = Polycylic aromatic hydrocarbons (SW-846 8310)
[4] TRPH = Total Recoverable Petroleum Hydrocarbons (FDEP-FLPRO)
[5] SW-846 6010B

Notes:
Bold indicates an exceedance of limits.
ft bls = feet below land surface
µg/L = micrograms per liter
– = Analyte not detected above the instrument detection limit
J = Compound was detected at an estimated concentration
mg/L = milligrams per liter
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection
FLPRO = Florida Petroleum Range Organics

TABLE 4-8
SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER
FIXED-BASE LABORATORY RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS-2406-DMW-28	OLFS-2406-DMW-29	OLFS-2406-DMW-30	OLFS-2406-DMW31	OLFS-2406-DMW32
Sample Location		DMW-28	DMW-29	DMW-30	DMW-31	DMW-32
Collect Date		1/7/2003	1/7/2003	1/7/2003	1/6/2003	1/6/2003
Sample Depth (ft bls)		74.5-79.5	74.5-79.5	74.5-79.5	74.5-79.5	130-135
	GCTL[1] (µg/L)					
VOCs [2] (µg/L)						
1,2-Dibromoethane	**0.02**	**0.031**	**0.048**	–	–	–
1,2-Dichloroethane	**3**	–	**4.8**	–	–	–
Benzene	**1**	**4240**	**194**	–	–	–
Chloroform	5.7	–	–	–	0.97 J	–
Ethylbenzene	30	–	–	–	–	–
Toluene	40	–	–	–	–	–
Xylenes, Total	20	–	–	–	–	–
PAHs [3] (µg/L)						
1-Methylnaphthalene	20	–	–	–	–	–
2-Methylnaphthalene	20	–	–	–	–	–
Naphthalene	20	–	–	–	–	–
TRPH [4] (mg/L)	5	1.23	0.201 J	–	1.05	–
Metals [5] (µg/L)						
Lead	**15**	**17.9**	–	–	–	–

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

Notes:
Bold indicates an exceedance of limits.
ft bls = feet below land surface
µg/L = micrograms per liter
– = Analyte not detected above the instrument detection limit
J = Compound was detected at an estimated concentration
mg/L = milligrams per liter
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection
FLPRO = Florida Petroleum Range Organics

TABLE 4-8
SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER
FIXED-BASE LABORATORY RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS-2406-DMW33	OLFS-2406-DMW34R	OLFS-2406-DMW35	OLFS-2406-DMW36	OLFS-2406-DMW37
Sample Location		DMW-33	DMW-34	DMW-35	DMW-36	DMW-37
Collect Date		1/6/2003	3/10/2003	1/8/2003	1/8/2003	1/6/2003
Sample Depth (ft bls)		74.5-79.5	49.5 - 64.5	74.5-79.5	74.5-79.5	130-135
	GCTL[1] (µg/L)					
VOCs [2] (µg/L)						
1,2-Dibromoethane	**0.02**	**0.23**	–	–	–	–
1,2-Dichloroethane	**3**	**4.8**	–	–	–	–
Benzene	**1**	**35.6**	–	–	–	–
Chloroform	5.7	–	–	–	–	–
Ethylbenzene	30	1.9	–	–	–	–
Toluene	40	–	–	–	–	–
Xylenes, Total	20	2.4 J	–	–	–	–
PAHs [3] (µg/L)						
1-Methylnaphthalene	20	–	–	–	–	–
2-Methylnaphthalene	20	–	–	–	–	–
Naphthalene	20	–	–	–	–	–
TRPH [4] (mg/L)	5	–	–	–	–	–
Metals [5] (µg/L)						
Lead	**15**	–	**69.5**	–	–	–

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

Notes:
Bold indicates an exceedance of limits.
ft bls = feet below land surface
µg/L = micrograms per liter
– = Analyte not detected above the instrument detection limit
J = Compound was detected at an estimated concentration
mg/L = milligrams per liter
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection
FLPRO = Florida Petroleum Range Organics

TABLE 4-8
SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER
FIXED-BASE LABORATORY RESULTS
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS-2406-DUP01	OLFS-2406-TB010603	TRIP BLANK	TRIP BLANK-010703
Sample Location		DMW-37 (Duplicate)	NA	NA	NA
Collect Date		1/6/2003	1/6/2003	1/8/2003	1/7/2003
Sample Depth (ft bls)		130-135			
	GCTL[1] (µg/L)				
VOCs [2] (µg/L)					
1,2-Dibromoethane	0.02	--	--	--	--
1,2-Dichloroethane	3	--	--	--	--
Benzene	1	--	--	--	--
Chloroform	5.7	--	--	--	--
Ethylbenzene	30	--	--	--	--
Toluene	40	--	2.4	2.1	2.5
Xylenes, Total	20	--	--	--	--
PAHs [3] (µg/L)					
1-Methylnaphthalene	20	--	NA	NA	NA
2-Methylnaphthalene	20	--	NA	NA	NA
Naphthalene	20	--	NA	NA	NA
TRPH [4] (mg/L)	5	--	NA	NA	NA
Metals [5] (µg/L)					
Lead	15	--	NA	NA	NA

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

Notes:
Bold indicates an exceedance of limits.
ft bls = feet below land surface
µg/L = micrograms per liter
-- = Analyte not detected above the instrument detection limit
J = Compound was detected at an estimated concentration
mg/L = milligrams per liter
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection
FLPRO = Florida Petroleum Range Organics

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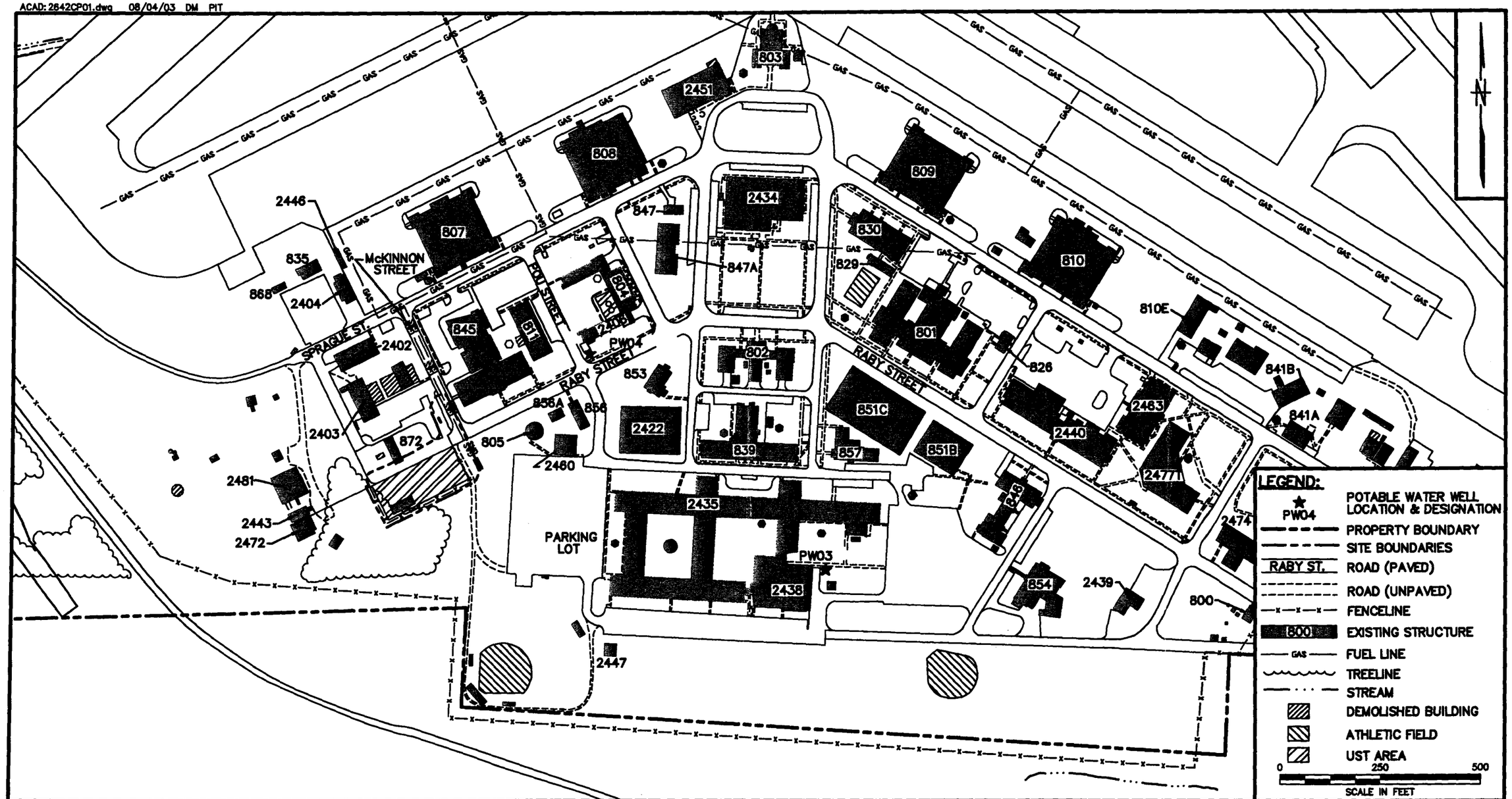


NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

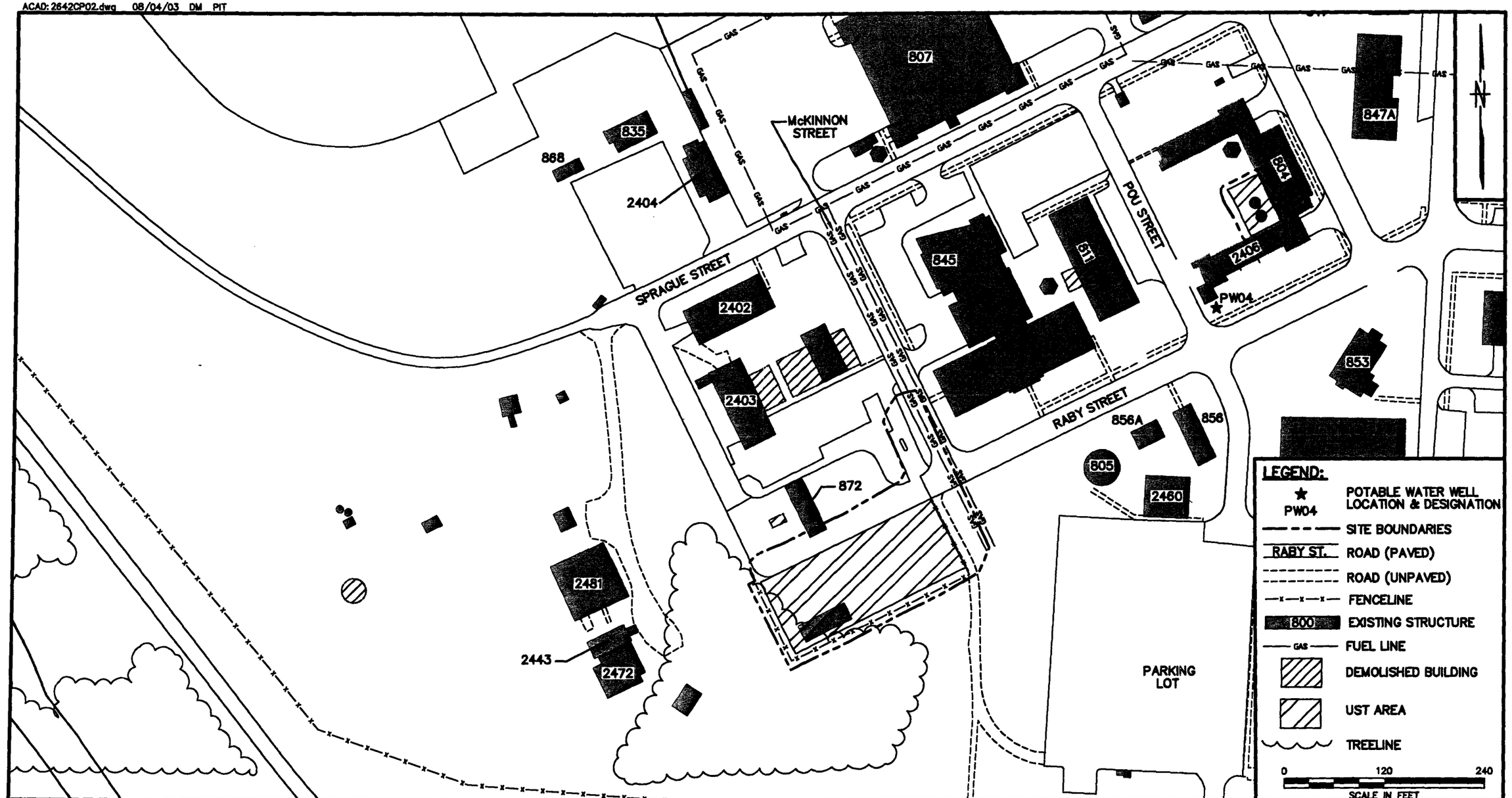
DRAWN BY DM DATE 7/10/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

BASE MAP
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 1-1 REV. 0

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

ACAD: 2642CP02.dwg 08/04/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

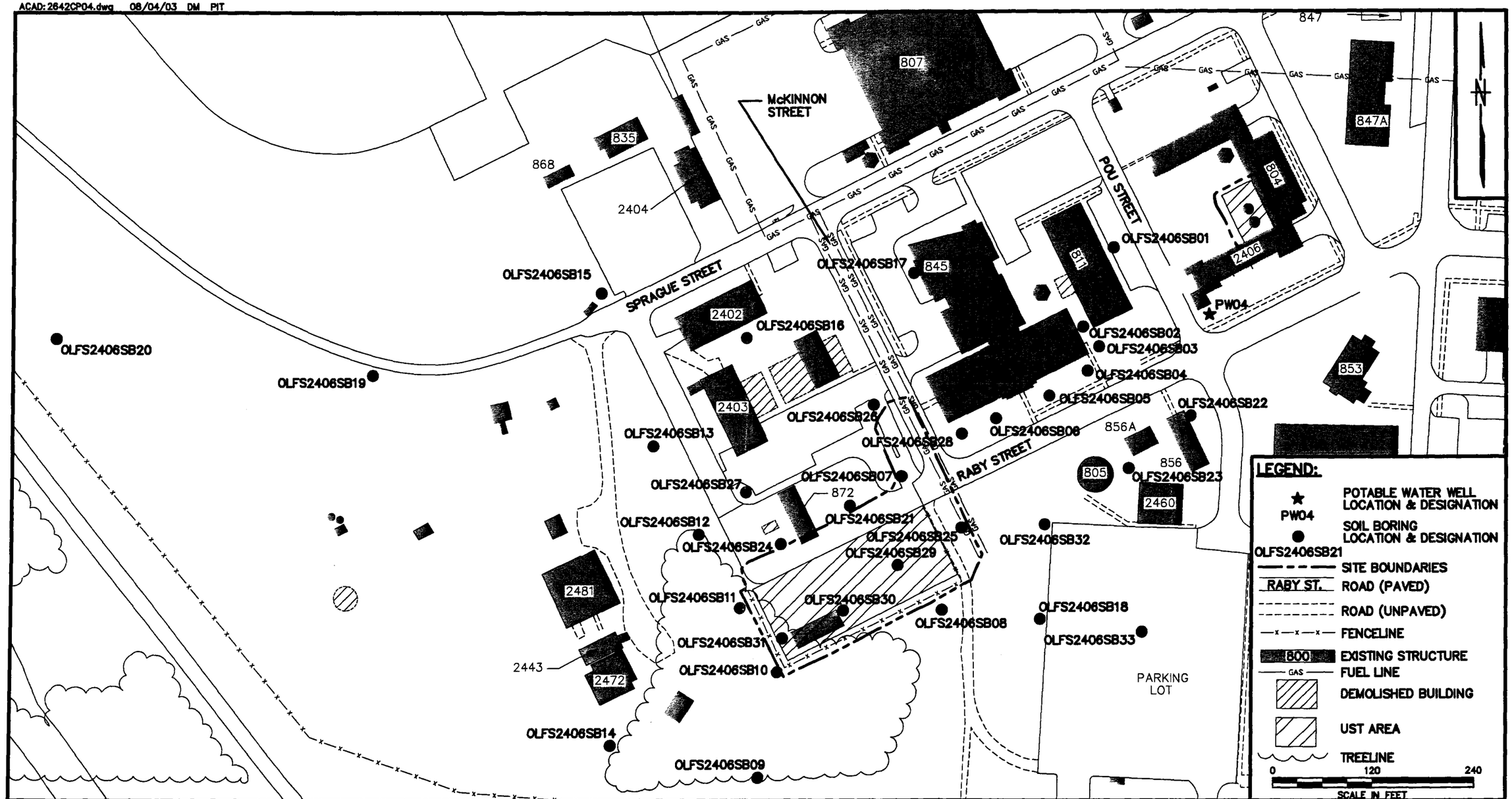
DRAWN BY DM DATE 7/10/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SITE MAP
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 1-2
REV. 0

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

ACAD: 2642CP04.dwg 08/04/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

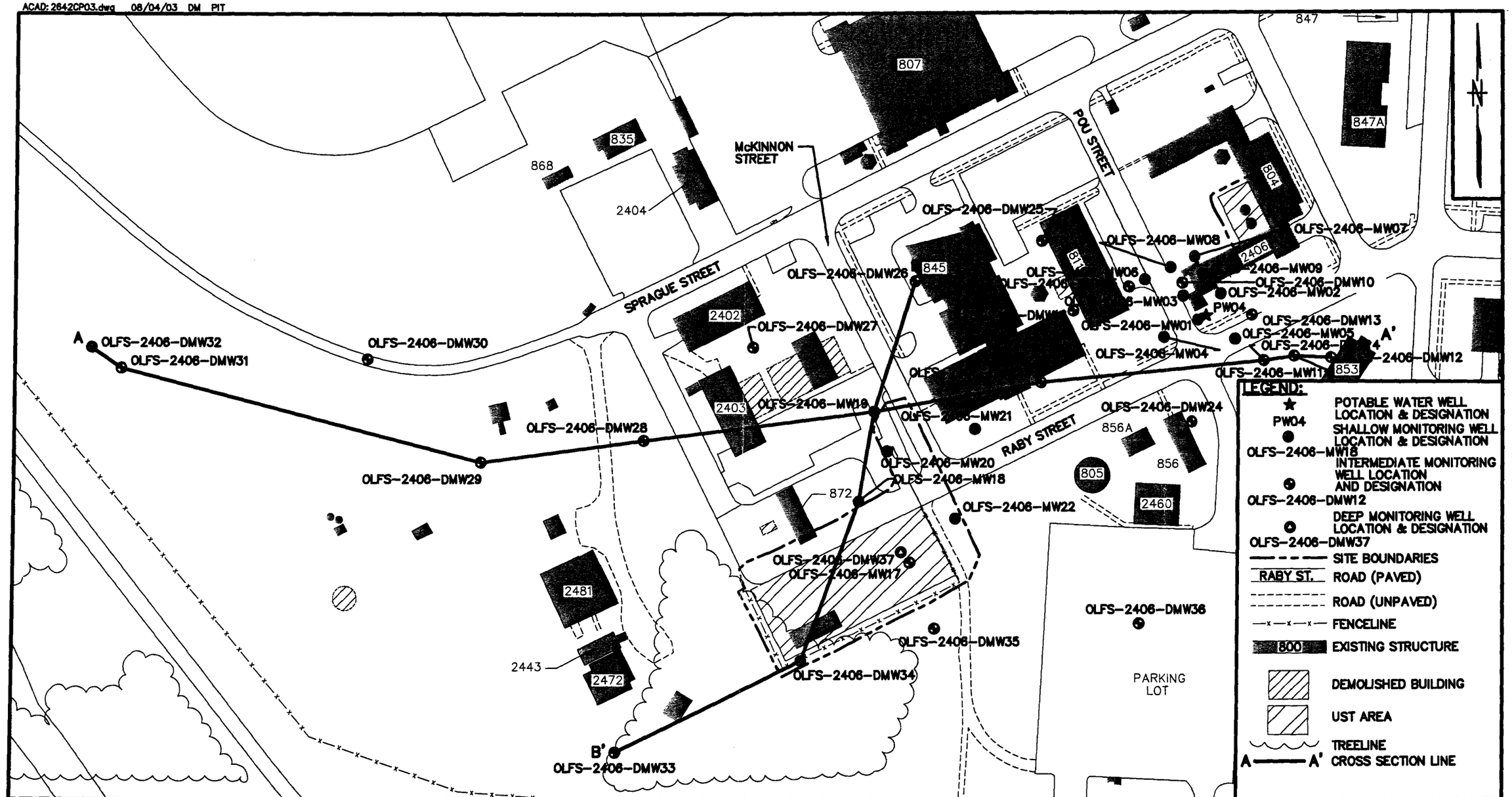
DRAWN BY DM DATE 7/10/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SOIL BORING LOCATION MAP
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 2-1
REV. 0

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

ACAD: 2642CP03.dwg 08/04/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

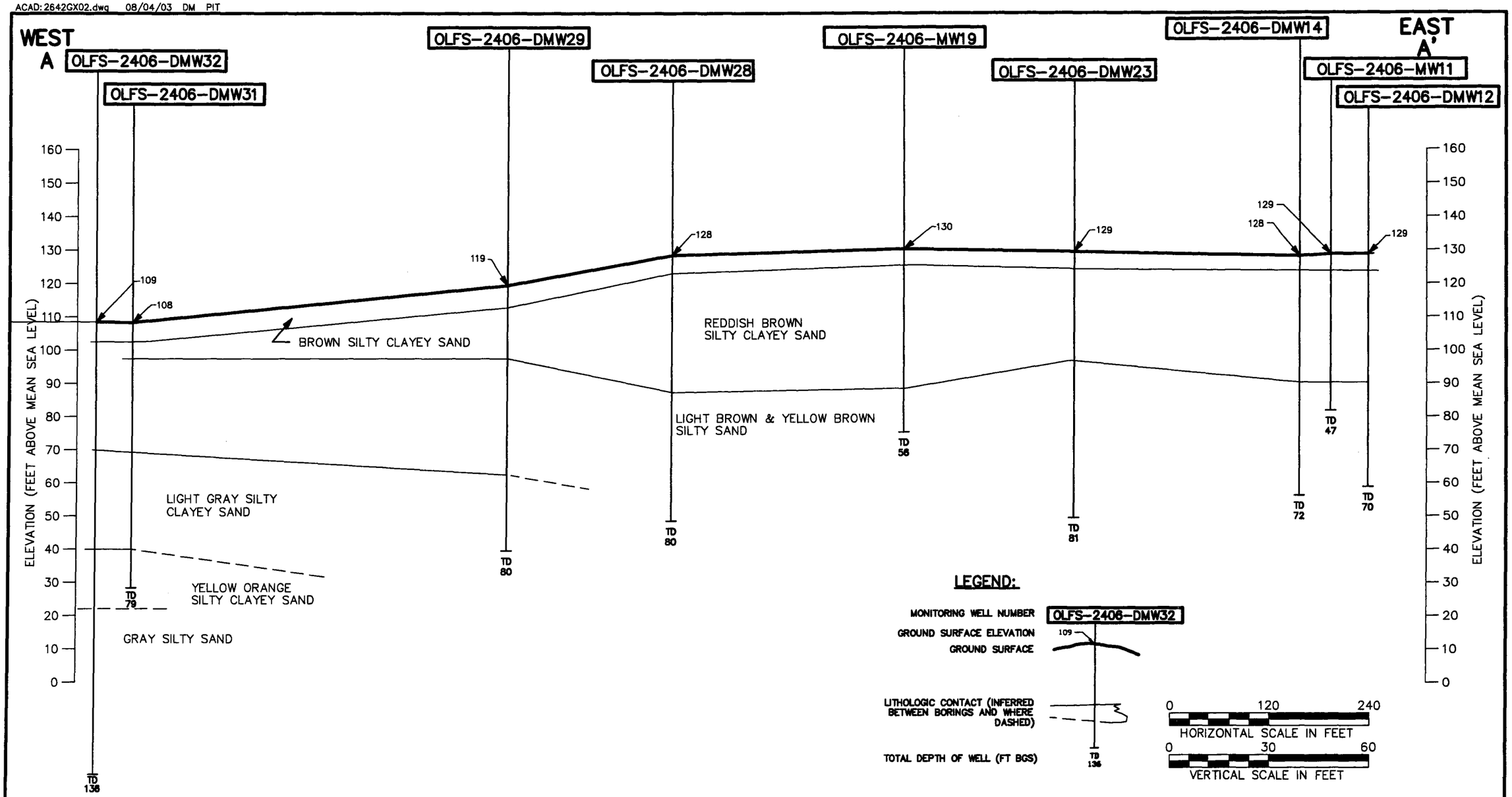
DRAWN BY DM DATE 7/24/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

MONITORING WELL LOCATION MAP
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 2-2
REV. 0

FORM CADD NO. SHIV_BH.DWG - REV 0 - 1/28/98

ACAD:2642GX02.dwg 08/04/03 DM PIT



LEGEND:

MONITORING WELL NUMBER — OLFS-2406-DMW32

GROUND SURFACE ELEVATION — 109

GROUND SURFACE

LITHOLOGIC CONTACT (INFERRED BETWEEN BORINGS AND WHERE DASHED)

TOTAL DEPTH OF WELL (FT BGS) — TD 136

0 120 240
HORIZONTAL SCALE IN FEET

0 30 60
VERTICAL SCALE IN FEET

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

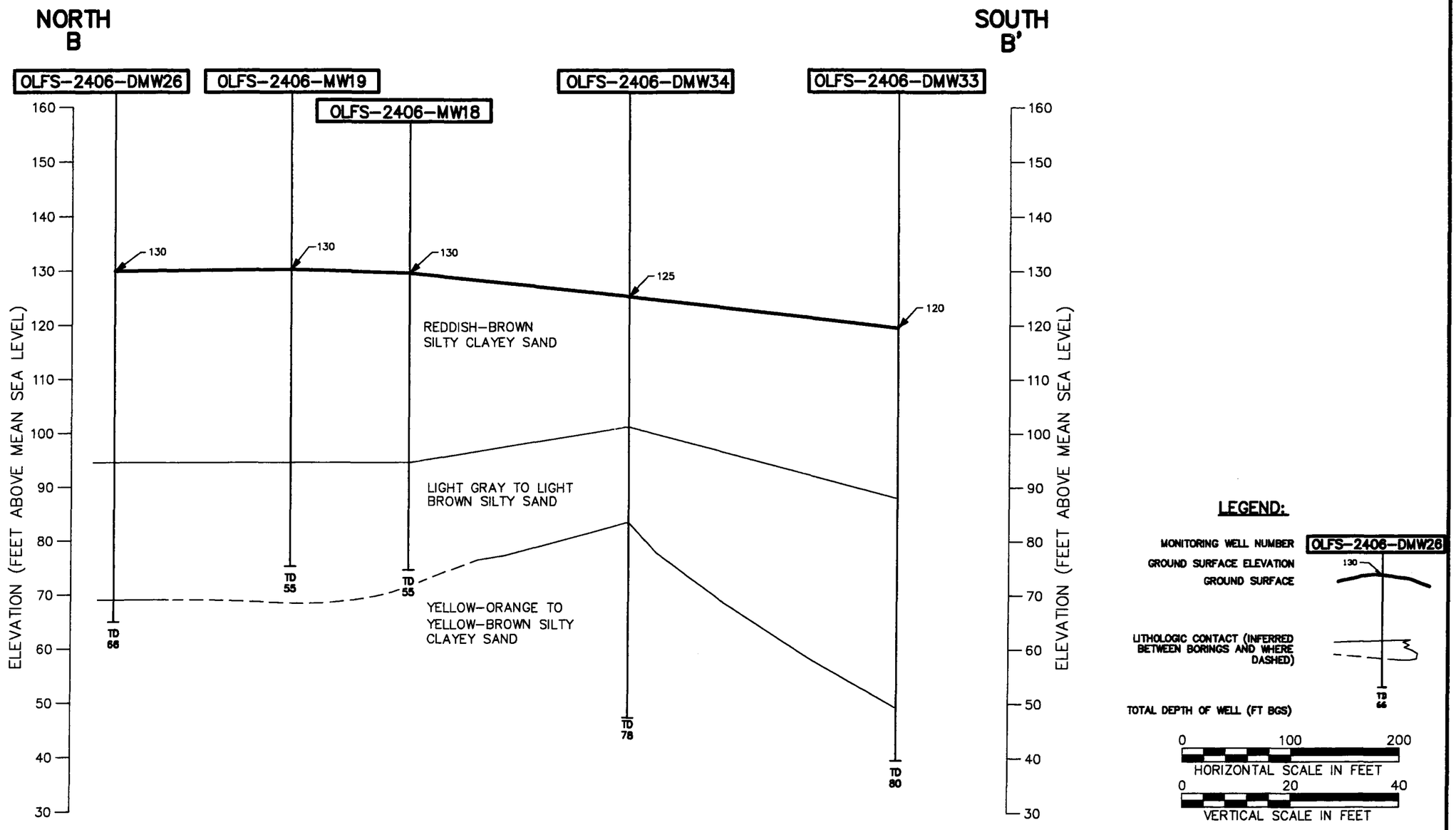
DRAWN BY HJB DATE 7/21/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

GEOLOGIC CROSS SECTION A-A'
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-1
REV. 0

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

ACAD: 2642GX03.dwg 08/07/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

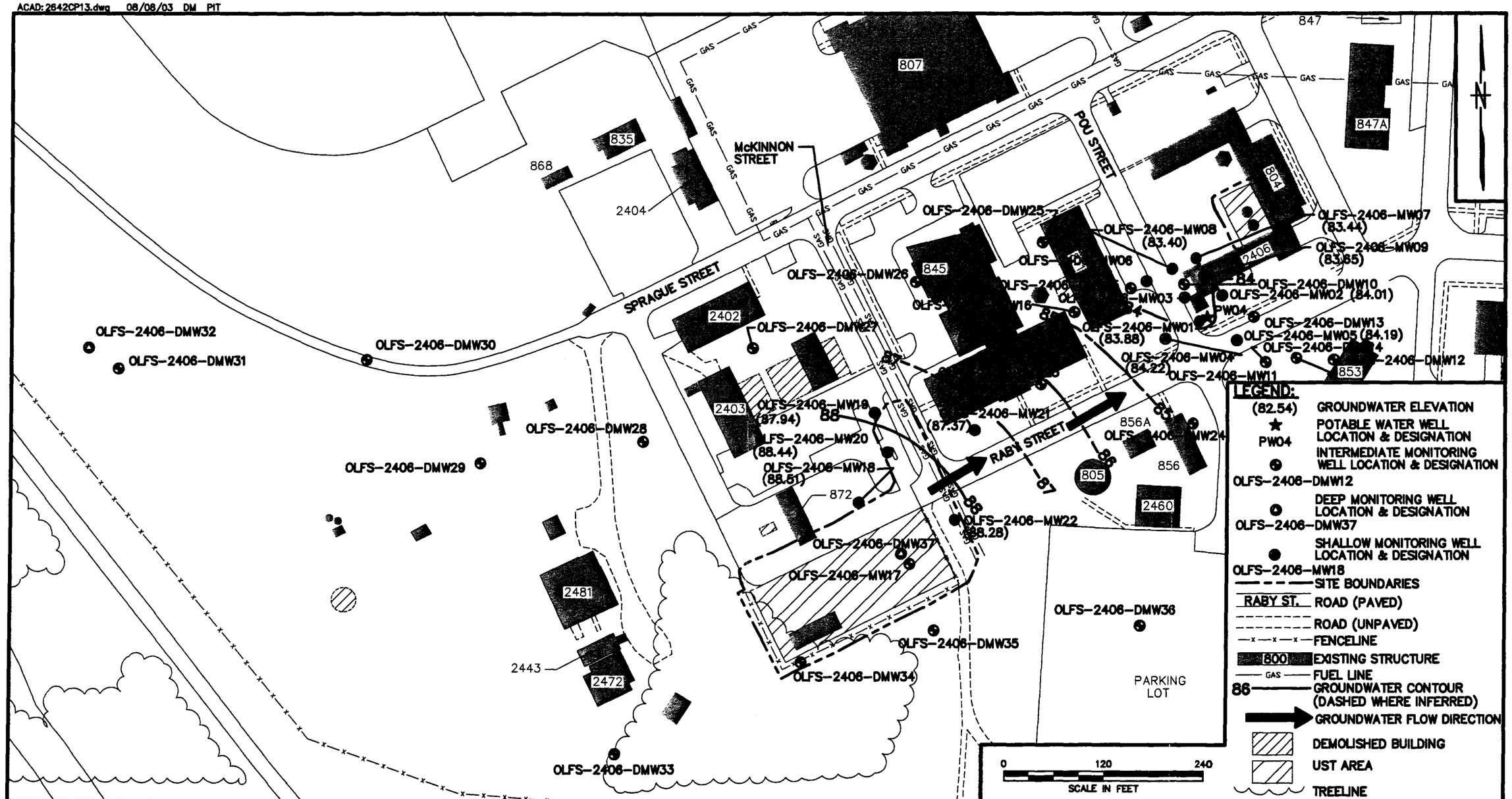
DRAWN BY HJB DATE 7/21/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

GEOLOGIC CROSS SECTION B-B'
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-2
REV. 0

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

ACAD: 2642CP13.dwg 08/08/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

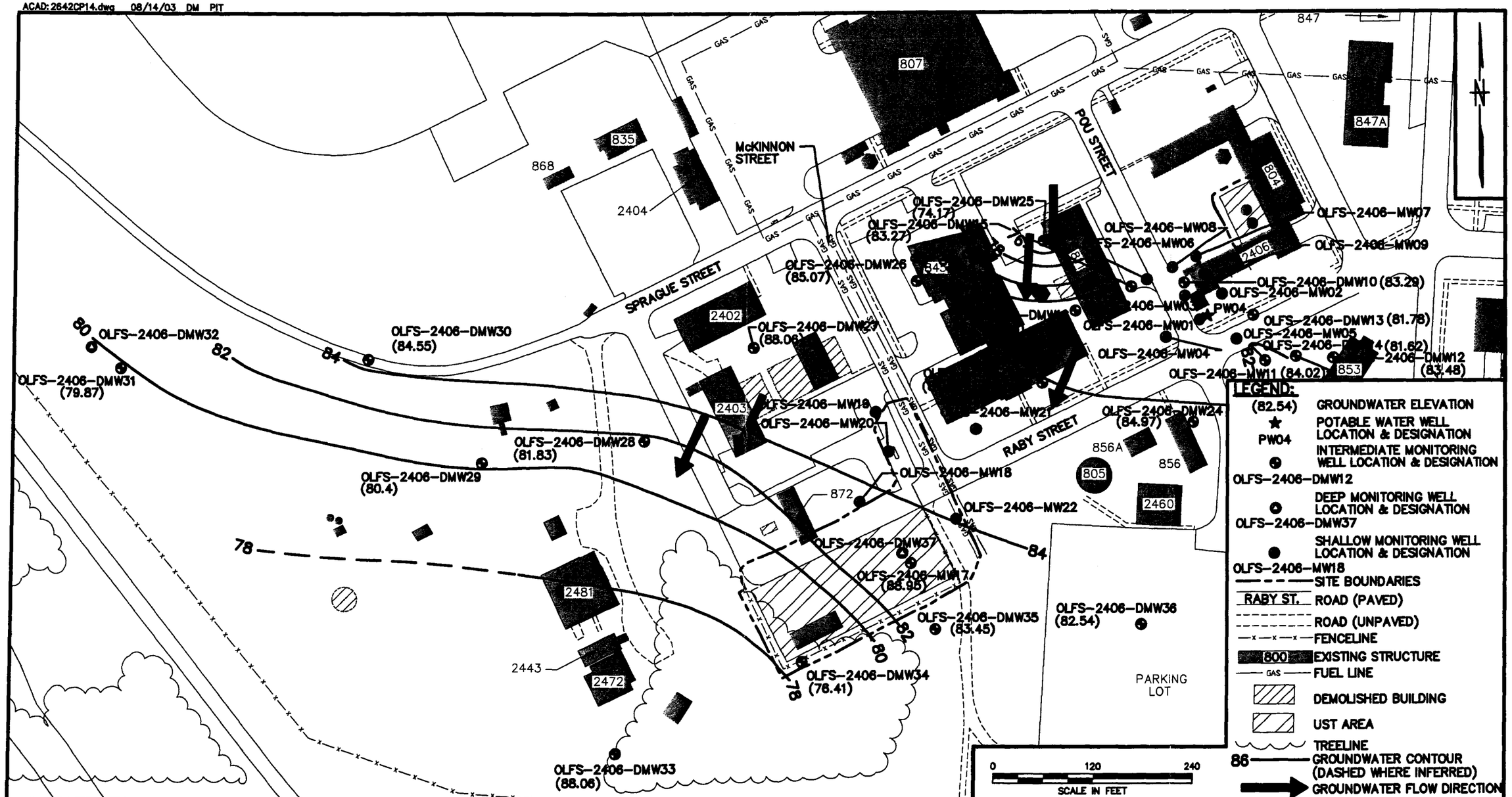
DRAWN BY DM DATE 8/8/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

SHALLOW GROUNDWATER FLOW MAP
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-3
REV. 0

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

ACAD: 2642CP14.dwg 08/14/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

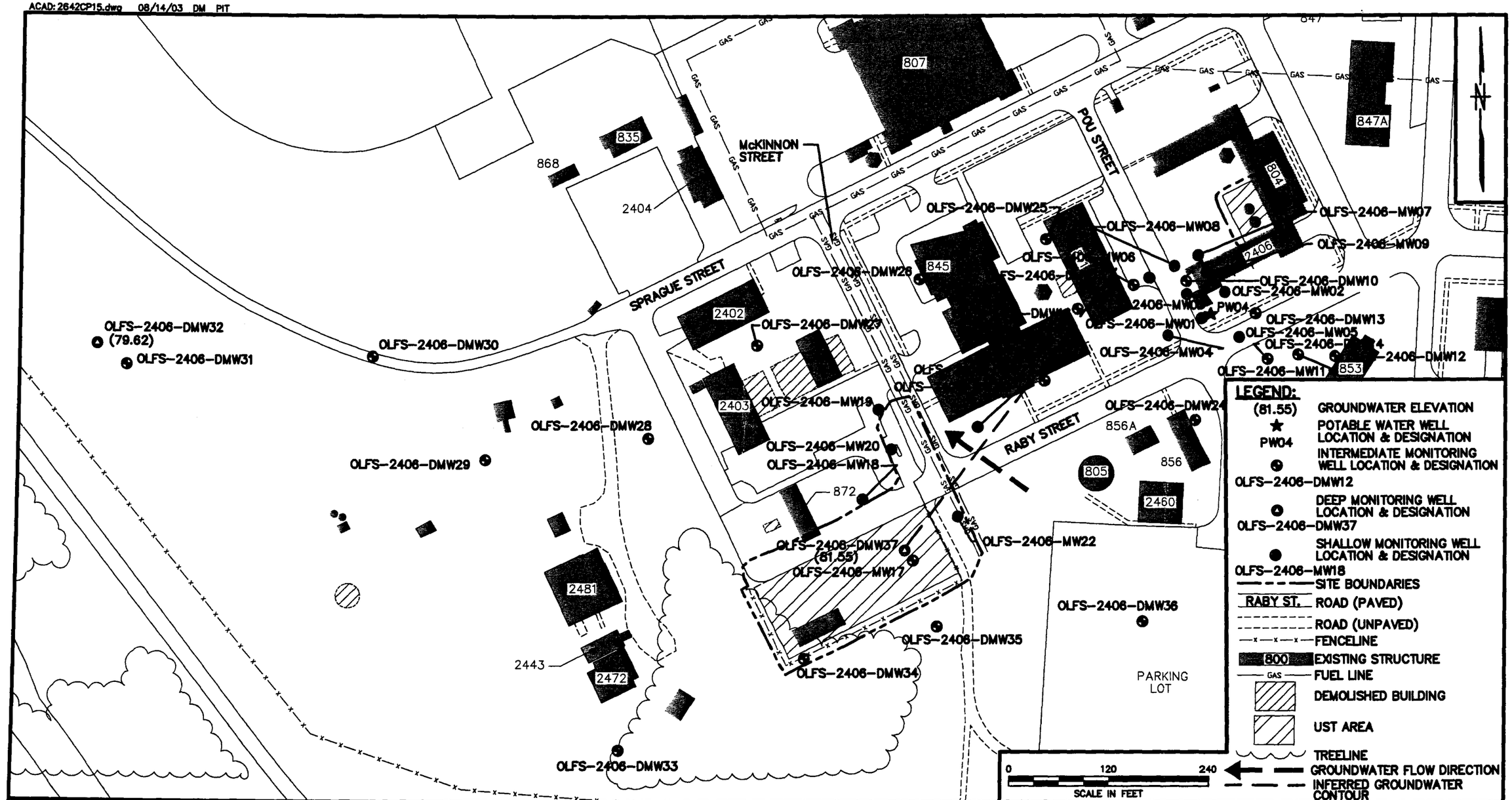
DRAWN BY DM DATE 7/24/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

INTERMEDIATE GROUNDWATER FLOW MAP
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-4
REV. 0

FORM CADD NEL SDIV_BH.DWG - REV 0 - 1/20/98

ACAD: 2642CP15.dwg 08/14/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY DM DATE 7/24/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

DEEP GROUNDWATER FLOW MAP
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-5
REV. 0

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

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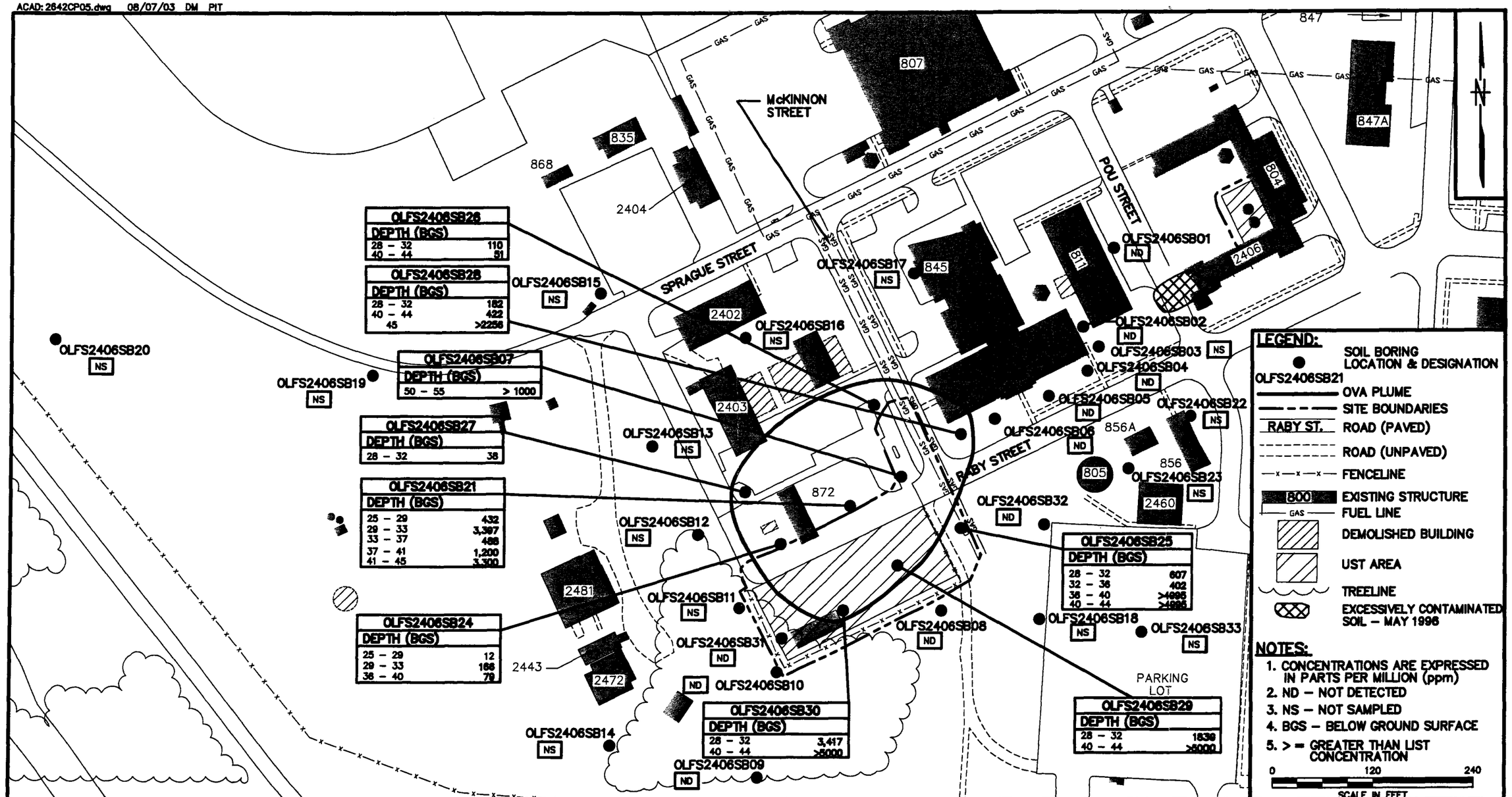


NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

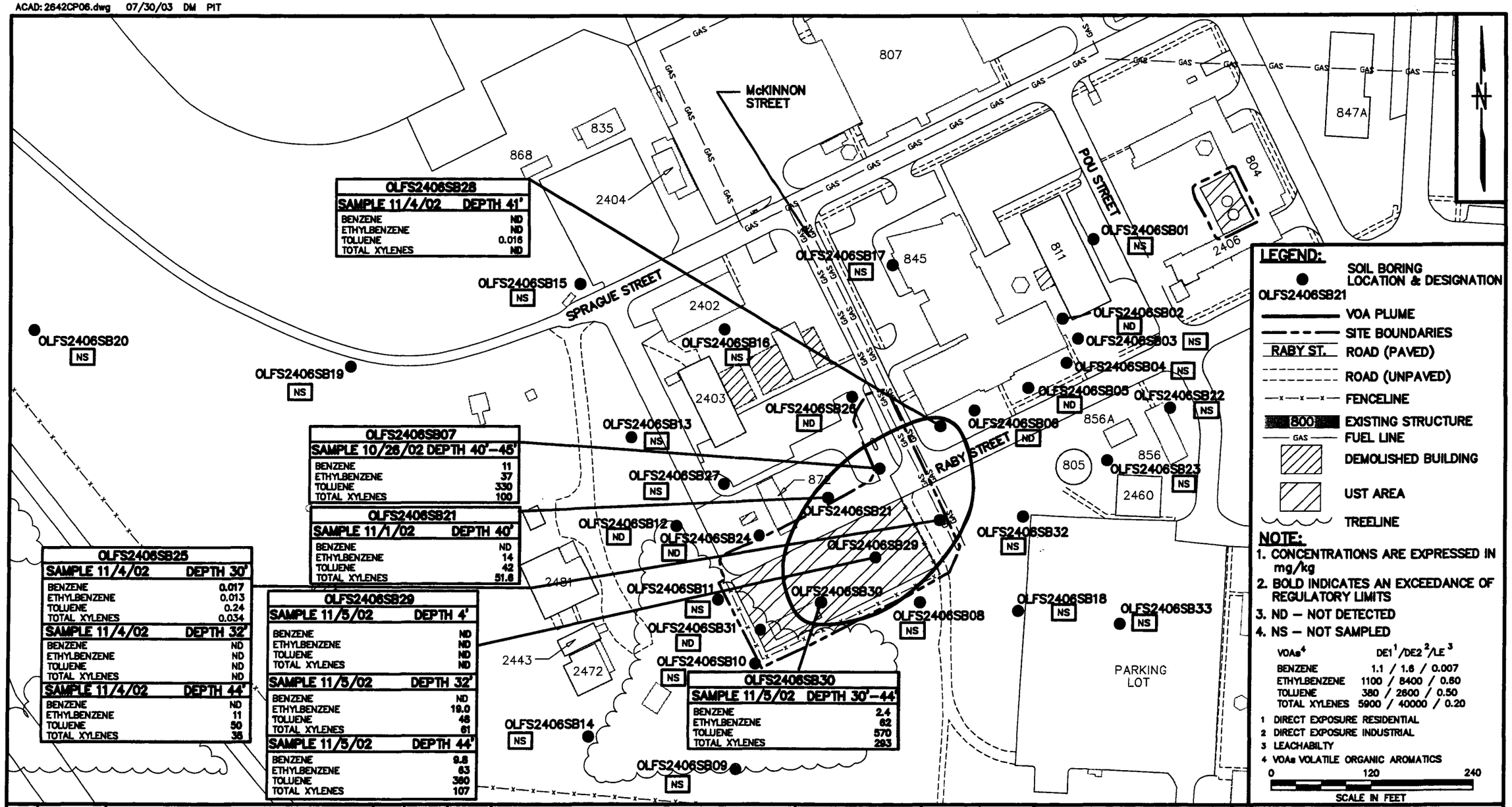
DRAWN BY DM DATE 7/10/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

OVA RESULTS
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-1
REV. 0

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

ACAD: 2642CP06.dwg 07/30/03 DM PIT



OLFS2406SB28

SAMPLE 11/4/02	DEPTH 41'
BENZENE	ND
ETHYLBENZENE	ND
TOLUENE	0.016
TOTAL XYLENES	ND

OLFS2406SB07

SAMPLE 10/26/02	DEPTH 40'–45'
BENZENE	11
ETHYLBENZENE	37
TOLUENE	330
TOTAL XYLENES	100

OLFS2406SB21

SAMPLE 11/1/02	DEPTH 40'
BENZENE	ND
ETHYLBENZENE	14
TOLUENE	42
TOTAL XYLENES	51.6

OLFS2406SB25

SAMPLE 11/4/02	DEPTH 30'
BENZENE	0.017
ETHYLBENZENE	0.013
TOLUENE	0.24
TOTAL XYLENES	0.034
SAMPLE 11/4/02	**DEPTH 32'**
BENZENE	ND
ETHYLBENZENE	ND
TOLUENE	ND
TOTAL XYLENES	ND
SAMPLE 11/4/02	**DEPTH 44'**
BENZENE	ND
ETHYLBENZENE	11
TOLUENE	50
TOTAL XYLENES	35

OLFS2406SB29

SAMPLE 11/5/02	DEPTH 4'
BENZENE	ND
ETHYLBENZENE	ND
TOLUENE	ND
TOTAL XYLENES	ND
SAMPLE 11/5/02	**DEPTH 32'**
BENZENE	ND
ETHYLBENZENE	19.0
TOLUENE	48
TOTAL XYLENES	61
SAMPLE 11/5/02	**DEPTH 44'**
BENZENE	9.8
ETHYLBENZENE	63
TOLUENE	360
TOTAL XYLENES	107

OLFS2406SB30

SAMPLE 11/5/02	DEPTH 30'–44'
BENZENE	2.4
ETHYLBENZENE	62
TOLUENE	570
TOTAL XYLENES	283

NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

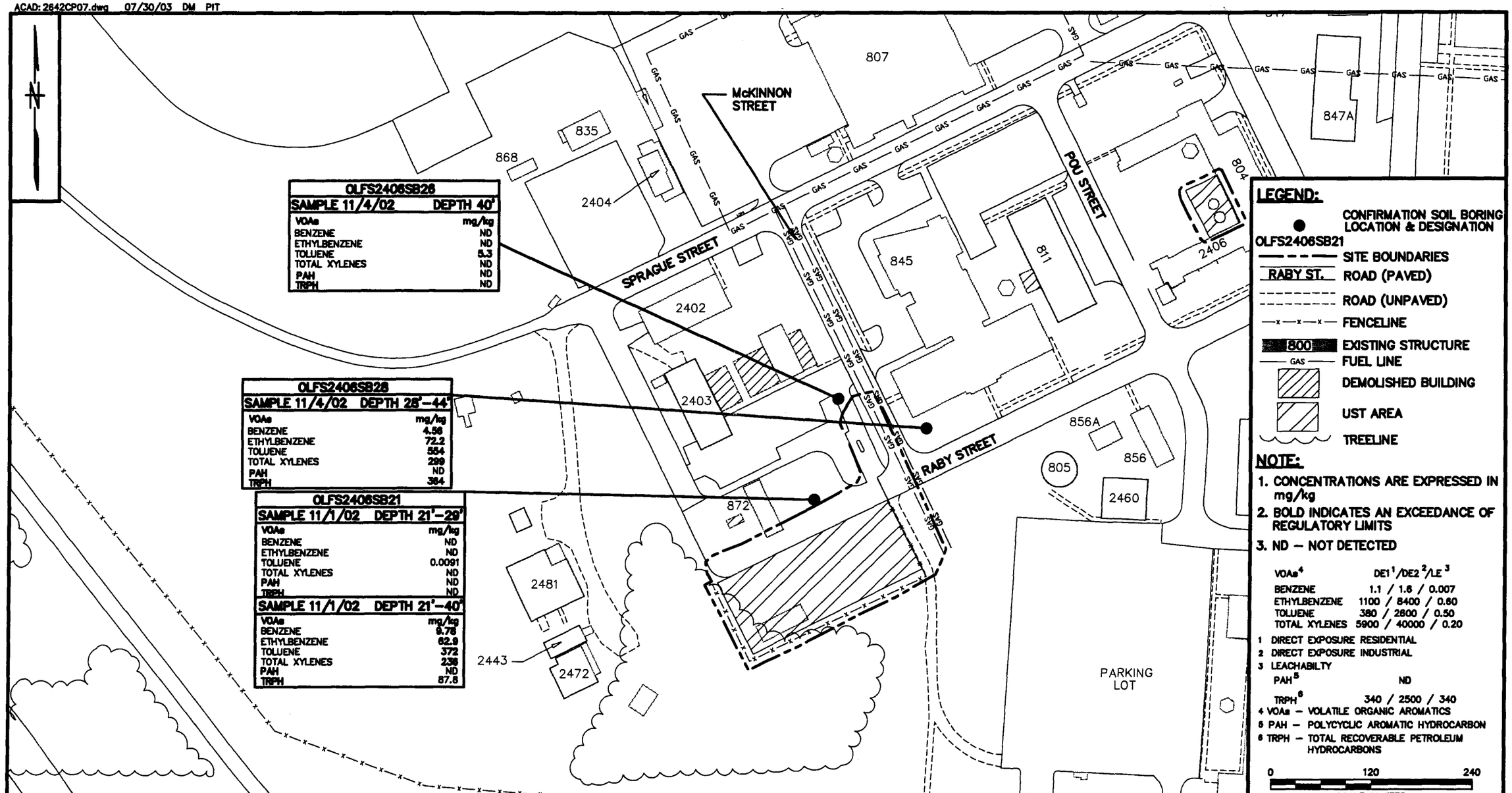
DRAWN BY DM DATE 7/21/03
CHECKED BY DATE
COST/SCHED–AREA
SCALE AS NOTED

MOBILE LABORATORY SOIL ANALYTICAL RESULTS
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4–2
REV. 0

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

ACAD: 2642CP07.dwg 07/30/03 DM PIT



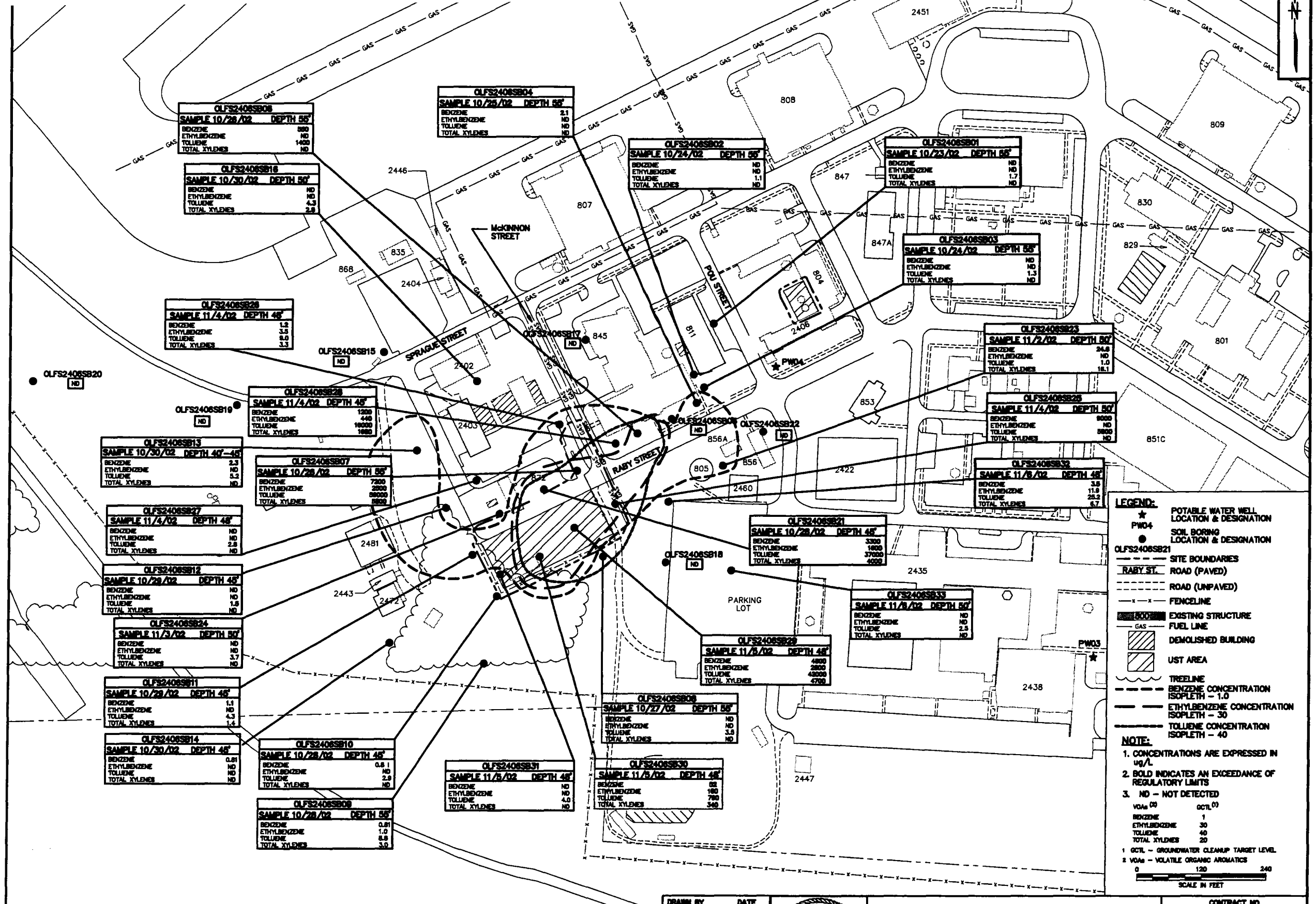
NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY DM DATE 7/10/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

FIXED-BASE LABORATORY CONFIRMATION SOIL SAMPLE RESULTS
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-3
REV. 0

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



LEGEND:

- ★ PW04 — POTABLE WATER WELL LOCATION & DESIGNATION
- ● OLFS2406SB21 — SOIL BORING LOCATION & DESIGNATION
- SITE BOUNDARIES
- RABY ST. — ROAD (PAVED)
- ROAD (UNPAVED)
- FENCELINE
- 800 — EXISTING STRUCTURE
- GAS — FUEL LINE
- DEMOLISHED BUILDING
- UST AREA
- TREELINE
- BENZENE CONCENTRATION ISOPLETH – 1.0
- ETHYLBENZENE CONCENTRATION ISOPLETH – 30
- TOLUENE CONCENTRATION ISOPLETH – 40

NOTE:

1. CONCENTRATIONS ARE EXPRESSED IN ug/L
2. BOLD INDICATES AN EXCEEDANCE OF REGULATORY LIMITS
3. ND – NOT DETECTED

	VOAs (2)	GCTL (1)
BENZENE		1
ETHYLBENZENE		30
TOLUENE		40
TOTAL XYLENES		20

1 GCTL – GROUNDWATER CLEANUP TARGET LEVEL
2 VOAs – VOLATILE ORGANIC AROMATICS

0 120 240
SCALE IN FEET

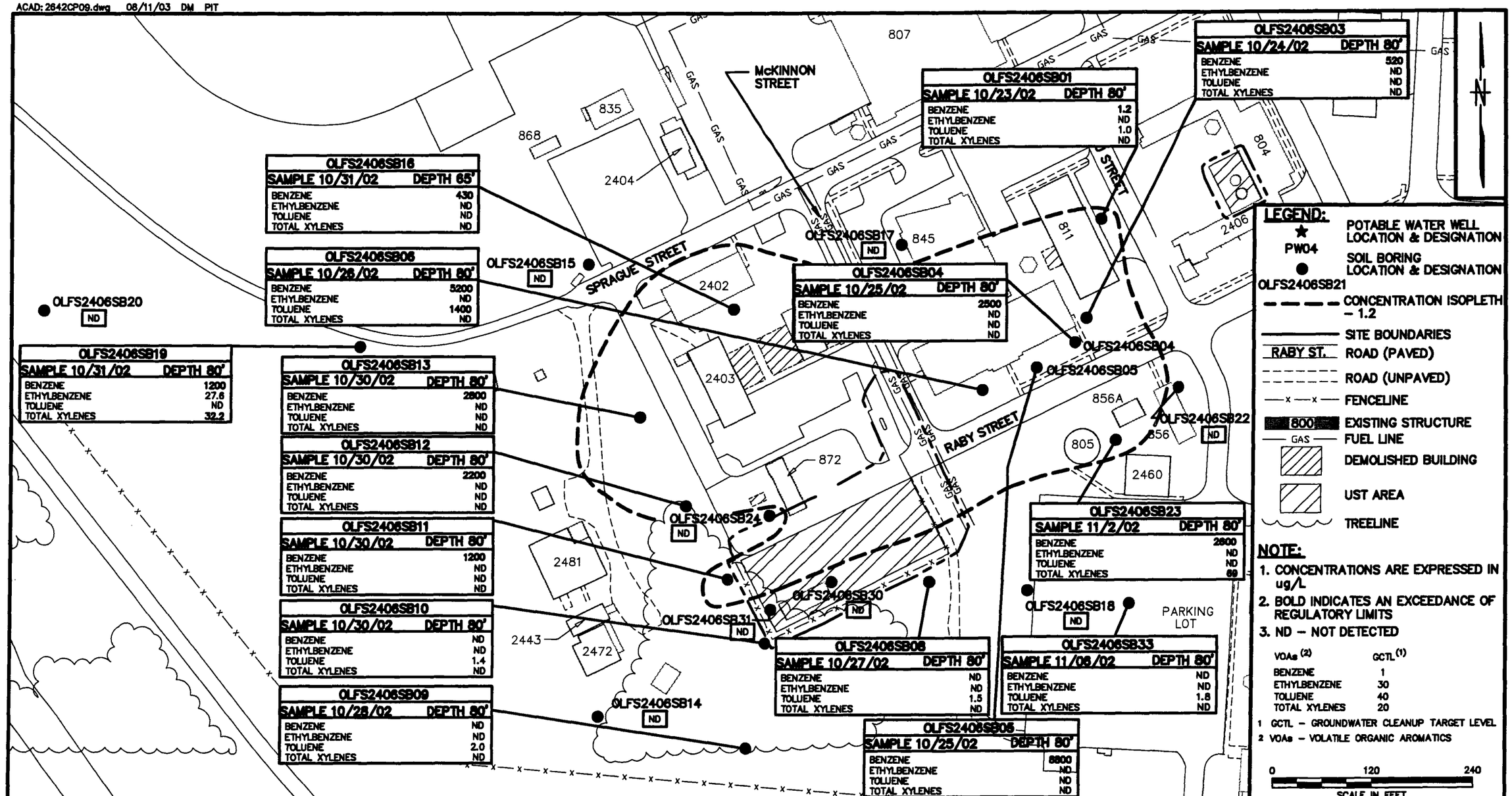
DRAWN BY DM	DATE 7/23/03	MOBILE LABORATORY SHALLOW GROUNDWATER RESULTS OLF SAUFLEY, SITE 2406 NAS PENSACOLA PENSACOLA, FLORIDA
CHECKED BY	DATE	
REVISED BY	DATE	
SCALE AS NOTED		

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

FORM CADD NO. 5261-C-STANDARD - REV 1 - 9/14/98

ACAD: 2642CPOIL.dwg 07/23/03 DM PIT

ACAD: 2642CP09.dwg 08/11/03 DM PIT

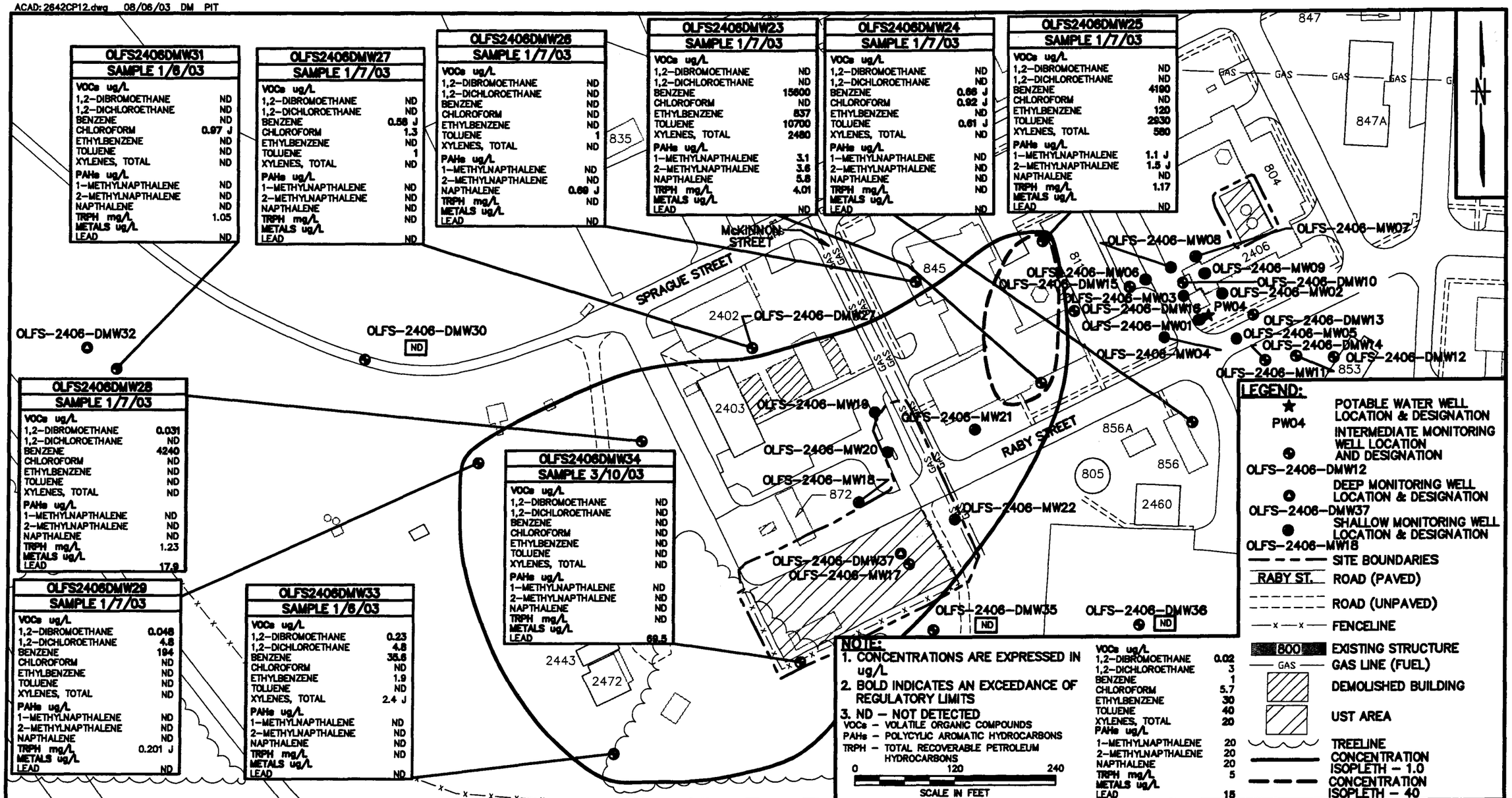


DRAWN BY DM	DATE 7/21/03	MOBILE LABORATORY DEEP GROUNDWATER RESULTS MAP SITE ASSESSMENT REPORT ADDENDUM OLF SAUFLEY, SITE 2406 NAS PENSACOLA PENSACOLA, FLORIDA
CHECKED BY	DATE	
COST/SCHED–AREA		
SCALE AS NOTED		

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4–5
REV. 0

FORM CADD NO. SDIV_3H.DWG – REV 0 – 1/20/98

ACAD: 2642CP12.dwg 08/06/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

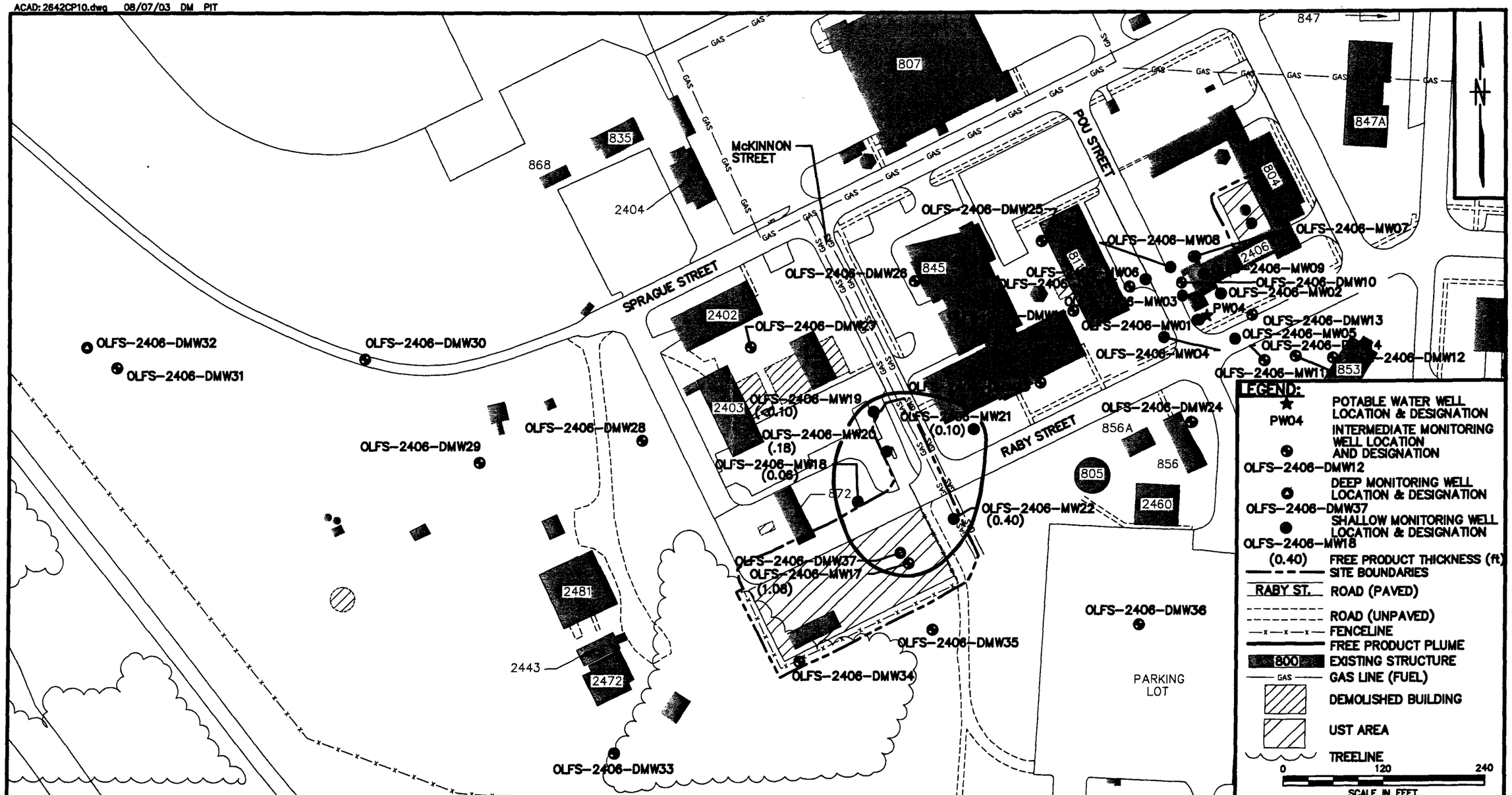
DRAWN BY DM DATE 7/24/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

INTERMEDIATE GROUNDWATER RESULTS
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

CONTRACT NO. 2642
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 4-6
REV. 0

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

ACAD: 2642CP10.dwg 08/07/03 DM PIT



NO.	DATE	REVISIONS	BY	CHKD	APPD	REFERENCES

DRAWN BY DM DATE 7/23/03
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

FREE PRODUCT
SITE ASSESSMENT REPORT ADDENDUM
OLF SAUFLEY, SITE 2406
NAS PENSACOLA
PENSACOLA, FLORIDA

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

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

APPENDIX A

SAR SUMMARY SHEET

SITE ASSESSMENT REPORT SUMMARY SHEET

Facility Name: Outlying Landing Field Saufley, Site 2406 Naval Education and Training Professional Development and Technical Center (NETPDTC) Reimbursement Site: ☐

Location: Pensacola, Florida State Contract Site: ☐

EDI #: _____ FAC I.D.# unregulated Other: Non-Prog. ☑

Date Reviewed: _____ Local Government: _____

(1) Source of Spill: Jet Fuel UST and transfer line Date of Spill: Unknown

(2) Type of Product:

Gasoline Group	Gallons Lost	Kerosene Group	Gallons Lost
☐ Leaded		☐ Kerosene	
☐ Unleaded Regular		☐ Diesel	
☐ Unleaded Premium		☑ JP-4 Jet Fuel	Unknown
☐ Gasohol		☐ Jet A Fuel	
☐ Undetermined		☐ Unknown	

(3) Description of IRA: None

☐ Free product Removal: _____ (gals)
☐ Soil Removal: _____ (cubic yds)
☐ Soil Incineration: _____ (cubic yds)

(4) Free Product still present (yes/no) No Maximum apparent product thickness: _____ (feet)

(5) Maximum Groundwater contamination levels (ppb): Total VOA: _____ lead: 69.5 benzene: 15,600 MTBE: <5 EDB: 0.23 other: 1,2-DCA 4.8

(6) Brief lithologic description: Reddish-brown to light gray to tan silty fine to medium grained sand to silty clay

(7) Areal and vertical extent of soils contamination defined (yes/no) Yes

Highest current soil concentration (OVA: >5,000 (ppm) or EPA method 5030/8020: 554 (ppb)

(8) Lower aquifer contaminated? (yes/no) No Depth of vertical contamination: 80 ft.

(9) Date of last complete round of groundwater sampling: 6/06/03 Date of last soil sampling: 11/4/02

(10) QAPP approved? (yes/no) Date: _____

(11) Direction (e.g. NNW) of surficial groundwater flow: SW Figure 3-3 on page _____

(12) Average depth to groundwater: 45 (ft)

(13) Observed range of seasonal groundwater fluctuations: Unknown (ft)

(14) Estimated rate of groundwater flow: 0.336 shallow / 4.8 deep (ft/day)

(15) Hydraulic gradient across site: 0.01 (ft/ft)

(16) Aquifer characteristics:

	Values	Units	Method
Hydraulic conductivity	10.08 to 144	ft/day	Slug Tests
Storage coefficient	-	ft/ft	-
Aquifer thickness	500	ft	Literature
Effective soil porosity	30	%	Literature
Transmissivity	72,000	Ft^2/day	Slug Tests

(17) Other remarks: None

APPENDIX B

HISTORICAL SITE DATA

Department of Environmental Protection

Lawton Chiles
Governor

Twin Towers Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

April 9, 1998

Mr. Byas Glover
Code 18410
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

RE: Saufley Field, Site 2406
Naval Education and Training Professional Development and Technical Center, Pensacola, Florida
FDEP #178628753

Dear Mr. Glover:

I have completed the technical review of the Site Assessment Report (SAR) dated March 1998 (received March 9, 1998) submitted for this site 2406. Please submit a Site Assessment Report Addendum which addresses the comments in the attached memorandum from David Grabka.

If I can be of any further assistance with this matter, please contact me at (904) 921-9989.

Sincerely,

John W. Mitchell
Remedial Project Manager

cc: Dean Spencer, NAS Pensacola
Greg Campbell, NAS Pensacola
Tom Moody, FDEP Northwest District

TJB JRC for TB JJC JJC ESN ESN

Florida Department of

Memorandum

Environmental Protection

TO: John Mitchell, E.S. III, Remedial Project Manager, Technical Review Section

THROUGH: Tim Bahr, P.G. Supervisor, Technical Review Section

FROM: David P. Grabka, E.S. I, Technical Review Section

DATE: April 1, 1998

SUBJECT: Site Assessment Report (SAR), March 3, 1998, Site 2406, Saufley Field, Naval Education and Training Professional Development and Technical Center (NETPDTC), Pensacola, Florida, DEP Facility ID# 178628753

I have completed my review of the Site Assessment Report (SAR), prepared by the Navy Public Works Center, for the above-referenced facility. In order to meet the requirements of Chapter 62-770, Florida Administrative Code (F.A.C.), the following comments need to be addressed in a Site Assessment Report Addendum:

(1) Additional assessment should be conducted to delineate the extent of contaminated soil and determine its source. Also, soil samples should be collected and analyzed for the gasoline and kerosene analytical groups in accordance with the procedures specified in the Department's February 3, 1998 memo titled "Interim Guidance for Laboratory Analyses of Soil Samples for Petroleum Contamination Site Assessments."

(2) A water table monitoring well should be installed approximately halfway between monitoring wells MW-4 and MW-6. During monitoring well installation, soils should be screened with an OVA. If contaminated or excessively contaminated soil is discovered, soil samples should be collected and analyzed for the gasoline and kerosene analytical groups.

(3) An intermediate depth monitoring well should be installed downgradient of MW-3. The well should be screened from approximately 65 to 70 feet below land surface. During monitoring well installation, soils should be screened with an OVA. If contaminated or excessively contaminated soil is discovered, soil samples should be collected and analyzed for the gasoline and kerosene analytical groups.

(4) Further assessment work is required to determine if the deeper reaches of the Sand and Gravel aquifer continue to be contaminated with benzene or have been impacted by other constituents. A deep monitoring well should be installed between abandoned potable water well #4 and monitoring well MW-3 and should be screened approximately 130 to 140 feet below land surface. During monitoring well installation, soils should be screened with an OVA. If contaminated or excessively contaminated soil is discovered, soil samples should be collected and

SUMMARY OF CONTAMINANTS DETECTED IN SOILS
HISTORICAL DATA
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.	OLF06SB011517	OLFS06SB042022	OLFS06SB051517	OLB06SB062527	OLBS06SB072022
Sample Location	SB-01	SB-04	SB-05	SB-06	SB-07
Sample Depth (ft bls)	15'-17'	20'-22'	15'-17'	25'-27'	20'-22'
Collect Date	5/31/2000	5/31/2000	5/31/2000	5/31/2000	5/31/2000
DE1[1]/DE2[2]/LE[3] (mg/kg)					
Volatile[4] (mg/kg)	ND	ND	ND	ND	ND
PAH[5] (mg/kg)	ND	ND	ND	ND	ND
TRPH[6] (mg/kg)	ND	ND	ND	ND	ND

[1] DE1= Direct Exposure limit for residential area from Chapter 62-777, F.A.C.
[2] DE2= Direct Exposure limit for industrial area from Chapter 62-777, F.A.C.
[3] LE= Leachability for groundwater limit from Chapter 62-777, F.A.C.
[4] VOAs = Volatile Organic Aromatics (SW-846 8260B)
[5] PAH = Polycyclic Aromatic Hydrocarbon (SW-846 8310)
[6] TRPH = Total Recoverable Petroleum Hydrocarbons (FDEP-FLPRO)

Notes: ft bls = feet below land surface
mg/kg = milligrams per kilogram
TRPH = Total Recoverable Petroleum Hydrocarbons
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection
FLPRO = Florida Petroleum Range Organics
ND = Not Detected

SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER SAMPLES
HISTORICAL DATA
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS06MW10GW	OLFS06MW12GW	OLFS06MW13GW
Sample Location		MW-10	MW-12	MW-13
Collect Date		7/19/2000	7/13/2000	7/13/2000
	GCTL[1] (ug/L)			
Volatile [2] (ug/L)				
1,2-Dribromoethane	0.02	--	**0.024**	--
Benzene	1	--	**400**	--
Xylenes, total	20	--	7.8	--

[1] Groundwater Cleanup Target Level as provided in Chapter 62-777, F.A.C.
[2] VOCs = Volatile Organic Compounds (SW-846 8260B)

Notes:
Bold indicates an exceedance of limits.
ft bls = feet below land surface
µg/L = micrograms per liter
-- = Analyte not detected above the instrument detection limit
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection

SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER
HISTORICAL DATA
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS06MW10GW	OLFS06MW12GW	OLFS06MW13GW	OLFS06MW14GW	OLFS06MW15GW
Sample Location		MW-10	MW-12	MW-13	MW-14	MW-15
Collect Date		10/25/2000	10/25/2000	10/25/2000	11/7/2000	11/7/2000
	GCTL [1] (ug/L)					
VOC [2] (ug/L)						
1,2-Dribromoethane	0.02	--	--	--	--	--
Benzene	1	--	**490**	--	**40**	**180J**
Xylenes, total	20	--	10	--	--	3.3
1, 2-Dichloroethane	3	--	**13**	--	--	--
Chloroform	5.7	--	--	--	0.6J	--
Methylene Chloride	5	--	--	--	**1.1**	**1.3**
PAH [3] (ug/L)						
1-Methylnaphthalene	20	--	--	--	--	--
2-Methylnaphthalene	20	--	--	--	--	--
Naphthalene	20	--	--	--	--	--
Acenaphthene	20	--	--	--	--	--
Acenaphthylene	210	--	--	--	--	--
Phenanthrene	210	--	--	--	--	--
TRPH [4] (ug/L)	5000	0.37	0.43	0.44	--	--
Metals [5] (ug/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 = Polycylic aromatic hydrocarbons (SW-846 8310)
[4] TRPH = Total Recoverable Petroleum Hydrocarbons (FDEP-FLPRO)
[5] SW-846 6010B

Notes:
Bold indicates an exceedance of limits.
ft bls = feet below land surface
µg/L = micrograms per liter
-- = Analyte not detected above the instrument detection limit
J = Compound was detected at an estimated concentration
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection
FLPRO = Florida Petroleum Range Organics

SUMMARY OF CONTAMINANTS DETECTED IN GROUNDWATER
HISTORICAL DATA
UST SITE 2406

SITE ASSESSMENT REPORT ADDENDUM
OUTLYING LANDING FIELD SAUFLEY
PENSACOLA, FLORIDA

Sample No.		OLFS06MW16GW
Sample Location		MW-16
Collect Date		11/9/2000
	GCTL [1] (ug/L)	
VOC [2] (ug/L)		
1,2-Dribromoethane	0.02	--
Benzene	1	--
Xylenes, total	20	--
1, 2-Dichloroethane	3	--
Chloroform	5.7	--
Methylene Choride	5	--
PAH [3] (ug/L)		
1-Methylnaphthalene	20	0.294
2-Methylnaphthalene	20	0.459
Naphthalene	20	1.94
Acenaphthene	20	0.118
Acenaphthylene	210	0.118
Phenanthrene	210	0.224
TRPH [4] (ug/L)	5000	2.28
Metals [5] (ug/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 = Polycylic aromatic hydrocarbons (SW-846 8310)
[4] TRPH = Total Recoverable Petroleum Hydrocarbons (FDEP-FLPRO)
[5] SW-846 6010B

Notes:
Bold indicates an exceedance of limits.
ft bls = feet below land surface
µg/L = micrograms per liter
-- = Analyte not detected above the instrument detection limit
J = Compound was detected at an estimated concentration
F.A.C. = Florida Administrative Code
FDEP = Florida Department of Environmental Protection
FLPRO = Florida Petroleum Range Organics

APPENDIX C

SITE ASSESSMENT FIELD DATA

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Saufley S. Site 2406
BORING NUMBER: NASP-2406-SB1
PROJECT NUMBER: N2642
DATE: 10/23/02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: 6610DT
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ
	5												
						Yellow/orange	Sand			0		0	
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: NASP-2406-SB1
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30												
	35												
	40												
	45			SM		White/Tan	Silty Sand			ϕ		ϕ	
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: SB-1
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	55						collected GW sample						
	60												
	65												
	70						Possible Clay layer						
	80						collect GW sample						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Saufley Site 2406
BORING NUMBER: NASP-2406-SB2
PROJECT NUMBER: N2642
DATE: 12/24/02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: 6610DT Geoprobe
DRILLER: ED Renard

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	Breathing**	Driller BZ**	
	5													
							orange Sand							9:08
	10													
							orange sand							9:15
	15													
	20													
	25													

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): _____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING NUMBER: SB-2
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole **	Driller BZ
	30												
	35												
	40												
	45						White sand			0		0	1104
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): _____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING NUMBER: SB2
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	55						collected GW sample						
	60												
	65												
	70												
	80						collected GW sample						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): [ ]

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
BORING NUMBER: NASP-2406-SB3
PROJECT NUMBER: N2642
DATE: 10/24/02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: 661 DT Geoprobe
DRILLER: ED Renard

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
	5												
							Orange sand			ϕ		ϕ	
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: SB3
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	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**
	30												
	35												
	40												
							orange sand			ϕ		ϕ	
	45												
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: SB3
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	55						collected GW sample						
	60												
	65												
	70												
	80						collected GW						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
BORING NUMBER: NASP-2406-S04
PROJECT NUMBER: N2642
DATE: 10/25/02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: 66/DOT Geoprobe
DRILLER: ED Renard

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**
	5												
							coarse sand			Ø		Ø	
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING NUMBER: SB4
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30												
	35												
	40												
	45						White sand			ϕ		ϕ	
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): _____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING NUMBER: SB4
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	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
	55						collected GW sample						
	60												
	65												
	70												
	75						collect GW						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): _____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NAS Pensacola Site 2406
BORING NUMBER: NASP-2406-SB5
PROJECT NUMBER: N7642
DATE: 10/25/02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: 6610 DT Geoprobe
DRILLER: ED Renard

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
	5												
							change sand			Ø		Ø	
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): ____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING NUMBER: SB5
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole **	Driller BZ
	30												
	35												
	40												
							white sand			ϕ		ϕ	
	45												
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): _____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING NUMBER: SB5
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sampler Br	PID/FID Reading (ppm): Borehole **	PID/FID Reading (ppm): Drilling Area
	55						collected GW sample						
	60												
	65												
	70												
	80						collected GW sample						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): _____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610DT Geoprobe
BORING NUMBER: NASP-2406-SB6
DATE: 10/26/02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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**
	5												
							Orange sand			ϕ		ϕ	
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: SB6
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole **	Driller BZ**
	30												
	35												
	40												
										Φ		Φ	
	45						collected GW sample						
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: SB6
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil: Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	55						collected GW sample						
	60												
	65												
	70												
	75						collected GW sample						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG:

BORING NUMBER: NASP-2406-SB7
DATE: 10/26/02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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**
	5												
							orange sand			0		0	
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: 3B7
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30												
	35												
	40												
	45												
							white sand			>1000		0	Strong petroleum odor
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area
Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING NUMBER: SB7
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	55						collected GW						
	60												
	65												
	70												
	80						collected GW sample						

Strong petroleum-like odor

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): [ ]

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610DT Geoprobe

BORING NUMBER: NASP-2406-SB8
DATE: 10/27/02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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**
	5												
							orange sand			0		0	
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: SB8
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole **	Drillers BZ
	30												
	35												
	40												
							white sand			Ø		Ø	
	45												
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: _____ BORING NUMBER: SB 8
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	55						collected GW sample						
	60												
	65												
	70												
	80						collected GW sample						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): _____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
BORING NUMBER: NASP-2406-SB8
PROJECT NUMBER: N2642
DATE: 10/27/02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: 6610DT Geoprobe
DRILLER: Ed Renard

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	Barometer BZ	Borehole **	Driller BZ**
	5												
							orange sand			Ø		Ø	
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

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

BORING NUMBER: SB9
DATE:
GEOLOGIST:
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	30												
	35												
	40												
							White sand						
	45												
	50												

* 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: Drove separate boring following day to 80 to collect water sample.

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe

BORING No.: NASP 2406-~~SB9~~ SB10
DATE: 10-28-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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												
									Hand Auger to 5' BLS				
						Yellowish Brown		SC		0	0	0	0
							Silty clayey sand						
	20												
	40												
									collected GW sample				
	60												
	80					Clay - tried to pull up to 65' to collect water			Collected GW sample 1.4 ppb Benzene				

* 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: Discrete soil sampler awaiting parts. No sample of soil at water table.

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Truck Rig)

BORING No.: NASP - 2406 - SB 11
DATE: 10-28-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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								Hand Augur to 5' BLS				
5'-9'		NA	48"/48"		Loose	Reddish Brown		SC					
							silty clayey Sand ~10% clay		fine sand No odor				
	20												
	40												
									Collected GW No odor				
	60												
							← Hard to push						
	80								Collected GW 10-29-02				
							Terminated at 80' BLS						

10-29-02

* 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: FID Broke Down,

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Track Rig)
BORING No.: NASP-2406-SB 12
DATE: 10-29-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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								Hand Auger to 5' BLS				
5-9'		NR	48"/48"		Loose	Reddish brown	Silty clayey sand ~10% clay	SC	No odor				
	20												
	40								Collected GW sample				
	60				Soft to Push		Probably Clay						
	80								Collected GW sample				
							Terminated @ 80' BLS						

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm):

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 660 DT Geoprobe (Track Rig)

BORING No.: NASP-2406-SB13
DATE: 10-30-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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				loose	Reddish Brown			Hand Auger to 5' BLS				
							silty clayey sand						
NA		NA	NA										
	20												
	40												
									Collected GW Sample				
	60												
	80								Collected GW Sample				
							Terminated @ 80' 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): ____

Remarks: ____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sandy Key
BORING No.: NASP -2406 SB 14
PROJECT NUMBER: N2642
DATE: 10-30-02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: 6610 DT Geoprobe (Truck Rig)
DRILLER: Ed Renard

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												
					loose	Reddish brown			Hand Auger to 5' BLS				
NA							Silty clayey sand						
		NA	NA										
	20												
	40												
							Gray Clayey Formation from GW color		Collected GW Sample				
	60												
	80						Greenish Gray Clayey Formation from GW content		Collected GW Sample				
							Terminated @ 80' 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): [ ]

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sanfley
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Track Rig)

BORING No.: NASP 2406 SB15
DATE: 10-30-02
GEOLOGIST: Gary Davis
DRILLER: Ed Reward

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												
					100%	Reddish brown	silty clayey sand	SC	Hand Auger to 5' BLS				
NA		NA	NA										
	20												
	40												
							Yellowish brown clayey formation		Collected GW sample				
	60												
	80						Yellowish brown clayey		Collected GW sample.				
							Terminated at 80' 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): ____

Remarks: ____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sampling
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Truck Rig)

BORING No.: NASP 2406 SB16
DATE: 10-30-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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												
					loose		Reddish Brown to Brown silty clayey sand	SC	Hand Auger to 5' BLS No Odor				
NA		NA	NA										
	20												
	40												
							Yellowish Brown clayey formation.		50' Collected GW sample				
	60												
							Yellowish Brown		Collected GW sample at 65' BLS				
							Hard Drilling						
	80						Gray ~~Yellowish Brown~~ Clayey formation		Tight-No water. Pulled up				
							Terminated at 80' BLS						

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm):

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sawtley
PROJECT NUMBER: N 2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe / Truck Rig
BORING No.: NASP 2406 SB 17
DATE: 10-31-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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					Reddish brown to			Hand Auger to				
NA		NA	NA		loose		Lt. Brown Silty Clayey sand	SC	5' BLS No Odor				
	20												
	40												
					—		Yellowish Brown Clayey formation		Collected GW Sample at 50' BLS				
	60												
						Hard Drilling			Collected GW Sample @ 65'				
	80								Tight - No GW				
							Terminated at 80' BLS		Pulled up.				

* When rock coring, enter rock brokeness.

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

Drilling Area _____
Background (ppm): _____

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF-Sawtelle
PROJECT NUMBER: N 2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Truck Rig)
BORING No.: NASP 2406-SB18
DATE: 10-31-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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												
					loose	Reddish to yellowish brown	silty clayey sand	SC	Hand Auger to 5' BLS				
NA		NA	NA						No Odor				
	20												
	40												
						Lt. Gray	silty sand with slight amt of clay (Boston water sample)	SM	- Collected GW sample				
	60												
	80					Lt. gray to yellowish brown	silty clayey sand	SC	Collected GW sample				
							Terminated at 80' BLS						

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm):

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sanfley
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Track Rig)

BORING No.: NASP 2406-SB19
DATE: 10-31-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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				Loose	Yellowish brown	silty clayey sand	SC	Hand Auger to 5' BLS No Odor				
NA		NA	NA										
	20												
	40					Lt. Yellowish brown	silty clayey sand (from auger sample)	SC	Collected GW sample				
	60												
	80					Yellowish brown	silty clayey sand	SC	Collected GW sample.				
							Terminated at 80' BLS						

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm):

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Surfley
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Truck Rig)
BORING No.: NASP 2406-SB20
DATE: 11-1-02
GEOLOGIST: Gary Davis
DRILLER: Ed Romard

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												
					loose	Lt Brown	silty clayey sand	SC	Hand Auger to 5' BLS No odor				
NA		NA	NA										
	20												
	40					Yellowish Brown	silty clayey sand (from water sample)	SC	GW Sample Collected				
	60												
	80					Yellowish Brown	silty clayey sand (from water sample)	SC	GW Sample Collected				

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm):

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Surfacy
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Truck Rig)
BORING No.: NASP 2406-SB-21
DATE: 11-01-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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								6" asphalt				
					loose		Reddish to yellowish brown		Hand auger to 5 ft				
		NA					silty clayey sand	SC	dry to				
							~10% clay		damp				
							~20% silt						
	5						Remainder fine sand			0	0	0	0
							Same as above						
			42"		loose		except layers of			0	0	0	0
			48"				20-30% clay	SC	damp				
										0	0	0	0
	10												
			42"		loose			SC	damp	0	0	0	0
			48"										
						Lt Brown	silty sand Trace clay	SM		0	0	0	0
						Reddish brown	silty clayey sand	SC					
	15		48"		loose		~20% clay		damp.	0	0	0	0
			48"			Yellowish orange							
							silty clayey sand		fine sand	0	0	0	0
						TO	Reddish brown	SC	1.3"				
			42"		loose		silty clayey sand ~10% clay		coarse sand to pea gravel	0	0	0	0
	20		48"			Lt.	Yellowish orange to	SM	damp				
							Lt brown silty sand trace clay			0	0	0	0
						Lt	Brown silty sand		fine sand				
			48"		loose		trace clay			0	0	0	0
			48"					SM	damp				
	25					Reddish	brown silty clayey sand	SC	~10% clay	0	0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP site 2406 OLF Sandfly
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Truck Rig)
BORING No.: NASP 2406-SB21
DATE: 11-01-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm) Sample	Sampler BZ	Borehole**	Driller BZ**	
	25													filtered
1145 Fixed Base Lab *		NA	24"/48"		loose	Lt. Buff brown to white	silty sand trace clay	SM	fine sand moist					0
					loose	Reddish brown silty	clayey sand	SC	Petrol. odor					
<0.007 ppm Benzene					loose	Lt. Buff Brown silty sand		SM	fine sand damp	132	0	0	0	0 43
	30						white silty sand							
			48"/48"		loose		trace clay	SM	damp			362		
					loose	Lt Brown silty sand		SM	Strong petrol odor	>3397				0 >33
						mottled white to light gray	silty clayey sand	SC			0		0	
	35		48"/48"					SM				2174		
										438				0 488
1320 Fixed base 39.41' Lab. *						mottled white to Lt gray	silty clayey sand	SC			0		0	
	40		36"/48"			Lt Gray	silty sand trace clay	SM	Strong Petrol odor	1200		688		0 120
Ed Notified only at 49			24"/24"											
			24"/24"				Same as above							
<.7 ppm Benzene.			24"/24"											
	45								GW Sample collected 1600					3300 ppm Benzene

* 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: NASP 2406 SB21-29'
Reset FID to no Maximum after 29-33' sample

FID Failed - Flame won't stay on.

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 Sandlay Field
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Track Rig)
BORING No.: NASP-2406-SB22
DATE: 11-02-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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												
					Loose		Brown to Reddish Brown silty clayey sand	SC	Hand Auger to 5' BLS				
NA		NA	NA										
	20												
	40												
							Yellowish brown silty clayey sand (from Bailer Sample)	SC	47-50' collected GW Sample				
	60												
	60						Yellowish Brown silty clayey sand	SC	77-80' collected GW sample.				
							Terminated at 80' 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 ____ No ✓ Well I.D. #: ____

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 Sanfley Field
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Track Rig)

BORING No.: NASP-2406-SB23
DATE: 11-02-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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				loose		Brown to light brown silty clayey sand	SC	Hand Auger 5' BLS.				
NA		NA	NA										
	20												
	40						Yellowish brown silty clayey sand (from water sample)	SC	39-50' Collected GW sample				
	60												
	80						Yellowish brown silty clayey sand (from water sample)	SC	77-80' Collected GW Sample				
							Terminated at 80' BLS						

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm):

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 Saufley Field
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Track Rig)
BORING No.: NASP-2406-SB24
DATE: 11-02-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					Loose	Reddish brown		SC	Hand Auger to				
							silty clayey sand		5' BLS.				
NA		NA	NA										
									No Odor				
	5												
							Pushed to						
							25 to collect						
	10						soil sample to						
							29' - Same interval as top of						
							soil contamination in SB21						
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 5.6

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 Sanflex Field
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 OT
BORING No.: NASP-2406-SB24
DATE: 11-02-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm) Sample	Sampler BZ	Borehole**	Driller BZ**
	25												
					loose	Lt Brown	silty Sand	SM					
		NPR	36"				trace clay		damp				
			48"			Reddish Brown	silty clayey sand	SC	~10% clay				
					loose	Brownish to White	silty sand	SM					
					loose to soft	tan to Lt Gray	mottled silty clayey sand	SM	~20-30% clay	0	0	0	0
	30					Brownish Yellow	silty clayey sand	SC		12	3		
						Reddish Brown	silty clayey sand		~20-30% clay				
											0	0	0
						Lt Gray to White	silty sand	SM		166			
	35												
					loose	Lt Gray to White	silty sand	SM					
			36"			Yellowish to Reddish	mottled silty clayey sand	SC	~10% clay				
			48"		loose				moist to wet	78	8		
	40				loose	Reddish Brown	silty ~20% clay fine sand	SC					
	45								Collected water sample				

Filled 0

0 12.

0 166

0 78.

* Mobile Lab

* Mobile Lab

Pow ▼ 5821

0.02-0.03ft Free Product

* 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): 5.6

Remarks: Pushed well screen point sample to 46' & opened. Will collect water tomorrow morning.

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sandley
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe (Truck Rig)
BORING No.: NASP-2406-SB25
DATE: 11-04-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					Loose		Brown to Yellowish Brown silty clayey sand	SC	Hand Auger to 5' BLS				
		NA											
	5				loose		Yellowish Brown	SC	damp				
			42"/48"				Silty clayey sand ~10% clay			0	0	0	0
									No odor				
					loose			SC					
	10		42"/48"										
					loose		Dark Reddish Brown silty clayey sand ~20% clay	SC	No odor	0	0	0	0
			48"/48"										
	15				loose		Same as above	SC	No Odor				
										0	0	0	0
							Yellowish orange silty clayey sand ~10-20% clay	SC	No Odor				
	20		48"/48"							0	0	0	0
					loose		Reddish Brown to Lt Gray 10-20% clay		No Odor				
			42"/48"				~~Dark~~ Reddish Brown silty clayey sand	SC		0	0	0	0
	25												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 DLF Sanford
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe

BORING No.: NASP-2406-SB25
DATE: 11-04-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	
	25													Filtered
			36"/46"			Lt	Reddish Brown	SC	fine - med					Co
		NA				to	Dark Reddish Brown silty clayey sand		sand ~10-20% clay	0	0	0	0	
					Not dense to loose	Lt	Gray silty clayey sand	SC	~30% clay damp					
	30		36"/46"		loose		Mottled Gray to Lt. Brown	SC		607				0 607
Mobile Lab *					loose	Lt	Gray to White silty sand trace clay	SM	Petrol. Odor		0	0	0	
										402				0 402
			36"/46"											
	35				loose		Same as above	SM	Strong Petrol Odor					
										>4995				0 >4995
			36"/46"		loose		Same as above	SM						
AD * Mobile Lab	40									>4995				0 >4995
		No sample					Drove Screen Point sampler to 50 BLS to collect GW sampler							
AD * Mobile Lab										~~>4995~~ AD				~~>4995~~ * AD
	45													
No AD														
									Screen-point sampler					
	50													

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF-Sandy
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe

BORING No.: NASP-2406 SB26
DATE: 11-04-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					loose	Brown to Lt Brown	Silty clayey sand	SC	Hand-Auger to 4' BLS				
NA		NA	NA										
											O	O	O
	5												
							Driving disturbe soil sampler to collect soil 28-32 and then 40-44' BLS						
	10										O	O	O
	15												
											O	O	O
	20												
											O	O	O
	25												

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sanfley
PROJECT NUMBER: ~~N66~~ N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe
BORING No.: NASP-2406-SB26
DATE: 11-04-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	
	25													Filled
														C0
		NA									0	0	0	
			36"/46"		loose	Lt.	Gray to white silty sand trace clay	SM	damp	33.8				0 33:
	30													
										110.2				0 110:
	35													
	40													
						Lt.	Gray to white silty sand trace clay	SM		50.7				0 50.7
			36"/46"		loose					0.0				0
						Yellowish Brown	silty clayey sand ~10-20% clay	SC	damp to wet	8.7				0 8.7
	45													
							Screen point sampler.		collected GW sample					
	50													

Fixed Base + Mobile Lab.

Based on SB7

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sandfly
BORING No.: NASP-2406-SB27
PROJECT NUMBER: N2642
DATE: 11-04-02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: 6610 DT Geoprobe
DRILLER: Ed Renard

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				loose		Brown to Lt. Brown silty clayey sand	SC	Hand Augs to 5' BLS				
NA		NA	NA										
										0	0	0	0
	5												
	10										0	0	0
	15										0	0	0
	7												
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sanford
PROJECT NUMBER: N264a
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe

BORING No.: NASP-2406-SB27
DATE: 11-04-02.
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	25												
		NR									0	0	0
					loose	Yellowish orange							
	30		42"/48"				to white	SC	damp				
							silty clayey sand			0	0	0	0
							White silty sand	SM		0	0	0	0
	35												
	40												
							White silty sand	SM		0	0	0	0
			42"/48"										
							Yellowish orange	SM					
	45						silty sand			0	0	0	0
							Pushing well screen						
							point to 48' for	Water sample					
	50												

Filled to 38

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Southley
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe

BORING No.: NASP-2406-SB28
DATE: 11-04-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					loose	yellowish brown	silty clayey sand	SC	Hand Auge to 5' BLS				
NA		NA	NA						damp				
	5												
	10												
	15												
	20												
	25												

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sanfley
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: 6610 DT Geoprobe
BORING No.: NASP-2406-SB28
DATE: 11-04-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

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**	
														Filtered G
		NA												
	30		36" / 48"		loose	Lt.	pinkish gray to white silty sand w/trace clay	SM	damp to moist	186.6	0	0	0	0 181
	35													
1610 Mobile & Fixed base labs.	40				loose	Lt.	Gray to white silty sand w/ trace clay	SM	very strong petrol odor moist to wet	422.3 / 722.5				0 422.3 / 0 722.5
from SB-1	45													
							Pushing to 48' BLS for GW sample.		collected GW sample					1630 GW
	50													

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP Site 2406 OLF Sandlay
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: ~~GGTO~~ Strato probe

BORING No.: NASP-2406 SB 29
DATE: 11-05-02
GEOLOGIST: Gary Davis
DRILLER: Ed/Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
						Yellowish brown			Hand Auge				
NA		NA	NA		loose		silty clayey sand	SC	to 5' BLS				
										0	0	0	0
	5												
	10								NA	0	0	0	0
	15									0	0	0	0
	20												
	25										0	0	0

Mobile lab

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP OLF Sanford Site 2406
PROJECT NUMBER: N7242
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: Stratoprobe
BORING No.: NASP-2406-SB29
DATE: 11-05-02
GEOLOGIST: Gary J. Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm) Sample	Sampler BZ	Borehole**	Driller BZ**	
	25													Filled Co
		NH									0	0	0	
Mobile Lab *			42"/48"		loose	Lt	Gray to tan silty sand trace clay	SM	very strong Petrol odor Moist	839			0	18
	30													
							Reddish brown to white silty sand ~5% clay	SC		>5000			0	>500 Flame
	35										0		0	
											0		0	
	40													
Mobile Lab *			24"/48"		loose		Gray silty sand trace Clay	SM	very strong Petrol. odor	>5000			0	>500 Flame-Ai
										>5000			0	>500
	45													
							Terminated at 48' BLS		collected GW samples					
	50													

* When rock coring, enter rock brokeness.

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

Remarks: FID flames out - the sample is so hot.

Drilling Area Background (ppm): 0

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP OLF Gunley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: Strata probe

BORING No.: NASP-2406-SB30
DATE: 11-05-02
GEOLOGIST: Gary J. Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Hand-Auger				
NA		NA	NA		loose	Yellowish orange		SC	to 5' BLS				
							silty clayey sand			0	0	0	0
	5												
											0	0	0
	10												
											0	0	0
	15												
											0	0	0
	20												
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP OLF Sanford site 2406
BORING No.: NASP-2406-SB30
PROJECT NUMBER: N2642
DATE: 11-05-02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: Strata probe
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm) Sample	Sampler BZ	Borehole**	Driller BZ**	
	25													Filtered Co
		NA												
			30/48"		loose	Mix to lt. tan				223				0 22
	30						silty sand w/ trace clay	SM	fine sand					
						Brown to lt. gray mottled			Strong petrol. odor					
							silty clayey sand	SC	med-coarse sand moist to wet	3417				0 341
	35													
	40													
			42"/46		loose to soft	Lt.	Yellowish brown silty clayey sand ~20-30% clay	SC	wet	>5000				0 7500
										>5000				0 7500
	45													
									Collected GW sample					
							Terminated at 46'							
	50													

Mobile Lab *

* Mobile Lab

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP OLF Sanffey site 2406
BORING No.: NASP-2406-SB31
PROJECT NUMBER: N 2642
DATE: 11-05-02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: Strata probe
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Hand Auger				
					loose	Yellowish orange	silty clayey sand	SC	to 5' BLS				
NA		NA	NA						No odor	0	0	0	0
	5												
	10										0	0	0
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP OLF Sanford Site 2406
BORING No.: NASP-2406-SB31
PROJECT NUMBER: N2642
DATE: 11-05-02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: Strata Probe
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	25												
											0	0	0
						Yellowish to reddish							
	30		30"		loose	brown silty sand		SM					
			48"			White to light gray			No Odor				
							silty sand		damp	0	0	0	0
							trace clay						
	35												
											0	0	0
	40												
			48"		loose	Yellowish brown		SM	SC No Odor				
							silty ~~sand~~ clayey sand		~10-20% clay				
			48"				~~trace~~	SM	SC	0	0	0	0
	45												
									Collected GW sample				
	50												

Notify lab *

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP OLF Sanffley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Columbia Technologies
DRILLING RIG: Strata Probe

BORING No.: NASP-2406-SB32
DATE: 11-06-02
GEOLOGIST: Gary Davis
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					Loose	Yellowish to Reddish Brown			Hand Auger				
NA		NA	NA				silty clayey sand	SC	to 5' BLS				
	5									0	0	0	0
	10										0	0	0
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP OLF Saufley site 2406
BORING No.: NASP-2406-SB32
PROJECT NUMBER: N2642
DATE: 11-06-02
DRILLING COMPANY: Columbia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: Strata probe
DRILLER: Ed Renard

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	25												
		NA.											
					Loose	Yellowish orange to		SM		0	0	0	0
	30		24"/48"			Lt. tan	silty sand		No Odor				
							trace clay		damp.				
								SM		0	0	0	0
	35												
											0	0	0
	40												
Not Run			NA								0	0	0
	45							SM		0	0	0	0
			36"/48"		Loose	White to tan	silty sand		damp to wet				
							trace clay		saturated	0	0	0	0
							Well Screen sampler 45-48'						
	50												

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: NASP OLF Sanfley Site 2406
BORING No.: NASP-2406-SB 33
PROJECT NUMBER: N2642
DATE: 11-06-02
DRILLING COMPANY: Colambia Technologies
GEOLOGIST: Gary Davis
DRILLING RIG: Strata probe
DRILLER: Ed Renard

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								Asphalt surface				
					loose		Reddish brown to Yellowish brown silty clayey sand	SC	Hand Auger 5' BLS w 20% clay dry	0	0	0	0
NA		NA	NA										
	20												
											0	0	0
	40												
Mobile Lab											0	0	0
									GW Sample				
	60												
Mobile Lab	80								GW Sample				

* 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:

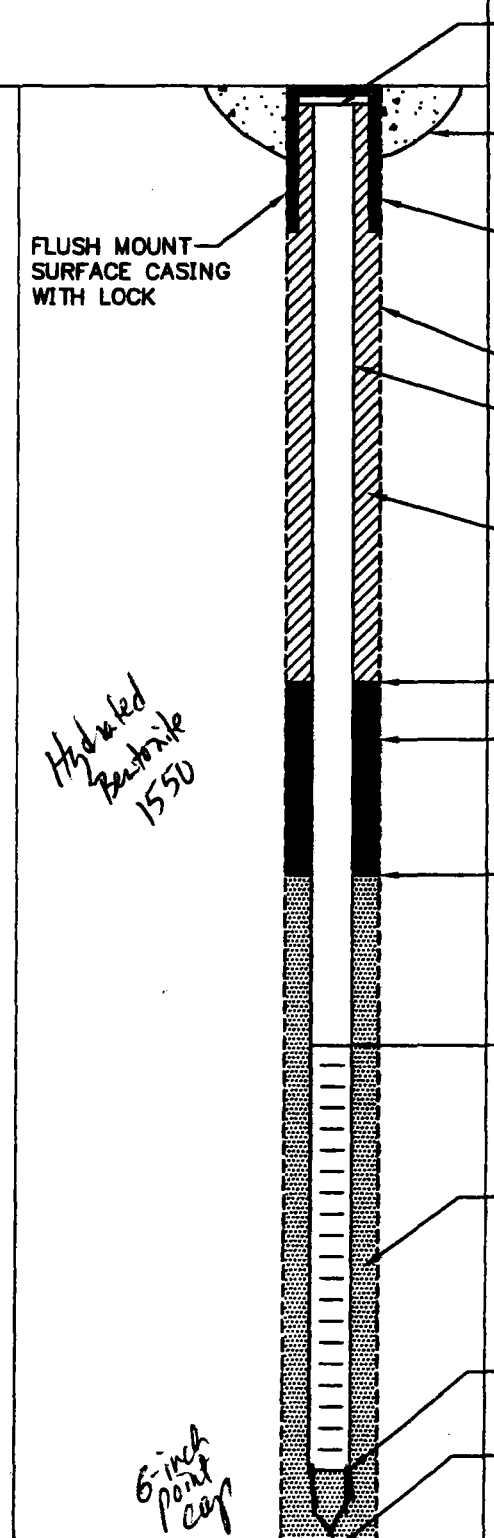
Converted to Well: Yes ____ No ✓ Well I.D. #: ____

WELL NO.: OLFS-2406-MW17

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF Sanfley Site 2406	LOCATION Former Fuel Farm Adjacent to SB-29	DRILLER Joey Mock, Probe
PROJECT NO. N2642	BORING OLFS-2406-MW17	DRILLING METHOD HSA
DATE BEGUN 12-11-02	DATE COMPLETED 12-11-02	
FIELD GEOLOGIST Gary J. Davis		DEVELOPMENT METHOD Bail & Surge
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete pad

TYPE OF PROTECTIVE CASING: 8-inch steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8¼

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 136

TYPE OF SEAL: Holeplug 3/8" chips. Baroid

ELEVATION/DEPTH TOP OF SAND: 138

ELEVATION/DEPTH TOP OF SCREEN: 139.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 15 feet

TYPE OF SAND PACK: Standard Sand and Silica Co. 20-30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 154.5

ELEVATION / DEPTH BOTTOM OF SAND: 155

ELEVATION/DEPTH BOTTOM OF HOLE: 155

BACKFILL MATERIAL BELOW SAND: Natural

ACAD: FORM_MWFM.dwg 07/20/99 INL

OLFS-
WELL NO.: 2406-MW 18

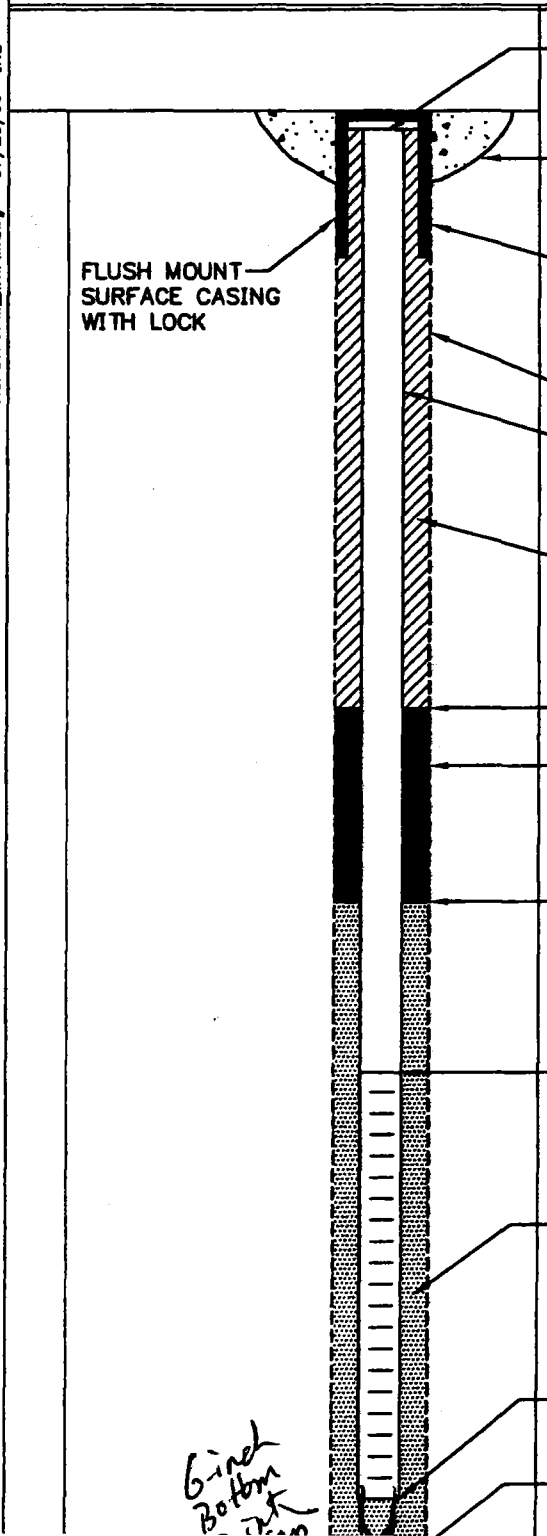
Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF-Sanfley Site 2406
PROJECT NO. N2642
DATE BEGUN 12-12-02
FIELD GEOLOGIST Gary J. Davis
GROUND ELEVATION _____

LOCATION Adj. SB-21 (FFF)
BORING MW18
DATE COMPLETED 12-12-02
DATUM _____

DRILLER Joey Mack, ProSonic
DRILLING METHOD HSA
DEVELOPMENT METHOD Bail & Surge



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8¼"

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout (Baroid Quickgel)

ELEVATION/DEPTH TOP OF SEAL: 136

TYPE OF SEAL: Baroid Hole plug 3/8" chips

ELEVATION/DEPTH TOP OF SAND: 138

ELEVATION/DEPTH TOP OF SCREEN: 139.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 15 feet

TYPE OF SAND PACK: Standard Sand and Silica Co. 20-30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 154.5

ELEVATION / DEPTH BOTTOM OF SAND: 155

ELEVATION/DEPTH BOTTOM OF HOLE: 155

BACKFILL MATERIAL BELOW SAND: Natural Sand

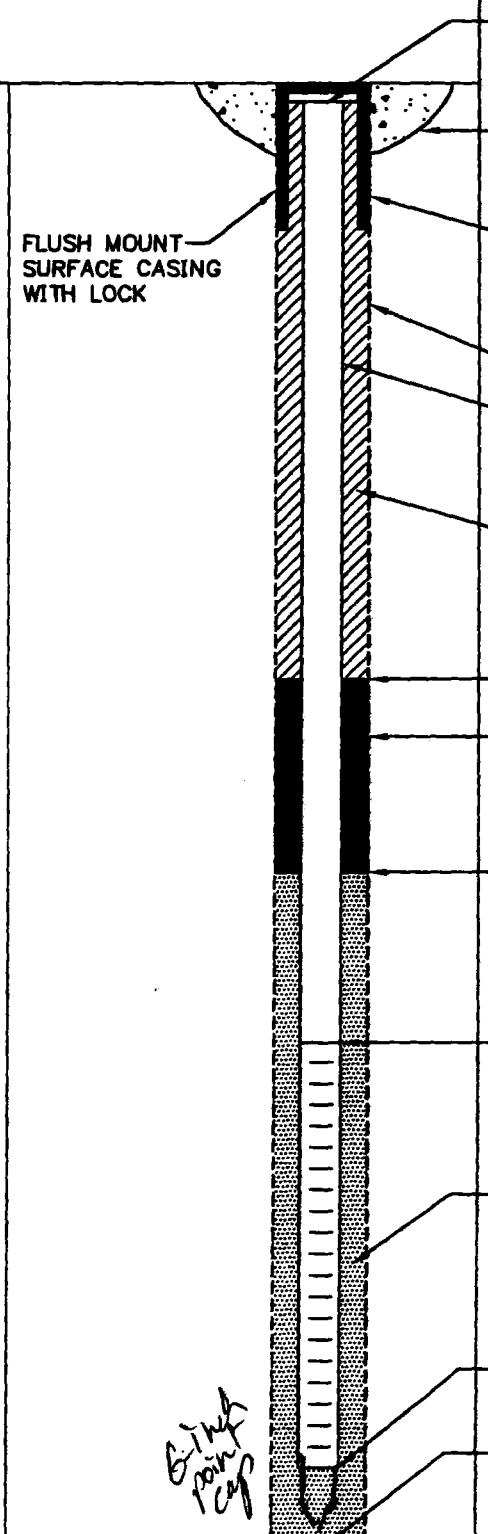
ACAD: FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406-MW

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF Sanfley Site 2406	LOCATION Adj. to SB 26	DRILLER Joey Hack, ProSonic
PROJECT NO. N2642	BORING MW-79	DRILLING METHOD HSA
DATE BEGUN 12-13-02	DATE COMPLETED 12-13-02	DEVELOPMENT METHOD Whale Pump Pump & Surge
FIELD GEOLOGIST Gary J. Davis		
GROUND ELEVATION /	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel-Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8 1/4"

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 136

TYPE OF SEAL: Baroid Hole Plug 3/8" chips

ELEVATION/DEPTH TOP OF SAND: 138

ELEVATION/DEPTH TOP OF SCREEN: 139.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 15 feet

TYPE OF SAND PACK: Standard Sand & Silica Co 20x30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 154.5

ELEVATION / DEPTH BOTTOM OF SAND: 155'

ELEVATION/DEPTH BOTTOM OF HOLE: 155'

BACKFILL MATERIAL BELOW SAND: Natural Sand

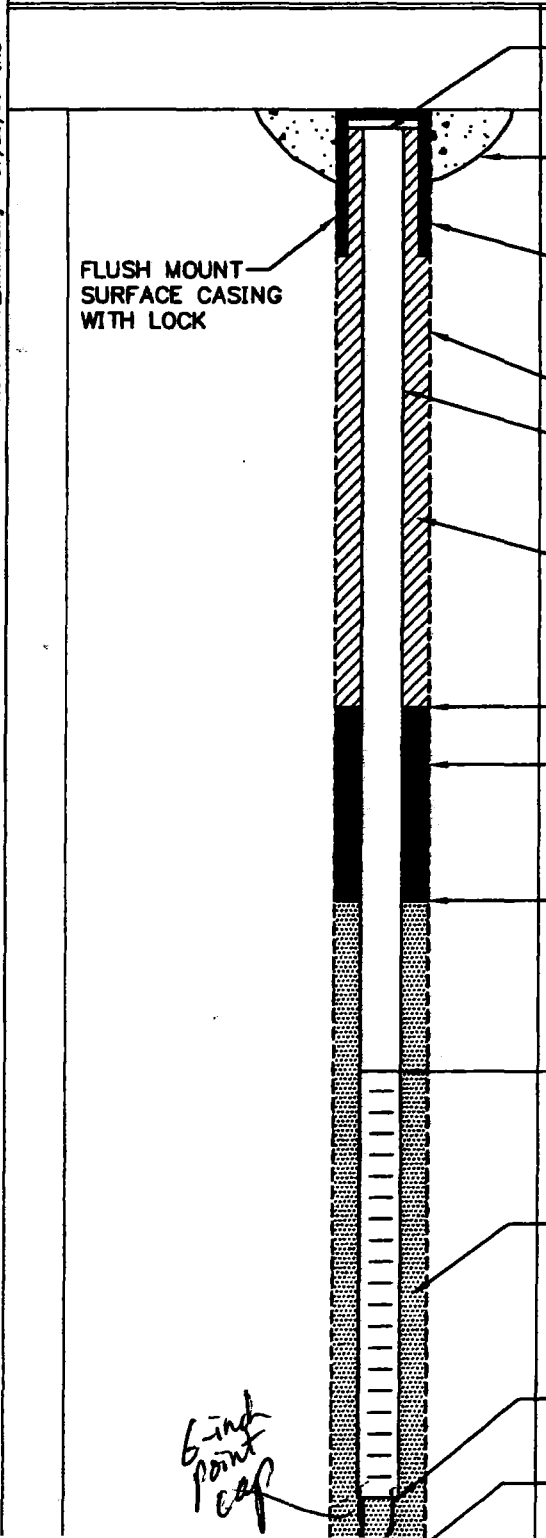
ACAD:FORM_MWFM.dwg 07/20/99 INL

OLFS-
WELL NO.: 2406-MW20

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF Sanfley Site 2406	LOCATION Adj. to SB-7	DRILLER Joey Mock, Pro Sonic
PROJECT NO. N2642	BORING MW-20	DRILLING METHOD HSA
DATE BEGUN 12-12-02	DATE COMPLETED 12-12-02	
FIELD GEOLOGIST Gary J. Davis		DEVELOPMENT METHOD Bail & Surge
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL: Concrete pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~6 1/4"

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 136

TYPE OF SEAL: Baroid Hole Plug 3/8 chips

ELEVATION/DEPTH TOP OF SAND: 138

ELEVATION/DEPTH TOP OF SCREEN: 139.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 15 feet

TYPE OF SAND PACK: Standard Sand and Silica Co 20-30 sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 154.5

ELEVATION / DEPTH BOTTOM OF SAND: 155

ELEVATION/DEPTH BOTTOM OF HOLE: 155

BACKFILL MATERIAL BELOW SAND: Natural Sand

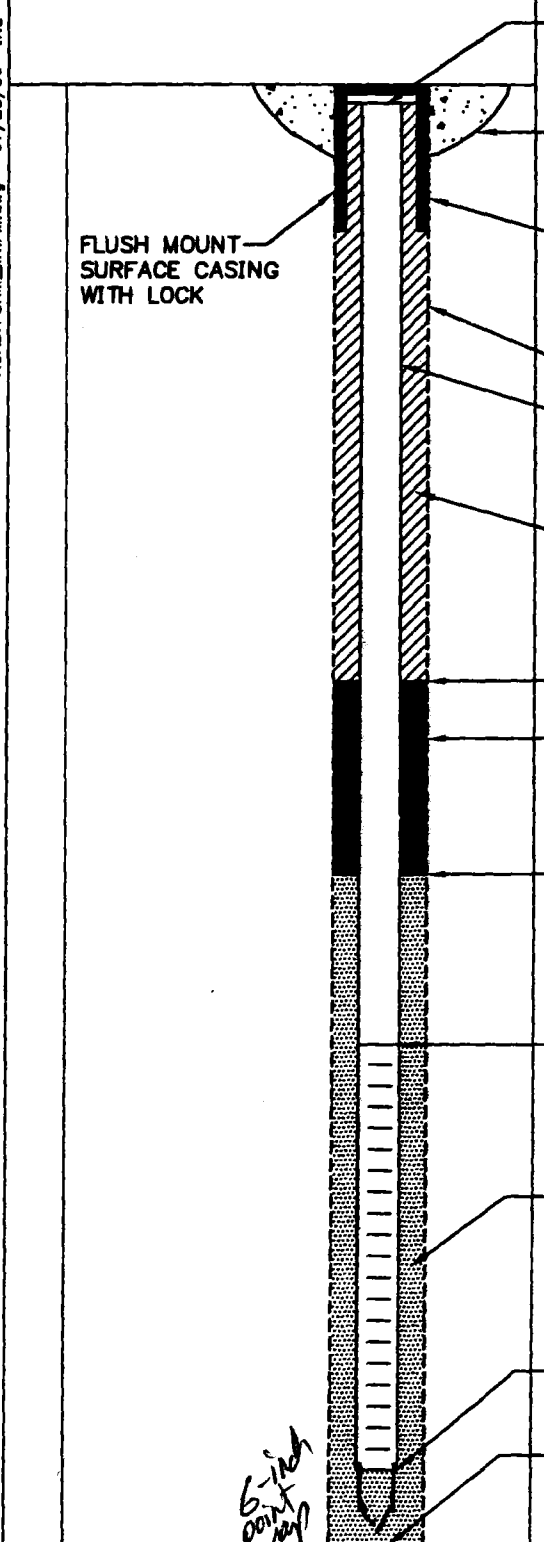
ACAD:FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406-MW21

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF-Sanflay Site 2406	LOCATION Adj. to SB-6	DRILLER Joey Mock, Pro Soni
PROJECT NO. N2642	BORING MW21	DRILLING METHOD HSA
DATE BEGUN 12-13-02	DATE COMPLETED 12-13-02	
FIELD GEOLOGIST Gary J. Davis		DEVELOPMENT METHOD Bail & Surge
GROUND ELEVATION /	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete pad

TYPE OF PROTECTIVE CASING: Steel-Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8 1/4 inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 135

TYPE OF SEAL: Baroid Hole Plug 3/8" chips

ELEVATION/DEPTH TOP OF SAND: 137

ELEVATION/DEPTH TOP OF SCREEN: 139.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 15 feet

TYPE OF SAND PACK: Standard Sand & Silica Co. 20x30 sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 154.5

ELEVATION / DEPTH BOTTOM OF SAND: 153

ELEVATION/DEPTH BOTTOM OF HOLE: 155

BACKFILL MATERIAL BELOW SAND: Natural Sand

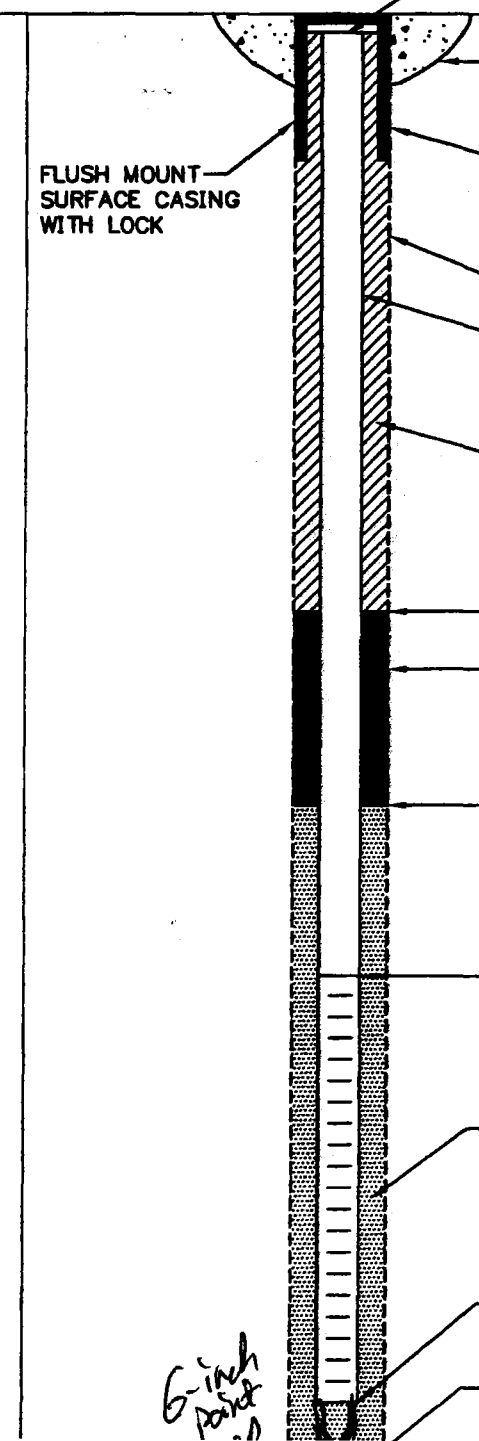
ACAD: FORM_MWFM.dwg 07/20/99 INL

OLFS-
WELL NO.: 2406 - MW22

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT: OLF Sanifill Site 2406
PROJECT NO.: N2643
DATE BEGUN: 12-14-02
FIELD GEOLOGIST: Gary J. Davis
GROUND ELEVATION:
LOCATION: Adj to SB25
BORING: MW22
DATE COMPLETED: 12-14-02
DATUM:
DRILLER: Joey Mock, Pro Sonic
DRILLING METHOD: HSA
DEVELOPMENT METHOD: Bail & Surge



ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8 1/4 inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 136

TYPE OF SEAL: Baroid Hole Plug 3/8" chips bentonite

ELEVATION/DEPTH TOP OF SAND: 138

ELEVATION/DEPTH TOP OF SCREEN: 139.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 15 feet

TYPE OF SAND PACK: Standard Sand & Silica Co. 20x30 sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 154.5

ELEVATION / DEPTH BOTTOM OF SAND: 155

ELEVATION/DEPTH BOTTOM OF HOLE: 155

BACKFILL MATERIAL BELOW SAND: Natural Sand

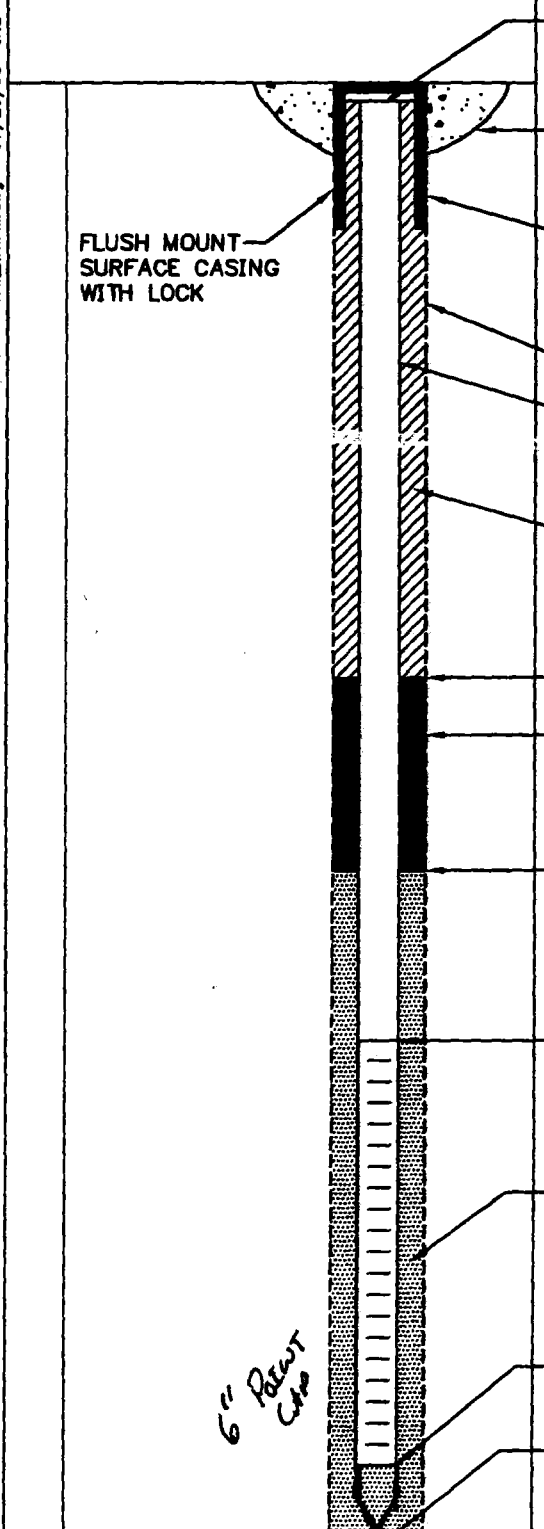
ACAD:FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406-DMW

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT Sauflley Site 2406	LOCATION Adj to SB5	DRILLER Mike MacIntosh
PROJECT NO. W2642	BORING DMW 23	DRILLING METHOD HSA
DATE BEGUN 12-18-02	DATE COMPLETED 12-19-02	
FIELD GEOLOGIST Pete Lewkowicz		DEVELOPMENT METHOD
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-Inch

DIAMETER OF HOLE: ~8 1/4-Inch

TYPE OF RISER PIPE: SCH 40 PVC

RISER PIPE I.D.: 2-Inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 170'

TYPE OF SEAL: Bentonite (Pel-Plug)

ELEVATION/DEPTH TOP OF SAND: 172'

ELEVATION/DEPTH TOP OF SCREEN: 174.5'

TYPE OF SCREEN: SCH 40 PVC

SLOT SIZE x LENGTH: 0.01 x 5 Feet

TYPE OF SAND PACK: Standard Sand & Silicate 20 x 30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5'

ELEVATION / DEPTH BOTTOM OF SAND: 180'

ELEVATION/DEPTH BOTTOM OF HOLE: 180'

BACKFILL MATERIAL BELOW SAND: Natural Sand

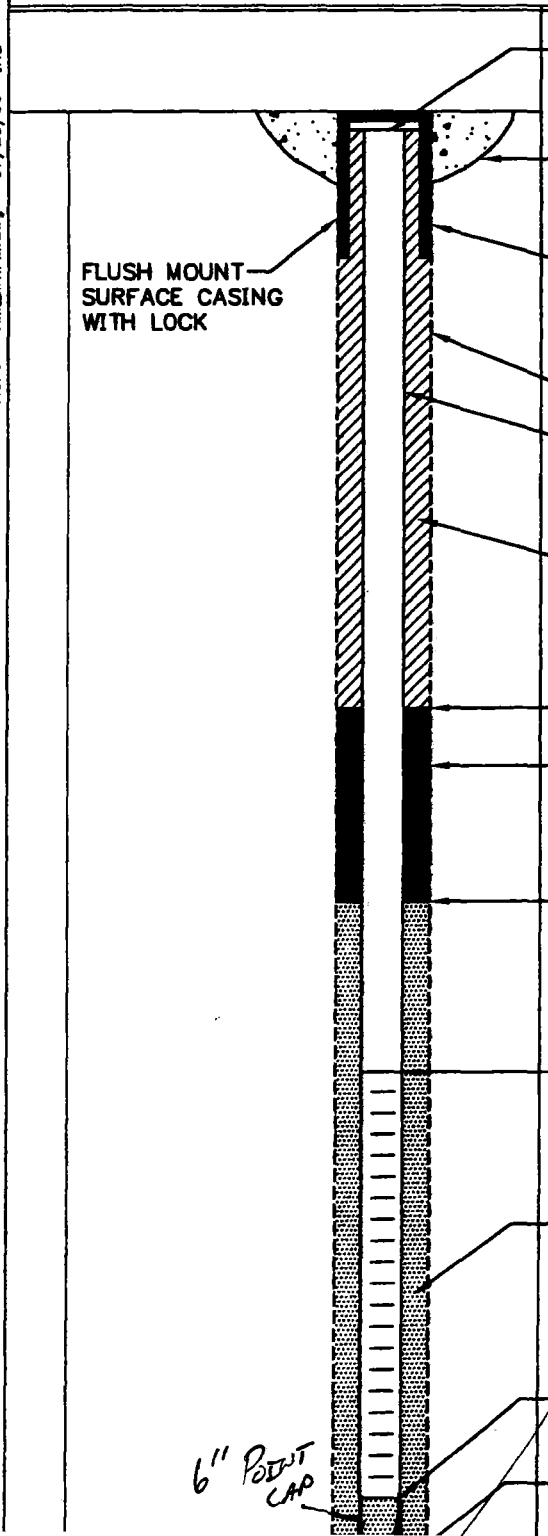
ACAD: FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OCFS-2401 MW

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT Sauereisen Site 2406	LOCATION Adj to SB22	DRILLER Mike McIntosh
PROJECT NO. W 2642	BORING DMW 24	DRILLING METHOD HSA
DATE BEGUN 12-17-02	DATE COMPLETED 12-18-02	
FIELD GEOLOGIST Pete Leverette		DEVELOPMENT METHOD
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-Inch

DIAMETER OF HOLE: ~ 8 1/4 -Inch

TYPE OF RISER PIPE: SCH 40 PVC

RISER PIPE I.D.: 2 - Inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 170'

TYPE OF SEAL: Bentonite (Pel-Plug)

ELEVATION/DEPTH TOP OF SAND: 172

ELEVATION/DEPTH TOP OF SCREEN: 174.5'

TYPE OF SCREEN: SCH 40 PVC

SLOT SIZE x LENGTH: 0.01 X 5 Feet

TYPE OF SAND PACK: Standard Sand & Silicate 20 X 30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5'

ELEVATION / DEPTH BOTTOM OF SAND: 180'

ELEVATION/DEPTH BOTTOM OF HOLE: 180'

BACKFILL MATERIAL BELOW SAND: Native Sand

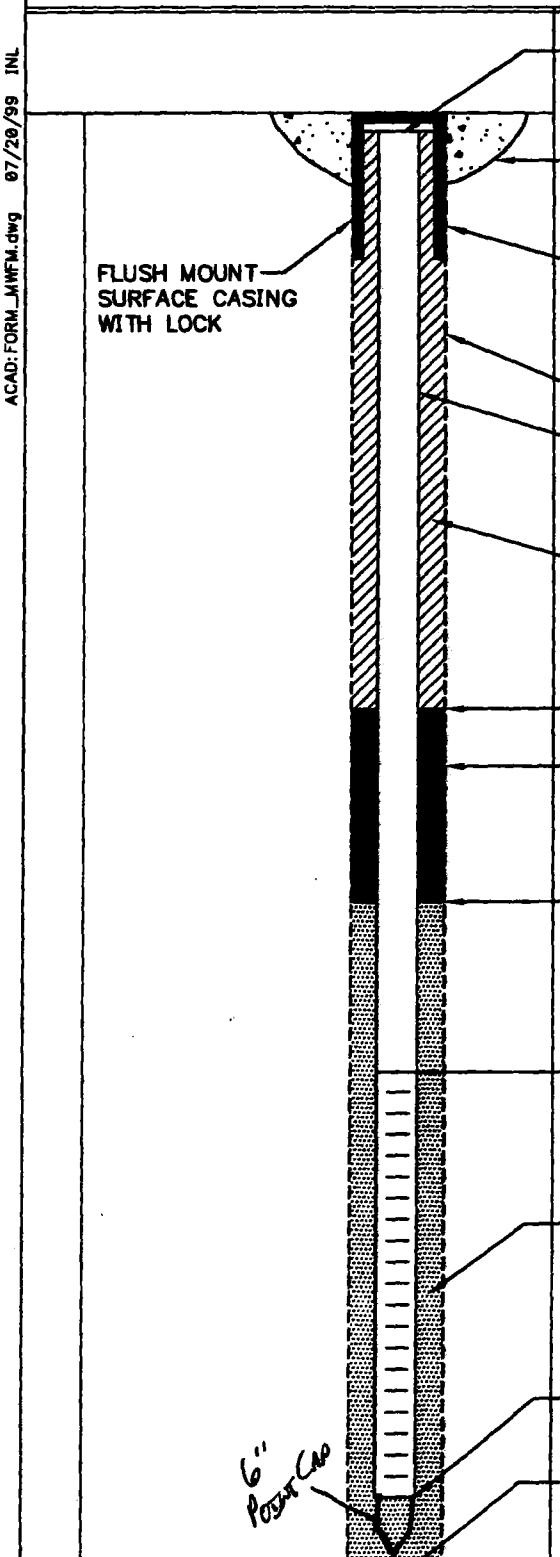
ACAD: FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406-OMW

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT Saufley Site 2406	LOCATION N of OMW 16	DRILLER Walter MacIntosh/Pro.
PROJECT NO. W2642	BORING OMW 25	DRILLING METHOD HSA
DATE BEGUN 12-17-02	DATE COMPLETED 12-17-02	
FIELD GEOLOGIST Pete Lefebvre		DEVELOPMENT METHOD
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8 1/4-inch

TYPE OF RISER PIPE: SCH 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 170'

TYPE OF SEAL: Bentonite (Pel-Plug)

ELEVATION/DEPTH TOP OF SAND: 172'

ELEVATION/DEPTH TOP OF SCREEN: 174.5'

TYPE OF SCREEN: SCH 40 PVC

SLOT SIZE x LENGTH: 0.01 X 5 feet

TYPE OF SAND PACK: Standard Sand & Silicate 20 x 30 sand

DIAMETER OF HOLE IN BEDROCK: N/A

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5'

ELEVATION / DEPTH BOTTOM OF SAND: 180'

ELEVATION/DEPTH BOTTOM OF HOLE: 180'

BACKFILL MATERIAL BELOW SAND: Natural Sand

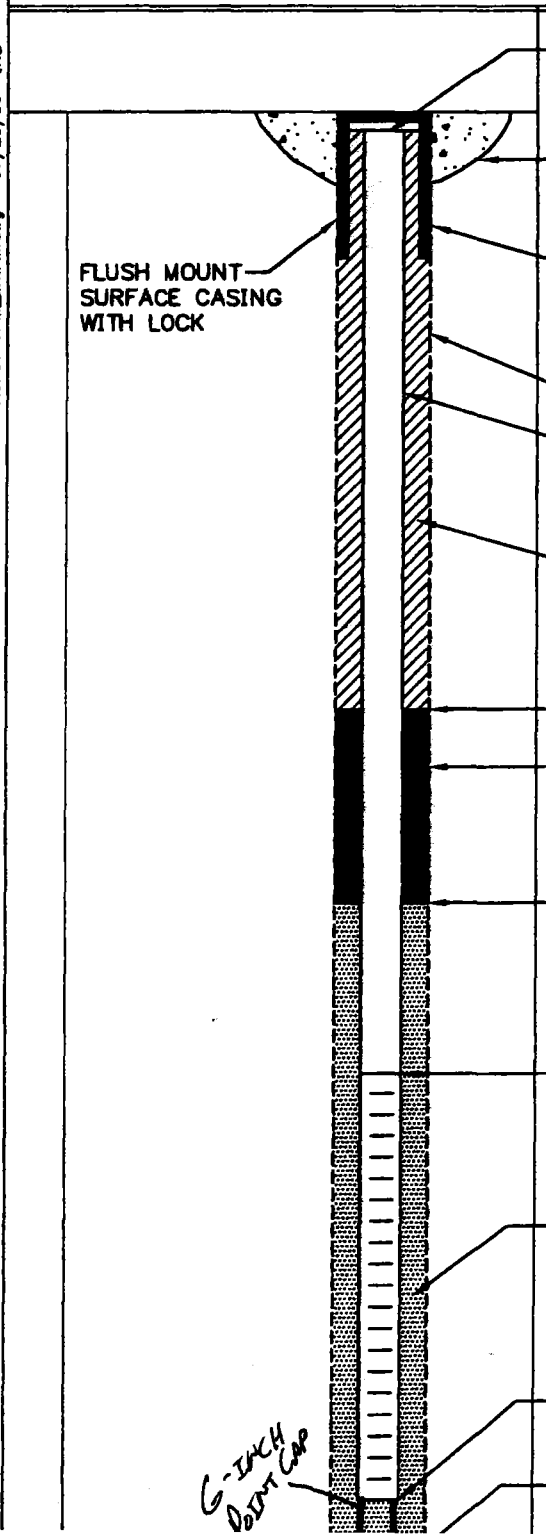
ACAD: FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406 :W2

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT Sauflley Site 2406	LOCATION Adj SB 17	DRILLER Mike MacIntosh/Pro S
PROJECT NO. W2642	BORING OMW 26	DRILLING METHOD HSA
DATE BEGUN 12-16-02	DATE COMPLETED 12-17-02	
FIELD GEOLOGIST Peter Lemoette		DEVELOPMENT METHOD
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~ 8 1/4 -inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 155'

TYPE OF SEAL: Bentonite (Pel-Plug)

ELEVATION/DEPTH TOP OF SAND: 157'

ELEVATION/DEPTH TOP OF SCREEN: 159.5'

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 X 5 Feet

TYPE OF SAND PACK: Standard Sand & Silicate 20 X 30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 164.5'

ELEVATION / DEPTH BOTTOM OF SAND: 165'

ELEVATION/DEPTH BOTTOM OF HOLE: 165'

BACKFILL MATERIAL BELOW SAND: [illegible]

ACAD: FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLRS-2406-DM

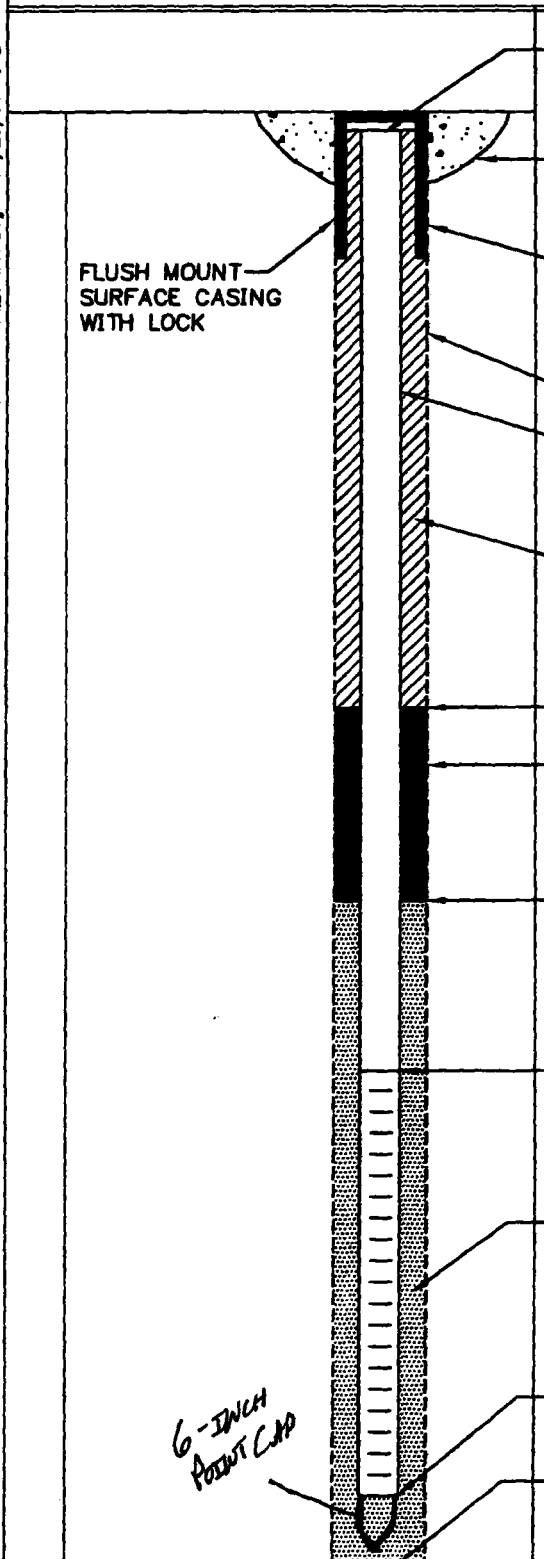
Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT Saufley Site 2406
PROJECT NO. N2642
DATE BEGUN 12-16-02
FIELD GEOLOGIST Pete Lovelette
GROUND ELEVATION _____

LOCATION Area. SB 16
BORING DMW 27
DATE COMPLETED 12-16-02
DATUM _____

DRILLER Mike Macintosh / Pro
DRILLING METHOD HSA
DEVELOPMENT METHOD _____



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~ 8 1/4 inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland / Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 155'

TYPE OF SEAL: Bentonite (Pel-Plug) Posco 1/4-inch coated pellets

ELEVATION/DEPTH TOP OF SAND: 157'

ELEVATION/DEPTH TOP OF SCREEN: 159.5'

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 X 5 feet

TYPE OF SAND PACK: Standard Sand & Silicate 20 x 30 sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 164.5'

ELEVATION / DEPTH BOTTOM OF SAND: 165'

ELEVATION/DEPTH BOTTOM OF HOLE: 165'

BACKFILL MATERIAL BELOW SAND: Natural Sand

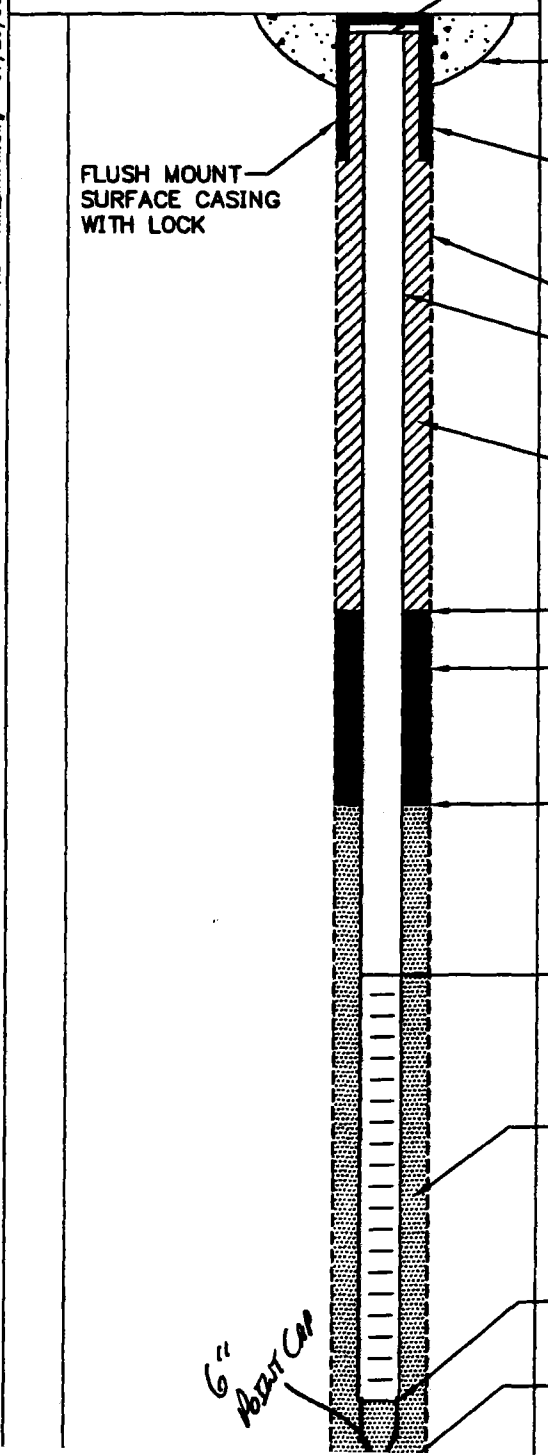
ACAD: FORM_MWFM.dwg 07/28/99 INL

WELL NO.: OLES-2406-DMW28

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT Sauflley Site 2406	LOCATION Adj to SB13	DRILLER Mike MacIntosh/Rosa
PROJECT NO. W2642	BORING DMW 28	DRILLING METHOD HSA
DATE BEGUN 12-19-02	DATE COMPLETED 12-19-02	
FIELD GEOLOGIST Pete Leverette		DEVELOPMENT METHOD
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~ 8 1/4-inch

TYPE OF RISER PIPE: SCH 40PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 170'

TYPE OF SEAL: Bentonite (Pel-Plug)

ELEVATION/DEPTH TOP OF SAND: 172'

ELEVATION/DEPTH TOP OF SCREEN: 174.5'

TYPE OF SCREEN: SCH 40PVC

SLOT SIZE x LENGTH: 0.01 X 5 feet

TYPE OF SAND PACK: Standard Sand & Silicate 20 X 30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5'

ELEVATION / DEPTH BOTTOM OF SAND: 180'

ELEVATION/DEPTH BOTTOM OF HOLE: 180'

BACKFILL MATERIAL BELOW SAND: Natural Sand

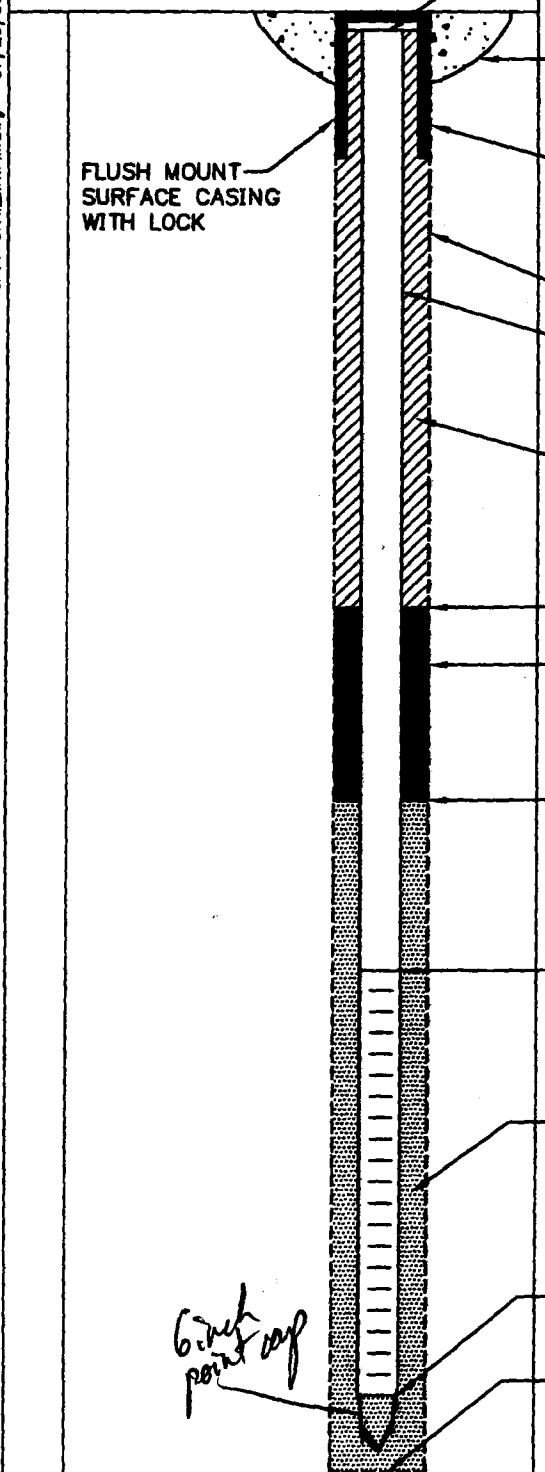
ACAD:FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-240b-DMW

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF-Sanfle Site240b	LOCATION South of SB19	DRILLER Joey Mock, ProSon
PROJECT NO. N26A2	BORING DMW29	DRILLING METHOD HSA
DATE BEGUN 12-17-02	DATE COMPLETED 12-18-02	DEVELOPMENT METHOD Waterra Pump & Surge
FIELD GEOLOGIST Gary J. Davis		
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8 inch

DIAMETER OF HOLE: ~8 1/4-inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout,

ELEVATION/DEPTH TOP OF SEAL: 170

TYPE OF SEAL: (Fine Sand) 30x65 Standard Sand & Silica Co.

ELEVATION/DEPTH TOP OF SAND: 172

ELEVATION/DEPTH TOP OF SCREEN: 174.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 5 feet

TYPE OF SAND PACK: Standard Sand & Silica Co. 20 x 30 Sand

DIAMETER OF HOLE IN BEDROCK: N.A.

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5

ELEVATION / DEPTH BOTTOM OF SAND: 180'

ELEVATION/DEPTH BOTTOM OF HOLE: 180'

BACKFILL MATERIAL BELOW SAND: Natural Sand

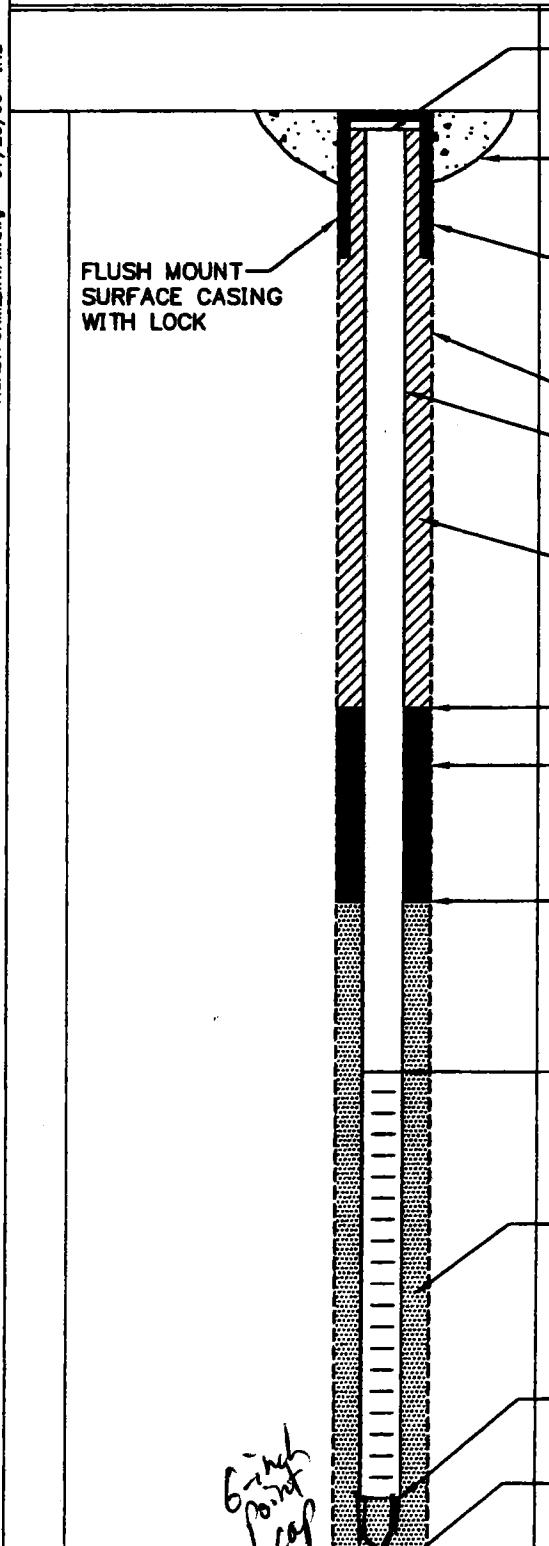
ACAD:FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406-DMW-30

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF-Sawfley Site 2406	LOCATION N. ~30' from SB 19	DRILLER Joey Mock, ProSonic
PROJECT NO. N2642	BORING DMW-30	DRILLING METHOD HSA
DATE BEGUN 12-17-02	DATE COMPLETED 12-17-02	
FIELD GEOLOGIST Gary J. Davis		DEVELOPMENT METHOD Waterra Pump & Surge
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8 1/4-inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 170

TYPE OF SEAL: Bentonite (Pel Plug) 1/4-inch pellets (coated) PBSCO

ELEVATION/DEPTH TOP OF SAND: 172

ELEVATION/DEPTH TOP OF SCREEN: 174.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 5 feet

TYPE OF SAND PACK: Standard Sand & Silica (or) 20x30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5

ELEVATION / DEPTH BOTTOM OF SAND: 180

ELEVATION/DEPTH BOTTOM OF HOLE: 180

BACKFILL MATERIAL BELOW SAND: Natural Sand

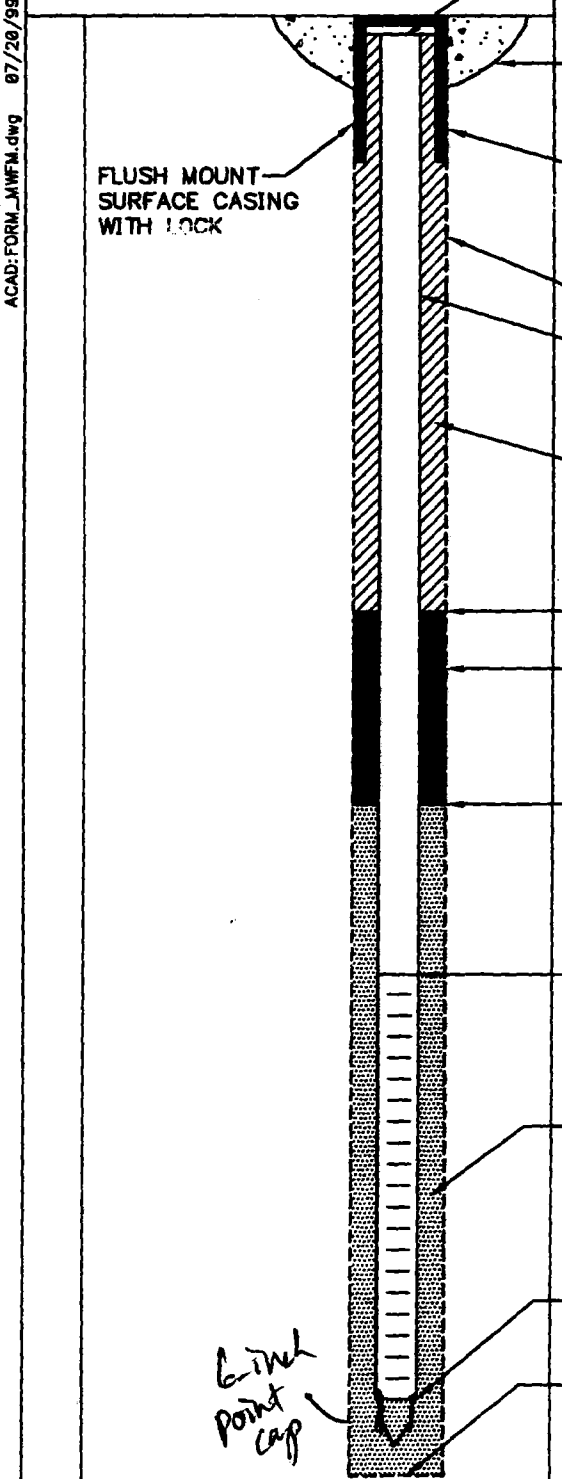
ACAD: FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406-DMW

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF-Sanfloy-2406 Site	LOCATION Near SB-20	DRILLER Joey Mock, ProSon
PROJECT NO. N2642	BORING DMW31	DRILLING METHOD HSA
DATE BEGUN 12-16-02	DATE COMPLETED 12-16-02	
FIELD GEOLOGIST Gary J. Davis		DEVELOPMENT METHOD Waterra Pump & Surge
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8 1/4-inch

TYPE OF RISER PIPE: sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 169

TYPE OF SEAL: Bentonite (Pel-Plug) PDSCO 1/4-inch coated pellets

ELEVATION/DEPTH TOP OF SAND: 171

ELEVATION/DEPTH TOP OF SCREEN: 174.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 X 5 feet

TYPE OF SAND PACK: Standard Sand & Silica Co. 20x30 sand

DIAMETER OF HOLE IN BEDROCK: N/A

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5

ELEVATION / DEPTH BOTTOM OF SAND: 180

ELEVATION/DEPTH BOTTOM OF HOLE: 180

BACKFILL MATERIAL BELOW SAND: Natural Sand

ACAD:FORM_MWFM.dwg 07/20/99 INL

Tetra Tech NUS, Inc.

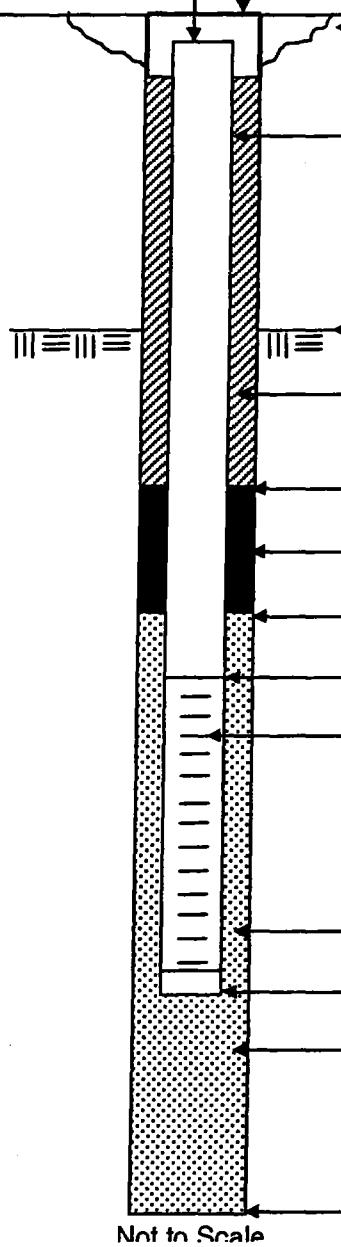
WELL No.: OLF-2406-DMW32

MONITORING WELL SHEET

PROJECT:	OLF Soufle, 2406	DRILLING Co.:	Prosonic	BORING No.:	OLF-2406-DMW32
PROJECT No.:	N2642	DRILLER:	Dang	DATE COMPLETED:	12/17/02
SITE:	2406	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	Gary Davis	DEV. METHOD:		EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: 1

Elevation / Height of Top of Surface Casing: 1

I.D. of Surface Casing: 4" Steel Manhole

Type of Surface Casing:

Type of Surface Seal: concrete

I.D. of Riser: 2"

Type of Riser: PVC

Borehole Diameter: 6"

Elevation / Depth Top of Rock: 1

Type of Backfill: Grout

Elevation / Depth of Seal: 1120'

Type of Seal: 30/65 Fine Sand

Elevation / Depth of Top of Filter Pack: 1123'

Elevation / Depth of Top of Screen: 1125'

Type of Screen: PVC

Slot Size x Length: 0.02 / 5'

I.D. of Screen: 2"

Type of Filter Pack: 20/30 sand

Elevation / Depth of Bottom of Screen: 1130'

Elevation / Depth of Bottom of Filter Pack: 1133'

Type of Backfill Below Well:

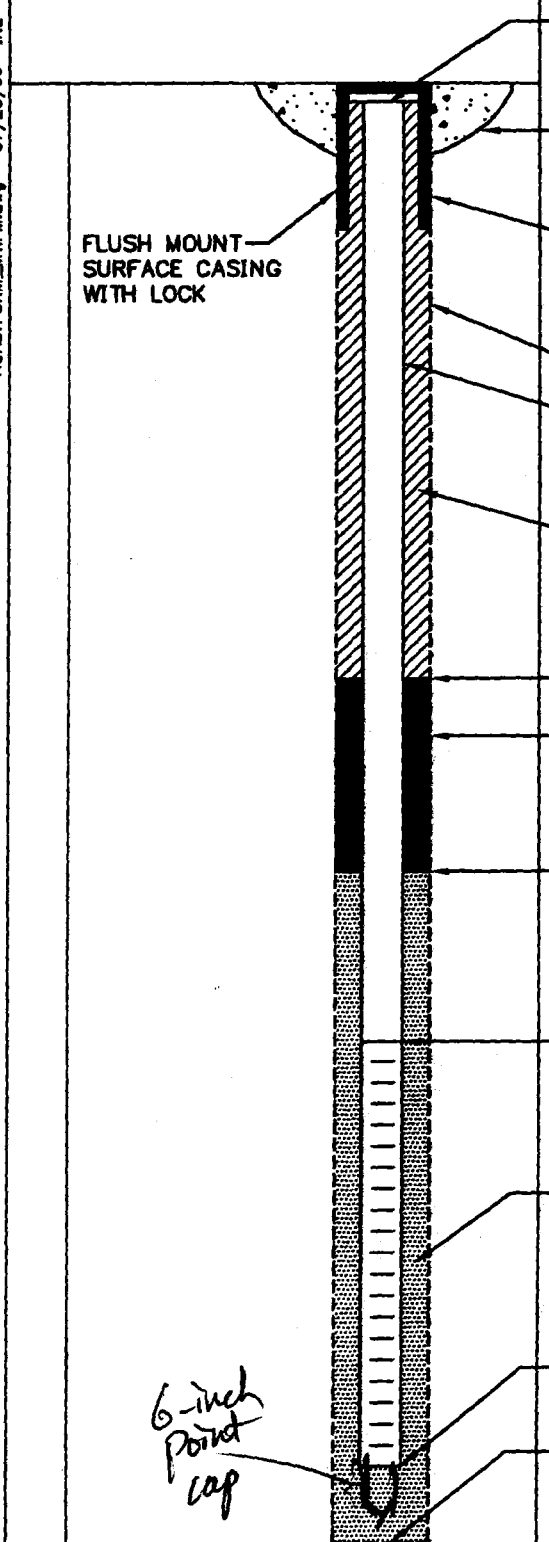
Elevation / Total Depth of Borehole: 1

WELL NO.: OLFS-2406-DMW

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF-Sanfley-Site 2406	LOCATION ~100' W. of SB 14	DRILLER Joey Mock, Pro Son
PROJECT NO. N2642	BORING DMW-33	DRILLING METHOD HSA
DATE BEGUN 12-18-02	DATE COMPLETED 12-18-02	
FIELD GEOLOGIST Mary J. Davis		DEVELOPMENT METHOD Waterra Pump & Surge
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER:

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8¼-inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 170

TYPE OF SEAL: Standard Sand & Silica Co. 30X65 Sand (Fine)

ELEVATION/DEPTH TOP OF SAND: 172

ELEVATION/DEPTH TOP OF SCREEN: 174.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 5 feet

TYPE OF SAND PACK: Standard Sand & Silica Co. 20X30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5

ELEVATION / DEPTH BOTTOM OF SAND: 180

ELEVATION/DEPTH BOTTOM OF HOLE: 180

BACKFILL MATERIAL BELOW SAND: Natural Sand

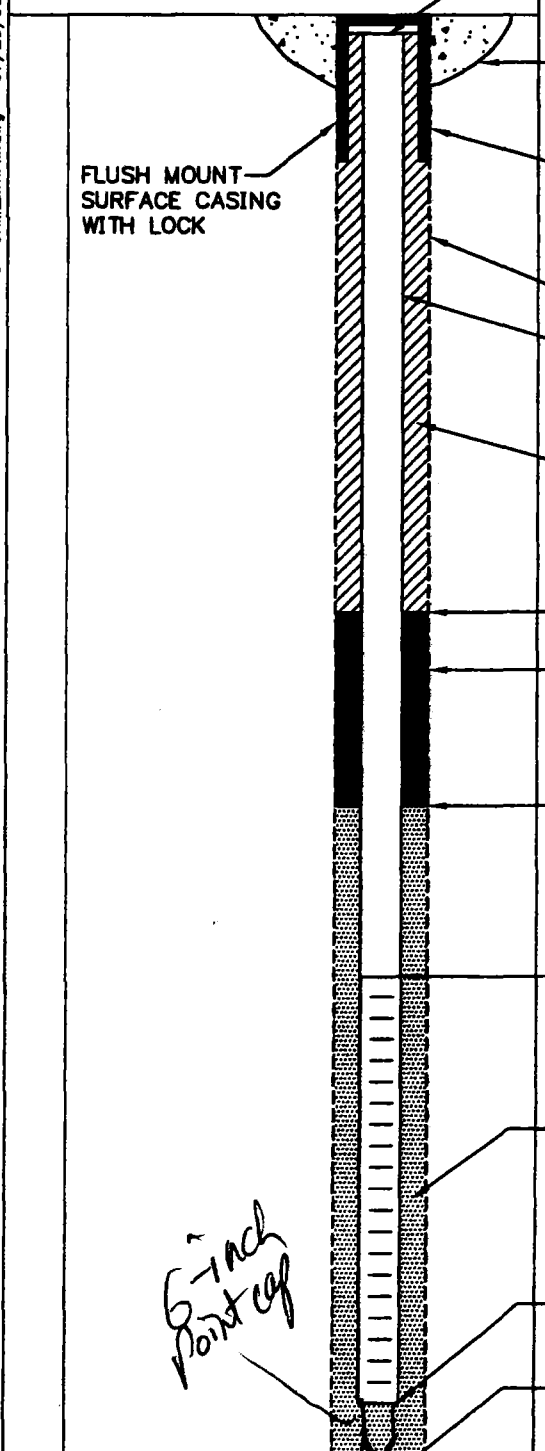
ACAD:FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406-DMW-

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF-Sandy Site 2406	LOCATION Adj. to SB-10	DRILLER Joey Mock, ProSonic	
PROJECT NO. N2642	BORING DMW-34	DRILLING METHOD HSA	
DATE BEGUN 12-19-02	DATE COMPLETED 12-19-02		
FIELD GEOLOGIST Gary J. Davis		DEVELOPMENT METHOD Water Pump & Surge	
GROUND ELEVATION	DATUM		



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8 1/4-inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 170

TYPE OF SEAL: (Fine Sand) 30X65 Standard Sand & Silica Co

ELEVATION/DEPTH TOP OF SAND: 172

ELEVATION/DEPTH TOP OF SCREEN: 174.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 5 feet

TYPE OF SAND PACK: Standard Sand & Silica Co, 20X 30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5

ELEVATION / DEPTH BOTTOM OF SAND: 180

ELEVATION/DEPTH BOTTOM OF HOLE: 180

BACKFILL MATERIAL BELOW SAND: Natural

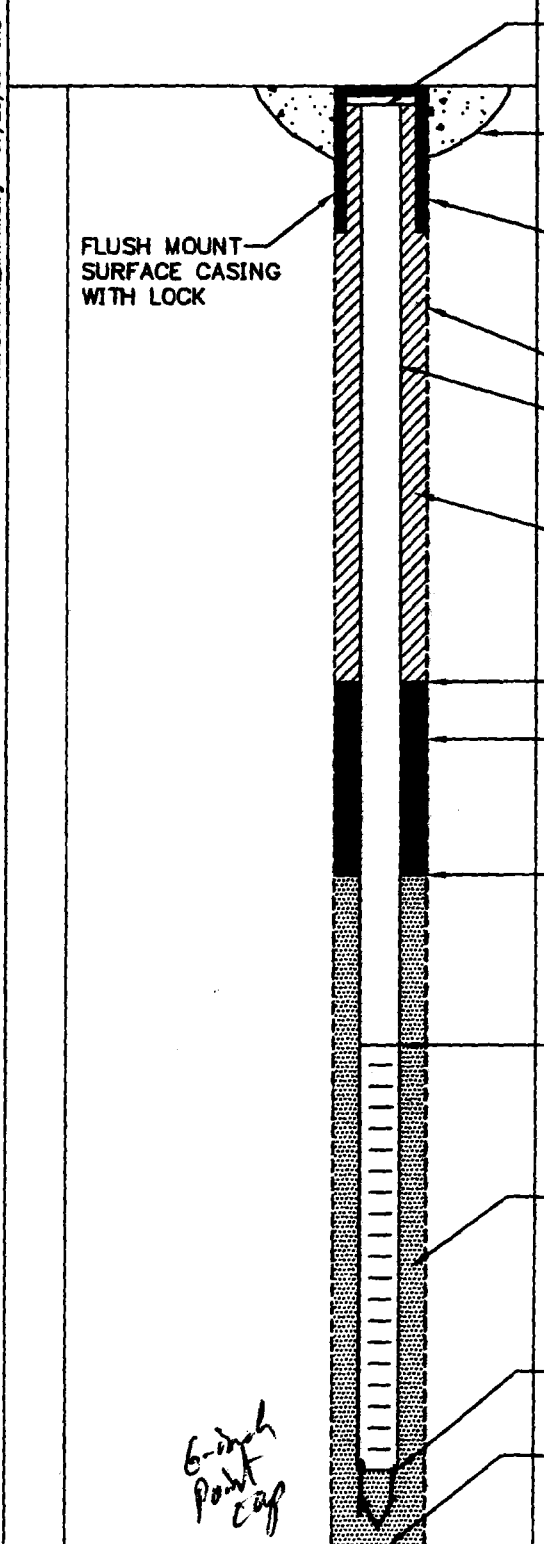
ACAD:FORM_MWFM.dwg 07/20/99 INL

WELL NO.: OLFS-2406-DMW

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF Sanflay Site 2406	LOCATION Adj. to SB8	DRILLER Joey Mock Pro Son
PROJECT NO. N2642	BORING DMW 35	DRILLING METHOD HSA
DATE BEGUN 12-15-02	DATE COMPLETED 12-15-02	
FIELD GEOLOGIST Gary J. Davis		DEVELOPMENT METHOD Waterra Pump & Surge
GROUND ELEVATION	DATUM	



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8¼-inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite Grout

ELEVATION/DEPTH TOP OF SEAL: 170

TYPE OF SEAL: Bentonite (Pel-Plug) PDSCO ~~3/8"~~ 1/4" coated pellets

ELEVATION/DEPTH TOP OF SAND: 172

ELEVATION/DEPTH TOP OF SCREEN: 174.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 5 feet

TYPE OF SAND PACK: Standard Sand & Silica Co. 20x30 Sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5

ELEVATION / DEPTH BOTTOM OF SAND: 180'

ELEVATION/DEPTH BOTTOM OF HOLE: 180'

BACKFILL MATERIAL BELOW SAND: Natural Sand

ACAD:FORM_MWFM.dwg 07/20/99 INL

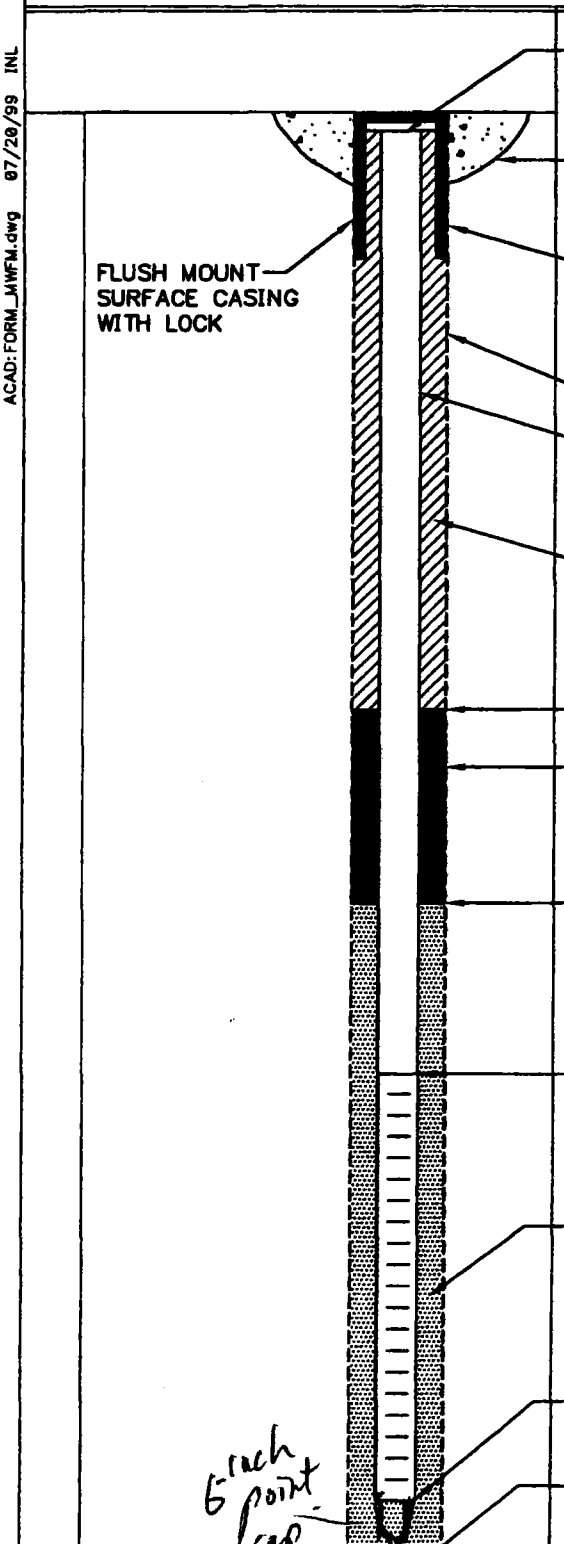
OLFS-
WELL NO.: 240G- MW3

Tetra Tech NUS, Inc.

OVERBURDEN MONITORING WELL SHEET FLUSH - MOUNT

PROJECT OLF Sauflay Site 240 LOCATION Adj. SB-33
PROJECT NO. N2602 BORING MW36
DATE BEGUN 12-15-02 DATE COMPLETED 12-15-02
FIELD GEOLOGIST Gary J. Davis
GROUND ELEVATION _____ DATUM _____

DRILLER Joey Mock, ProSonic
DRILLING METHOD HSA
DEVELOPMENT METHOD _____



ELEVATION TOP OF RISER: _____

TYPE OF SURFACE SEAL: Concrete Pad

TYPE OF PROTECTIVE CASING: Steel Manhole

I.D. OF PROTECTIVE CASING: 8-inch

DIAMETER OF HOLE: ~8 1/4 inch

TYPE OF RISER PIPE: Sch 40 PVC

RISER PIPE I.D.: 2-inch

TYPE OF BACKFILL/SEAL: Portland/Bentonite grout

ELEVATION/DEPTH TOP OF SEAL: 170

TYPE OF SEAL: Bentonite (Pel-Plug) PDSCD 1/4-inch coated pellets

ELEVATION/DEPTH TOP OF SAND: 172

ELEVATION/DEPTH TOP OF SCREEN: 174.5

TYPE OF SCREEN: Sch 40 PVC

SLOT SIZE x LENGTH: 0.01 x 5 feet

TYPE OF SAND PACK: Standard Sand & Silica Co. 20x30 sand

DIAMETER OF HOLE IN BEDROCK: NA

ELEVATION / DEPTH BOTTOM OF SCREEN: 179.5

ELEVATION / DEPTH BOTTOM OF SAND: 180

ELEVATION/DEPTH BOTTOM OF HOLE: 180

BACKFILL MATERIAL BELOW SAND: Natural Sand

ACAD: FORM_MWFM.dwg 07/20/99 INL

Tetra Tech NUS, Inc.

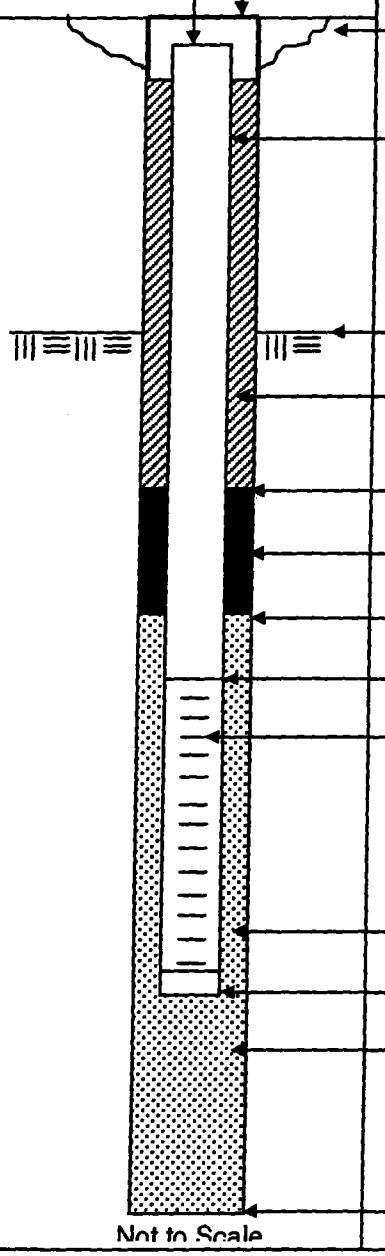
WELL No.: OLFS-2406 DMW-37

MONITORING WELL SHEET

PROJECT:	OLF Surf leg 2406	DRILLING Co.:	Prosonic	BORING No.:	OLF-2406-DMW37
PROJECT No.:	N2642	DRILLER:	Danny	DATE COMPLETED:	12/18/02
SITE:	2406	DRILLING METHOD:	RotoSonic	NORTHING:	
GEOLOGIST:	Gary Davis	DEV. METHOD:		EASTING:	

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser:	1
Elevation / Height of Top of Surface Casing:	1
I.D. of Surface Casing:	8" Steel Manhole
Type of Surface Casing:	Concrete
Type of Surface Seal:	Concrete
I.D. of Riser:	2"
Type of Riser:	Sch 40
Borehole Diameter:	6"
Elevation / Depth Top of Rock:	1
Type of Backfill:	Grout
Elevation / Depth of Seal:	1120'
Type of Seal:	30/65 Fine Sand
Elevation / Depth of Top of Filter Pack:	1123'
Elevation / Depth of Top of Screen:	1125'
Type of Screen:	PVC
Slot Size x Length:	0.02 / 5'
I.D. of Screen:	2"
Type of Filter Pack:	20/30 Sand
Elevation / Depth of Bottom of Screen:	~~103'~~ 1130'
Elevation / Depth of Bottom of Filter Pack:	1133'
Type of Backfill Below Well:	20/30 Sand
Elevation / Total Depth of Borehole:	~~133'~~ 1133'

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-MW-17
DATE: 12-11-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

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: Dirt surface Post-Hole/ Hand Augered to 5' BLS Logged from Cuttings and Adjacent SB-29	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
						Reddish brown							
NA		NA	NA		loose		silty clayey sand	SC					
	5										0	0	0
						Yellowish brown silty							
							clayey sand	SC					
	10										0	0	0
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No ____ Well I.D. #: OLFS-2406-MW-17

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF - Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: ProSonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS - 2406 - MW-17
DATE: 12-11-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

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
NA		NA	NA		Loose	Lt Grey to tan			Very Strong				
	30						silty Sand	SM	Petrol odor		~1800		
	35												
											(0.5)		
	40									>2000	from cuttings		
					Loose	Grey silty Sand trace Clay		SM					
	45												
											0-5		
							Terminated at 55' to set well.					1017	
	50												

* 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: Using 15' Screen.

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS - 2406 - MW-17

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Saufley Field-Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-MW18
DATE: 12-12-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

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**
									Asphalt surface				
					loose		Reddish to yellowish		Hand-Post holed				
NA		NA	NA				Brown	SC	to 5' BLS				
							silty clayey sand		Logged from				
									cuttings				
	5						See SB-21 boring		& SB21		0	0	0
							log for details						
								SC					
	10										0	0	0
								SM					
								SC					
	15										0	0	0
								SC					
	20							SM			0	0	0
								SM					
	25							SC			0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Adjacent to SB-21

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW18

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Saufley - Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406 MW 18
DATE: 12-12-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

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**
								SM					
													0
NA		NA	NA				See SB-21 Boring Log for details.	SC					
								SM					
	30												
								SM					0
								SC	strong petrol odor	>1000 from soil cutting on PID			
	35							SM					
								SC					0
						Lt	gray to Lt Buff silty sand	SM					
	40												
													0
	45												
													0
							Same as above						
	50						Terminated @ 55 to set well						

* When rock coring, enter rock brokeness.

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

Remarks: Adjacent to SB21

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW18

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Service
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406 MW 19
DATE: 12-13-02
GEOLOGIST: Gary J. Davis
DRILLER: Jacy Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Grass Surface				
					loose	Reddish brown	silty clayey sand		Post-hole to 5'				
NA		NA	NA					SC					
									Logged from cuttings				
	5										0	0	0
	10										0	0	0
	15										0	0	0
							Same as above	SC					
	20										0	0	0
	25										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: Adjacent to SB 26

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW-19

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: ProSonic
DRILLING RIG: Mobile B61

BORING No.: OLFS-2406-MW19
DATE: 12-13-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
					Loose	Reddish brown		SC				0	
	30						silty clayey sand				0		0
					loose	Lt. Brown to buff		SM					
	35						silty sand				0	0	0
	40										0	0	0
							Same as above						
	45										0	0	0
							Terminated at 55'						
	50						to set well						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW19

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Saufley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-MW20
DATE: 12-12-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

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: Grass Surface	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
						Reddish brown			Post hole				
NA		NA	NA				silty clayey sand	SC	to 5' BLS				
	5										0	0	0
						Yellowish orange							
	10						silty clayey sand	SC			0	0	0
	15										0	0	0
	20										0	0	0
	25										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: Adjacent to SB-7 which developed 1.6 ft of FP

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW20

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B61

BORING No.: OLFS-2406-MW20
DATE: 12-12-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

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
NA		NA	NA										
	30				loose		Same as above	SL			0	0	0
									Strong Petrol odor	2	300 ppm from cutting		
	35									>2000 ppm from cutting			
	40				loose	Lt	Buff to white silty sand	SM					
	45												
										>2000 ppm from cuttings			
	50						Terminated at 55' to set well						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW20

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanffey Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-MW21
DATE: 12-13-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Grass Surface				
									Post hole to				
					loose	Reddish brown			5' BLS				
NA		NA	NA				silty clayey sand	SC					
									logged from				
	5								cuttings		0	0	0
	10										0	0	0
					loose	yellowish orange		SC					
							silty clayey sand						
	15										0	0	0
	20										0	0	0
							Same as above	SC					
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Adjacent to SB-6

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW21

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF - Saufley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-MW21
DATE: 12-13-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
							Same as above	SC					
	30										0	0	0
	35										0	0	0
						Lt Brown to Buff	Silty Sand	SM					
	40										0	0	0
	45										0	0	0
	50						Terminated at 55' BLS to set well.			25 ppm off cutting on PID			

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks: Adjacent to SB-6

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW21

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanford Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-MW22
DATE: 12-14-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Grass Surface				
NA	NA	NA	NA		Loose	Yellowish Brown	Silty clayey sand	SC	Post-hole to 5' BLS				
	5								logged from cuttings and adj. SB-25		0	0	0
	10				Loose	Reddish Brown	Silty clayey sand	SC			0	0	0
							For Greater Detail See Boring Log SB-25						
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Adj. to SB25

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW22

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61
BORING No.: OLFS-2406-MW22
DATE: 12-14-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA								0	0	0
					med dense to loose			SC					
	30												
					loose	lt.	Gray to white silty sand	SM	Petrol. Odor				
	35								Strong Petrol odor		>2000	from cuttings	
							Same as above						
	40											1 to 20	
													0-25
	45												
										>2000	from cuttings		
	50						Terminated boring at 55' to set well						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW22

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: SAWFLEY SITE 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: PROSONIC
DRILLING RIG: MOBILE - B-61

BORING No.: OLFS-2406-DMW 23
DATE: 12-18-02
GEOLOGIST: PETE LEVERETTE
DRILLER: MIKE MACINTOSH

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**
									POST HOLE TO 5' bls				
					LOOSE	BROWN	SILTY CLAY SAND						
NA		NA	NA										
								SC					
	5										0	0	0
					REDDISH	BROWN	SILTY CLAYEY SAND	SC					
	10										0	0	0
	15										0	0	0
	20										0	0	0
	25										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: ADJ TO SB5

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

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: SAUPLEY SITE 2406
PROJECT NUMBER: N 2642
DRILLING COMPANY: PROSONIC
DRILLING RIG: MOBILE-B-61

BORING No.: OLFS-2406-DMW23
DATE: 12-18-02
GEOLOGIST: PETE LEVERETTE
DRILLER: MIKE MACINTOSH

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					LOOSE	REDDISH	SILTY CLAYEY						
NA		NA	NA				SAND	SC					
							10-20% CLAY						
	30										0	0	0
	35										0	0	0
	40										0	0	0
	45										0	0	0
					LOOSE	LT BROWN							
							SILTY SAND	SM					
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW23

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: SAWFLEY SITE 2406
PROJECT NUMBER: W 2642
DRILLING COMPANY: PROSONIC
DRILLING RIG: MOBIE-B-61

BORING No.: OLFS-2406-DMW 23
DATE: 12-19-02
GEOLOGIST: PETE LEVERETTE
DRILLER: MIKE MACINTOSH

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**
					LT BROWN SILTY								
NA		NA	NA				SAND		SATURATED				
							2-5% CLAY						
	55										0	0	0
	60										0	0	0
					YELLOWISH BROWN SILTY								
							SAND	SM					
	65										0	0	0
	70										0	0	0
					TERMINATED BORING TO								
					SET WELL AT								
	75						80'				0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 23

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Sawyer Site 2406
PROJECT NUMBER: W2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile - B-61

BORING No.: OLFS-2406-DMW 24
DATE: 12-17-02
GEOLOGIST: Pete Leverette
DRILLER: Mike MacIntosh

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**
									Post Hole				
									to 5' bls				
NA		NA	NA		Loose		Brownish Silty Clayey	SC					
							Sand						
	5										0	0	0
					Loose	Reddish Brown		SC					
							Silty Clayey						
							Sand						
	10						10-20% Clay				0	0	0
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Adj to SB22

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 24

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Sawfley Site 2406
PROJECT NUMBER: N 28642
DRILLING COMPANY: ProSonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-MMW 24
DATE: 12-17-02
GEOLOGIST: Pete Lovelette
DRILLER: Mike MacIntosh

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					Loose	Reddish	Brown						
NA		NA	NA				Silty Clayey						
							Sandy	SC					
	30						10-20% Clay				0	0	0
	35										0	0	0
					Lose	Lt. Brown	Silty						
							Sand	SM					
	40						2-5% Clay				0	0	0
	45										0	0	0
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MMW 24

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: SAULFLEY SITE 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: BOSWIC
DRILLING RIG: MOBILE-B-61

BORING No.: OLFS-2406-DMW 24
DATE: 12-18-02
GEOLOGIST: PETE LEVERETTE
DRILLER: MIKE MACINTOSH

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					Yellowish								
							Brown Silty		Saturated				
NA		NA	NA				Sand	SM					
							2-5% clay						
	55										0	0	0
	60										0	0	0
					Yellowish		Brown Silty						
							Sand	SM					
	65						2-5% clay				0	0	0
	70										0	0	0
					Terminated Boring to set								
	75				well at 80' bls						0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 24

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Saufley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile - B-61

BORING No.: OLFS-2406-DMW25
DATE: 12-17-02
GEOLOGIST: Pete Leverette
DRILLER: Mike MacIntosh

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**
									Post Hole to				
									5' b/s				
NA		NA	NA		Loose	Brown	Silty Clayey						
							Sand	SC					
	5										0	0	0
					Loose								
					Reddish	Brown	Silty Clay						
							Sand	SC					
							~~[illegible]%~~ Clay						
	10						10-20%				0	0	0
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: N of DMW16

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW25

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Sawyer Site 2406
PROJECT NUMBER: W 2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile - 8-61

BORING No.: OLFS-2406-DMW 25
DATE: 12-17-02
GEOLOGIST: Pete Leverette
DRILLER: Mike Macintosh

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					Loose	Reddish	Brown						
NA		NA	NA				Silty Clay	SC					
							Sand						
	30						10-20% clay				0	0	0
					Loose	Lt.	Brown						
							Silty Sand						
	35						2-5% clay	SM			0	0	0
	40										0	0	0
	45										0	0	0
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW-25

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Sawyer Site 2406
PROJECT NUMBER: W2642
DRILLING COMPANY: Pressonic
DRILLING RIG: Mobile-B-61

BORING No.: OLFS-2406-DMW 25
DATE: 12-17-02
GEOLOGIST: Pete Leverette
DRILLER: Mike McIntosh

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					Loose	Lt	Brown Silty	SM					
NA		NA	NA				Sand						
							2-5% Clay						
	55										0	0	0
					Yellowish		Brown						
							Silty Sand	SM					
							2-5% Clay		Saturated				
	60										0	0	0
	65										0	0	0
	70										0	0	0
					Terminated		Boring to						
							Set well at						
	75						80' bls				0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 25

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Shirley Site 2406
PROJECT NUMBER: W2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile-B-61

BORING No.: OLFS-2406-DMW 25
DATE: 12-17-02
GEOLOGIST: Peter Leverette
DRILLER: Mike McIntosh

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA		Terminated Drilling to								
						Set well at							
	80						80' bls				0	0	0
											0	0	0
											0	0	0
											0	0	0
											0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No ____ Well I.D. #: OLFS-2406-DMW 25

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Salfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile-B-61

BORING No.: OLFS-2406-DMW 26
DATE: 12-16-02
GEOLOGIST: P Lewarette
DRILLER: Mike Macintosh

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**
									Post Hole				
									To 5' b/s				
NA		NA	NA										
					Loose	Brown	/ Silty Clayey	SC					
	5						Sand				0	0	0
					Loose	~~Brown~~ Reddish	Brown	SC					
							Silty Clayey Sand						
	10						10-20% Clay				0	0	0
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Adjacent to SB 17

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 26

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: SAUFLEY SITE 2406
PROJECT NUMBER: W 2642
DRILLING COMPANY: PROSONIC
DRILLING RIG: MOBILE-B-61

BORING No.: OLFS-2406-DMW 26
DATE: 12-16-02
GEOLOGIST: P LEVERETTE
DRILLER: MIKE MACKENTOSH

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					LOOSE	REDDISH	BROWN						
NA		NA	NA				SILTY CLAYEY SAND	SC					
							10-20% CLAY						
	30										0	0	0
					LOOSE	LT.	BROWN						
							SILTY SAND	SM					
	35						2-5% CLAY	SM			0	0	0
	40										0	0	0
	45										0	0	0
					LT.	BROWN							
							SILTY SAND						
	50						2-5% CLAY	SM			0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 26

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Shirley Site 2406
PROJECT NUMBER: IN 2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile-B-61

BORING No.: OLFS-2406-DMW 26
DATE: 12-16-02
GEOLOGIST: Pete Lewkette
DRILLER: Mike MacIntosh

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA						SATURATED				
						YELLOWISH	ORANGE						
							SILTY CLAYEY SAND	SC					
	55						10-20% CLAY				0	0	0
	60										0	0	0
					TERMINATED ~~DRILLING~~ BORING AT 65'								
	65						TO SET WELL				0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW-26

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Smeeley Site 2406
PROJECT NUMBER: W 2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW 27
DATE: 12-16-02
GEOLOGIST: Pete Lafferty
DRILLER: Mike McIntosh

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**
									Post Hole				
									to 5' BLS				
NA		NA	NA		Loose	Brown	/ Silty Clayey	SC					
							Sand						
	5									X	0	0	0
					Reddish	Brown							
							Silty Clayey Sand	SC					
	10										0	0	0
	15										0	0	0
	20												
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Adjacent to SB-16

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 27

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: SAUFLEY SITE 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: PRO SONIC
DRILLING RIG: MOBILE - B - 61

BORING No.: OLFS-2406-DMW 27
DATE: 12-16-02
GEOLOGIST: PETE LEWKOTTE
DRILLER: MIKE MACINTOSH

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA	1	NA	NA										
	30										0	0	0
	35										0	0	0
	40										0	0	0
	45										0	0	0
					YELLOWISH BROWN			SM					
							CLAYEY FORMATION						
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 27

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Shaffer Site 2406
PROJECT NUMBER: N12642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile - B-61

BORING No.: OLFS-2406-MW 27
DATE: 12/6-02
GEOLOGIST: P Lebrette
DRILLER: Mike MacIntosh

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
	55										0	0	0
	60						Yellowish Brown	SM			0	0	0
	65						Terminated Boring at 65' BLS to set well				0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-~~MW~~ 2406-MW-27

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: SAUFLEY SITE 2406
PROJECT NUMBER: W 2642
DRILLING COMPANY: PROSONIC
DRILLING RIG: MOBILE -B-61

BORING No.: OLFS-2406-DMW 28
DATE: 12-19-02
GEOLOGIST: PETE LEVERETTE
DRILLER: MIKE MACINTOSH

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**
									POST HOLE				
					LOOSE	BROWN	~~SAMPLE~~		TO 25' WS				
NA		NA	NA				CLAYEY SILTY	SC					
							SAND						
	5										0	0	0
						LEMISH							
					LOOSE	BROWN	CLAYEY						
							SILTY SAND	SC					
	10										0	0	0
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: ADJ TO SB 13

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 28

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: SAUFLEY SITE 2406
PROJECT NUMBER: N) 2642
DRILLING COMPANY: PROSONIC
DRILLING RIG: MOBILE B-61

BORING No.: OLFS-2406-MW 28
DATE: 12-19-02
GEOLOGIST: PETE LEVERETTE
DRILLER: MIKE MACINTOSH

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
					LOOSE REDDISH BROWN								
NA		NA	NA				SILTY CLAYEY						
							SAND	SC					
	30										0	0	0
	35										0	0	0
					LT BROWN SILTY								
							SAND						
	40						2-5% CLAY	SM			0	0	0
					YELLOWISH BROWN SILTY								
							SAND	SM	SATURATED				
	45						2-5% CLAY				0	0	0
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-MW 28

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: Shipley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile-B-61

BORING No.: OLES-2406-DMW 28
DATE: 12-19-02
GEOLOGIST: Pete Levesque
DRILLER: Mike MacIntosh

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA		Yellowish		Brown Silty Sand	SM					
	55										0	0	0
	60										0	0	0
	65										0	0	0
	70										0	0	0
					Terminated Boring to								
							Set well at						
	75						80' bls				0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLES-2406-DMW 28

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW29
DATE: 12-17-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm) Sample	Sampler BZ	Borehole**	Driller BZ**
									Grass Surface				
							Brown silty clayey sand Fill	SC	Hand-Post-Hole to 4'				
NA		NA	NA		loose				Ground through Piece of Concrete				
	5				loose		Reddish Brown silty clayey sand	SC			0	0	0
	10										0	0	0
	15										0	0	0
	20				loose		lt. Brown to yellowish brown to buff silty sand ~2% clay	SM			0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: South of SB-19

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW29

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanford Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW 29
DATE: 12-17-02
GEOLOGIST: Gary T. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA				Same as above	SM					
	30										0	0	0
									Wet.				
	35								Saturated		0	0	0
	40										0	0	0
	45						Same as above	SM			0	0	0
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Drilled to 40, will complete tomorrow morning.

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 29

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: ProSonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW 29
DATE: 12-18-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
						Same as above		SM					
	55								Saturated		0	0	0
	60							SM			0	0	0
					Soft to loose	Lt. Grey	Stringers of silty sandy clay	CL SM					
	65										0	0	0
						Lt. Gray	Stringers of silty sandy clay	CL					
	70										0	0	0
					Soft to loose	From lead Auger Lt. Gray to Pinkish Gray silty clayey sand		SC to SM	~5-10% clay very fine grained sand				
	75						Terminated boring @ 80' BLS to set well				0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW29

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sanfley-Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW 30
DATE: 12-17-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Grass Surface				
									Post Hole				
					loose	Yellowish Brown		SC	to 5' BLS				
NA		NA	NA				silty clayey sand						
							5 to 10% clay		Logged from				
	5								cuttings.		0	0	0
	10				loose	Lt Buff Brown		SM			0	0	0
							silty sand						
							trace clay						
	15										0	0	0
	20				loose	Yellowish Brown		SC			0	0	0
							silty clayey sand						
							~10% clay						
	25										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: Approx. 30' North of SB 19

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 30

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanflex - Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406- DMW 30
DATE: 12-17-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
					loose	Yellowish Brown		SC					
							silty clayey sand						
	30						as above				0	0	0
							~10-20% clay						
	35										0	0	0
	40										0	0	0
	45										0	0	0
									Wet.				
							Same as above						
								SC					
	50								Saturated		0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW30

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sanfley-Site 2406
PROJECT NUMBER: N26420
DRILLING COMPANY: ProSonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW 30
DATE: 12-17-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
									Saturated				
	55				Loose	Yellowish Brown	Silty clayey sand ~20% clay	SC			0	0	0
	60										0	0	0
	65										0	0	0
	70				Loose	Lt. Brown	silty clayey sand ~20% clay	SC			0	0	0
	75						Terminated boring at 80' BLS to set well				0	0	0

* When rock coring, enter rock brokeness. Soft Lt Gray silty sandy clay (CL) stringers on bottom of Auge

** 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. #: OLFS-2406-DMW 30

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF - Sanford Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B61
BORING No.: OLFS-2406 - DMW 31
DATE: 12-16-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Grass Surface				
									Post Hole to 5' BLS				
NA		NA	NA		loose	Yellowish Brown	silty clayey sand	SC					
	5										0	0	0
	10				loose	Lt. tan to Lt. Brown to Buff colored	silty sand	SM			0	0	0
	15										0	0	0
	20										0	0	0
							Same as above	SM	Wet (Perched?) to saturated				
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Near SB-20

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 31

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sanfley site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW31
DATE: 12-16-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
							Same as above						
	30							SM			0	0	0
	35										0	0	0
	40										0	0	0
								SM					
							Hard layer on top of iron cemented sandstone fragments						
	45				loose	Lt. Gray		SC	Saturated		0	0	0
							Silty clayey sand ~20-30% clay						
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No ____ Well I.D. #: OLFS-2406-DMW31

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sanflex site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61
BORING No.: OLFS-2406-DMW31
DATE: 12-16-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
					loose		Lt Grey						
	55						Same as above	SC			0	0	0
							20-30% clay		Saturated				
	60										0	0	0
	65										0	0	0
					loose		Lt. Grey Same as above						
	70										0	0	0
					loose		Color change Yellowish orange silty clayey sand	SC	~5-10% clay				
	75						Terminated boring @80' BLS to set well				0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW31

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: OLF Saufley 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Rotosonic

BORING NUMBER: OLF-2406-DMW32
DATE: 12/19/02
GEOLOGIST: Gary Davis
DRILLER: Danny

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**
	10												
	20												
	30												
	40												
	50												

* 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. #: OLF-2406-DMW32

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sofley Site 2406
BORING NUMBER: OLFS-2406-DMW32
PROJECT NUMBER: N2642
DATE: 12/19/02
DRILLING COMPANY: ProSonic
GEOLOGIST: Gary Davis
DRILLING RIG: RotoSonic
DRILLER: Danny

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**
	60												
	70												
	80												
							Orange Clayey Sand (5%)			ϕ			
							Orange Clayey Sand (10%)			ϕ			
	90												
							Gray Silty Sand (Wine)			ϕ			
	100									ϕ			

* 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): ϕ

Remarks:

Converted to Well: Yes X No _____ Well I.D. #: OLF-2406-DMW-32

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sa-flg Site 24 01
PROJECT NUMBER: N2642
DRILLING COMPANY: Dro Sonic
DRILLING RIG: Rotosonic

BORING NUMBER: OLFS-2401 -DMW32
DATE: 12/19/02
GEOLOGIST: Gary Davis
DRILLER: Danny

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**
							White Sand (Fine)			Ø			
	110												
							White Sand (Fine)			Ø			
	120									Ø			
							White Sand (Fine			Ø			
	130									Ø			

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): Ø

Converted to Well: Yes X No ____ Well I.D. #: OLF-2401-DMW32

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Saufley-Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B61

BORING No.: OLFS-2406-DMW33
DATE: 12-18-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mack

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: Dirt surface	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Post-hole to				
NA		NA	NA		loose	Reddish Brown		SC	5' BLS				
							silty clayey sand						
	5						~5-10% clay				0	0	0
	10										0	0	0
	15										0	0	0
	20										0	0	0
					loose		Same as above	SC	Wet				
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: West of SB-14 ~100'

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW33

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sanfley-Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW 3
DATE: 12-18-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Hock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA		Loose	Reddish Brown	Silty clayey sand	SC					
							(As above)						
	30								Saturated		0	0	0
					loose	Dk Brown		SM					
							Silty sand trace clay						
	35										0	0	0
	40										0	0	0
	45										0	0	0
							Same as above	SM					
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW33

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sanfley - Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: ProSonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW33
DATE: 12-18-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mack

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA		loose		Same as above	SM					
	55									0	0	0	0
					Soft	Lt. Gray	silty sandy clay,	CL					
					to		stringers						
					loose		interlayered	SM					
							2-4" layers						
	60										0	0	0
	65										0	0	0
								CL					
	70						Same as above	SM			0	0	0
						Yellowish Brown		SC					
						silty clayey sand							
							5-10% clay.						
						Terminated boring							
	75					@ 80' BLS to set well.					0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW33

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF - Sanffley - Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: DLFS-2406-DMW34
DATE: 12-19-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Grass Surface				
									Post-hole				
					loose	Yellowish Brown		SC	to 5' BLS				
NA		NA	NA				silty clayey sand						
							~10-20% clay						
	5										0	0	0
					loose	Reddish Brown		SC					
							silty clayey sand						
	10										0	0	0
	15										0	0	0
	20					Yellowish orange to					0	0	0
					loose	Lt. Brown silty sand		SM					
							trace clay						
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Adjacent to SB-10

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: DLFS-2406-DMW34

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley site 2406
PROJECT NUMBER: N2642 0
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile-B61

BORING No.: OLFS-2406-DMW 34
DATE: 12-19-03
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
					loose	Lt Brown	silty sand trace clay	SM			0	0	0
	30								wet				
					loose	Yellowish Brown to Yellowish Orange	silty clayey sand ~5-10% clay	SC	saturated		0	0	0
	35												
	40										0	0	0
	45										0	0	0
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW 34

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Saufley-Site 2406
PROJECT NUMBER: N26420
DRILLING COMPANY: ProSonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW34
DATE: 12-19-02
GEOLOGIST: Gary F. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA		loose	Yellowish brown	silty clayey sand ~10-20% clay	SC			0	0	0
	55												
	60										0	0	0
	65										0	0	0
	70				Soft to loose	Lt. Gray to Grayish Brown	silty sandy clay and silty clayey sand ~20% clay	CL SC (clay stringers)			0	0	0
	75						Terminated boring at 80' to set well	SC			0	0	0

Yellowish Brown silty clayey sand at bottom.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW34

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61
BORING No.: OLFS-2406-DMW-35
DATE: 12-15-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
									Grass Surface				
									Posthole to 5' BLS				
NA		NA	NA		loose	Reddish Brown		SC					
							silty clayey sand		Logged from		0	0	0
	5						10-20% clay		Cuttings.				
	10										0	0	0
					loose	Yellowish orange							
							silty clayey	SC					
	15						sand				0	0	0
							5-10% clay						
	20										0	0	0
	25										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: Adjacent to SB-8

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW-35

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanford Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61
BORING No.: OLFS-2406-DMW35
DATE: 12-15-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
					loose	Yellowish Orange							
	30						Silty clayey Sand 15-10% clay	SC			0	0	0
	35										0	0	0
	40										0	0	0
	45				loose	Lt. Yellowish Brown to Lt. Brown	silty Sand trace clay to 5%	SM			0	0	0
									Saturated				
	50										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW-35

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanfley Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B61
BORING No.: OLFS-2406-DMW-35
DATE: 12-15-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA										
							Same as	SM					
	55										0	0	0
							above						
	60										0	0	0
	65										0	0	0
							Slight increase in	SC					
							(clay content						
							to ~5-10%)						
							Silty clayey sand						
	70										0	0	0
					Soft		(Some cuttings						
							of light gray	CL	silty clay)				
							Terminated boring at						
	75						80' BLS to set		well		0	0	0

* When rock coring, enter rock brokeness.

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

Remarks:

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW-35

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sanffey Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: ProSonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW36
DATE: 12-15-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

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**
									Asphalt Surface				
									Post-hole				
									to 5' BLS				
NA		NA	NA		loose	Brown	silty clayey sand	SL					
	5										0	0	0
						Reddish Brown	silty clayey sand 10-20% clay						
	10										0	0	0
	15										0	0	0
	20										0	0	0
	25										0	0	0

* When rock coring, enter rock brokeness.

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

Remarks: Adjacent to SB-33

Drilling Area Background (ppm): 0

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW36

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF - Sanfley - Site 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Pro Sonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW36
DATE: 12-15-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA		loose	Reddish brown	silty clayey sand 10-20% clay	SM			0	0	0
	30												
	35				loose	Lt. Brown	silty sand 2-5% clay	SM			0	0	0
	40										0	0	0
	45										0	0	0
						Yellowish brown	silty ~~clayey~~ sand with 2-5% clay	SM	Saturated		0	0	0
	50												

* 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. #: OLFS-2406-DMW36

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF-Sanfley-Site2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Mobile B-61

BORING No.: OLFS-2406-DMW 36
DATE: 12-15-02
GEOLOGIST: Gary J. Davis
DRILLER: Joey Mock

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
NA		NA	NA				Yellowish orange silty clayey sand ~10-20% clay	SC			0	0	0
	55												
	60										0	0	0
	65										0	0	0
								SC					
	70										0	0	0
							Driller notices thin clay layers (CL)						
	75						Terminated boring at 80' BLS to set well				0	0	0

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes ✓ No _____ Well I.D. #: OLFS-2406-DMW36

Tetra Tech NUS, Inc.

BORING LOG

PROJECT NAME: OLF Sauflex 2406
PROJECT NUMBER: N2642
DRILLING COMPANY: Prosonic
DRILLING RIG: Rotosonic

BORING NUMBER: DMW-37
DATE: 12/16/02
GEOLOGIST: Gary Davis
DRILLER: Danny

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**
	10												
	20												
	30												
	40												
	50												

* 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): Ø

Remarks:

Converted to Well: Yes X No ___ Well I.D. #: OLF-2406-DMW37

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____ BORING NUMBER: _____
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	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**
	60												
	70												
							Silty Sands			∅			
	80						Orange						
							Silty Sands			∅			
	90						Orange						
										50	ppm		
										21	ppm		
							Silty Sand						
	100						Orange						

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): [ ]

Remarks: _____

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

Tetra Tech NUS, Inc.

BORING LOG

Page ___ of ___

PROJECT NAME: _____ BORING NUMBER: _____
PROJECT NUMBER: _____ DATE: _____
DRILLING COMPANY: _____ GEOLOGIST: _____
DRILLING RIG: _____ DRILLER: _____

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistancy or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
										15 ppm			
										30 ppm			
										30 ppm			
	110												
							Clayey-Sand (20%)			Ø			
							Clayey-Sand (10% cal)			Ø			
	120												
										Ø			
							Sand (Fine)			Ø			
	130												
							Clayey-Sand (15%)			Ø			
							Silty Sand (Fine			Ø			

* When rock coring, enter rock brokeness.

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

Drilling Area Background (ppm): ____

Remarks: _____

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

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NASP OLF Sanfley Site 2406
Project No.: N2642

[] Domestic Well Data
[✓] Monitoring Well Data
[✓] Other Well Type: DPT Screen Point Sample
[] QA Sample Type:

Sample ID No.: OLFS2406SB26 ~~OLFS2406SB26~~ 48 yrs
Sample Location: NASP 2406SB26
Sampled By: Scott McGuire
C.O.C. No.:
Type of Sample:
[✓] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	TBD	TBD
Date: 11-04-02								
Time: 1230								
Method: tubing + ck Valve								

PURGE DATA:

Date:	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	TBD	TBD
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material								
Type:								
Total Well Depth (TD):								
Static Water Level (WL):								
One Casing Volume(gal/L):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
8260	HCL	3-40 ml vials	✓

OBSERVATIONS / NOTES:

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Gary J. Davis

TBD: To Be Determined

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:
Project No.:

[] Domestic Well Data
[] Monitoring Well Data
[✓] Other Well Type: DPT Screen-Point Sampler
[] QA Sample Type:

Sample ID No.: OLFS2A06SB21GW45
Sample Location: NASP 2A06SB21
Sampled By: Scott McGuire
C.O.C. No.:
Type of Sample:
[] Low Concentration
[✓] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	TBD	TBD
Date: 11-1-02								
Time: 1600								
Method: DPT tubing & check valve	Yellow Brown	NA						

PURGE DATA:

Date:	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	TBD	TBD
Method:								
Monitor Reading (ppm):								
Well Casing Diameter & Material								
Type:								
Total Well Depth (TD):								
Static Water Level (WL):								
One Casing Volume(gal/L):								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
8260	HCL	3 - 40ml vols	✓

OBSERVATIONS / NOTES:

Grab sample through well screen point sampler set to 46' to 43' BLS

(3,300 ppb benzene mobile lab)

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Gary J. Davis

TBD: To Be Determined

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-DMW23
Sample Location: DMW-23
Sampled By:
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 1/7/03	Color	pH	S.C.	Temp.	Turbidity	DO		
Time: 1550	Visual	Standard	mS/cm	°C	NTU	mg/l		
Method: low flow submersible								

PURGE DATA:

Date: 1/7/03	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	
Method: low flow submersible								
Monitor Reading (ppm):		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material	4.28gal	5.66	0.421	23.29	10	5.97	1538	
Type: 2" PVC	4.75gal	6.91	0.433	23.30	8.4	4.88	1541	
Total Well Depth (TD): 81.18	5.22gal	6.9	0.430	23.46	5.8	4.4	1544	
Static Water Level (WL): 45.2		6.91	0.420	23.39	7.7	4.15	1547	
One ~~Casing~~ Purge Volume(gal/L): 1.6gal								
Start Purge (hrs): 1316								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	
EDB - 504.1	NA	Three 40mL VOA vials	
PAH - 8310	N/A	Two 1L amber jars	
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	
total lead - 6010	HNO3	One 500mL plastic	

OBSERVATIONS / NOTES:

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

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-DMW24
Sample Location: DMW-24
Sampled By: MA & B
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Time	Tds	
Date: 1/7/03									OR
Time: 1555									
Method: Fultz	clear	5.16	0.125	23.91	>100	7.37	1549	0.08	19

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time		
Date: 1/7/03									
Method: Fultz	10 gal	5.05	0.114	23.94	>100	7.31	1540	0.07	20
Monitor Reading (ppm):	~~#5~~	See Low Flow Purge Data Sheet					—		
Well Casing Diameter & Material	11.5 gal	5.07	0.117	23.91	7100	7.30	1543	0.08	20
Type: 2" PVC	13.8 gal	5.12	0.122	23.90	7100	7.45	1546	0.08	20
Total Well Depth (TD): 81.05	14.5 gal	5.16	0.125	23.91	7100	7.37	1549	0.08	19
Static Water Level (WL): 47.85									
One ~~Casing~~ pump Volume(gal/L): 1.7 gal									
Start Purge (hrs): 1520									
End Purge (hrs): 1550									
Total Purge Time (min): ~~15 gal~~ 30 min									
Total Vol. Purged (gal/L): 15 gal									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	—
EDB - 504.1	NA	Three 40mL VOA vials	—
PAH - 8310	N/A	Two 1L amber jars	—
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	—
total lead - 6010	HNO3	One 500mL plastic	—

OBSERVATIONS / NOTES:

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

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-DMW25
Sample Location: DMW-25
Sampled By: AKGRS
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 1/7/03	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		TDS	OR.
Time: 1425									
Method: Field									

PURGE DATA:

Date: 1/7/03	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	TDS	OR.
Method: Field	2.5gal	5.81	0.150	23.64	8.3	3.53	1405	0.10	-1
Monitor Reading (ppm):	—	See Low Flow Purge Data Sheet					—	—	
Well Casing Diameter & Material	3.5gal	5.78	0.149	23.62	0.50	3.60	1408	0.10	1
Type: 2" PVC	4.5gal	5.76	0.145	23.60	Ø	3.58	1411	0.09	4
Total Well Depth (TD): 81.23	5.5gal	5.70	0.137	23.62	Ø	3.56	1413	0.09	10
Static Water Level (WL): 46.75									
One ~~Casing~~ pump Volume(gal/L): 1.7gal									
Start Purge (hrs): 1355									
End Purge (hrs): 1420									
Total Purge Time (min): 25 min									
Total Vol. Purged (gal/L): 7.5gal									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	—
EDB - 504.1	NA	Three 40mL VOA vials	—
PAH - 8310	N/A	Two 1L amber jars	—
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	—
total lead - 6010	HNO3	One 500mL plastic	—

OBSERVATIONS / NOTES:

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

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-DMW26
Sample Location: DMW-26
Sampled By:
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 1/7/03	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		
Time: 1330								
Method: low flow Submersible								

PURGE DATA:

Date: 1/7/03	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	
Method: lowflow Submersible								
Monitor Reading (ppm): 0		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material		4.8	0.062	24.19	3.8	4.07	13:25	
Type: 2" PVC		4.82	0.062	24.08	3.8	3.94	13:28	
Total Well Depth (TD): 65.85		4.8	0.062	24.10	3.8	4.00	13:31	
Static Water Level (WL): 45.0								
One ~~Casing~~ Pump Volume(gal/L): 1.6 1.35								
Start Purge (hrs): 1215								
End Purge (hrs): 1330								
Total Purge Time (min): 75								
Total Vol. Purged (gal/L): 9.8 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	
EDB - 504.1	NA	Three 40mL VOA vials	
PAH - 8310	N/A	Two 1L amber jars	
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	
total lead - 6010	HNO3	One 500mL plastic	

OBSERVATIONS / NOTES:

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

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-DMW27
Sample Location: DMW-27
Sampled By:
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		
Date: 1/7/03								
Time: 1400								
Method: low flow Submersible								

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	
Date: 1/7/03								
Method: dry purge								
Monitor Reading (ppm): 0		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material		6.14	0360	22.36		10.73		
Type: 2" PVC								
Total Well Depth (TD): 66.44								
Static Water Level (WL): 41								
One ~~Casing~~ Pump Volume(gal/L): 1.33 gal								
Start Purge (hrs):								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L): 4.07 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	
EDB - 504.1	NA	Three 40mL VOA vials	
PAH - 8310	N/A	Two 1L amber jars	
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	
total lead - 6010	HNO3	One 500mL plastic	

OBSERVATIONS / NOTES:

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

Could not maintain water column level. Slowed pump to its lowest rate and could still not maintain water level. Completed a dry purge and let the well fully recharge.

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-DMW28
Sample Location: DMW-28
Sampled By:
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 1/7/03	Color	pH	S.C.	Temp.	Turbidity	DO			
Time: 1300	Visual	Standard	mS/cm	°C	NTU	mg/l	Time	ORP	
Method: Fultz	clear	12.40	4.59	21.62	Ø	5.79	1300	-105	TD 2.

PURGE DATA:

Date: 1/7/03	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	
Method: Fultz.	1.8gal						11:16	
Monitor Reading (ppm):		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material							11:19	
Type: 2" PVC							11:22	
Total Well Depth (TD): 80.13							11:25	
Static Water Level (WL): 46.61								
One ~~Casing~~ Pump Volume(gal/L): 1.7gal								
Start Purge (hrs): 1110								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	
EDB - 504.1	NA	Three 40mL VOA vials	
PAH - 8310	N/A	Two 1L amber jars	
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	
total lead - 6010	HNO3	One 500mL plastic	

OBSERVATIONS / NOTES:

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

Well purged dry, even @ lowest pump setting 1.2 L/MIN, allowing to recover to at least 80% so we can sample.

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-DMW29
Sample Location: DMW-29
Sampled By: AKERS
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		
Date: 1/7/03								
Time: 1010								
Method: Fultz								

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	TDS	
Date: 1/7/03									051
Method: Fultz	4.0gal	6.07	.097	22.81	>100	4.93	0950	0.06	14
Monitor Reading (ppm):		See Low Flow Purge Data Sheet							
Well Casing Diameter & Material	6gal	6.03	.094	22.71	>100	4.74	0953	.06	13
Type: 2" PVC	8gal	6.04	.090	22.81	>100	4.66	0956	.06	13
Total Well Depth (TD): 80.4	10gal	6.01	.090	22.84	>100	4.55	0959	.06	14
Static Water Level (WL): 39.02	12.5gal	5.94	.088	22.87	>100	4.28	1004	.06	16
One ~~Casing~~ PUMP Volume(gal/L): 1.7gal									
Start Purge (hrs): 0940									
End Purge (hrs): 1005									
Total Purge Time (min): 25 min									
Total Vol. Purged (gal/L): 13gal									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	—
EDB - 504.1	NA	Three 40mL VOA vials	—
PAH - 8310	N/A	Two 1L amber jars	—
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	—
total lead - 6010	HNO3	One 500mL plastic	—

OBSERVATIONS / NOTES:

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

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

.02

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-DMW30
Sample Location: DMW-30
Sampled By: AKERS
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 1/7/03	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	TIME	DS	
Time: 0945									
Method: Fulltz	Clear	4.55	0.040	22.8	Ø	3.13	0934	0.03	26

PURGE DATA:

Date: 1/7/03	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time		
Method: Fulltz	3gal	4.58	.040	22.88	Ø	3.51	0925	.03	276
Monitor Reading (ppm):	See Low Flow Purge Data Sheet								
Well Casing Diameter & Material	4gal	4.58	.040	22.90	8.2	3.46	0928	.03	27
Type: 2" PVC	5gal	4.59	.040	22.7	Ø	3.49	0931	0.03	27
Total Well Depth (TD): 31.8	6gal	4.55	.040	22.8	Ø	3.13	0934	0.03	26
Static Water Level (WL): 35.45									
~~One Casing~~ Pump Volume(gal/L): 1.6gal									
Start Purge (hrs): 0920									
End Purge (hrs): 0940									
Total Purge Time (min): 20min									
Total Vol. Purged (gal/L): 6.5gal									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	✓
EDB - 504.1	NA	Three 40mL VOA vials	✓
PAH - 8310	N/A	Two 1L amber jars	✓
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	✓
total lead - 6010	HNO3	One 500mL plastic	✓

OBSERVATIONS / NOTES:

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

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-DMW31
Sample Location: DMW-31
Sampled By:
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		TDS
Date: 1/6/03								
Time: 1520								
Method: Fulte								

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	
Date: 1/6/03								
Method: Fulte	3.5 gal	7.96	1.26	23.0	>999	0.80	1435	0.80
Monitor Reading (ppm):		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material		7.35	0.69	23.50	923	Ø	1438	Ø.43
Type: 2" PVC		6.50	0.53	23.03	863	Ø	1441	Ø.33
Total Well Depth (TD): 79.35		5.69	0.353	22.94	814	Ø.14	1446	Ø.23
Static Water Level (WL): 28.45		5.46	0.285	22.97	807	Ø.18	1455	Ø.18
One Casing Volume(gal/L): 8.1 gal		5.27	0.222	23.0	718	Ø.45	1501	Ø.14
Start Purge (hrs): 1420		5.24	0.209	22.9	737	Ø.54	1504	Ø.14
End Purge (hrs): 1515		5.16	0.188	23.0	753	Ø.66	1507	Ø.12
Total Purge Time (min): 55 min		5.13	Ø.180	22.9	706	Ø.73	1510	Ø.12
Total Vol. Purged (gal/L):		5.12	Ø.171	22.9	756	Ø.81	1515	Ø.11

OR.
9
13:
45
103
119
138
41
149
153
155

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	—
EDB - 504.1	NA	Three 40mL VOA vials	—
PAH - 8310	N/A	Two 1L amber jars	—
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	—
total lead - 6010	HNO3	One 500mL plastic	—

OBSERVATIONS / NOTES:

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

1.5L/min

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-DMW32
Sample Location: DMW-32
Sampled By:
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		
Date: 1/6/03								
Time: 1530								
Method: field								

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	TDS	ORP
Date: 1/6/03									
Method: field	17.1gal	6.46	0.104	23.9	Ø	13.43	15:02	Ø.07	-52
Monitor Reading (ppm):		See Low Flow Purge Data Sheet							
Well Casing Diameter & Material		6.33	Ø.97	23.09	Ø	13.97	1510	Ø.Ø6	-38
Type: 2" PVC		6.23	Ø.90	23.12	Ø	14.54	15:18	Ø.Ø6	-26
Total Well Depth (TD): 135.70		6.11	Ø.88	23.11	Ø	14.82	15:26	Ø.Ø6	-13
Static Water Level (WL): 28.88									
One Casing Volume(gal/L): 17.1gal									
Start Purge (hrs): 1426									
End Purge (hrs):									
Total Purge Time (min):									
Total Vol. Purged (gal/L):									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	✓
EDB - 504.1	NA	Three 40mL VOA vials	✓
PAH - 8310	N/A	Two 1L amber jars	✓
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	✓
total lead - 6010	HNO3	One 500mL plastic	✓

OBSERVATIONS / NOTES:

See Field Analytical Log Sheets for Geochemical Parameters (i.e. natural attenuation). Flow Rate 1.8L/min

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-DMW33
Sample Location: DMW-33
Sampled By: AKERS
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	Time	TDS	
Date: 1/7/03									OR
Time: 1045									mV
Method: Fulltz	clear	5.44	0.080	20.80	6.0	1.16	1034	0.05	155

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	TDS	
Date: 1/7/03									OR
Method: Fulltz	4gal	5.52	0.082	20.90	14	1.27	1025	0.05	153
Monitor Reading (ppm):	—	See Low Flow Purge Data Sheet					—	—	
Well Casing Diameter & Material	6gal	5.51	0.081	20.87	9.4	1.25	1028	0.05	156
Type: 2" PVC	8gal	5.49	0.081	20.83	7.6	1.20	1031	0.05	15[illegible]
Total Well Depth (TD): 80.25	10gal	5.44	0.080	20.80	6.0	1.16	1034	0.05	155
Static Water Level (WL): 31.5									
One ~~Casing~~ pump Volume(gal/L): 1.7gal									
Start Purge (hrs): 1010									
End Purge (hrs): 1040									
Total Purge Time (min): 30									
Total Vol. Purged (gal/L): 12gal									

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	✓
EDB - 504.1	NA	Three 40mL VOA vials	✓
PAH - 8310	N/A	Two 1L amber jars	✓
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	✓
total lead - 6010	HNO3	One 500mL plastic	✓

OBSERVATIONS / NOTES:

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

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-DMW34
Sample Location: DMW-34
Sampled By:
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		
Date: 1/8/03								
Time:								
Method: low flow submersible								

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	
Date: 1/8/03								
Method: low flow submersible								
Monitor Reading (ppm):		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material	1.79 gal	6.57	0.270	21.71	~~1625~~	4.53	1151	
Type: 2" PVC		6.62	0.272	21.68	110	3.67	1154	
Total Well Depth (TD): 77.9								
Static Water Level (WL): 68.9								
One ~~Casing~~ Run Volume(gal/L): 1.6 gal								
Start Purge (hrs): 1147								
End Purge (hrs):								
Total Purge Time (min):								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	
EDB - 504.1	NA	Three 40mL VOA vials	
PAH - 8310	N/A	Two 1L amber jars	
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	
total lead - 6010	HNO3	One 500mL plastic	

OBSERVATIONS / NOTES:

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

Well purged dry and did not recharge sufficiently for sampling. Well was not sampled.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: OLF Sawfley Site 2406
Project No.: N2642

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

Sample ID No.: OLFS-2406-DMW34R
Sample Location: OLFS-2406-DMW34R
Sampled By:
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l	TBD ORP	TBD
Date: 3/10/3								
Time: 1730								
Method: Fultz Pump	cloudy	5.84	0.107	22.3	999	12.92	103	

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	TBD	TBD
Date: 3/10/3								
Method: Fultz Pump	1450	5.27	0.173	23.0	999	6.79	86	
Monitor Reading (ppm): Ø	See Low Flow Purge Data Sheet							
Well Casing Diameter & Material Type: 2" PVC	Recharge (Well pumped dry)							
Total Well Depth (TD): 65.9	1725	5.84	0.107	22.3	999	12.92	103	
Static Water Level (WL): 48.1								
One Casing Volume(gal/L):								
Start Purge (hrs): 1450								
End Purge (hrs): 1730								
Total Purge Time (min): ~30min								
Total Vol. Purged (gal/L):								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC	HCl	3 40mL vials	
EDB	HCl	3 40mL vials	
PAH		2 1L Jars	
Total Lead	HNO_3	~~2 1L Jars~~ 1 500mL Plastic	
TRPH		2 1L Jars	

OBSERVATIONS / NOTES:

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

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):

TBD: To Be Determined

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-DMW35
Sample Location: DMW-35
Sampled By:
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		
Date: 1/8/03								
Time: 1100								
Method: lowflow submersible								

PURGE DATA:

	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	
Date: 1/8/03								
Method: lowflow submersible	2.0 Gal	4.86	0.042	22.36	6.9	9.58	1047	
Monitor Reading (ppm):	See Low Flow Purge Data Sheet							
Well Casing Diameter & Material	3.15gal	4.84	0.041	22.38	6.5	8.21	1050	
Type: 2" PVC	5.36gal	4.83	0.040	22.46	6.6	7.62	1057	
Total Well Depth (TD): 81.1								
Static Water Level (WL): 46.7								
One ~~Casing~~ DWS Volume(gal/L): 1.6gal								
Start Purge (hrs): 1040								
End Purge (hrs): 1057								
Total Purge Time (min): 17min								
Total Vol. Purged (gal/L): 5.36gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	
EDB - 504.1	NA	Three 40mL VOA vials	
PAH - 8310	N/A	Two 1L amber jars	
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	
total lead - 6010	HNO3	One 500mL plastic	

OBSERVATIONS / NOTES:

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

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):
Yes		

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-DMW36
Sample Location: DMW-36
Sampled By:
C.O.C. No.:
Type of Sample:
[] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 1/8/03	Color Visual	pH Standard	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/l		
Time: 1015								
Method: low flow submersible								

PURGE DATA:

Date: 1/8/03	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	Time	
Method: low flow submersible								
Monitor Reading (ppm): Ø		See Low Flow Purge Data Sheet						
Well Casing Diameter & Material	4.0gal	9.35	0.167	23.92	<100	9.05	923	
Type: 2" PVC	5.6gal	8.81	0.156	24.58	<100	7.32	930	
Total Well Depth (TD): 79.12	6.37gal	8.59	0.134	24.31	<100	7.24	933	
Static Water Level (WL): 45.9	7.79gal	8.24	0.111	24.24	<100	7.65	939	
One ~~Casing~~ Pump Volume(gal/L): 1.6gal	8.74gal	8.04	0.108	24.1	210	7.62	943	
Start Purge (hrs): 906		7.47	0.093	24.1	150	7.71	955	
End Purge (hrs): 1015		7.3	0.092	24.1	95	7.78	1000	
Total Purge Time (min): 69		7.25	0.089	24.1	75	7.78	1005	
Total Vol. Purged (gal/L): 16.35gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC - 8260	HCL	Three 40mL VOA vials	
EDB - 504.1	NA	Three 40mL VOA vials	
PAH - 8310	N/A	Two 1L amber jars	
TRPH - FDEP FL-PRO	HCL	Two 1L amber jars	
total lead - 6010	HNO3	One 500mL plastic	

OBSERVATIONS / NOTES:

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

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Tetra Tech NUS, Inc.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: OLF Saufley, BLDG 2406
Project No.: N2642

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

Sample ID No.: OLFS-2406-DMW37
Sample Location: DMW-37
Sampled By:
C.O.C. No.:
Type of Sample:
[X] Low Concentration
[] High Concentration

SAMPLING DATA:

Date: 1/6/03	Color	pH	S.C.	Temp.	Turbidity	DO	TBD	TBD
Time: 1135	Visual	Standard	mS/cm	°C	NTU	mg/l	TDS	ORP
Method:								

PURGE DATA:

Date: 1/6/03	Volume	pH	S.C.	Temp. (C)	Turbidity	DO	TBD	TBD
Method: Filter	4 Gal	6.44	0.100	23.35	22.3	3.55	0.06	18
Monitor Reading (ppm): Ø	See Low Flow Purge Data Sheet							
Well Casing Diameter & Material	14 gal	5.48	0.071	23.53	6.59	4.87	0.05	70
Type: 2" PVC	15 gal	5.39	0.070	23.58	6.21	4.75	0.05	76
Total Well Depth (TD): 135.8	17 gal	5.22	0.064	23.50	6.03	4.84	0.04	87
Static Water Level (WL): 48.38	20 gal	5.21	0.058	23.40	4.68	4.98	0.04	104
One Casing Volume(gal/L):								
Start Purge (hrs): 1035								
End Purge (hrs): 1135								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): ~20 gal								

SAMPLE COLLECTION INFORMATION:

Analysis	Preservative	Container Requirements	Collected
VOC	HCL	3-40mL VOA	✓
PAH	N/A ~~HCL~~	2-1L Amber	✓
EDB	↓ ~~NA~~	3-40mL VOA	✓
TRPH	HCL ~~NA~~	2-1L Amber	✓
Total Pb	HNO_3 ~~HCL~~ ~~H~~	1-1L Plastic	✓

OBSERVATIONS / NOTES:

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

Flow rate = 1800mL/min

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):

TBD: To Be Determined

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASP OLF Sunday Site 2406
Project No.: N2642

Sample ID No.: OLFS2406SB28-4'
Sample Location: NASP-2406-SB28
Sampled By: Scott McGuire
C.O.C. No.:

- [ ] Surface Soil
- [x] Subsurface Soil
- [ ] Sediment
- [ ] Other:
- [ ] QA Sample Type:

Type of Sample:
- [ ] Low Concentration
- [x] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 11-04-02 Time: 1610 Method: DPT - Geoprobe Monitor Reading (ppm): >2256	44'	Lt. Gray to White	silty sand, trace clay damp to moist

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

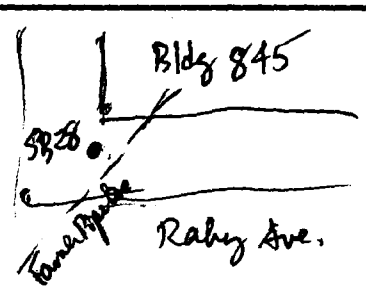
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
8260	3-40 ml vials	✓	MeOH+HP Field Preserve
FL-PRO	1-4oz jar		

OBSERVATIONS / NOTES:

Developed ~0.01 pt of free product before hole collapsed.

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Gary J. Davis

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASP OLF Sanford Site 2406
Project No.: N2042

Sample ID No.: OLFS2406SB26
Sample Location: NASP2406SB26
Sampled By: Scott McGuire
C.O.C. No.:

[] Surface Soil
[x] Subsurface Soil
[] Sediment
[] Other:
[] QA Sample Type:

Type of Sample:
[x] Low Concentration
[] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 11-04-02 Time: 1200 Method: Geoprobe Monitor Reading (ppm): 50.7	39-40'	Lt. gray to white	Silty sand w/ trace clay damp

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

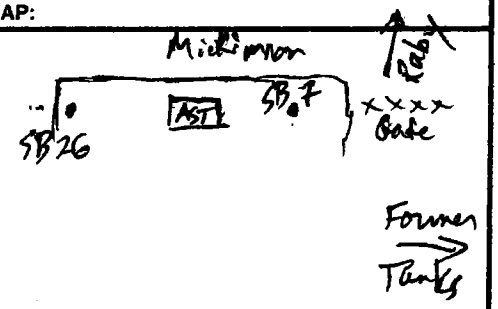
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
8260	3-40ml	✓	
FE-PRO	1-4oz jar	✓	

OBSERVATIONS / NOTES:

50.7 ppm on FID

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Gary J. Davis

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Page___ of ___

Project Site Name: NASP OLF Sawtley Site 2406
Project No.: N2642

Sample ID No.: OLFS2406SB21
Sample Location: NASP 2406 SB21
Sampled By: Scott Malone
C.O.C. No.:

[ ] Surface Soil
[✓] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Type of Sample:
[ ] Low Concentration
[✓] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 11-1-02 Time: 1320 Method: DPT Monitor Reading (ppm): 71200	39-41'	Light Gray	silty sand Damp to Moist

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

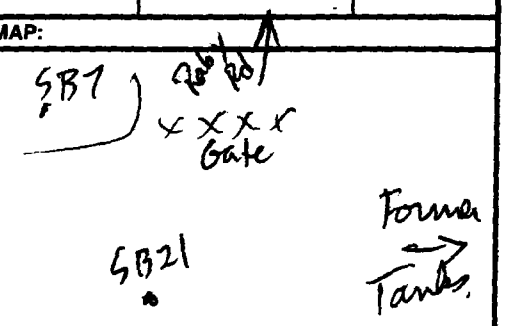
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
8260	3-40ml vials	✓	MeOH & H2O Field Preserved
FL-PRO	1-4oz jar	✓	

OBSERVATIONS / NOTES:

Hot Sample
(<.7 ppb benzene - Mobile Lab)
>1,200 ppm on FID

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Gary J. Davis

Tetra Tech NUS, Inc.

SOIL & SEDIMENT SAMPLE LOG SHEET

Project Site Name: NASP OLF Sanfley Site 2406
Project No.: N2642

Sample ID No.: OLFS2406SB21 29
Sample Location: NASP 2406 SB 21
Sampled By: Scott McGuire
C.O.C. No.:

[ ] Surface Soil
[x] Subsurface Soil
[ ] Sediment
[ ] Other:
[ ] QA Sample Type:

Type of Sample:
[x] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA:

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 11-1-02 Time: 1145 Method: DPT Monitor Reading (ppm): 423.0	28-29'	Reddish brown to Light Brown	silty clayey sand to silty sand Moist

COMPOSITE SAMPLE DATA:

Date:	Time	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Method:				
Monitor Readings (Range in ppm):				

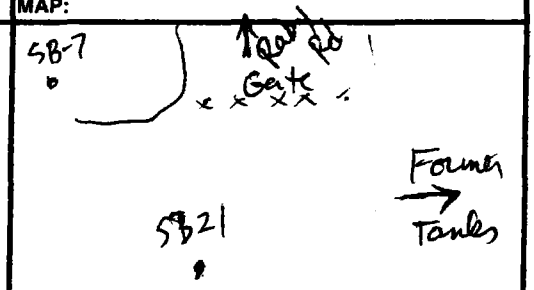
SAMPLE COLLECTION INFORMATION:

Analysis	Container Requirements	Collected	Other
8260	3-40ml vials	✓	MeOH + H2O Field Preserved
FL-PRO	1-4oz jar	✓	

OBSERVATIONS / NOTES:

2.007 benzene Mobile lab
432 ppm on FID

MAP:



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Gary J. Davis

SURVEYING DATA SHEET

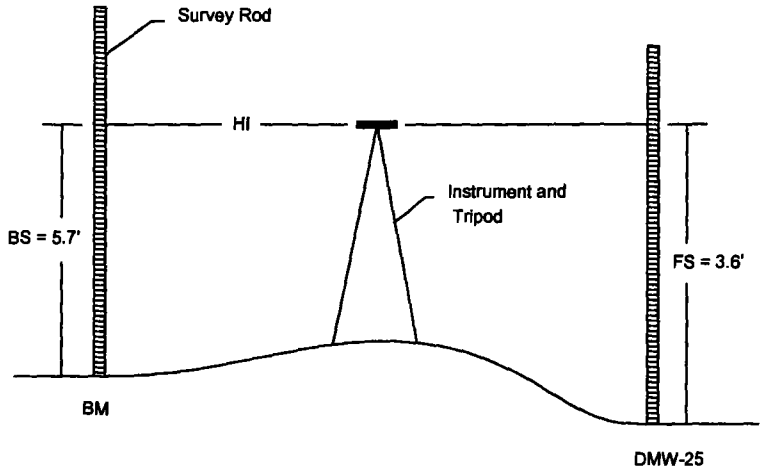
Project Name: OLF Saufley 2406

Project No.: N2642 **Date:** 1/9/2003

Personnel: Mike Akers / Howard Engle

Station ID	Backsight (BS)	Height of Instrument (HI)	Foresight (FS)	Elevation	Comments
MW-4	5.7	133.64		127.94	Datum
DMW-25		133.64	3.6	120.92	
DMW-23		133.64	4.4	129.24	
MW-21		133.64	4.18	129.46	
MW-22		133.64	3.36	130.28	
MW-18		133.64	4.04	129.6	
DMW36		133.64	5.17	128.47	
TP1		133.64	5.75	127.89	Temp. Benchmark
TP1	5.46	133.35		127.89	Temp. Benchmark
DMW-24		133.35	5.5	127.85	
TP2		133.35	4.2	129.15	Temp. Benchmark
TP2	5.78	134.93		129.15	Temp. Benchmark
DMW-35		134.93	4.82	130.11	
DMW-17		134.93	5.00	129.93	
DMW-37		134.93	5.00	129.93	
MW-20		134.93	5.3	129.63	
MW-19		134.93	4.64	130.29	
TP3		134.93	5.00	129.93	Temp. Benchmark
TP3	5.4	135.33		129.93	Temp. Benchmark
DMW-27		135.33	6.04	129.29	
DMW-25		135.33	5.26	130.07	
TP4		135.33	5.4	129.93	Temp. Benchmark
TP4	4.39	134.32		129.93	Temp. Benchmark
DMW-28		134.32	5.88	128.44	
DMW-29		134.32	14.9	119.42	
DMW-30		134.32	14.32	120	
DMW-31		134.32	26	108.32	
DMW-32		134.32	25.82	108.5	
DMW-34		134.32	9.0	125.32	
TP5		134.32	5.36	128.96	Temp. Benchmark
TP5	1.1	130.06		128.96	Temp. Benchmark
DMW-33		130.06	10.5	119.56	

SURVEYING SCHEMATIC



BM = Benchmark = 127.94'

FS = Foresight

HI = Height of Instrument

BS = Backsight

HI = BM + BS = 127.94' + 5.7' = 133.64"

MW-1 = HI - FS = 133.64' - 3.6' = 130.04'

Example:

Station	BS	HI	FS	Elevation	Comments
BM				127.94'	MW-4
BM	5.7'	133.64'			
DMW25			3.6'	130.04	Top of PVC casing
DMW23			4.4'	129.24'	Top of PVC casing
BM			2.71'	100.01'	
TP	5.46'	133.35	5.75'	127.89'	Turning point - DMW-24

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NAS Pensacola, SARA / RAP
Project No.: N2642
Location: OLF Saufley, Building 2406
Personnel: M. Akers, H. Engle, L. Smith, J. Bourgeois
Weather Conditions:
Measuring Device: Slope Indicator
Tidally Influenced: Yes ___ No ___
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-1	1/6/2003	1200		47.01	43.83			
MW-2	1/6/2003	1205		46.74	44.53			
MW-3	1/6/2003	1210		47.6	44.8			
MW-4	1/6/2003	1215		71.42	43.72			
MW-5	1/6/2003	1220		46.39	43.5			
MW-6	1/6/2003	1225		45.57	44.87			
MW-7	1/6/2003	1230		46.18	45.23			
MW-8	1/6/2003	1235		45.9	44.72			
MW-9	1/6/2003	1240		45.8	45.14			
MW-10	1/6/2003	1245		61.22	45.25			
MW-11	1/6/2003	1250		47	44.68			
MW-12	1/6/2003	1255		69.88	45.23			
MW-13	1/6/2003	1300		142	46.5			
MW-14	1/6/2003	1310		71	45.81			
MW-15	1/6/2003	1315		70	45.46			
MW-16	1/6/2003	1320		70	45.6			
MW-17	1/6/2003	1330		53.9	40.98	1.08		Free Product Measurement
MW-18	1/6/2003	1335			41.09	0.06		Free Product Measurement
MW-19	1/6/2003	1340		55.63	42.35	<1.0		Free Product Measurement
MW-20	1/6/2003	1345		55.74	41.19	0.18		Free Product Measurement
MW-21	1/6/2003	1350		55.85	41.89	0.1		Free Product Measurement
MW-22	1/6/2003	1400		54.8	42	0.4		Free Product Measurement
DMW-23	1/6/2003	1410		81.18	45.24			
DMW-24	1/6/2003	1420		81.25	42.88			
DMW-25	1/6/2003	1425		81.23	46.75			

* All measurements to the nearest 0.01 foot

Tetra Tech NUS, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: NAS Pensacola, SARA / RAP
Project No.: N2642
Location: OLF Saufley, Building 2406
Personnel: M. Akers, H. Engle, L. Smith, J. Bourgeois
Weather Conditions:
Measuring Device: Slope Indicator
Tidally Influenced: Yes ___ No ___
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-26	1/6/2003	1435	45	65.85				
MW-27	1/6/2003	1440	41.23	66.44				
MW-28	1/6/2003	1450	46.61	80.13				
MW-29	1/6/2003	1455	39.002	80.4				
MW-30	1/6/2003	1500	35.45	81.8				
MW-31	1/6/2003	1510	28.45	79.35				
MW-32	1/6/2003	1515	28.88	135.7				
MW-33	1/6/2003	1525	31.5	80.25				
MW34	1/6/2003	1530	48.91	77.9				
MW-35	1/6/2003	1545	46.66	81.12				
MW-36	1/6/2003	1550	45.93	79.12				
MW-37	1/6/2003	1600	48.38	135.8				

* All measurements to the nearest 0.01 foot

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : Site Assessment at OLF Saufley

INSTRUMENT NAME/MODEL: Horiba U-22

SITE NAME: 2406

MANUFACTURER: Horiba

PROJECT No.: 2642

SERIAL NUMBER: 9292036

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		
1/6/2003		J. Bourgeois	4.13	3.98		3.98		pH
			4.56	4.53		4.52		conductivity
			0	0		0		turbidity
			12.67	8.98		8.99		dissolved Oxygen
1/7/2003		J. Bourgeois	4.01	3.99		4.01		pH
			4.35	4.5		4.49		conductivity
			0	0		0		turbidity
			9.01	9		8.98		dissolved Oxygen
1/8/2003		J. Bourgeois	4.02	3.98		3.99		pH
			4.28	4.49		4.5		conductivity
			0	0		0		turbidity
			8.99	9.01		9		dissolved Oxygen

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : Site Assessment at OLF Saufley

INSTRUMENT NAME/MODEL: Horiba U-22

SITE NAME: 2406

MANUFACTURER: Horiba

PROJECT No.: 2642

SERIAL NUMBER: 9292025

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		
1/6/2003		H. Engle	4.88	3.98		3.98		pH
			4.35	4.5		4.51		conductivity
			12.01	0		0		turbidity
			5.85	8.98		8.99		dissolved Oxygen
1/7/2003		H. Engle	3.99	4.02		4.01		pH
			4.27	4.51		4.48		conductivity
			0	0		0		turbidity
			8.98	9.02		8.97		dissolved Oxygen

Tetra Tech NUS, Inc.

EQUIPMENT CALIBRATION LOG

PROJECT NAME : Site Assessment at OLF Saufley

INSTRUMENT NAME/MODEL: Horiba U-22

SITE NAME: 2406

MANUFACTURER: Horiba

PROJECT No.: 2642

SERIAL NUMBER: 259

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		
1/6/2003		J. Bourgeois	4.99	3.99		3.98		pH
			4.53	4.52		4.51		conductivity
			45.7	0		0		turbidity
			6.84	10.68		9.01		dissolved Oxygen
1/7/2003		J. Bourgeois	3.68	4.01		4.01		pH
			4.38	4.49		4.48		conductivity
			10	0		0		turbidity
			19.49	8.52		8.87		dissolved Oxygen
1/8/2003		J. Bourgeois	3.88	3.98		3.99		pH
			4.52	4.49		4.52		conductivity
			0	0		0		turbidity
			12.01	9.01		9.02		dissolved Oxygen

APPENDIX D

MOBILE LABORATORY ANALYTICAL REPORT

KB LABS, INC.
6821 Southwest Archer Road
Gainesville, Florida 32608
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December 7, 2002

Howard Engle
Tetra Tech NUS
1401 Oven Park Drive
Tallahassee, FL 32308

RE: CTO274 Saufley Field, Pensacola, FL - Final Data Report
KB Labs Project # 02-097-1

Dear Mr. Engle:

Enclosed is the final report of the on-site analysis performed by KB Labs, Inc. at the above referenced site. Samples were collected October 23 to November 6, 2002. Included are a brief project narrative, a data report narrative, tables listing quality control results, the final analytical results, and sample chain-of-custody forms. This information will also be sent electronically.

KB Labs is approved as a mobile laboratory for volatiles analyses and operates under an FDEP approved Comprehensive Quality Assurance Plan (CompQAP #980029 Revision 3). Unless otherwise stated in our CompQAP under method modifications, all data for the site referenced above were determined in accordance with published procedures under Test Methods for Evaluating Solid Waste (EPA SW-846, Update III Revised May 1997). Unless otherwise indicated on the quality control narrative accompanying the data report, the quality assurance and quality control procedures performed in conjunction with analysis of groundwater samples demonstrated that the reported data met our CompQAP requirements for accuracy and precision.

If you have any questions, please do not hesitate to call me or Kelly Bergdoll, President, at (352) 367-0073.

Sincerely,

KB Labs, Inc.

Todd Romero
Director of Operations

"KB Labs is a small, woman-owned business enterprise."

KB LABS, INC.

PROJECT NARRATIVE

Client:	TtNUS	**Driller/Sampler:**	Columbia	**Analyst:**	Greg Lamb/ Yael Hoogland
Site:	CTO274 Saufley Field	**KB Labs Project Manager:**	Kelly Bergdoll	**KB Labs Project #:**	02-097-1
Onsite Dates:	10/23/02-11/06/02	**Client Project Manager:**	Howard Engle	**Matrix:**	Water/Soil

Project Scope

From October 23 to November 6, 2002, a total of 74 samples (19 soil samples and 55 water samples) were analyzed for Tetra Tech NUS at the Saufley Field in Pensacola, FL. The samples were analyzed for benzene, toluene, ethylbenzene, and xylenes.

Analytical Procedure

All water samples were analyzed using SW846 Method 5030/8260 for waters. Ten (10) milliliters (mL) of water were purged with helium and the volatile organic compounds (VOCs) were collected on a solid-phase adsorption trap. The adsorption trap was heated and back-purged with helium and the components were separated by capillary column gas chromatography and measured with a mass spectrometer (GC/MS) operated in the electron impact full-scan mode. The individual VOCs in the samples were measured against corresponding VOC standards.

The soil samples were analyzed using SW846 Method 5030/8260. One (1) gram (g) of soil sample was added to 10 mL of laboratory reagent water, heated and analyzed like a water sample as described above.

Unless otherwise indicated, all soil data is calculated based on the matrix received (i.e. wet weight basis).

Analytical Results

Laboratory results were provided to the client on an as-completed or next-day basis. Final results of the on-site analyses are provided in a hardcopy report. The data produced and reported in the field has been reviewed and approved for this final report by the Director of Operations for KB Labs.

Quality Control (QC) Data

Surrogate Recoveries – Table 1 lists the daily analytical sequence and percent recovery results for surrogate compounds, which were added to all analyses. Four (4) surrogate compounds were added to each analysis in order to continually monitor general method performance.

VOC Spike Recoveries – Table 2 lists the percent recovery results for matrix spike and laboratory control samples. A known amount of each target compound was added to selected field samples and to laboratory reagent water in order to monitor the performance of each of the target compounds in the actual matrix and in laboratory reagent water.

Method Blanks – Daily analysis of laboratory reagent water samples was performed in order to monitor the cleanliness of the analytical system.

Signature: Todd Lowe Date: 12/9/02
Title: Director of Operations

KB LABS, INC.

DATA REPORT NARRATIVE

Client:	TtNUS	**Driller/Sampler:**	Columbia	**Analyst:**	Greg Lamb/ Yael Hoogland
Site:	CTO274 Saufley Field	**KB Labs Project Manager:**	Kelly Bergdoll	**KB Labs Project #:**	02-097-1
Onsite Dates:	10/23/02-11/06/02	**Client Project Manager:**	Howard Engle	**Matrix:**	Water/Soil

1. All samples have been reviewed and, if required, updated in the Final Data Report for rounding and significant figures.

2. Samples in the field were quantified with an incorrect standard for m-&p-xylene. The m-&p-xylene results for the following samples have doubled and updated in the Final Report:

   DMW16
   SB-7 40'-45'
   SB-9 50'-55'
   SB-11 45'
   SB-16 50'
   SB-19 80'

3. Sample **SB-7 50'-55'** was reanalyzed at lower dilution levels. Results from the lower dilution runs were updated in the Final Data report for ethylbenzene and xylenes.

4. After review of soil samples calculated using methanol for dilutions, the following sample results and reporting limits were lowered by a factor of 10 in the Final Data Report:

   SB-21 40'
   SB-25 44'
   SB-29 32'
   SB-29 44'
   SB-30 44'

Signature: Todd Porter

Title: Director of Operations

Date: 12/9/02

KB LABS, INC.

Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO274 Saufley Field	**KB Labs Project Manager**: Kelly Bergdoll	**KB Labs Project No:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager**:Howard Engle	**Matrix:** Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
BLANK	10/23/02	70	87	97	86	< LCL	Pass	Pass	Pass
BFB	10/23/02	82	89	95	83	Pass	Pass	Pass	Pass
VSTD01	10/23/02	99	98	101	98	Pass	Pass	Pass	Pass
VSTD05	10/23/02	106	100	99	99	Pass	Pass	Pass	Pass
VSTD10	10/23/02	98	98	101	98	Pass	Pass	Pass	Pass
VSTD20	10/23/02	103	102	99	100	Pass	Pass	Pass	Pass
VSTD100	10/23/02	100	101	99	104	Pass	Pass	Pass	Pass
LCS20	10/23/02	109	101	100	100	Pass	Pass	Pass	Pass
BLANK	10/23/02	110	102	101	100	Pass	Pass	Pass	Pass
BLANK	10/23/02	103	100	101	100	Pass	Pass	Pass	Pass
SB1 45'-49"	10/23/02	116	102	100	99	Pass	Pass	Pass	Pass
SB1 45'-49'MS	10/23/02	102	103	101	100	Pass	Pass	Pass	Pass
SB1 45'-49'MSD	10/23/02	104	102	98	104	Pass	Pass	Pass	Pass
SB1 76'-80'	10/23/02	106	98	101	97	Pass	Pass	Pass	Pass
VSTD20	10/23/02	93	99	100	102	Pass	Pass	Pass	Pass
BFB	10/24/02	98	97	99	93	Pass	Pass	Pass	Pass
VSTD20	10/24/02	92	98	98	99	Pass	Pass	Pass	Pass
LCS20	10/24/02	102	100	96	95	Pass	Pass	Pass	Pass
BLANK	10/24/02	111	98	96	95	Pass	Pass	Pass	Pass
SB-2 4'-8'	10/24/02	107	100	99	96	Pass	Pass	Pass	Pass
SB-2 8'-12'	10/24/02	107	98	98	96	Pass	Pass	Pass	Pass
SB-2 8'-12'MS	10/24/02	88	96	101	98	Pass	Pass	Pass	Pass
SB-2 8'-12'MSD	10/24/02	114	98	95	99	Pass	Pass	Pass	Pass
SB-2 50'-54'	10/24/02	95	93	100	96	Pass	Pass	Pass	Pass
SB-3 50'-55'	10/24/02	96	93	99	96	Pass	Pass	Pass	Pass
SB-3 75'-80' 1:5	10/24/02	78	96	100	98	< LCL	Pass	Pass	Pass
DMW 16 1:100	10/24/02	92	99	96	99	Pass	Pass	Pass	Pass
SB-3 75'-80'	10/24/02	95	98	96	95	Pass	Pass	Pass	Pass
VSTD20	10/25/02	87	96	101	99	Pass	Pass	Pass	Pass
BFB	10/25/02	91	95	98	93	Pass	Pass	Pass	Pass
VSTD20	10/25/02	84	94	97	98	Pass	Pass	Pass	Pass
LCS20	10/25/02	96	96	96	95	Pass	Pass	Pass	Pass
BLANK	10/25/02	110	97	96	95	Pass	Pass	Pass	Pass
SB-4 50'-55'	10/25/02	95	96	96	95	Pass	Pass	Pass	Pass
SB-4 50'-55'MS	10/25/02	88	96	96	96	Pass	Pass	Pass	Pass
SB-4 50'-55'MSD	10/25/02	93	97	95	95	Pass	Pass	Pass	Pass
BLANK	10/25/02	117	98	96	92	Pass	Pass	Pass	Pass
SB-4 75'-80' 1:100	10/25/02	85	94	97	96	Pass	Pass	Pass	Pass

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
S3 = Toluene-D8
S4 = 4-Bromofluorobenzene

KB LABS, INC.

Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO274 Saufley Field	**KB Labs Project Manager**: Kelly Bergdoll	**KB Labs Project No:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager**:Howard Engle	**Matrix:** Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
SB-5 40'-45' SOIL	10/25/02	96	96	96	93	Pass	Pass	Pass	Pass
SB-5 50'-55'	10/25/02	94	94	96	94	Pass	Pass	Pass	Pass
SB-5 75'-80' 1:500	10/25/02	88	94	95	95	Pass	Pass	Pass	Pass
VSTD20	10/25/02	88	94	94	95	Pass	Pass	Pass	Pass
BFB	10/26/02	97	96	94	94	Pass	Pass	Pass	Pass
VSTD20	10/26/02	89	95	96	94	Pass	Pass	Pass	Pass
LCS20	10/26/02	96	98	94	93	Pass	Pass	Pass	Pass
BLANK	10/26/02	104	96	93	93	Pass	Pass	Pass	Pass
SB-6 40'-45' SOIL	10/26/02	96	95	94	95	Pass	Pass	Pass	Pass
SB-6 50'-55' 1:100	10/26/02	101	98	93	92	Pass	Pass	Pass	Pass
SB-6 50'-55'MS 1:100	10/26/02	85	94	95	97	Pass	Pass	Pass	Pass
SB-6 50'-55'MSD 1:100	10/26/02	108	96	92	94	Pass	Pass	Pass	Pass
BLANK	10/26/02	104	97	92	91	Pass	Pass	Pass	Pass
SB-6 75'-80' 1:200	10/26/02	91	97	93	92	Pass	Pass	Pass	Pass
SB-7 40'-45' 1:2000 SOIL	10/26/02	103	98	98	92	Pass	Pass	Pass	Pass
SB-7 40'-45' 1:5000 SOIL	10/26/02	94	98	98	91	Pass	Pass	Pass	Pass
SB-7 50'-55' 1:5000	10/26/02	95	97	92	94	Pass	Pass	Pass	Pass
VSTD20	10/26/02	95	95	93	95	Pass	Pass	Pass	Pass
BFB	10/27/02	91	92	93	91	Pass	Pass	Pass	Pass
VSTD20	10/27/02	90	96	92	97	Pass	Pass	Pass	Pass
LCS20	10/27/02	92	94	91	93	Pass	Pass	Pass	Pass
BLANK	10/27/02	103	96	91	93	Pass	Pass	Pass	Pass
SB-7 50'-55' 1:2000	10/27/02	85	94	93	92	Pass	Pass	Pass	Pass
SB-7 50'-55' 1:1000	10/27/02	85	92	94	94	Pass	Pass	Pass	Pass
BLANK	10/27/02	91	93	94	94	Pass	Pass	Pass	Pass
SB-8 50'-55'	10/27/02	106	98	89	91	Pass	Pass	Pass	Pass
SB-8 50'-55'MS	10/27/02	89	96	89	94	Pass	Pass	Pass	Pass
SB-8 50'-55'MSD	10/27/02	93	97	89	95	Pass	Pass	Pass	Pass
BLANK	10/27/02	104	94	90	93	Pass	Pass	Pass	Pass
SB-8 75'-80'	10/27/02	98	96	90	95	Pass	Pass	Pass	Pass
VSTD20	10/27/02	83	92	93	97	Pass	Pass	Pass	Pass
BFB	10/28/02	93	93	91	90	Pass	Pass	Pass	Pass
BFB	10/28/02	104	94	90	90	Pass	Pass	Pass	Pass
VSTD20	10/28/02	98	95	89	94	Pass	Pass	Pass	Pass
LCS20	10/28/02	93	95	90	93	Pass	Pass	Pass	Pass
BLANK	10/28/02	105	96	90	94	Pass	Pass	Pass	Pass
SB-9 50'-55'	10/28/02	99	94	90	93	Pass	Pass	Pass	Pass
SB-9 75'-80'	10/28/02	98	95	89	93	Pass	Pass	Pass	Pass

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
S3 = Toluene-D8
S4 = 4-Bromofluorobenzene

KB LABS, INC.

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Site: CTO274 Saufley Field	**KB Labs Project Manager**: Kelly Bergdoll	**KB Labs Project No:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager**:Howard Engle	**Matrix:** Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
SB-9 50'-55'MS	10/28/02	90	95	89	95	Pass	Pass	Pass	Pass
SB-9 50'-55'MSD	10/28/02	94	98	88	96	Pass	Pass	Pass	Pass
BLANK	10/28/02	95	95	89	95	Pass	Pass	Pass	Pass
SB-10 45'	10/28/02	96	96	90	92	Pass	Pass	Pass	Pass
SB-10 65'	10/28/02	115	96	88	100	Pass	Pass	Pass	Pass
VSTD20	10/28/02	96	93	89	95	Pass	Pass	Pass	Pass
BFB	10/29/02	84	89	90	92	Pass	Pass	Pass	Pass
VSTD20	10/29/02	88	94	86	93	Pass	Pass	Pass	Pass
LCS20	10/29/02	95	94	86	94	Pass	Pass	Pass	Pass
BLANK	10/29/02	111	95	84	92	Pass	Pass	Pass	Pass
SB-11 80' 1:100	10/29/02	102	92	84	89	Pass	Pass	Pass	Pass
SB-11 80'MS 1:100	10/29/02	91	94	84	91	Pass	Pass	Pass	Pass
SB-11 80'MSD 1:100	10/29/02	92	95	84	91	Pass	Pass	Pass	Pass
BLANK	10/29/02	98	95	86	92	Pass	Pass	Pass	Pass
SB-12 45'	10/29/02	104	94	85	93	Pass	Pass	Pass	Pass
SB-12 80' 1:100	10/29/02	92	94	85	92	Pass	Pass	Pass	Pass
SB-11 45'	10/29/02	91	90	87	92	Pass	Pass	Pass	Pass
BFB	10/30/02	90	92	88	86	Pass	Pass	Pass	Pass
VSTD20	10/30/02	88	90	83	93	Pass	Pass	Pass	Pass
LCS20	10/30/02	90	90	84	94	Pass	Pass	Pass	Pass
BLANK	10/30/02	114	92	85	90	Pass	Pass	Pass	Pass
SB-13 45'	10/30/02	88	90	87	93	Pass	Pass	Pass	Pass
SB-13 80' 1:100	10/30/02	81	93	85	91	Pass	Pass	Pass	Pass
SB-13 80'MS 1:100	10/30/02	87	94	84	92	Pass	Pass	Pass	Pass
SB-13 80'MSD 1:100	10/30/02	88	93	83	92	Pass	Pass	Pass	Pass
SB-14 45'	10/30/02	110	94	83	98	Pass	Pass	Pass	Pass
SB-14 80'	10/30/02	98	93	83	90	Pass	Pass	Pass	Pass
SB-15 45'	10/30/02	97	93	82	92	Pass	Pass	Pass	Pass
SB-15 80'	10/30/02	97	92	83	92	Pass	Pass	Pass	Pass
SB-16 50'	10/30/02	96	94	84	93	Pass	Pass	Pass	Pass
VSTD20	10/30/02	84	93	85	94	Pass	Pass	Pass	Pass
BFB	10/31/02	82	89	84	88	Pass	Pass	Pass	Pass
VSTD20	10/31/02	78	89	86	96	< LCL	Pass	Pass	Pass
LCS20	10/31/02	88	91	84	92	Pass	Pass	Pass	Pass
BLANK	10/31/02	95	89	84	91	Pass	Pass	Pass	Pass
SB-16 65' 1:10	10/31/02	86	91	82	91	Pass	Pass	Pass	Pass
SB-16 65'MS 1:10	10/31/02	82	91	83	93	Pass	Pass	Pass	Pass
SB-16 65'MSD 1:10	10/31/02	82	94	83	92	Pass	Pass	Pass	Pass

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
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Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

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On-site Dates: 10/23/02-11/06/02	**Client Project Manager**:Howard Engle	**Matrix:** Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
BLANK	10/31/02	111	92	81	90	Pass	Pass	Pass	Pass
SB-17 50'	10/31/02	92	92	83	90	Pass	Pass	Pass	Pass
SB-17 65'	10/31/02	94	92	81	91	Pass	Pass	Pass	Pass
SB-18 50'	10/31/02	95	91	82	92	Pass	Pass	Pass	Pass
SB-18 80'	10/31/02	93	91	83	91	Pass	Pass	Pass	Pass
SB-19 45'	10/31/02	84	90	84	92	Pass	Pass	Pass	Pass
SB-19 80'	10/31/02	73	90	84	90	< LCL	Pass	Pass	Pass
BLANK	10/31/02	89	93	82	90	Pass	Pass	Pass	Pass
SB-19 80' 1:100	10/31/02	87	93	82	90	Pass	Pass	Pass	Pass
VSTD20	10/31/02	92	93	80	92	Pass	Pass	Pass	Pass
VSTD20 NEW	10/31/02	94	95	94	97	Pass	Pass	Pass	Pass
LCS20 NEW	10/31/02	97	95	94	93	Pass	Pass	Pass	Pass
BFB	11/01/02	82	90	105	96	Pass	Pass	Pass	Pass
VSTD20	11/01/02	81	90	99	97	Pass	Pass	Pass	Pass
LCS20	11/01/02	84	91	101	93	Pass	Pass	Pass	Pass
BLANK	11/01/02	102	92	98	94	Pass	Pass	Pass	Pass
NASP 2406 SB20 45'	11/01/02	87	88	101	94	Pass	Pass	Pass	Pass
NASP 2406 SB-20 80'	11/01/02	90	88	100	96	Pass	Pass	Pass	Pass
OLFS 2406 SB-21/29	11/01/02	89	89	102	95	Pass	Pass	Pass	Pass
OLFS 2406 SB-21 40'1:1000	11/01/02	98	100	103	93	Pass	Pass	Pass	Pass
BLANK	11/01/02	103	96	93	94	Pass	Pass	Pass	Pass
BLANK	11/01/02	97	92	98	95	Pass	Pass	Pass	Pass
NASP 2406 SB20 45'MS	11/01/02	94	96	95	95	Pass	Pass	Pass	Pass
NASP 2406 SB20 45'MSD	11/01/02	95	96	95	95	Pass	Pass	Pass	Pass
NASP 2406 SB21 1:1000	11/01/02	95	93	95	90	Pass	Pass	Pass	Pass
CCS	11/01/02	87	94	99	94	Pass	Pass	Pass	Pass
BLANK	11/02/02	86	92	102	99	Pass	Pass	Pass	Pass
BFB	11/02/02	90	90	100	93	Pass	Pass	Pass	Pass
VSTD20	11/02/02	87	93	98	98	Pass	Pass	Pass	Pass
LCS	11/02/02	89	95	98	98	Pass	Pass	Pass	Pass
BLANK	11/02/02	98	96	99	96	Pass	Pass	Pass	Pass
NASP2406 SB22-45'	11/02/02	92	92	100	96	Pass	Pass	Pass	Pass
NASP 2406 SB22-80'	11/02/02	92	89	99	94	Pass	Pass	Pass	Pass
NASP 2406 SB22-80'MS	11/02/02	90	89	98	95	Pass	Pass	Pass	Pass
NASP 2406 SB22-80'MSD	11/02/02	97	96	93	92	Pass	Pass	Pass	Pass
BLANK	11/02/02	112	98	92	92	Pass	Pass	Pass	Pass
NASP 2406 SB23-50'	11/02/02	89	95	93	92	Pass	Pass	Pass	Pass
NASP 2406 SB23-80' 1:5	11/02/02	75	88	98	94	< LCL	Pass	Pass	Pass

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
S3 = Toluene-D8
S4 = 4-Bromofluorobenzene

KB LABS, INC.

Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

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Site: CTO274 Saufley Field	**KB Labs Project Manager**: Kelly Bergdoll	**KB Labs Project No:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager**:Howard Engle	**Matrix:** Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
NASP 2406 SB23-80' 1:50	11/02/02	81	92	99	96	Pass	Pass	Pass	Pass
BLANK	11/02/02	86	89	102	96	Pass	Pass	Pass	Pass
OLFS 2406 SB24-33'	11/02/02	98	90	97	93	Pass	Pass	Pass	Pass
OLFS 2406 SB-24-38'	11/02/02	101	95	95	91	Pass	Pass	Pass	Pass
CCS	11/02/02	96	96	93	92	Pass	Pass	Pass	Pass
BLANK	11/02/02	104	95	95	93	Pass	Pass	Pass	Pass
BFB	11/03/02	86	91	103	94	Pass	Pass	Pass	Pass
VSTD20	11/03/02	84	92	98	101	Pass	Pass	Pass	Pass
LCS	11/03/02	86	93	99	96	Pass	Pass	Pass	Pass
BLANK	11/03/02	101	94	98	95	Pass	Pass	Pass	Pass
NASP 2406 SB24-50'	11/03/02	98	94	98	95	Pass	Pass	Pass	Pass
CCS	11/03/02	75	89	102	97	< LCL	Pass	Pass	Pass
BLANK	11/03/02	101	94	98	95	Pass	Pass	Pass	Pass
BFB	11/04/02	91	91	95	96	Pass	Pass	Pass	Pass
VSTD20	11/04/02	89	93	93	95	Pass	Pass	Pass	Pass
LCS	11/04/02	94	93	94	93	Pass	Pass	Pass	Pass
BLANK	11/04/02	110	96	94	93	Pass	Pass	Pass	Pass
OLFS 2406 SB25-30'	11/04/02	93	92	96	94	Pass	Pass	Pass	Pass
NASP 2406 SB-25-50' 1:200	11/04/02	82	88	94	93	Pass	Pass	Pass	Pass
OLFS 2406 SB25-32' RE	11/04/02	100	93	94	94	Pass	Pass	Pass	Pass
OLFS 2406 SB-25-44' 1:1000	11/04/02	99	101	101	89	Pass	Pass	Pass	Pass
BLANK	11/04/02	104	94	93	92	Pass	Pass	Pass	Pass
OLFS 2406 SB-26-40'	11/04/02	92	91	97	96	Pass	Pass	Pass	Pass
NASP 2406 SB-26-48'	11/04/02	87	96	98	95	Pass	Pass	Pass	Pass
OLF 2406 SB-26-40'MS	11/04/02	89	93	96	92	Pass	Pass	Pass	Pass
OLF 2406 SB-26-40'MSD	11/04/02	96	98	93	92	Pass	Pass	Pass	Pass
BLANK	11/04/02	111	98	92	94	Pass	Pass	Pass	Pass
NASP 2406 SB27-48'	11/04/02	93	92	97	94	Pass	Pass	Pass	Pass
OLFS 2406 SB28-41'	11/04/02	90	91	99	95	Pass	Pass	Pass	Pass
NASP 2406 SB-28-45' 1:200	11/04/02	88	93	96	92	Pass	Pass	Pass	Pass
CCS	11/04/02	99	99	96	96	Pass	Pass	Pass	Pass
BLANK	11/04/02	108	97	94	96	Pass	Pass	Pass	Pass
BFB	11/05/02	91	91	95	97	Pass	Pass	Pass	Pass
VSTD20	11/05/02	95	96	94	95	Pass	Pass	Pass	Pass
LCS	11/05/02	97	97	91	93	Pass	Pass	Pass	Pass
BLANK	11/05/02	112	97	91	94	Pass	Pass	Pass	Pass
OLFS 2406 SB29-4'	11/05/02	108	96	90	92	Pass	Pass	Pass	Pass
OLFS 2406 SB29-32' 1:2000	11/05/02	99	96	96	94	Pass	Pass	Pass	Pass

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
S3 = Toluene-D8
S4 = 4-Bromofluorobenzene

KB LABS, INC.

Table 1: Analytical Run Sequence/Surrogate Percent Recoveries

Client: TtNUS	**Driller/Sampler:** Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO274 Saufley Field	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager:** Howard Engle	**Matrix:** Water/Soil

Sample ID	Date of Analysis	Surrogate % Recovery				Surrogate Control Limits: 80%(LCL) to 120%(UCL)			
		S1*	S2*	S3*	S4*	S1*	S2*	S3*	S4*
BLANK	11/05/02	112	98	91	95	Pass	Pass	Pass	Pass
OLFS 2406 SB-29-44' 1:4000	11/05/02	103	95	99	92	Pass	Pass	Pass	Pass
NASP 2406 SB29-49' 1:2000	11/05/02	97	91	93	93	Pass	Pass	Pass	Pass
BLANK	11/05/02	101	92	92	94	Pass	Pass	Pass	Pass
NASP 2406 SB-30-48' 1:50	11/05/02	96	93	94	93	Pass	Pass	Pass	Pass
OLFS 2406 SB-30-44' 1:1000	11/05/02	114	100	105	95	Pass	Pass	Pass	Pass
OLFS 2406 SB30-44' 1:10000	11/05/02	92	93	101	93	Pass	Pass	Pass	Pass
BLANK	11/05/02	94	90	92	92	Pass	Pass	Pass	Pass
OLFS 2406 SB31-44'	11/05/02	92	92	96	93	Pass	Pass	Pass	Pass
NASP 2406 SB-31-48'	11/05/02	98	94	92	94	Pass	Pass	Pass	Pass
NASP 2406 SB31-48' 1:10 RE	11/05/02	107	95	92	94	Pass	Pass	Pass	Pass
OLFS 2406 SB-31-44'MS	11/05/02	93	96	92	97	Pass	Pass	Pass	Pass
OLFS 2406 SB31-44'MSD	11/05/02	94	94	94	93	Pass	Pass	Pass	Pass
CCS	11/05/02	96	94	94	95	Pass	Pass	Pass	Pass
BLANK	11/05/02	112	97	92	93	Pass	Pass	Pass	Pass
VSTD20	11/06/02	91	93	97	97	Pass	Pass	Pass	Pass
LCS	11/06/02	94	93	92	95	Pass	Pass	Pass	Pass
BLANK	11/06/02	58	75	102	159	< LCL	< LCL	Pass	> UCL
NASP 2406 SB32-48'	11/06/02	93	99	99	92	Pass	Pass	Pass	Pass
NASP 2406 SB33-50'	11/06/02	109	98	94	92	Pass	Pass	Pass	Pass
NASP 2406 SB33-80'	11/06/02	116	98	92	94	Pass	Pass	Pass	Pass
BLANK	11/06/02	197	91	94	94	> UCL	Pass	Pass	Pass
CCS	11/06/02	95	96	93	95	Pass	Pass	Pass	Pass
BLANK	11/06/02	114	99	94	94	Pass	Pass	Pass	Pass

Comments: Although some surrogates may be out of the control percent recovery range (80% to 120%), other supporting QC, such as matrix spikes, matrix spike duplicates, method blanks, and laboratory control samples, are performed by KB Labs to further validate reported data.

Signature: Todd Lamm

Title: Director of Operations

Date: 12/9/02

***Surrogate Compounds:**
S1 = 1,2- Dichloroethane-D4
S2 = 1,2-Difluorobenzene
S3 = Toluene-D8
S4 = 4-Bromofluorobenzene

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO 274 Saufley Field	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No.:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager:** Howard Engle	**Matrix**: Water/Soil

Matrix Spike/Matrix Spike Duplicate (MS/MSD):

Samples: SB1 45'-49'MS
SB1 45'-49'MSD
Date of Analysis: 10/23/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	107	110	2	Pass	Pass	Pass
Toluene	69	124	20	100	101	1	Pass	Pass	Pass
Ethylbenzene	77	117	20	106	105	1	Pass	Pass	Pass
m,p-Xylene	70	123	20	101	103	1	Pass	Pass	Pass
o-Xylene	72	123	20	101	104	3	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: SB-2 8'-12'MS
SB-2 8'-12'MSD
Date of Analysis: 10/24/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	96	98	3	Pass	Pass	Pass
Toluene	69	124	20	103	96	7	Pass	Pass	Pass
Ethylbenzene	77	117	20	103	96	7	Pass	Pass	Pass
m,p-Xylene	70	123	20	99	89	11	Pass	Pass	Pass
o-Xylene	72	123	20	102	92	10	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: SB-4 50'-55'MS
SB-4 50'-55'MSD
Date of Analysis: 10/25/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	92	93	0	Pass	Pass	Pass
Toluene	69	124	20	101	100	1	Pass	Pass	Pass
Ethylbenzene	77	117	20	101	101	1	Pass	Pass	Pass
m,p-Xylene	70	123	20	95	93	2	Pass	Pass	Pass
o-Xylene	72	123	20	96	95	1	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: SB-6 50'-55' 1:100MS
SB-6 50'-55 1:100MSD
Date of Analysis: 10/26/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	79	87	9	Pass	Pass	Pass
Toluene	69	124	20	88	85	4	Pass	Pass	Pass
Ethylbenzene	77	117	20	98	98	0	Pass	Pass	Pass
m,p-Xylene	70	123	20	91	83	9	Pass	Pass	Pass
o-Xylene	72	123	20	91	87	5	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO 274 Saufley Field	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No.:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager:** Howard Engle	**Matrix**: Water/Soil

Samples: SB-8 50'-55'MS
SB-8 50'-55'MSD
Date of Analysis: 10/27/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	90	89	0	Pass	Pass	Pass
Toluene	69	124	20	92	92	0	Pass	Pass	Pass
Ethylbenzene	77	117	20	101	100	1	Pass	Pass	Pass
m,p-Xylene	70	123	20	89	89	0	Pass	Pass	Pass
o-Xylene	72	123	20	91	94	3	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: SB-9 50'-55'MS
SB-9 50'-55'MSD
Date of Analysis: 10/28/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	94	95	0	Pass	Pass	Pass
Toluene	69	124	20	94	94	0	Pass	Pass	Pass
Ethylbenzene	77	117	20	105	105	0	Pass	Pass	Pass
m,p-Xylene	70	123	20	89	90	1	Pass	Pass	Pass
o-Xylene	72	123	20	98	100	2	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: SB-11 80' 1:100MS
SB-11 80' 1:100MSD
Date of Analysis: 10/29/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	88	91	2	Pass	Pass	Pass
Toluene	69	124	20	98	99	1	Pass	Pass	Pass
Ethylbenzene	77	117	20	103	104	1	Pass	Pass	Pass
m,p-Xylene	70	123	20	86	87	1	Pass	Pass	Pass
o-Xylene	72	123	20	89	92	3	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: SB-13 80' 1:100MS
SB-13 80' 1:100MSD
Date of Analysis: 10/30/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	103	95	8	Pass	Pass	Pass
Toluene	69	124	20	106	104	2	Pass	Pass	Pass
Ethylbenzene	77	117	20	112	109	3	Pass	Pass	Pass
m,p-Xylene	70	123	20	91	89	3	Pass	Pass	Pass
o-Xylene	72	123	20	95	91	4	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO 274 Saufley Field	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No.:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager:** Howard Engle	**Matrix**: Water/Soil

Samples: SB-16 65' 1:10MS **Date of Analysis:** 10/31/2002
SB-16 65' 1:10MSD

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	99	104	5	Pass	Pass	Pass
Toluene	69	124	20	108	115	6	Pass	Pass	Pass
Ethylbenzene	77	117	20	114	120	5	Pass	> UCL	Pass
m,p-Xylene	70	123	20	92	97	5	Pass	Pass	Pass
o-Xylene	72	123	20	95	101	6	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: NASP 2406SB20 45'MS **Date of Analysis:** 11/1/2002
NASP 2406SBS0 45'MSD

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	89	89	0	Pass	Pass	Pass
Toluene	69	124	20	91	96	5	Pass	Pass	Pass
Ethylbenzene	77	117	20	93	97	4	Pass	Pass	Pass
m,p-Xylene	70	123	20	85	88	3	Pass	Pass	Pass
o-Xylene	72	123	20	86	91	5	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: NASP 2406 SB-22-80'MS **Date of Analysis:** 11/2/2002
NASP 2406 SB-22-80'MSD

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	81	89	10	Pass	Pass	Pass
Toluene	69	124	20	94	90	4	Pass	Pass	Pass
Ethylbenzene	77	117	20	95	95	0	Pass	Pass	Pass
m,p-Xylene	70	123	20	85	85	1	Pass	Pass	Pass
o-Xylene	72	123	20	86	86	1	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

Samples: OLF 2406 SB26-40'MS **Date of Analysis:** 11/4/2002
OLF 2406 SB26-40'MSD

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	88	92	4	Pass	Pass	Pass
Toluene	69	124	20	93	94	1	Pass	Pass	Pass
Ethylbenzene	77	117	20	98	97	1	Pass	Pass	Pass
m,p-Xylene	70	123	20	84	87	4	Pass	Pass	Pass
o-Xylene	72	123	20	86	89	3	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO 274 Saufley Field	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No.:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager:** Howard Engle	**Matrix**: Water/Soil

Samples: OLFS 2406 SB31-44'MS
OLFS 2406 SB31-44'MSD

Date of Analysis: 11/5/2002

Matrix Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower	Upper	RPD	MS	MSD	RPD	MS	MSD	RPD
Benzene	66	134	20	87	87	0	Pass	Pass	Pass
Toluene	69	124	20	91	94	2	Pass	Pass	Pass
Ethylbenzene	77	117	20	96	97	1	Pass	Pass	Pass
m,p-Xylene	70	123	20	87	85	2	Pass	Pass	Pass
o-Xylene	72	123	20	89	88	1	Pass	Pass	Pass

Note: Control Limits are based on a semi-annual historical evaluation of mobile unit.

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO 274 Saufley Field	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No.:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager:** Howard Engle	**Matrix**: Water/Soil

Laboratory Control Spikes (LCS):

Samples: LCS 1, LCS 2, LCS 3 — **Date of Analysis:** 10/23/2002, 10/24/2002, 10/25/2002

Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower		Upper	LCS#1	LCS#2	LCS#3	LCS#1	LCS#2	LCS#3
Benzene	70	to	130	109	100	94	Pass	Pass	Pass
Toluene	70	to	130	108	98	97	Pass	Pass	Pass
Ethylbenzene	70	to	130	109	99	99	Pass	Pass	Pass
m,p-Xylene	70	to	130	104	92	91	Pass	Pass	Pass
o-Xylene	70	to	130	107	96	94	Pass	Pass	Pass

Note: Control limits are based on method guidance.

Samples: LCS 4, LCS 5, LCS 6 — **Date of Analysis:** 10/26/2002, 10/27/2002, 10/28/2002

Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower		Upper	LCS#4	LCS#5	LCS#6	LCS#4	LCS#5	LCS#6
Benzene	70	to	130	98	92	102	Pass	Pass	Pass
Toluene	70	to	130	102	95	107	Pass	Pass	Pass
Ethylbenzene	70	to	130	103	98	109	Pass	Pass	Pass
m,p-Xylene	70	to	130	91	86	981	Pass	Pass	> UCL
o-Xylene	70	to	130	94	89	96	Pass	Pass	Pass

Note: Control limits are based on method guidance.

Samples: LCS 7, LCS 8, LCS 9 — **Date of Analysis:** 10/29/2002, 10/30/2002, 10/31/2002

Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower		Upper	LCS#7	LCS#8	LCS#9	LCS#7	LCS#8	LCS#9
Benzene	70	to	130	94	89	106	Pass	Pass	Pass
Toluene	70	to	130	99	96	111	Pass	Pass	Pass
Ethylbenzene	70	to	130	104	108	115	Pass	Pass	Pass
m,p-Xylene	70	to	130	89	90	94	Pass	Pass	Pass
o-Xylene	70	to	130	94	91	97	Pass	Pass	Pass

Note: Control limits are based on method guidance.

KB LABS, INC.

Table 2: VOC Spike Compound Percent Recoveries

Client: TtNUS	**Driller/Sampler**: Columbia	**Analyst:** Greg Lamb/Yael Hoogland
Site: CTO 274 Saufley Field	**KB Labs Project Manager:** Kelly Bergdoll	**KB Labs Project No.:** 02-097-1
On-site Dates: 10/23/02-11/06/02	**Client Project Manager:** Howard Engle	**Matrix**: Water/Soil

Samples: LCS 10, LCS 11, LCS 12 — **Date of Analysis:** 10/31/2002, 11/1/2002, 11/2/2002

Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower		Upper	LCS#10	LCS#11	LCS#12	LCS#10	LCS#11	LCS#12
Benzene	70	to	130	88	88	91	Pass	Pass	Pass
Toluene	70	to	130	90	98	98	Pass	Pass	Pass
Ethylbenzene	70	to	130	94	99	98	Pass	Pass	Pass
m,p-Xylene	70	to	130	83	91	95	Pass	Pass	Pass
o-Xylene	70	to	130	85	93	98	Pass	Pass	Pass

Note: Control limits are based on method guidance.

Samples: LCS 13, LCS 14, LCS 15 — **Date of Analysis:** 11/3/2002, 11/4/2002, 11/5/2002

Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower		Upper	LCS#13	LCS#14	LCS#15	LCS#13	LCS#14	LCS#15
Benzene	70	to	130	88	86	89	Pass	Pass	Pass
Toluene	70	to	130	98	92	93	Pass	Pass	Pass
Ethylbenzene	70	to	130	99	95	95	Pass	Pass	Pass
m,p-Xylene	70	to	130	91	84	84	Pass	Pass	Pass
o-Xylene	70	to	130	92	87	87	Pass	Pass	Pass

Note: Control limits are based on method guidance.

Samples: LCS16 — **Date of Analysis:** 11/6/2002

Spike Compounds	Control Limits			Percent Recoveries			Control Limit Checks		
	Lower		Upper	LCS#16			LCS#16		
Benzene	70	to	130	85			Pass		
Toluene	70	to	130	91			Pass		
Ethylbenzene	70	to	130	96			Pass		
m,p-Xylene	70	to	130	85			Pass		
o-Xylene	70	to	130	88			Pass		

Note: Control limits are based on method guidance.

Title: Director of Operations

Date: 12/9/02

KB LABS, INC.

Final Data Report

Project Number 02-097-1

CTO274 Saufley Field

Pensacola, FL

Prepared for: Tetra Tech NUS

Well ID	Analysis Date	Matrix	Dilution Factor	Benzene	Toluene	Ethylbenzene	M- and P-Xylene	O-Xylene
NASP 2406 SB-1 45'-49'	10/23/02	Water	1	<1	**1.7**	<1	<1	<1
NASP 2406 SB-1 76'-80'	10/23/02	Water	1	**1.2**	**1.0**	<1	<1	<1
NASP 2406 SB-2 50'-54'	10/24/02	Water	1	<1	**1.1**	<1	<1	<1
NASP 2406 SB-3 50'-55'	10/24/02	Water	1	<1	**1.3**	<1	<1	<1
NASP 2406 SB-3 75'-80'	10/24/02	Water	5	**520**	<5	<5	<5	<5
NASP 2406 dmw 16	10/24/02	Water	100	**3400**	**880**	**160**	**360**	<100
NASP 2406 SB-4 50'-55'	10/25/02	Water	1	**2.1**	<1	<1	<1	<1
NASP 2406 SB-4 75'-80'	10/25/02	Water	100	**2500**	<100	<100	<100	<100
NASP 2406 SB-5 50'-55'	10/25/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-5 75'-80'	10/25/02	Water	500	**8800**	<500	<500	<500	<500
NASP 2406 SB-6 50'-55'	10/26/02	Water	100	**550**	**1400**	<100	<100	<100
NASP 2406 SB-6 75'-80'	10/26/02	Water	200	**5200**	**400**	<200	<200	<200
NASP 2406 SB-7 50'-55'	10/26/02	Water	1000,2000, 5000	**7200**	**59000**	**2500**	**5800**	<1000
NASP 2406 SB-8 50'-55'	10/27/02	Water	1	<1	**3.5**	<1	<1	<1
NASP 2406 SB-8 75'-80'	10/27/02	Water	1	<1	**1.5**	<1	<1	<1
OLFS 2406 SB-2 4'-8'	10/24/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010
OLFS 2406 SB-2 8'-12'	10/24/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010
OLFS 2406 SB-5 40'-45'	10/25/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010
OLFS 2406 SB-6 40'-45'	10/26/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010
OLFS 2406 SB-7 40'-45'	10/26/02	Soil	200, 500	**11**	**330**	**37**	**85**	**15**
NASP 2406 SB-9 50'-55'	10/28/02	Water	1	**0.8 I**	**8.8**	**1.0**	**3.0**	<1
NASP 2406 SB-9 80'	10/28/02	Water	1	<1	**2.0**	<1	<1	<1
NASP 2406 SB-10 45'	10/28/02	Water	1	**0.8 I**	**2.9**	<1	<1	<1
NASP 2406 SB-10 65'	10/28/02	Water	1	<1	**1.4**	<1	<1	<1
NASP 2406 SB-11 45'	10/29/02	Water	1	**1.1**	**4.3**	<1	**1.4**	<1
NASP 2406 SB-11 80'	10/29/02	Water	100	**1200**	<100	<100	<100	<100
NASP 2406 SB-12 45'	10/29/02	Water	1	<1	**1.5**	<1	<1	<1
NASP 2406 SB-12 80'	10/29/02	Water	100	**2200**	<100	<100	<100	<100
NASP 2406 SB-13 45'	10/30/02	Water	1	**2.3**	**5.2**	<1	<1	<1
NASP 2406 SB-13 80'	10/30/02	Water	100	**2800**	<100	<100	<100	<100
NASP 2406 SB-14 45'	10/30/02	Water	1	**0.8 I**	<1	<1	<1	<1

Reporting units for waters are ug/L and for soils are mg/kg.

KB LABS, INC.

Final Data Report

Project Number 02-097-1

CTO274 Saufley Field

Pensacola, FL

Prepared for: Tetra Tech NUS

Well ID	Analysis Date	Matrix	Dilution Factor	Benzene	Toluene	Ethylbenzene	M- and P-Xylene	O-Xylene
NASP 2406 SB-14 80'	10/30/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-15 45'	10/30/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-15 80'	10/30/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-16 50'	10/30/02	Water	1	<1	**4.3**	<1	**2.6**	<1
NASP 2406 SB-16 65'	10/31/02	Water	10	**430**	<10	<10	<10	<1(
NASP 2406 SB-17 50'	10/31/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-17 65'	10/31/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-18 50'	10/31/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-18 80'	10/31/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-19 50'	10/31/02	Water	1	<1	<1	<1	<1	<1
NASP 2406 SB-19 80'	10/31/02	Water	1, 100	**1200**	<1	**27.6**	**32.2**	<1
NASP 2406 SB-20 45'	11/1/02	Water	1	<1.0	<1.0	<1.0	<1.0	<1.0
NASP 2406 SB-20 80'	11/1/02	Water	1	<1.0	<1.0	<1.0	<1.0	<1.0
NASP 2406 SB-21 45'	11/1/02	Water	1000	**3300**	**37000**	**1600**	**4000**	<1000
NASP 2406 SB-22 45'	11/2/02	Water	1	<1.0	<1.0	<1.0	<1.0	<1.0
NASP 2406 SB-22 80'	11/2/02	Water	1	<1.0	<1.0	<1.0	<1.0	<1.0
NASP 2406 SB-23 50'	11/2/02	Water	1	**24.6**	**1.0**	<1.0	**15.0**	**1.1**
NASP 2406 SB-23 80'	11/2/02	Water	5, 50	**2600**	<5	<5	**69**	<5
NASP 2406 SB-24 50'	11/3/02	Water	1	<1.0	**3.7**	<1.0	<1.0	<1.0
NASP 2406 SB-25 50'	11/4/02	Water	200	**9000**	**5800**	<200	<200	<200
NASP 2406 SB-26 48'	11/4/02	Water	1	**1.2**	**9.0**	**3.5**	**3.3**	<1.0
NASP 2406 SB-27 48'	11/4/02	Water	1	<1.0	**2.8**	<1.0	<1.0	<1.0
NASP 2406 SB-28 45'	11/4/02	Water	200	**1200**	**16000**	**440**	**1300**	**380**
NASP 2406 SB-29 49'	11/5/02	Water	2000	**4800**	**42000**	**2800**	**4700**	<2000
NASP 2406 SB-30 48'	11/5/02	Water	50	**52**	**790**	**160**	**340**	<50
NASP 2406 SB-31 48'	11/5/02	Water	1	<1.0	**4.0**	<1.0	<1.0	<1.0
NASP 2406 SB-32 48'	11/6/02	Water	1	**3.5**	**25.2**	**11.9**	**5.4**	**1.3**
NASP 2406 SB-33 50'	11/6/02	Water	1	<1.0	**2.5**	<1.0	<1.0	<1.0
NASP 2406 SB-33 80'	11/6/02	Water	1	<1.0	**1.8**	<1.0	<1.0	<1.0
OLFS 2406 SB-21 29'	11/1/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.01
OLFS 2406 SB-21 40'	11/1/02	Soil	100	<0.7	**42**	**14**	**44**	**7.6**
OLFS 2406 SB-24 33'	11/2/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010

Reporting units for waters are ug/L and for soils are mg/kg.

KB LABS, INC.

Final Data Report

Project Number 02-097-1

CTO274 Saufley Field

Pensacola, FL

Prepared for: Tetra Tech NUS

Well ID	Analysis Date	Matrix	Dilution Factor	Benzene	Toluene	Ethylbenzene	M- and P-Xylene	O-Xylene
OLFS 2406 SB-24 38'	11/2/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010
OLFS 2406 SB-25 30'	11/4/02	Soil	1	**0.017**	**0.24**	**0.013**	**0.034**	<0.010
OLFS 2406 SB-25 32'	11/4/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010
OLFS 2406 SB-25 44'	11/4/02	Soil	100	<0.7	**50**	**11**	**30**	**5.0**
OLFS 2406 SB-26 40'	11/4/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010
OLFS 2406 SB-28 41'	11/4/02	Soil	1	<0.007	**0.016**	<0.010	<0.010	<0.010
OLFS 2406 SB-29 4'	11/5/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010
OLFS 2406 SB-29 32'	11/5/02	Soil	200	<1.4	**48**	**19**	**48**	**13**
OLFS 2406 SB-29 44'	11/5/02	Soil	400	**9.8**	**360**	**63**	**94**	**13**
OLFS 2406 SB-30 44'	11/5/02	Soil	100, 1000	**2.4**	**570**	**62**	**260**	**33**
OLFS 2406 SB-31 44'	11/5/02	Soil	1	<0.007	<0.010	<0.010	<0.010	<0.010

FDEP Data Qualifier "I" : The reported value is between the MDL and the reporting limit.

Reporting units for waters are ug/L and for soils are mg/kg.

Mobile Laboratory Services
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Gainesville, FL 32608
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FAX (352) 367-0074

CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME: TT

PROJECT NAME & ADDRESS: NASP-2406

SAMPLERS: Columbia

CONTACT PERSON: Howard Engle

[redacted]

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
SB1-45'-49'	10/23/02	—		✓	10/23/02	1425		W	1	✓				
SB1-76'-80'	↓	—		↓	↓	1530		↓	↓	↓				

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks and Observations
	10/23/02			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	
			10/23/02	

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME: TT NUS

PROJECT NAME & ADDRESS: NASP-2406

SAMPLERS: Columbia

CONTACT PERSON: Howard Engle

[redacted]

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES (IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS)				COMMENT
SB-2 4'-8'	10/24/02	0908		✓	10/24/02	0920		S	1	✓				
↓ 8'-12'	↓	0915		↓	↓	↓		S	↓	↓				
SB-2 50'-54'	↓	1130		↓	↓	1135		W	↓	↓				
SB-3 50'-55'	↓	—		↓	↓	1437		↓	↓	↓				
SB 3 75'-80'	↓	—		↓	↓	1528		↓	↓	↓				
DMW 16	↓	—		↓	↓	1537		↓	↓	↓				

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks and Observations
	10/24/02			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	
			10/24/02	

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS
TTNUS	NASP 2406
SAMPLERS: Columbia	CONTACT PERSON: Howard

[redacted]

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES (IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS)					COMMENT
SB34 50'-55'	10/25/02	0930			10/25/02	0935		W	1	✓					
↓ 75'-80'	↓	—			↓	1020		W	↓	↓					
SB35 40'-45'		1335				1340		S							
↓ 50'-55'		1417				1420		W							
↓ 75-80'		—				1500		W							
		—													

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks and Observations
	10/25/02			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	
			10/25/02	

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME: TT NUS

PROJECT NAME & ADDRESS: NASP 2406

SAMPLERS: Columbia

CONTACT PERSON: Howard Engle

BATCH # (Lab Use Only)

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
SB-6 40'-45'	10/26/02	—		✓	10/26/02	0850		S	1	✓				
50'-55'						0900		W	1					
75'-80'						1024								
SB-7 40'-45'						1510		S						
50'-55'						1545		W						

IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS

	Date / Time		Date / Time	Remarks and Observations
Precleaned Containers Relinquished by: (Signature)	10/26/02	Received by: (Signature)		
Relinquished by: (Signature)		Received by: (Signature)	10/26/02	

Matrix Types: S Soil; SW Surface Water; GW Ground Water; SG Soil Gas

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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS
TT NVS	NASP 2406
SAMPLERS	**CONTACT PERSON**
Columbia	Howard Engle

[redacted]

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS: VOLATILES				COMMENT
SB-8 50'-55'	10/27/02	~~10/27~~	✓	✓	10/27/02	0940		W	1	✓				
75'-80'	↓	—		↓	↓	1020		↓	↓	↓				
SB-9 50'-55'	↓	—		↓	↓	1600		↓	↓	↓				

PRESERVATION
C Chilled
H HCL
Ot Other (see Remarks)

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
	10/27/02		
Relinquished by: (Signature)	**Date / Time**	**Received by: (Signature)**	**Date / Time**
			10/27/02

Remarks and Observations

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS
TT NVS	NASP 2406 Pensacola
SAMPLERS	**CONTACT PERSON**
Columbia	Gary Davis

[redacted]

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
SB-9 80'	10/28/02	—		✓	10/28/02	1030		W	1	✓				
SB-10 45'	↓	↓		↓	↓	1340		↓	↓	↓				
↓ 65'	↓	↓		↓	↓	1500		↓	↓	↓				

IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS

PRESERVATION
C Chilled
H HCL
Ot Other (see Remarks)

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks and Observations
	10/28/02			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	
			10/28/02	

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS
TT NUS	NASP 2406 Pensacola
SAMPLERS: Columbia	CONTACT PERSON: Gary Davis

[redacted]

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
SB-11 45'	—	10/29/02		✓	10/29/02	1300		W	1	✓				
SB-11' 80'	—	10/29/02		↓	↓	0930		↓	↓	↓				
SB-12' 45'	—	↓		↓	↓	1013		↓	↓	↓				
SB-12' 80	—	↓		↓	↓	1050		↓	↓	↓				

IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS

PRESERVATION
C Chilled
H HCL
Ot Other (see Remarks)

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
	10/29/02		
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
			10/29/02

Remarks and Observations

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME: TTNUS

PROJECT NAME & ADDRESS: NASP 2406 Pensacola

SAMPLERS: Columbia

CONTACT PERSON: Gary Davis

[redacted]

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES (IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS)				COMMENT
SB-13 45'	10/30/02	10/30/02		✓	10/30/02	0850		W	1	✓				
↓ 80'		—				0930								
SB-14 45'						1050								
↓ 80'						1130								
SB-15 45'						1355								
↓ 80'						1430								
SB-16 50'						1630								

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
	10/30/02		
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
			10/30/02

Remarks and Observations

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME: TTNUS

PROJECT NAME & ADDRESS: NASP 2406 Pensacola

SAMPLERS: Columbia

CONTACT PERSON: Gary Davis [redacted]

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
SB16 65'	10/31/02	—		✓	10/31/02	0800		W	1	✓				
17 50'						0920								
17 65'						1100								
18 50'						1305								
18 80'						1342								
19 45'						1520								
19 80'						1555								

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Remarks and Observations
	10/31/02			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	
			10/31/02	

Matrix Types: S Soil; SW Surface Water; GW Ground Water; SG Soil Gas

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CHAIN-OF-CUS[illegible]Y RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS
TetraTech	NASP 2406 Pensacola
SAMPLERS	**CONTACT PERSON**
Columbia	Gary Davis

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
NASP 2406 SB20-45'	110102	—		✓	110102	920		W	1	✓				
↓ -80'						930		↓	↓	✓				
OLFS 2406 SB21/29						1203		S	1	✓				
↓ SB21-40'						1340		~~W~~S	1	✓				Soil
↓ SB21-45'						1600		W	1	✓				

[illegible] 110102

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
[signature]	110102	[signature]	
Relinquished by: (Signature)	**Date / Time**	**Received by: (Signature)**	**Date / Time**
[signature]		[signature]	110102

Remarks and Observations
Soils

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

Mobile Laboratory Services
6821 SW Archer Road
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CHAIN-OF-CUST( )DY RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS	
Tetra Tech	Tetra Tech NASP 24106 Pensacola	
SAMPLERS	**CONTACT PERSON**	
Columbia	Gary & Scott	[redacted]

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
NASP 2406 SB22-45'	110202	NR		✓	110202	1130		W	1	✓				
↓ -80'	↓	↓		↓	↓	1215		↓	↓	↓				
SB23-50'	↓	↓		↓	↓	1415		↓	↓	↓				
↓ -80'	↓	↓		↓	↓	1515		↓	↓	↓				
OLFS 2406 SB24-33'	110202	↓		✓	110202	1725		S	1	✓				
↓ SB29-38'	↓	↓		✓	↓	↓		S	1	✓				

PRESERVATION
C Chilled
H HCL
Ot Other (see Remarks)

IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS

Precleaned Containers Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time	Remarks and Observations
				~~SB~~ w/1
Relinquished by: *(Signature)* Scott R. McGuire	Date / Time	Received by: *(Signature)*	Date / Time 110202	

USH 110202

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

Mobile Laboratory Services
6821 SW Archer Road
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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS
Tetra Tech	NASP 2406 Pensacola
SAMPLERS	**CONTACT PERSON**
Columbia	Gary Davis

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
NASP2406 S02450	110302	NR		✓	110302	0745		GW	1	✓				
														yam 110302

IDENTIFY PARAMETERS DESIRED AND NO. OF CONTAINERS

Precleaned Containers Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time	Remarks and Observations
Relinquished by: *(Signature)* Scott R. McGuire	Date / Time	Received by: *(Signature)*	Date / Time 1103/02	

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

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CHAIN-OF-CUST( )DY RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS
Tetra Tech	NASP 2406
SAMPLERS	**CONTACT PERSON**
Columbia	Gary & Scott

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
OLFS 2406 SB25-30	110402	NR		✓	110402	845		S	1	✓				400
SB25-32'				✓		✓								
SB25-44'				✓		940								10,000
NASP 2406 SB25-50'				✓		955		W	1					200
OLFS 2406 SB26-40'				✓		1200		S	1					
NASP 2406 SB26-48'				✓		1225		W	1					
SB27-48				✓		1443								
SB28-45				✓		1630								
OLFS 2406 SB28-41'				✓		1630		S	1					

YAH 110402

Precleaned Containers Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Date / Time	Remarks and Observations
Relinquished by: *(Signature)* Scott R. McGuire	Date / Time	Received by: *(Signature)*	Date / Time 110402	

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

Mobile Laboratory Services
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FAX (352) 367-0074

CHAIN-OF-CUS[illegible]Y RECORD

MOBILE UNIT #

CLIENT NAME	PROJECT NAME & ADDRESS
Tetra Tech	NASP 2406
SAMPLERS	**CONTACT PERSON**
Columbia	Scott & Gary

PRESERVATION: C Chilled; H HCL; Ot Other (see Remarks)

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES				COMMENT
OLFS 2406 SB 29-4'	110502	NR		✓	110502	0730		S	1	✓				1.01g
29-32'						0920								5.03g/10ml
29-44'						1045								5.00g/10ml
NASP 2406 29-48'						1012		W	1					1:2000
OLFS 30-44'						1400		S	1					4.99g/10ml 10,000 DIL
NASP 30-48						1411		W	1					1:50
OLFS 2406 31-44'						~~1900~~	1700	S	1					0.99g
NASP 31-48'						~~1915~~	1715	W	1	✓				

[illegible] 110602

[illegible] 110502

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
[illegible]	110502	[illegible]	110502
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
[illegible]	110502	[illegible]	110502

Remarks and Observations

1 case Soils

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

Mobile Laboratory Services
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CHAIN-OF-CUSTODY RECORD

MOBILE UNIT #

CLIENT NAME: Tetra Tech
PROJECT NAME & ADDRESS: Saffer Field & NAS Pensacola
SAMPLERS: Columbia
CONTACT PERSON: Gary & Mike Akers

SAMPLE FIELD ID.\ NUMBER	DATE SAMPLED	TIME SAMPLED	COMP.	GRAB	DATE REC'D	TIME REC'D	STATION LOCATION / No.	SAMPLE MATRIX	NUMBER OF CONTAINERS	VOLATILES BTEX				COMMENT
NASP 24X06 SB 33-48'	110602	NR		✓	110602	1040		W	1	✓				
SB 33-50'	✓			✓		1040								SB33
SB33-80'	✓			✓		1130								SB33 [illegible] 110602
PEN20 TW0410	✓			✓		1530		W	2					
TW0425	✓			✓		1600		W	2					
TW0450	✓			✓		1600		W	2					
												[illegible]		110602

PRESERVATION
C Chilled
H HCL
Ot Other (see Remarks)

IDENTIFY PARAMETERS DESIRED AND NO OF CONTAINERS

Precleaned Containers Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time 110602

Remarks and Observations

Matrix Types S Soil SW Surface Water GW Ground Water SG Soil Gas

APPENDIX E

VALIDATED LABORATORY ANALYTICAL REPORTS

LL0421117

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**G. WALKER**	**DATE:**	**DECEMBER 12, 2002**
FROM:	**BERNARD F SPADA III**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOC/TPH**
CTO 274, NAS PENSACOLA
SDG F15268

SAMPLES: 4/Aqueous

OLFS2406SB21GW45' OLFS2406SB26GW48' OLFS2406SB28GW48'
TRIP BLANK

4/Soil

OLFS2406SB21-29'* OLFS2406SB21-40'* OLFS2406SB26-40'*
OLFS2406SB28-44'*

OVERVIEW

The sample set for CTO 274, NAS Pensacola, SDG F15268 consists of three (3) environmental aqueous samples, four (4) environmental soil samples, and one (1) trip blank. All environmental samples and trip blank were analyzed for select volatile organic compounds (VOC) by SW-846 Method 8260B. The samples denoted with an asterisk (*) were also analyzed for total petroleum hydrocarbons (TPH) by the Florida-PRO Method.

The samples were collected by Tetra Tech NUS on November 1 and 4, 2002 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 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

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

Samples OLFS2406SB21-40', OLFS2406SB28-44', OLFS2406SB21GW45' and OLFS2406SB28GW48' were analyzed at dilutions because the concentration of target analytes present exceeded the linear

calibration range of the instrument. This accounts for the elevated detection limits for all non-detected compounds in the aforementioned samples.

The matrix spike/matrix spike duplicate (MS/MSD) for the aqueous samples had 0% recovery of 2-chloroethylvinyl ether. No qualifications were made on this basis because the sample used for the MS/MSD was not associated with this SDG.

TPH

None.

Additional Comments

The laboratory did not meet the required detection limits (RDLs) for EDB and methylene chloride as specified in the laboratory specification.

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. 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

Edward Sedlmyer /for

TetraTech 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

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

PROJ_NO: 2642

SDG: F15268 MEDIA: WATER DATA FRACTION:

nsample	OLFS2406SB21GW45'
samp_date	11/1/2002
lab_id	F15268-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	25	U	
1,1,2,2-TETRACHLOROETHANE	25	U	
1,1,2-TRICHLOROETHANE	25	U	
1,1-DICHLOROETHANE	25	U	
1,1-DICHLOROETHENE	25	U	
1,2-DIBROMOETHANE	25	U	
1,2-DICHLOROBENZENE	25	U	
1,2-DICHLOROETHANE	25	U	
1,2-DICHLOROPROPANE	25	U	
1,3-DICHLOROBENZENE	25	U	
1,4-DICHLOROBENZENE	25	U	
2-CHLOROETHYL VINYL ETHER	130	U	
BENZENE	4590		
BROMODICHLOROMETHANE	25	U	
BROMOFORM	25	U	
BROMOMETHANE	50	U	
CARBON TETRACHLORIDE	25	U	
CHLOROBENZENE	25	U	
CHLORODIBROMOMETHANE	20	U	
CHLOROETHANE	50	U	
CHLOROFORM	25	U	
CHLOROMETHANE	50	U	
CIS-1,2-DICHLOROETHENE	25	U	
CIS-1,3-DICHLOROPROPENE	25	U	
ETHYLBENZENE	2090		
METHYL TERT-BUTYL ETHER	25	U	
METHYLENE CHLORIDE	50	U	
TETRACHLOROETHENE	25	U	
TOLUENE	48200		
TOTAL XYLENES	7470		

nsample	OLFS2406SB21GW45'
samp_date	11/1/2002
lab_id	F15268-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	25	U	
TRANS-1,3-DICHLOROPROPENE	25	U	
TRICHLOROETHENE	25	U	
VINYL CHLORIDE	25	U	

nsample	OLFS2406SB26GW48'
samp_date	11/4/2002
lab_id	F15268-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	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	0.99	J	
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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	8.1		
TOTAL XYLENES	1	U	

PROJ_NO: 2642

SDG: F15268 MEDIA: WATER DATA FRACTION:

nsample	OLFS2406SB26GW48'
samp_date	11/4/2002
lab_id	F15268-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS2406SB28GW48'
samp_date	11/4/2002
lab_id	F15268-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	130	U	
1,1,2,2-TETRACHLOROETHANE	130	U	
1,1,2-TRICHLOROETHANE	130	U	
1,1-DICHLOROETHANE	130	U	
1,1-DICHLOROETHENE	130	U	
1,2-DIBROMOETHANE	130	U	
1,2-DICHLOROBENZENE	130	U	
1,2-DICHLOROETHANE	130	U	
1,2-DICHLOROPROPANE	130	U	
1,3-DICHLOROBENZENE	130	U	
1,4-DICHLOROBENZENE	130	U	
2-CHLOROETHYL VINYL ETHER	630	U	
BENZENE	1190		
BROMODICHLOROMETHANE	130	U	
BROMOFORM	130	U	
BROMOMETHANE	250	U	
CARBON TETRACHLORIDE	130	U	
CHLOROBENZENE	130	U	
CHLORODIBROMOMETHANE	100	U	
CHLOROETHANE	250	U	
CHLOROFORM	130	U	
CHLOROMETHANE	250	U	
CIS-1,2-DICHLOROETHENE	130	U	
CIS-1,3-DICHLOROPROPENE	130	U	
ETHYLBENZENE	221	J	
METHYL TERT-BUTYL ETHER	130	U	
METHYLENE CHLORIDE	250	U	
TETRACHLOROETHENE	130	U	
TOLUENE	13500		
TOTAL XYLENES	851		

nsample	OLFS2406SB28GW48'
samp_date	11/4/2002
lab_id	F15268-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	130	U	
TRANS-1,3-DICHLOROPROPENE	130	U	
TRICHLOROETHENE	130	U	
VINYL CHLORIDE	130	U	

PROJ_NO: 2642

SDG: F15268 MEDIA: WATER DATA FRACTION:

nsample	TRIP BLANK
samp_date	11/4/2002
lab_id	F15268-8
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	TRIP BLANK
samp_date	11/4/2002
lab_id	F15268-8
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 2642

SDG: F15268 MEDIA: SOIL DATA FRACTION: OV

nsample	OLFS2406SB21-29'
samp_date	11/1/2002
lab_id	F15268-1
qc_type	NM
units	UG/KG
Pct_Solids	91.6
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1.6	U	
1,1,2,2-TETRACHLOROETHANE	1.6	U	
1,1,2-TRICHLOROETHANE	1.6	U	
1,1-DICHLOROETHANE	1.6	U	
1,1-DICHLOROETHENE	1.6	U	
1,2-DIBROMOETHANE	1.6	U	
1,2-DICHLOROBENZENE	1.6	U	
1,2-DICHLOROETHANE	1.6	U	
1,2-DICHLOROPROPANE	1.6	U	
1,3-DICHLOROBENZENE	1.6	U	
1,4-DICHLOROBENZENE	1.6	U	
2-CHLOROETHYL VINYL ETHER	8.2	U	
BENZENE	1.6	U	
BROMODICHLOROMETHANE	1.6	U	
BROMOFORM	1.6	U	
BROMOMETHANE	1.6	U	
CARBON TETRACHLORIDE	1.6	U	
CHLOROBENZENE	1.6	U	
CHLORODIBROMOMETHANE	1.6	U	
CHLOROETHANE	2.5	U	
CHLOROFORM	1.6	U	
CHLOROMETHANE	1.6	U	
CIS-1,2-DICHLOROETHENE	1.6	U	
CIS-1,3-DICHLOROPROPENE	1.6	U	
ETHYLBENZENE	1.6	U	
METHYL TERT-BUTYL ETHER	1.6	U	
METHYLENE CHLORIDE	4.1	U	
TETRACHLOROETHENE	1.6	U	
TOLUENE	9.1		
TOTAL XYLENES	3.3	U	

nsample	OLFS2406SB21-29'
samp_date	11/1/2002
lab_id	F15268-1
qc_type	NM
units	UG/KG
Pct_Solids	91.6
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	1.6	U	
TRANS-1,3-DICHLOROPROPENE	1.6	U	
TRICHLOROETHENE	1.6	U	
VINYL CHLORIDE	1.6	U	

nsample	OLFS2406SB21-40'
samp_date	11/1/2002
lab_id	F15268-2
qc_type	NM
units	UG/KG
Pct_Solids	92.9
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	850	U	
1,1,2,2-TETRACHLOROETHANE	850	U	
1,1,2-TRICHLOROETHANE	850	U	
1,1-DICHLOROETHANE	850	U	
1,1-DICHLOROETHENE	850	U	
1,2-DIBROMOETHANE	850	U	
1,2-DICHLOROBENZENE	850	U	
1,2-DICHLOROETHANE	850	U	
1,2-DICHLOROPROPANE	850	U	
1,3-DICHLOROBENZENE	850	U	
1,4-DICHLOROBENZENE	850	U	
2-CHLOROETHYL VINYL ETHER	4200	U	
BENZENE	9780		
BROMODICHLOROMETHANE	850	U	
BROMOFORM	850	U	
BROMOMETHANE	850	U	
CARBON TETRACHLORIDE	850	U	
CHLOROBENZENE	850	U	
CHLORODIBROMOMETHANE	850	U	
CHLOROETHANE	1300	U	
CHLOROFORM	850	U	
CHLOROMETHANE	850	U	
CIS-1,2-DICHLOROETHENE	850	U	
CIS-1,3-DICHLOROPROPENE	850	U	
ETHYLBENZENE	62900		
METHYL TERT-BUTYL ETHER	850	U	
METHYLENE CHLORIDE	2100	U	
TETRACHLOROETHENE	850	U	
TOLUENE	372000		
TOTAL XYLENES	236000		

PROJ_NO: 2642

SDG: F15268 MEDIA: SOIL DATA FRACTION: OV

nsample	OLFS2406SB21-40'
samp_date	11/1/2002
lab_id	F15268-2
qc_type	NM
units	UG/KG
Pct_Solids	92.9
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	850	U	
TRANS-1,3-DICHLOROPROPENE	850	U	
TRICHLOROETHENE	850	U	
VINYL CHLORIDE	850	U	

nsample	OLFS2406SB26-40'
samp_date	11/4/2002
lab_id	F15268-7
qc_type	NM
units	UG/KG
Pct_Solids	95.3
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	1.6	U	
1,1,2,2-TETRACHLOROETHANE	1.6	U	
1,1,2-TRICHLOROETHANE	1.6	U	
1,1-DICHLOROETHANE	1.6	U	
1,1-DICHLOROETHENE	1.6	U	
1,2-DIBROMOETHANE	1.6	U	
1,2-DICHLOROBENZENE	1.6	U	
1,2-DICHLOROETHANE	1.6	U	
1,2-DICHLOROPROPANE	1.6	U	
1,3-DICHLOROBENZENE	1.6	U	
1,4-DICHLOROBENZENE	1.6	U	
2-CHLOROETHYL VINYL ETHER	8.1	U	
BENZENE	1.6	U	
BROMODICHLOROMETHANE	1.6	U	
BROMOFORM	1.6	U	
BROMOMETHANE	1.6	U	
CARBON TETRACHLORIDE	1.6	U	
CHLOROBENZENE	1.6	U	
CHLORODIBROMOMETHANE	1.6	U	
CHLOROETHANE	2.4	U	
CHLOROFORM	1.6	U	
CHLOROMETHANE	1.6	U	
CIS-1,2-DICHLOROETHENE	1.6	U	
CIS-1,3-DICHLOROPROPENE	1.6	U	
ETHYLBENZENE	1.6	U	
METHYL TERT-BUTYL ETHER	1.6	U	
METHYLENE CHLORIDE	4	U	
TETRACHLOROETHENE	1.6	U	
TOLUENE	5.3		
TOTAL XYLENES	3.2	U	

nsample	OLFS2406SB26-40'
samp_date	11/4/2002
lab_id	F15268-7
qc_type	NM
units	UG/KG
Pct_Solids	95.3
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	1.6	U	
TRANS-1,3-DICHLOROPROPENE	1.6	U	
TRICHLOROETHENE	1.6	U	
VINYL CHLORIDE	1.6	U	

PROJ_NO: 2642

SDG: F15268 MEDIA: SOIL DATA FRACTION: OV

nsample	OLFS2406SB28-44'
samp_date	11/4/2002
lab_id	F15268-4
qc_type	NM
units	UG/KG
Pct_Solids	88.2
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	800	U	
1,1,2,2-TETRACHLOROETHANE	800	U	
1,1,2-TRICHLOROETHANE	800	U	
1,1-DICHLOROETHANE	800	U	
1,1-DICHLOROETHENE	800	U	
1,2-DIBROMOETHANE	800	U	
1,2-DICHLOROBENZENE	800	U	
1,2-DICHLOROETHANE	800	U	
1,2-DICHLOROPROPANE	800	U	
1,3-DICHLOROBENZENE	800	U	
1,4-DICHLOROBENZENE	800	U	
2-CHLOROETHYL VINYL ETHER	4000	U	
BENZENE	4560		
BROMODICHLOROMETHANE	800	U	
BROMOFORM	800	U	
BROMOMETHANE	800	U	
CARBON TETRACHLORIDE	800	U	
CHLOROBENZENE	800	U	
CHLORODIBROMOMETHANE	800	U	
CHLOROETHANE	1200	U	
CHLOROFORM	800	U	
CHLOROMETHANE	800	U	
CIS-1,2-DICHLOROETHENE	800	U	
CIS-1,3-DICHLOROPROPENE	800	U	
ETHYLBENZENE	72200		
METHYL TERT-BUTYL ETHER	800	U	
METHYLENE CHLORIDE	2000	U	
TETRACHLOROETHENE	800	U	
TOLUENE	554000		
TOTAL XYLENES	299000		

nsample	OLFS2406SB28-44'
samp_date	11/4/2002
lab_id	F15268-4
qc_type	NM
units	UG/KG
Pct_Solids	88.2
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	800	U	
TRANS-1,3-DICHLOROPROPENE	800	U	
TRICHLOROETHENE	800	U	
VINYL CHLORIDE	800	U	

PROJ_NO: 2642

SDG: F15268 MEDIA: SOIL DATA FRACTION: PE

nsample	OLFS2406SB21-29'
samp_date	11/1/2002
lab_id	F15268-1
qc_type	NM
units	MG/KG
Pct_Solids	91.6
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	5.9	U	

nsample	OLFS2406SB21-40'
samp_date	11/1/2002
lab_id	F15268-2
qc_type	NM
units	MG/KG
Pct_Solids	92.9
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	87.8		

nsample	OLFS2406SB26-40'
samp_date	11/4/2002
lab_id	F15268-7
qc_type	NM
units	MG/KG
Pct_Solids	95.3
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	6.1	U	

PROJ_NO: 2642

SDG: F15268 MEDIA: SOIL DATA FRACTION: PE

nsample	OLFS2406SB28-44'
samp_date	11/4/2002
lab_id	F15268-4
qc_type	NM
units	MG/KG
Pct_Solids	88.2
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	364		

CL42110T

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**G. WALKER**	**DATE:**	**FEBRUARY 25, 2003**
FROM:	**BERNARD F SPADA III**	**COPIES:**	**DV FILE**
SUBJECT:	**ORGANIC DATA VALIDATION- VOC/PAH/TPH CTO 274, NAS PENSACOLA SDG F16080**		
SAMPLES:	5/Aqueous		

OLFS-2406-DMW31 OLFS-2406-DMW32 OLFS-2406-DMW37
OLFS-2406-DUP01 OLFS-2406-TB010603

OVERVIEW

The sample set for CTO 274, NAS Pensacola, SDG F16080 consists of three (3) environmental aqueous samples, one (1) field duplicate, and one (1) trip blank. All environmental samples were analyzed for volatile organic compounds (VOC), polynuclear aromatic hydrocarbons (PAH), and total petroleum hydrocarbons (TPH). The trip blank denoted with an asterisk (*) was analyzed for VOC only. The field duplicate pair included in this SDG is OLFS-2406-DUP01 and OLFS-2406-DMW37.

The samples were collected by Tetra Tech NUS on January 7, 2003 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
* • Field Duplicate Precision
  • 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

The positive result in sample OLFS-2406-DMW31 less than the reporting limit (RL) was qualified as estimated (J), due to uncertainty near the detection limit.

The matrix spike/matrix spike duplicate had 0% recovery for 2-chloroethylviny ether. No qualifications were made on this basis because the spiked sample was not a sample contained in this SDG.

Dibromoethane

No qualifications were assigned to this fraction.

PAH

The electronic data deliverable (EDD) did not have acenaphthene listed in sample OLFS-2406-DMW37. The result from the Form I was used for validation.

TPH

No qualifications were assigned to this fraction.

Additional Comments

The laboratory reported to the MDLs. Positive results >MDL but <RL were qualified as estimated (J) due to uncertainty near the detection limit.

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. 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

TetraTech 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 (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard 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)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW31
samp_date	1/6/2003
lab_id	F16080-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.019	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	0.97	J	P
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	OLFS-2406-DMW31
samp_date	1/6/2003
lab_id	F16080-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-DMW32
samp_date	1/6/2003
lab_id	F16080-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW32
samp_date	1/6/2003
lab_id	F16080-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-DMW37
samp_date	1/6/2003
lab_id	F16080-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.0091	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	OLFS-2406-DMW37
samp_date	1/6/2003
lab_id	F16080-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_No: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DUP01
samp_date	1/6/2003
lab_id	F16080-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	OLFS-2406-DMW3

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	OLFS-2406-DUP01
samp_date	1/6/2003
lab_id	F16080-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	OLFS-2406-DMW3

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-TB010603
samp_date	1/6/2003
lab_id	F16080-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	2.4		
TOTAL XYLENES	1	U	
TRANS-1,2-DICHLOROETHENE	0.5	U	

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-TB010603
samp_date	1/6/2003
lab_id	F16080-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW31	nsample	OLFS-2406-DMW32	nsample	OLFS-2406-DMW37
samp_date	1/6/2003	samp_date	1/6/2003	samp_date	1/6/2003
lab_id	F16080-3	lab_id	F16080-4	lab_id	F16080-1
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.51	U	
PHENANTHRENE	1	U	
PYRENE	0.51	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.5	U	
2-METHYLNAPHTHALENE	0.5	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.5	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.5	U	
PHENANTHRENE	1	U	
PYRENE	0.5	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.51	U	
PHENANTHRENE	1	U	
PYRENE	0.51	U	

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DUP01
samp_date	1/6/2003
lab_id	F16080-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	OLFS-2406-DMW37

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.51	U	
PHENANTHRENE	1	U	
PYRENE	0.51	U	

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW31
samp_date	1/6/2003
lab_id	F16080-3
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.05		

nsample	OLFS-2406-DMW32
samp_date	1/6/2003
lab_id	F16080-4
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.17	U	

nsample	OLFS-2406-DMW37
samp_date	1/6/2003
lab_id	F16080-1
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.17	U	

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

sample	OLFS-2406-DUP01
amp_date	1/6/2003
ab_id	F16080-2
c_type	NM
nits	MG/L
ct_Solids	0
UP_OF:	OLFS-2406-DMW37

Parameter	Result	Val Qual	Qual Code
OTAL PETROLEUM HYDROCARBONS	0.17	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW31		
Lab Sample ID:	F16080-3	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	G0019925.D	1	01/08/03	RA	n/a	n/a	VG677
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	0.97	1.0	0.50	ug/l	J
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW31		
Lab Sample ID:	F16080-3	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	105%		78-125%
2037-26-5	Toluene-D8	104%		87-113%
460-00-4	4-Bromofluorobenzene	90%		84-117%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW32		
Lab Sample ID:	F16080-4	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	G0019926.D	1	01/08/03	RA	n/a	n/a	VG677
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW32		
Lab Sample ID:	F16080-4	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		86-115%
17060-07-0	1,2-Dichloroethane-D4	96%		78-125%
2037-26-5	Toluene-D8	102%		87-113%
460-00-4	4-Bromofluorobenzene	97%		84-117%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW37		
Lab Sample ID:	F16080-1	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	G0019923.D	1	01/08/03	RA	n/a	n/a	VG677
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW37		
Lab Sample ID:	F16080-1	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	99%		78-125%
2037-26-5	Toluene-D8	103%		87-113%
460-00-4	4-Bromofluorobenzene	97%		84-117%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DUP01		
Lab Sample ID:	F16080-2	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	G0019924.D	1	01/08/03	RA	n/a	n/a	VG677
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DUP01		
Lab Sample ID:	F16080-2	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		86-115%
17060-07-0	1,2-Dichloroethane-D4	100%		78-125%
2037-26-5	Toluene-D8	99%		87-113%
460-00-4	4-Bromofluorobenzene	99%		84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-TB010603		
Lab Sample ID:	F16080-5	**Date Sampled:**	01/06/03
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/07/03
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 [a]	G0019922.D	1	01/08/03	RA	n/a	n/a	VG677
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	2.4	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-TB010603		
Lab Sample ID:	F16080-5	**Date Sampled:**	01/06/03
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/07/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		86-115%
17060-07-0	1,2-Dichloroethane-D4	99%		78-125%
2037-26-5	Toluene-D8	103%		87-113%
460-00-4	4-Bromofluorobenzene	93%		84-117%

(a) Confirmed by reanalysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW31		
Lab Sample ID:	F16080-3	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	ST18496.D	1	01/09/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	37.7 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.019	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW32		
Lab Sample ID:	F16080-4	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	ST18497.D	1	01/09/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	38.2 ml	2.0 ml
Run #2		

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW37		
Lab Sample ID:	F16080-1	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	ST18494.D	1	01/09/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	38.5 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.018	0.0091	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DUP01		
Lab Sample ID:	F16080-2	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	ST18495.D	1	01/09/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	38.0 ml	2.0 ml
Run #2		

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW31		
Lab Sample ID:	F16080-3	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
Method:	EPA 8310 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	EE012493.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	55%		32-142%
92-94-4	p-Terphenyl	42%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW32		
Lab Sample ID:	F16080-4	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
Method:	EPA 8310 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	EE012494.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	64%		32-142%
92-94-4	p-Terphenyl	43%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW37		
Lab Sample ID:	F16080-1	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
Method:	EPA 8310 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	EE012489.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	82%		32-142%
92-94-4	p-Terphenyl	83%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DUP01		
Lab Sample ID:	F16080-2	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
Method:	EPA 8310 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	EE012490.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.1	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.1	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	81%		32-142%
92-94-4	p-Terphenyl	83%		30-128%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value

RL = Reporting Limit B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW31		
Lab Sample ID:	F16080-3	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	OP26472.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912
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)	1.05	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	98%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW32		
Lab Sample ID:	F16080-4	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	OP26473.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912
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)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	105%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW37		
Lab Sample ID:	F16080-1	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	OP26470.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912
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)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	103%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DUP01		
Lab Sample ID:	F16080-2	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
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	OP26471.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

APPENDIX C

SUPPORT DOCUMENTATION

FIELD DUPLICATE PRECISION

ANALYTE	OLFS-2406-DUP01	OLFS-2406-DMW37	RPD	DIFFERENCE
2-Chloroethylvinyl ether	2.5	2.5	0.00	0
Methylene chloride	1	1	0.00	0

Spada, Bernie

From: Lee, Ethan
Sent: Friday, February 07, 2003 9:51 AM
To: Spada, Bernie
Subject: FW: field duplicate pair info for pensacola

Field dup for OLFS-2406-DUP01

-----Original Message-----
From: Engle, Howard
Sent: Friday, February 07, 2003 9:49 AM
To: Lee, Ethan
Subject: RE: field duplicate pair info

Should be OLFS-2406-DMW37

Howard

-----Original Message-----
From: Lee, Ethan
Sent: Friday, February 07, 2003 8:25 AM
To: Engle, Howard
Subject: field duplicate pair info

Do you have the field duplicate pair for sample OLFS-2406-DUP01 from Pensacola, SDG F16080? The sampling date was 1/6/03. Thanks!

Ethan Lee
Environmental Scientist
TETRA TECH NUS, Inc.
Foster Plaza 7
661 Andersen Drive
Pittsburgh, PA 15220
Telephone: (412) 921-7113
FAX: (412) 921-4040
leee@ttnus.com
http://www.ttnus.com
http://www.tetratech.com

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F16080

HOLDING TIME
02/05/03

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
UG/L	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	EDB	01/06/03	01/09/03	01/09/03	3	0	3
UG/L	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	EDB	01/06/03	01/09/03	01/09/03	3	0	3
%	OLFS-2406-DMW37	OP6720-MSD	MS	F16080	EDB	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	OLFS-2406-DUP01	F16080-2	MSD	F16080	EDB	01/06/03	01/09/03	01/09/03	3	0	3
%	OP6720-BS	OP6720-BS	BSP	F16080	EDB	01/09/03	01/09/03	01/09/03	0	0	0
%	OP6720-BS2	OP6720-BS2	BSP	F16080	EDB	01/09/03	01/09/03	01/09/03	0	0	0
UG/L	VBLK1	OP6720-MB	M_BLANK	F16080	EDB	01/08/03	01/09/03	01/09/03	1	0	1
%	MP5072-B1	MP5072-B1	BSP	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	MP5072-D1	MP5072-D1	DUPLICATE	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	MP5072-S1	MP5072-S1	MS	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	MP5072-S2	MP5072-S2	MSD	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	MP5072-SD1	MP5072-SD1	SDL	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
UG/L	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	M	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	M	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	OLFS-2406-DMW37	F16080-1	NORMAL	F16080	M	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	OLFS-2406-DUP01	F16080-2	MSD	F16080	M	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	PBW1	MP5072-MB1	M_BLANK	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	F16088-3DUP	F16088-3DUP	DUPLICATE	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	F16088-8MS	F16088-8MS	MS	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	F16088-8MSD	F16088-8MSD	MSD	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	OV	01/06/03	/ /	01/08/03	0	0	2
%	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	OV	01/06/03	/ /	01/08/03	0	0	2
%	OLFS-2406-DMW37	F16080-1	NORMAL	F16080	OV	01/06/03	/ /	01/08/03	0	0	2
%	OLFS-2406-DUP01	F16080-2	MS	F16080	OV	01/06/03	/ /	01/08/03	0	0	2

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
%	OLFS-2406-TB010603	F16080-5	NORMAL	F16080	OV	01/06/03	/ /	01/08/03	0	0	2
UG/L	VBLK1	VG677-MB	M_BLANK	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	VG677-BS	VG677-BS	BSP	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	PAH	01/06/03	01/07/03	01/09/03	1	2	3
%	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	PAH	01/06/03	01/07/03	01/09/03	1	2	3
%	OLFS-2406-DMW37	F16080-1	NORMAL	F16080	PAH	01/06/03	01/07/03	01/09/03	1	2	3
%	OLFS-2406-DUP01	OP6703-MSD	NORMAL	F16080	PAH	01/06/03	01/07/03	01/09/03	1	2	3
%	OP6703-BS	OP6703-BS	BSP	F16080	PAH	01/07/03	01/07/03	01/09/03	0	2	2
UG/L	PBLK1	OP6703-MB	M_BLANK	F16080	PAH	01/07/03	01/07/03	01/09/03	0	2	2
%	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	TPH	01/06/03	01/08/03	01/08/03	2	0	2
%	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	TPH	01/06/03	01/08/03	01/08/03	2	0	2
%	OLFS-2406-DMW37	F16080-1	NORMAL	F16080	TPH	01/06/03	01/08/03	01/08/03	2	0	2
%	OLFS-2406-DUP01	F16080-2	MS	F16080	TPH	01/06/03	01/08/03	01/08/03	2	0	2
%	OP6706-BS	OP6706-BS	BSP	F16080	TPH	01/08/03	01/08/03	01/08/03	0	0	0
%	OP6706-MS	OP6706-MS	MS	F16080	TPH	01/08/03	01/08/03	01/08/03	0	0	0
%	OP6706-MSD	OP6706-MSD	MSD	F16080	TPH	01/08/03	01/08/03	01/08/03	0	0	0
MG/L	PBLK1	OP6706-MB	M_BLANK	F16080	TPH	01/07/03	01/08/03	01/08/03	1	0	1

Instrument Performance Check (BFB)

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample:	VG615-BFB	**Injection Date:**	10/29/02
Lab File ID:	G0018629.D	**Injection Time:**	10:35
Instrument ID:	GCMSG		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	26714	24.2	Pass
75	30.0 - 60.0% of mass 95	62860	56.8	Pass
95	Base peak, 100% relative abundance	110596	100.0	Pass
96	5.0 - 9.0% of mass 95	8543	7.7	Pass
173	Less than 2.0% of mass 174	502	0.45 (0.59) [a]	Pass
174	50.0 - 100.0% of mass 95	85295	77.1	Pass
175	5.0 - 9.0% of mass 174	7273	6.6 (8.5) [a]	Pass
176	95.0 - 101.0% of mass 174	82816	74.9 (97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	6289	5.7 (7.6) [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
VG615-IC615	G0018630.D	10/29/02	10:52	00:17	Initial cal 1
VG615-IC615	G0018631.D	10/29/02	11:23	00:48	Initial cal 5
VG615-IC615	G0018632.D	10/29/02	11:54	01:19	Initial cal 20
VG615-ICC615	G0018633.D	10/29/02	12:25	01:50	Initial cal 40
VG615-IC615	G0018634.D	10/29/02	12:56	02:21	Initial cal 70
VG615-IC615	G0018635.D	10/29/02	13:27	02:52	Initial cal 100

Response Factor Report MSVOA1

Method : C:\HPCHEM\1\METHODS\8260-30M.M (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Tue Oct 29 13:57:07 2002
Response via : Initial Calibration

Calibration Files
1 =G0018630.D 2 =G0018631.D 3 =G0018632.D
4 =G0018633.D 5 =G0018634.D 6 =G0018635.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet		0.330	0.331	0.332	0.326	0.314	0.326	2.31
3)	P	Chloromethane	0.433	0.491	0.430	0.385	0.417	0.398	0.426	8.65
4)	C	Vinyl Chloride	0.300	0.417	0.373	0.367	0.345	0.347	0.358	10.77
5)		Bromomethane	0.245	0.299	0.238	0.236	0.229	0.214	0.244	12.00
6)		Chloroethane	0.194	0.220	0.210	0.202	0.192	0.183	0.200	6.66
7)		Trichlorofluorometh	0.322	0.410	0.344	0.351	0.360	0.359	0.358	8.15
8)		Ethyl Ether	0.255	0.241	0.235	0.219	0.223	0.206	0.230	7.53
9)	C	1,1-Dichloroethene	0.449	0.479	0.421	0.428	0.412	0.394	0.431	6.91
10)		Freon 113	0.248	0.317	0.255	0.249	0.239	0.229	0.256	12.24
11)		Acetone	0.140	0.104	0.081	0.079	0.076	0.075	0.092	27.75
		----- Linear regression ----- Coefficient = 0.9997								
		Response Ratio = 0.01348 + 0.07378 *A								
12)		Iodomethane	0.393	0.500	0.424	0.411	0.408	0.378	0.419	10.21
13)		Carbon Disulfide	0.675	0.873	0.765	0.736	0.746	0.711	0.751	8.97
14)		Methyl acetate	0.262	0.256	0.219	0.212	0.208	0.199	0.226	11.69
15)		Methylene Chloride	1.608	0.837	0.455	0.456	0.429	0.409	0.699	67.70
		----- Linear regression ----- Coefficient = 0.9986								
		Response Ratio = 0.03463 + 0.39716 *A								
16)		trans-1,2-Dichloroe	0.462	0.454	0.442	0.411	0.431	0.391	0.432	6.20
17)		Acrylonitrile	0.100	0.098	0.084	0.082	0.086	0.083	0.089	9.01
18)		Methyl Tert Butyl E	0.807	0.775	0.700	0.693	0.699	0.685	0.727	7.06
19)		Hexane		0.381	0.334	0.332	0.331	0.300	0.336	8.64
20)	P	1,1-Dichloroethane	0.461	0.585	0.504	0.498	0.496	0.472	0.503	8.67
21)		Vinyl acetate		0.331	0.360	0.313	0.315	0.301	0.324	7.00
22)		Di-isopropyl ether	0.840	1.005	0.919	0.923	0.918	0.890	0.916	5.87
23)		ETBE	0.780	0.853	0.814	0.824	0.828	0.810	0.818	2.94
24)		2,2-Dichloropropane	0.357	0.435	0.389	0.384	0.364	0.358	0.381	7.75
25)		cis-1,2-Dichloroeth	0.241	0.302	0.290	0.286	0.271	0.272	0.277	7.57
26)		2-Butanone	0.148	0.138	0.119	0.114	0.116	0.114	0.125	11.67
27)		Bromochloromethane	0.190	0.174	0.159	0.147	0.153	0.143	0.161	11.11
28)		Tetrahydrofuran		0.078	0.067	0.073	0.074	0.072	0.073	5.87
29)	C	Chloroform		0.675	0.555	0.533	0.518	0.491	0.554	12.89
30)		1,1,1-Trichloroetha	0.473	0.553	0.471	0.451	0.450	0.433	0.472	8.99
31)	S	Dibromofluoromethan	0.342	0.349	0.341	0.338	0.332	0.330	0.339	1.97
32)		Cyclohexane	0.361	0.475	0.438	0.437	0.440	0.434	0.431	8.72
33)		1,1-Dichloropropene	0.370	0.411	0.354	0.367	0.349	0.343	0.366	6.71
34)		Carbon Tetrachlorid	0.385	0.498	0.427	0.413	0.407	0.406	0.423	9.32
35)	S	1,2-Dichloroethane-	0.459	0.448	0.433	0.420	0.417	0.405	0.430	4.68
36)		Benzene	0.778	1.050	0.946	0.940	0.892	0.867	0.912	9.96
37)		1,2-Dichloroethane		0.594	0.481	0.470	0.441	0.426	0.482	13.72
38)		TAME	0.532	0.717	0.687	0.674	0.686	0.673	0.662	9.90
39)		Trichloroethene	0.299	0.303	0.291	0.290	0.289	0.278	0.291	2.97
40)		Methylcyclohexane		0.405	0.396	0.402	0.405	0.382	0.39[illegible]	[illegible].49
41)	C	1,2-Dichloropropane		0.314	0.278	0.289	0.272	0.270	0.285	6.36

44)		2-Nitropropane		0.096	0.094	0.099	0.096	0.096	0.096	1.80
45)		2-Chloroethyl vinyl	0.085	0.096	0.096	0.092	0.090	0.084	0.090	5.74
46)		4-Methyl-2-pentanon	0.235	0.291	0.274	0.274	0.263	0.253	0.265	7.29
47)		cis-1,3-Dichloropro	0.437	0.473	0.483	0.475	0.456	0.444	0.461	4.04
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	S	Toluene-d8	1.176	1.208	1.189	1.164	1.168	1.199	1.184	1.47
50)	C	Toluene	0.915	1.198	1.150	1.139	1.079	1.113	1.099	8.96
51)		trans-1,3-Dichlorop	0.460	0.512	0.478	0.477	0.477	0.485	0.481	3.58
52)		1,1,2-Trichloroetha	0.244	0.292	0.258	0.249	0.242	0.248	0.255	7.32
53)		Tetrachloroethene	0.366	0.370	0.352	0.339	0.330	0.338	0.349	4.66
54)		2-hexanone	0.210	0.216	0.208	0.204	0.206	0.209	0.209	1.94
55)		1,3-Dichloropropane	0.492	0.541	0.506	0.488	0.474	0.469	0.495	5.27
56)		Dibromochloromethan		0.395	0.348	0.331	0.338	0.348	0.352	7.13
57)		1,2-Dibromoethane		0.330	0.312	0.285	0.285	0.294	0.301	6.53
58)		1-Chlorohexane	0.491	0.463	0.430	0.409	0.410	0.405	0.434	8.09
59)	P	Chlorobenzene	0.700	0.905	0.784	0.798	0.748	0.751	0.781	8.91
60)		1,1,1,2-Tetrachloro	0.323	0.396	0.339	0.318	0.313	0.313	0.333	9.60
61)	C	Ethylbenzene	1.165	1.406	1.360	1.348	1.297	1.276	1.309	6.43
62)		m,p-Xylene	0.839	1.181	1.116	1.071	1.035	1.017	1.043	11.13
63)		o-Xylene	0.958	1.189	1.183	1.165	1.148	1.160	1.134	7.73
64)		Styrene		0.811	0.857	0.865	0.828	0.848	0.842	2.61
65)	P	Bromoform		0.251	0.242	0.230	0.250	0.266	0.248	5.36
66)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
67)		Isopropylbenzene		1.938	1.957	1.952	1.964	1.803	1.923	3.52
68)	S	4-Bromofluorobenzen	0.957	0.985	0.981	0.942	0.972	0.912	0.958	2.89
69)		Bromobenzene	0.667	0.623	0.596	0.579	0.598	0.564	0.605	6.00
70)	P	1,1,2,2-Tetrachloro	0.642	0.657	0.610	0.576	0.587	0.529	0.600	7.80
71)		1,2,3-Trichloroprop	0.197	0.219	0.203	0.168	0.174	0.160	0.187	12.24
72)		trans-1,4-Dichloro-	0.195	0.228	0.228	0.197	0.215	0.199	0.210	7.40
73)		n-Propylbenzene		2.760	2.729	2.610	2.564	2.345	2.602	6.34
74)		2-Chlorotoluene	1.345	1.901	1.737	1.619	1.617	1.483	1.617	11.95
75)		4-Chlorotoluene		2.182	2.074	1.935	1.930	1.770	1.978	7.93
76)		1,3,5-Trimethylbenz		1.937	1.906	1.793	1.815	1.707	1.832	5.03
77)		sec-Butylbenzene		2.233	2.160	2.143	2.133	2.019	2.138	3.61
78)		1,3-Dichlorobenzene	1.127	1.186	1.134	1.078	1.062	1.005	1.099	5.79
79)		4-Isopropyltoluene		2.034	1.855	1.876	1.806	1.707	1.856	6.42
80)		1,4-Dichlorobenzene	1.213	1.302	1.165	1.087	1.086	1.072	1.154	7.88
81)		tert-Butylbenzene		1.283	1.298	1.236	1.233	1.132	1.236	5.26
82)		Benzyl Chloride	0.958	1.112	1.062	1.058	1.073	1.036	1.050	4.90
83)		n-Butylbenzene		1.992	1.981	1.925	1.900	1.785	1.917	4.33
84)		1,2-Dichlorobenzene	1.163	1.241	1.130	1.057	1.039	0.997	1.104	8.16
85)		1,2,4-Trimethylbenz	1.513	2.119	1.962	1.870	1.861	1.752	1.846	11.07
86)		1,2-Dibromo-3-Chlor	0.139	0.140	0.149	0.137	0.144	0.135	0.141	3.55
87)		1,2,4-Trichlorobenz	0.885	0.913	0.837	0.831	0.836	0.828	0.855	4.14
88)		Hexachlorobutadiene		0.473	0.353	0.357	0.360	0.348	0.378	13.99
89)		Naphthalene	1.546	1.807	1.783	1.691	1.740	1.687	1.709	5.45
90)		1,2,3-Trichlorobenz	0.851	0.820	0.790	0.762	0.791	0.742	0.793	4.91
91)	I	Tert Butyl Alcohol-d1	----------ISTD----------							
92)		Acrolein	3.150	3.386	2.760	2.666	2.510	2.418	2.815	13.42
93)		Tert Butyl Alcohol	1.468	1.420	1.392	1.398	1.303	1.280	1.377	5.21
94)		1,4-Dioxane	0.165	0.114	0.141	0.144	0.139	0.136	0.140	11.64
95)		Cyclohexanone		0.344	0.598	0.593	0.579	0.530	0.529	20.20

----- Linear regression ----- Coefficient = 0.9931

Response Ratio = 0.01513 + 0.54126 *A

(#) = Out of Range

Instrument Performance Check (BFB)

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample:	VG677-BFB	**Injection Date:**	01/08/03
Lab File ID:	G0019905.D	**Injection Time:**	13:11
Instrument ID:	GCMSG		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	49539	24.6	Pass
75	30.0 - 60.0% of mass 95	119821	59.4	Pass
95	Base peak, 100% relative abundance	201664	100.0	Pass
96	5.0 - 9.0% of mass 95	15402	7.6	Pass
173	Less than 2.0% of mass 174	1213	0.6 (0.72) [a]	Pass
174	50.0 - 100.0% of mass 95	168405	83.5	Pass
175	5.0 - 9.0% of mass 174	14057	7.0 (8.3) [a]	Pass
176	95.0 - 101.0% of mass 174	168789	83.7 (100.2) [a]	Pass
177	5.0 - 9.0% of mass 176	12761	6.3 (7.6) [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
VG677-CC615	G0019906.D	01/08/03	13:29	00:18	Continuing cal 40
VG677-BS	G0019907.D	01/08/03	14:15	01:04	Blank Spike
VG677-MB	G0019908.D	01/08/03	14:45	01:34	Method Blank
VG677-BS	G0019909.D	01/08/03	15:16	02:05	Blank Spike
ZZZZZZ	G0019910.D	01/08/03	15:46	02:35	(unrelated sample)
ZZZZZZ	G0019914.D	01/08/03	17:48	04:37	(unrelated sample)
F16088-3	G0019915.D	01/08/03	18:18	05:07	(used for QC only; not part of job F16080)
F16088-3DUP	G0019916.D	01/08/03	18:49	05:38	Duplicate
ZZZZZZ	G0019917.D	01/08/03	19:20	06:09	(unrelated sample)
F16088-8	G0019918.D	01/08/03	19:50	06:39	(used for QC only; not part of job F16080)
F16088-8MS	G0019919.D	01/08/03	20:21	07:10	Matrix Spike
F16088-8MSD	G0019920.D	01/08/03	20:51	07:40	Matrix Spike Duplicate
ZZZZZZ	G0019921.D	01/08/03	21:22	08:11	(unrelated sample)
F16080-5	G0019922.D	01/08/03	21:53	08:42	OLFS-2406-TB010603
F16080-1	G0019923.D	01/08/03	22:23	09:12	OLFS-2406-DMW37
F16080-2	G0019924.D	01/08/03	22:53	09:42	OLFS-2406-DUP01
F16080-3	G0019925.D	01/08/03	23:24	10:13	OLFS-2406-DMW31
F16080-4	G0019926.D	01/08/03	23:55	10:44	OLFS-2406-DMW32
ZZZZZZ	G0019927.D	01/09/03	00:25	11:14	(unrelated sample)

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010803\G0019906.D Vial: 1
Acq On : 8 Jan 2003 1:29 pm Operator: RachidA
Sample : CC615-40 Inst : MSVOA1
Misc : ms2020,vg677,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260-30M.M (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Tue Oct 29 14:24:03 2002
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)
1	I	Fluorobenzene	1.000	1.000	0.0	127	-0.01
2		Dichlorodifluoromethane	0.326	0.214	34.4#	82	0.06
3	P	Chloromethane	0.426	0.411	3.5	135	0.05
4	C	Vinyl Chloride	0.358	0.289	19.3	100	0.08
5		Bromomethane	0.244	0.200	18.0	107	0.09
6		Chloroethane	0.200	0.191	4.5	119	0.05
7		Trichlorofluoromethane	0.358	0.278	22.3#	100	0.06
8		Ethyl Ether	0.230	0.170	26.1#	99	0.02
9	C	1,1-Dichloroethene	0.431	0.395	8.4	117	0.08
10		Freon 113	0.256	0.122	52.3#	62	0.06
11		Acetone	0.092	0.111	-20.7#	179	0.02
12		Iodomethane	0.419	0.436	-4.1	135	0.00
13		Carbon Disulfide	0.751	0.814	-8.4	140	0.09
14		Methyl acetate	0.226	0.191	15.5	114	0.00
15		Methylene Chloride	0.699	0.437	37.5#	121	0.00
16		trans-1,2-Dichloroethene	0.432	0.418	3.2	129	0.00
17		Acrylonitrile	0.089	0.071	20.2#	109	0.00
18		Methyl Tert Butyl Ether	0.727	0.634	12.8	116	0.00
19		Hexane	0.336	0.346	-3.0	132	0.01
20	P	1,1-Dichloroethane	0.503	0.478	5.0	121	0.00
21		Vinyl acetate	0.324	4.032	-1144.4#	1633#	0.00
22		Di-isopropyl ether	0.916	1.039	-13.4	143	0.00
23		ETBE	0.818	0.752	8.1	116	0.00
24		2,2-Dichloropropane	0.381	0.318	16.5	105	0.00
25		cis-1,2-Dichloroethene	0.277	0.254	8.3	112	0.00
26		2-Butanone	0.125	0.131	-4.8	145	0.00
27		Bromochloromethane	0.161	0.161	0.0	139	0.00
28		Tetrahydrofuran	0.073	0.076	-4.1	131	0.00
29	C	Chloroform	0.554	0.483	12.8	115	0.00
30		1,1,1-Trichloroethane	0.472	0.417	11.7	117	0.00
31	S	Dibromofluoromethane	0.339	0.335	1.2	126	0.00
32		Cyclohexane	0.431	0.465	-7.9	135	0.00
33		1,1-Dichloropropene	0.366	0.332	9.3	115	0.00
34		Carbon Tetrachloride	0.423	0.388	8.3	119	-0.01
35	S	1,2-Dichloroethane-d4	0.430	0.414	3.7	125	0.00
36		Benzene	0.912	0.893	2.1	120	-0.01
37		1,2-Dichloroethane	0.482	0.435	9.8	117	0.00
38		TAME	0.662	0.613	7.4	115	0.00
39		Trichloroethene	0.291	0.266	8.6	117	0.00
40		Methylcyclohexane	0.398	0.430	-8.0	135	-0.01
41	C	1,2-Dichloropropane	0.285	0.270	5.3	118	-0.01
42		Dibromomethane	0.201	0.186	7.5	120	-0.01
43		Bromodichloromethane	0.437	0.404	7.6	122	-0.01
44		2-Nitropropane	0.096	0.101	-5.2	130	-0.01
45		2-Chloroethyl vinyl ether	0.090	0.162	[illegible]	[illegible]	[illegible]

fa 1-9-3

OK, linear

	4-Methyl-2-pentanone	0.265	0.274	-3.4	127	-0.02
	cis-1,3-Dichloropropene	0.461	0.446	3.3	119	-0.01
I	Chlorobenzene-d5	1.000	1.000	0.0	125	-0.02
S	Toluene-d8	1.184	1.147	3.1	123	-0.02
C	Toluene	1.099	1.043	5.1	115	-0.01
	trans-1,3-Dichloropropene	0.481	0.460	4.4	121	-0.02
	1,1,2-Trichloroethane	0.255	0.224	12.2	113	-0.01
	Tetrachloroethene	0.349	0.357	-2.3	132	-0.02
	2-hexanone	0.209	0.219	-4.8	134	-0.01
	1,3-Dichloropropane	0.495	0.449	9.3	115	-0.02
	Dibromochloromethane	0.352	0.336	4.5	127	-0.01
	1,2-Dibromoethane	0.301	0.268	11.0	118	-0.02
	1-Chlorohexane	0.434	0.394	9.2	121	-0.02
P	Chlorobenzene	0.781	0.766	1.9	120	-0.01
	1,1,1,2-Tetrachloroethane	0.333	0.323	3.0	127	-0.02
C	Ethylbenzene	1.309	1.274	2.7	118	-0.02
	m,p-Xylene	1.043	1.005	3.6	117	-0.02
	o-Xylene	1.134	1.132	0.2	122	-0.01
	Styrene	0.842	0.845	-0.4	122	-0.02
P	Bromoform	0.248	0.267	-7.7	145	-0.02
I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	-0.03
	Isopropylbenzene	1.923	2.183	-13.5	128	-0.02
S	4-Bromofluorobenzene	0.958	1.079	-12.6	131	-0.02
	Bromobenzene	0.605	0.714	-18.0	141	-0.02
P	1,1,2,2-Tetrachloroethane	0.600	0.616	-2.7	122	-0.02
	1,2,3-Trichloropropane	0.187	0.184	1.6	125	-0.02
	trans-1,4-Dichloro-2-Butene	0.210	0.219	-4.3	128	-0.02
	n-Propylbenzene	2.602	2.789	-7.2	122	-0.02
	2-Chlorotoluene	1.617	1.774	-9.7	125	-0.02
	4-Chlorotoluene	1.978	2.128	-7.6	126	-0.02
	1,3,5-Trimethylbenzene	1.832	2.010	-9.7	128	-0.02
	sec-Butylbenzene	2.138	1.990	6.9	106	-0.02
	1,3-Dichlorobenzene	1.099	1.070	2.6	113	-0.02
	4-Isopropyltoluene	1.856	1.655	10.8	101	-0.03
	1,4-Dichlorobenzene	1.154	1.099	4.8	116	-0.02
	tert-Butylbenzene	1.236	1.116	9.7	103	-0.03
	Benzyl Chloride	1.050	1.039	1.0	112	-0.02
	n-Butylbenzene	1.917	1.706	11.0	101	-0.02
	1,2-Dichlorobenzene	1.104	1.052	4.7	114	-0.03
	1,2,4-Trimethylbenzene	1.846	1.671	9.5	102	-0.02
	1,2-Dibromo-3-Chloropropane	0.141	0.124	12.1	104	-0.02
	1,2,4-Trichlorobenzene	0.855	0.966	-13.0	133	-0.01
	Hexachlorobutadiene	0.378	0.414	-9.5	132	-0.02
	Naphthalene	1.709	1.626	4.9	110	-0.02
	1,2,3-Trichlorobenzene	0.793	0.850	-7.2	127	-0.03
I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	121	0.00
	Acrolein	2.815	1.941	31.0#	88	0.00
	Tert Butyl Alcohol	1.377	1.476	-7.2	128	0.00
	1,4-Dioxane	0.140	0.103	26.4#	87	-0.01
	Cyclohexanone	0.529	0.648	-22.5#	133	-0.02

Average % D = 23.0

(#) = Out of Range SPCC's out = 0 CCC's out = 0

G0018633.D 8260-30M.M Thu Jan 09 12:53:31 2003 RP1

Method Blank Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG677-MB	G0019908.D	1	01/08/03	RA	n/a	n/a	VG677

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16080-1, F16080-2, F16080-3, F16080-4, F16080-5

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

Method Blank Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG677-MB	G0019908.D	1	01/08/03	RA	n/a	n/a	VG677

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16080-1, F16080-2, F16080-3, F16080-4, F16080-5

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	101%	78-125%
2037-26-5	Toluene-D8	125%*	87-113%
460-00-4	4-Bromofluorobenzene	95%	84-117%

Blank Spike Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG677-BS	G0019907.D	1	01/08/03	RA	n/a	n/a	VG677

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16080-1, F16080-2, F16080-3, F16080-4, F16080-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	28.6	114	76-123
75-27-4	Bromodichloromethane	25	26.0	104	72-122
75-25-2	Bromoform	25	29.7	119	59-124
108-90-7	Chlorobenzene	25	28.4	114	78-115
75-00-3	Chloroethane	25	24.9	100	65-141
67-66-3	Chloroform	25	24.9	100	74-123
110-75-8	2-Chloroethyl vinyl ether	125	227	182*	24-148
56-23-5	Carbon tetrachloride	25	27.2	109	68-137
75-34-3	1,1-Dichloroethane	25	27.9	112	73-125
75-35-4	1,1-Dichloroethylene	25	28.5	114	64-136
107-06-2	1,2-Dichloroethane	25	25.6	102	66-118
78-87-5	1,2-Dichloropropane	25	30.0	120	75-129
124-48-1	Dibromochloromethane	25	25.8	103	72-117
156-59-2	cis-1,2-Dichloroethylene	25	29.0	116	79-127
10061-01-5	cis-1,3-Dichloropropene	25	28.1	112	71-117
541-73-1	m-Dichlorobenzene	25	28.6	114	74-117
95-50-1	o-Dichlorobenzene	25	27.8	111	73-115
106-46-7	p-Dichlorobenzene	25	26.5	106	74-117
156-60-5	trans-1,2-Dichloroethylene	25	28.2	113	67-125
10061-02-6	trans-1,3-Dichloropropene	25	27.6	110	65-113
100-41-4	Ethylbenzene	25	27.9	112	76-117
74-83-9	Methyl bromide	25	22.4	90	45-137
74-87-3	Methyl chloride	25	28.9	116	47-149
75-09-2	Methylene chloride	25	27.3	109	63-126
1634-04-4	Methyl Tert Butyl Ether	25	25.5	102	68-125
71-55-6	1,1,1-Trichloroethane	25	26.4	106	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	23.7	95	69-114
79-00-5	1,1,2-Trichloroethane	25	26.7	107	74-115
127-18-4	Tetrachloroethylene	25	32.6	130*	75-124
108-88-3	Toluene	25	28.2	113	76-118
79-01-6	Trichloroethylene	25	28.3	113	75-122
75-01-4	Vinyl chloride	25	25.6	102	62-142
1330-20-7	Xylene (total)	75	85.5	114	78-120

Blank Spike Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG677-BS	G0019907.D	1	01/08/03	RA	n/a	n/a	VG677

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16080-1, F16080-2, F16080-3, F16080-4, F16080-5

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	86-115%
17060-07-0	1,2-Dichloroethane-D4	97%	78-125%
2037-26-5	Toluene-D8	101%	87-113%
460-00-4	4-Bromofluorobenzene	95%	84-117%

Blank Spike Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG677-BS	G0019909.D	1	01/08/03	RA	n/a	n/a	VG677

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16080-1, F16080-2, F16080-3, F16080-4, F16080-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	28.5	114	76-123
75-27-4	Bromodichloromethane	25	24.3	97	72-122
75-25-2	Bromoform	25	28.7	115	59-124
108-90-7	Chlorobenzene	25	26.7	107	78-115
75-00-3	Chloroethane	25	27.4	110	65-141
67-66-3	Chloroform	25	25.2	101	74-123
110-75-8	2-Chloroethyl vinyl ether	125	216	173*	24-148
56-23-5	Carbon tetrachloride	25	27.3	109	68-137
75-34-3	1,1-Dichloroethane	25	29.7	119	73-125
75-35-4	1,1-Dichloroethylene	25	30.2	121	64-136
107-06-2	1,2-Dichloroethane	25	26.0	104	66-118
78-87-5	1,2-Dichloropropane	25	28.2	113	75-129
124-48-1	Dibromochloromethane	25	25.3	101	72-117
156-59-2	cis-1,2-Dichloroethylene	25	29.7	119	79-127
10061-01-5	cis-1,3-Dichloropropene	25	25.9	104	71-117
541-73-1	m-Dichlorobenzene	25	27.4	110	74-117
95-50-1	o-Dichlorobenzene	25	27.1	108	73-115
106-46-7	p-Dichlorobenzene	25	26.2	105	74-117
156-60-5	trans-1,2-Dichloroethylene	25	29.9	120	67-125
10061-02-6	trans-1,3-Dichloropropene	25	25.8	103	65-113
100-41-4	Ethylbenzene	25	27.7	111	76-117
74-83-9	Methyl bromide	25	24.9	100	45-137
74-87-3	Methyl chloride	25	31.4	126	47-149
75-09-2	Methylene chloride	25	29.3	117	63-126
1634-04-4	Methyl Tert Butyl Ether	25	25.7	103	68-125
71-55-6	1,1,1-Trichloroethane	25	26.7	107	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	23.7	95	69-114
79-00-5	1,1,2-Trichloroethane	25	26.2	105	74-115
127-18-4	Tetrachloroethylene	25	29.2	117	75-124
108-88-3	Toluene	25	28.0	112	76-118
79-01-6	Trichloroethylene	25	26.6	106	75-122
75-01-4	Vinyl chloride	25	27.2	109	62-142
1330-20-7	Xylene (total)	75	81.6	109	78-120

Blank Spike Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG677-BS	G0019909.D	1	01/08/03	RA	n/a	n/a	VG677

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16080-1, F16080-2, F16080-3, F16080-4, F16080-5

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	98%	78-125%
2037-26-5	Toluene-D8	101%	87-113%
460-00-4	4-Bromofluorobenzene	95%	84-117%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16088-8MS	G0019919.D	1	01/08/03	RA	n/a	n/a	VG677
F16088-8MSD	G0019920.D	1	01/08/03	RA	n/a	n/a	VG677
F16088-8	G0019918.D	1	01/08/03	RA	n/a	n/a	VG677

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16080-1, F16080-2, F16080-3, F16080-4, F16080-5

CAS No.	Compound	F16088-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	28.9	116	28.2	113	2	71-127/8
75-27-4	Bromodichloromethane	ND		25	25.5	102	24.3	97	5	70-121/10
75-25-2	Bromoform	ND		25	26.2	105	26.8	107	2	50-124/18
108-90-7	Chlorobenzene	ND		25	26.7	107	26.1	104	2	77-113/6
75-00-3	Chloroethane	ND		25	27.6	110	27.8	111	1	57-155/19
67-66-3	Chloroform	ND		25	25.6	102	25.1	100	2	72-125/11
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	10-158/37
56-23-5	Carbon tetrachloride	ND		25	27.2	109	27.1	108	0	61-140/13
75-34-3	1,1-Dichloroethane	ND		25	28.0	112	28.7	115	2	71-129/11
75-35-4	1,1-Dichloroethylene	ND		25	29.0	116	29.3	117	1	60-141/14
107-06-2	1,2-Dichloroethane	ND		25	26.2	105	26.3	105	0	64-121/9
78-87-5	1,2-Dichloropropane	ND		25	28.1	112	28.6	114	2	73-131/8
124-48-1	Dibromochloromethane	ND		25	24.5	98	25.0	100	2	65-118/12
156-59-2	cis-1,2-Dichloroethylene	ND		25	29.1	116	27.0	108	7	75-131/12
10061-01-5	cis-1,3-Dichloropropene	ND		25	27.2	109	25.5	102	6	62-115/13
541-73-1	m-Dichlorobenzene	ND		25	27.6	110	27.0	108	2	72-115/7
95-50-1	o-Dichlorobenzene	ND		25	25.8	103	25.9	104	0	72-113/8
106-46-7	p-Dichlorobenzene	ND		25	24.8	99	26.2	105	5	72-116/7
156-60-5	trans-1,2-Dichloroethylene	ND		25	27.7	111	28.5	114	3	65-127/12
10061-02-6	trans-1,3-Dichloropropene	ND		25	26.6	106	24.7	99	7	51-115/13
100-41-4	Ethylbenzene	ND		25	27.7	111	27.5	110	1	72-119/7
74-83-9	Methyl bromide	ND		25	23.5	94	23.0	92	2	44-140/19
74-87-3	Methyl chloride	ND		25	29.8	119	29.9	120	0	43-148/23
75-09-2	Methylene chloride	ND		25	27.1	108	25.5	102	6	61-131/11
1634-04-4	Methyl Tert Butyl Ether	ND		25	25.8	103	26.4	106	2	65-125/12
71-55-6	1,1,1-Trichloroethane	ND		25	27.2	109	26.5	106	3	69-135/13
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	24.2	97	25.2	101	4	62-120/10
79-00-5	1,1,2-Trichloroethane	ND		25	25.3	101	25.9	104	2	71-117/10
127-18-4	Tetrachloroethylene	ND		25	28.0	112	27.0	108	4	74-123/11
108-88-3	Toluene	ND		25	28.2	113	27.8	111	1	73-119/10
79-01-6	Trichloroethylene	ND		25	26.3	105	26.4	106	0	71-124/9
75-01-4	Vinyl chloride	ND		25	26.0	104	26.3	105	1	53-149/22
1330-20-7	Xylene (total)	ND		75	83.5	111	82.2	110	2	73-123/8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16088-8MS	G0019919.D	1	01/08/03	RA	n/a	n/a	VG677
F16088-8MSD	G0019920.D	1	01/08/03	RA	n/a	n/a	VG677
F16088-8	G0019918.D	1	01/08/03	RA	n/a	n/a	VG677

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16080-1, F16080-2, F16080-3, F16080-4, F16080-5

CAS No.	Surrogate Recoveries	MS	MSD	F16088-8	Limits
1868-53-7	Dibromofluoromethane	100%	101%	99%	86-115%
17060-07-0	1,2-Dichloroethane-D4	101%	99%	102%	78-125%
2037-26-5	Toluene-D8	100%	97%	104%	87-113%
460-00-4	4-Bromofluorobenzene	95%	97%	99%	84-117%

Response Factor Report ECD 3

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
Response via : Initial Calibration

BN 1-13-03

Calibration Files
.125 =ST18478.D .250 =ST18479.D .500 =ST18480.D
0.75 =ST18481.D 1.0 =ST18482.D

	Compound	.125	.250	.500	0.75	1.0	Avg		%RSD
1)	1,2-Dibromoethane	1.391	1.259	1.362	1.255	1.243	1.302	E5	5.32
2)	1,2-Dibromo-3-chlorop	3.648	3.543	3.702	3.554	3.612	3.612	E5	1.83
Signal #2									
1)	1,2-Dibromoethane	4.037	3.661	3.985	3.768	3.774	3.845	E4	4.14
2)	1,2-Dibromo-3-chlorop	1.318	1.309	1.397	1.340	1.383	1.350	E5	2.89

(#) = Out of Range

504_1.M Fri Jan 10 15:12:42 2003 GCECD2

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18493.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18493.D\ECD2B.CH
Acq On : 09 Jan 2003 9:38 pm Operator: stephw
Sample : CC661-0.25 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.249	0.4	103	0.00
2	1,2-Dibromo-3-chloropropane	0.250	0.242	3.2	98	0.00
Signal #2						
1	1,2-Dibromoethane	0.250	0.247	1.2	104	0.00
2	1,2-Dibromo-3-chloropropa	0.250	0.249	0.4	103	0.00

KDW 1-13-03

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18493.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18493.D\ECD2B.CH
Acq On : 09 Jan 2003 9:38 pm Operator: stephw
Sample : CC661-0.25 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ST18479.D 504_1.M Fri Jan 10 15:27:25 2003 GCECD2

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18502.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18502.D\ECD2B.CH
Acq On : 10 Jan 2003 12:36 am Operator: stephw
Sample : CC661-0.50 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.500	0.493	1.4	94	0.00
2	1,2-Dibromo-3-chloropropane	0.500	0.527	-5.4	103	0.00

Signal #2

KN 1-13-03

1	1,2-Dibromoethane	0.500	0.491	1.8	95	0.00
2	1,2-Dibromo-3-chloropropa	0.500	0.532	-6.4	103	0.00

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18502.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18502.D\ECD2B.CH
Acq On : 10 Jan 2003 12:36 am Operator: stephw
Sample : CC661-0.50 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ST18480.D 504_1.M Fri Jan 10 15:42:10 2003 GCECD2

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18512.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18512.D\ECD2B.CH
Acq On : 10 Jan 2003 3:54 am Operator: stephw
Sample : ECC661-0.25 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.218	12.8	90	0.00
2	1,2-Dibromo-3-chloropropane	0.250	0.241	3.6	98	0.00
Signal #2						
1	1,2-Dibromoethane	0.250	0.224	10.4	94	0.00
2	1,2-Dibromo-3-chloropropa	0.250	0.245	2.0	101	0.00

1-13-03

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18512.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18512.D\ECD2B.CH
Acq On : 10 Jan 2003 3:54 am Operator: stephw
Sample : ECC661-0.25 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)
Signal #2						

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ST18479.D 504_1.M Mon Jan 13 11:09:51 2003 GCECD2

Method Blank Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6720-MB	ST18485.D	1	01/09/03	SKW	01/09/03	OP6720	GST661

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

Blank Spike Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6720-BS	ST18486.D	1	01/09/03	SKW	01/09/03	OP6720	GST661

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.23	92	80-120

Blank Spike Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6720-BS2	ST18487.D	1	01/09/03	SKW	01/09/03	OP6720	GST661

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.24	96	80-120

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6720-MS	ST18510.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
OP6720-MSD	ST18511.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
F16080-1	ST18494.D	1	01/09/03	SKW	01/09/03	OP6720	GST661

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	F16080-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		0.228	0.20	88	0.22	95	10	74-120/22

Response Factor Report G1315A

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Initial Calibration

JLM 1/8/03

Calibration Files
L1 =EE012439.D L2 =EE012440.D L3 =EE012441.D
L4 =EE012442.D L5 =EE012443.D L6 =EE012444.D

		Compound	L1	L2	L3	L4	L5	L6	Avg		%RSD
1)		Naphthalene	8.860	8.020	7.867	7.379	7.251	7.288	7.777	E5	7.96
2)		Acenaphthylene	3.460	2.985	3.101	2.942	2.878	2.907	3.045	E5	7.14
3)		1-Methyl Naphthalen	7.371	6.555	6.511	6.115	6.008	6.060	6.437	E5	7.99
4)		2-Methyl Naphthalen	7.450	6.678	6.622	6.216	6.105	6.161	6.539	E5	7.77
5)		Acenaphthene	5.858	5.286	5.301	4.981	4.888	4.935	5.208	E5	7.01
6)		Fluorene	2.182	1.964	1.955	1.842	1.805	1.820	1.928	E6	7.35
7)		Phenanthrene	1.917	1.695	1.675	1.573	1.540	1.551	1.658	E6	8.60
8)	S	O-Terphenyl	7.042	6.655	6.628	6.270	6.150	6.209	6.492	E5	5.31
9)		Anthracene	2.532	2.291	2.173	2.084	1.961	1.932	2.162	E5	10.39
10)		Fluoranthene	1.603	1.493	1.449	1.374	1.343	1.356	1.437	E6	6.99
11)		Pyrene	2.568	2.377	2.292	2.169	2.100	2.092	2.267	E6	8.17
12)	S	P-Terphenyl	2.918	2.565	2.539	2.399	2.346	2.365	2.522	E6	8.50
13)		Benzo(a)Anthracene	4.645	4.234	4.147	3.890	3.804	3.835	4.093	E6	7.87
14)		Chrysene	6.320	5.804	5.701	5.299	5.146	5.127	5.566	E6	8.37
15)		Benzo(b)Fluoranthen	2.336	2.216	2.120	1.998	2.002	1.993	2.111	E6	6.71
16)		Benzo(k)Fluoranthen	1.361	1.323	1.280	1.237	1.168	1.182	1.259	E6	6.11
17)		Benzo(a) Pyrene	2.709	2.572	2.571	2.425	2.390	2.419	2.514	E6	4.94
18)		Dibenzo(a,h)anthrac	2.067	1.945	2.064	1.958	1.932	1.878	1.974	E6	3.85
19)		Benzo(g,h,i) Peryle	1.449	1.385	1.396	1.330	1.317	1.314	1.365	E6	3.96
20)		Indeno(1,2,3-cd)pyr	1.128	1.078	1.151	1.090	1.078	1.091	1.103	E6	2.71

Signal #2

1)		Naphthalene	5.288	4.682	4.568	4.283	4.290	4.309	4.570	E5	8.51
2)		Acenaphthylene	3.485	3.124	3.034	2.850	2.900	2.923	3.053	E5	7.67
3)		1-Methyl Naphthalen	3.243	2.821	2.801	2.635	2.651	2.671	2.804	E5	8.18
4)		2-Methyl Naphthalen	4.541	3.996	3.995	3.754	3.738	3.771	3.966	E5	7.71
5)		Acenaphthene	1.814	1.730	1.851	1.741	1.738	1.749	1.770	E5	2.80
6)		Fluorene	2.367	2.149	2.149	2.029	2.001	2.019	2.119	E6	6.51
7)		Phenanthrene	6.517	5.788	5.587	5.203	5.071	5.059	5.538	E6	10.16
8)	S	O-Terphenyl	1.161	1.167	1.161	1.093	1.079	1.089	1.125	E6	3.73
9)		Anthracene	1.429	1.294	1.169	0.995	0.868	0.775	1.088	E7	23.26

----- Quadratic regression ----- Coefficient = 0.9994
Response Ratio = 2824171.07000 + 12023621.84282 *A + -109952.33392 *A^

10)		Fluoranthene	1.449	1.642	1.640	1.568	1.543	1.558	1.567	E6	4.54
11)		Pyrene	1.428	1.339	1.359	1.320	1.299	1.309	1.342	E6	3.52
12)	S	P-Terphenyl	1.416	1.256	1.220	1.177	1.154	1.165	1.232	E6	7.98
13)		Benzo(a)Anthracene	3.412	3.140	2.980	2.858	2.806	2.838	3.005	E6	7.78
14)		Chrysene	5.262	4.743	4.475	4.329	4.243	4.270	4.554	E6	8.63
15)		Benzo(b)Fluoranthen	2.155	2.009	1.973	1.849	1.854	1.835	1.946	E6	6.44
16)		Benzo(k)Fluoranthen	3.270	3.130	3.063	2.882	2.835	2.865	3.007	E6	5.81
17)		Benzo(a) Pyrene	2.259	2.080	2.072	1.951	1.917	1.933	2.035	E6	6.40
18)		Dibenzo(a,h)anthrac	5.645	5.352	5.319	4.994	4.883	4.898	5.182	E6	5.90
19)		Benzo(g,h,i) Peryle	2.440	2.271	2.277	2.165	2.140	2.171	2.244	E6	4.98
20)		Indeno(1,2,3-cd)pyr	1.599	1.498	1.549	1.449	1.442	1.460	1.499	E6	4.20

(#) = Out of Range

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0109PAH\EE012497.D\DAD1B.CH Vial: 13
Signal #2 : E:\HPCHEM\1\DATA\0109PAH\EE012497.D\DAD1A.CH
Acq On : 09-Jan-2003, 21:18:33 Operator: MIKEE
Sample : CC541-20 Inst : G1315A
Misc : op6703,gee543,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.716	1.4	104	0.00
2		Acenaphthylene	20.000	19.975	0.1	103	0.00
3		1-Methyl Naphthalene	20.000	19.741	1.3	104	0.00
4		2-Methyl Naphthalene	20.000	19.770	1.2	104	0.00
5		Acenaphthene	20.000	19.986	0.1	104	0.00
6		Fluorene	20.000	19.868	0.7	104	0.00
7		Phenanthrene	20.000	19.703	1.5	104	0.00
8	S	O-Terphenyl	20.000	19.995	0.0	104	0.00
9		Anthracene	20.000	18.468	7.7	96	0.00
10		Fluoranthene	20.000	19.714	1.4	103	0.00
11		Pyrene	20.000	19.558	2.2	102	0.00
12	S	P-Terphenyl	20.000	19.627	1.9	103	0.00
13		Benzo(a)Anthracene	10.000	9.853	1.5	104	0.00
14		Chrysene	10.000	9.849	1.5	103	0.00
15		Benzo(b)Fluoranthene	10.000	9.882	1.2	104	0.01
16		Benzo(k)Fluoranthene	10.000	10.270	-2.7	104	0.01
17		Benzo(a) Pyrene	10.000	10.064	-0.6	104	0.02
18		Dibenzo(a,h)anthracene	10.000	10.315	-3.1	104	0.02
19		Benzo(g,h,i) Perylene	10.000	10.132	-1.3	104	0.02
20		Indeno(1,2,3-cd)pyrene	10.000	10.298	-3.0	104	0.03

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	19.499	2.5	104	0.00
2		Acenaphthylene	20.000	19.576	2.1	105	0.00
3		1-Methyl Naphthalene	20.000	19.661	1.7	105	0.00
4		2-Methyl Naphthalene	20.000	19.851	0.7	105	0.00
5		Acenaphthene	20.000	20.752	-3.8	106	0.00
6		Fluorene	20.000	20.055	-0.3	105	0.00
7		Phenanthrene	20.000	19.639	1.8	105	0.00
8	S	O-Terphenyl	20.000	20.337	-1.7	105	0.00
9		Anthracene	20.000	20.921	-4.6	104	0.00
10		Fluoranthene	20.000	20.846	-4.2	104	0.00
11		Pyrene	20.000	20.547	-2.7	104	0.00
12	S	P-Terphenyl	20.000	19.964	0.2	104	0.00
13		Benzo(a)Anthracene	10.000	9.932	0.7	104	0.00
14		Chrysene	10.000	9.915	0.9	104	0.00
15		Benzo(b)Fluoranthene	10.000	9.946	0.5	105	0.01
16		Benzo(k)Fluoranthene	10.000	10.010	-0.1	104	0.01

19	Benzo(g,h,i) Perylene	10.000	10.040	-0.4	104	0.02
20	Indeno(1,2,3-cd)pyrene	10.000	10.115	-1.2	105	0.03

Average % D = 1.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0

EE012442.D 8310_32.M Fri Jan 10 10:41:00 2003

Method Blank Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6703-MB	EE012488.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543

The QC reported here applies to the following samples: **Method:** EPA 8310

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	76%	32-142%
92-94-4	p-Terphenyl	82%	30-128%

Semivolatile Surrogate Recovery Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Method: EPA 8310 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
F16080-1	EE012489.D	82.0	83.0
F16080-2	EE012490.D	81.0	83.0
F16080-3	EE012493.D	55.0	42.0
F16080-4	EE012494.D	64.0	43.0
OP6703-BS	EE012487.D	83.0	87.0
OP6703-MB	EE012488.D	76.0	82.0
OP6703-MS	EE012491.D	83.0	84.0
OP6703-MSD	EE012492.D	83.0	86.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	32-142%
S2 = p-Terphenyl	30-128%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GEE543-CC541	**Injection Date:**	01/09/03
Lab File ID:	EE012486.D	**Injection Time:**	16:52
Instrument ID:	GCEE	**Method:**	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	8.84	10.93

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP6703-BS	EE012487.D	01/09/03	17:17	8.83	10.93
OP6703-MB	EE012488.D	01/09/03	17:41	8.83	10.93
F16080-1	EE012489.D	01/09/03	18:05	8.84	10.93
F16080-2	EE012490.D	01/09/03	18:29	8.84	10.93
OP6703-MS	EE012491.D	01/09/03	18:53	8.84	10.93
OP6703-MSD	EE012492.D	01/09/03	19:17	8.84	10.93
F16080-3	EE012493.D	01/09/03	19:41	8.83	10.93
F16080-4	EE012494.D	01/09/03	20:06	8.83	10.93
ZZZZZZ	EE012495.D	01/09/03	20:30	8.83	10.93
ZZZZZZ	EE012496.D	01/09/03	20:54	8.84	10.94

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

Blank Spike Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6703-BS	EE012487.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543

The QC reported here applies to the following samples: **Method:** EPA 8310

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	15.1	76	52-104
208-96-8	Acenaphthylene	20	14.9	75	51-103
120-12-7	Anthracene	20	16.8	84	60-112
56-55-3	Benzo(a)anthracene	10	8.5	85	64-111
50-32-8	Benzo(a)pyrene	10	8.7	87	56-118
205-99-2	Benzo(b)fluoranthene	10	8.5	85	63-117
191-24-2	Benzo(g,h,i)perylene	10	8.8	88	45-118
207-08-9	Benzo(k)fluoranthene	10	8.6	86	56-118
218-01-9	Chrysene	10	8.5	85	67-112
53-70-3	Dibenzo(a,h)anthracene	10	8.7	87	41-119
206-44-0	Fluoranthene	20	16.3	82	61-111
86-73-7	Fluorene	20	15.5	78	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	8.9	89	46-118
91-20-3	Naphthalene	20	13.5	68	44-105
90-12-0	1-Methylnaphthalene	20	13.9	70	47-102
91-57-6	2-Methylnaphthalene	20	13.9	70	47-101
85-01-8	Phenanthrene	20	15.7	79	55-109
129-00-0	Pyrene	20	16.2	81	61-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	83%	32-142%
92-94-4	p-Terphenyl	87%	30-128%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6703-MS	EE012491.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543
OP6703-MSD	EE012492.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543
F16080-2	EE012490.D	1	01/09/03	MRE	01/07/03	OP6703	GEE543

The QC reported here applies to the following samples: **Method:** EPA 8310

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	F16080-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		40.8	31.5	77	31.1	76	1	20-140/45
208-96-8	Acenaphthylene	ND		40.8	31.0	76	30.5	75	2	17-141/46
120-12-7	Anthracene	ND		40.8	34.7	85	34.9	86	1	48-123/23
56-55-3	Benzo(a)anthracene	ND		20.4	17.3	85	17.6	86	2	42-134/22
50-32-8	Benzo(a)pyrene	ND		20.4	17.7	87	18.1	89	2	55-119/23
205-99-2	Benzo(b)fluoranthene	ND		20.4	17.4	85	17.8	87	2	58-118/22
191-24-2	Benzo(g,h,i)perylene	ND		20.4	17.8	87	18.3	90	3	57-1[illegible]3
207-08-9	Benzo(k)fluoranthene	ND		20.4	18.1	89	18.5	91	2	58-1[illegible]
218-01-9	Chrysene	ND		20.4	17.4	85	17.7	87	2	49-137/23
53-70-3	Dibenzo(a,h)anthracene	ND		20.4	17.7	87	18.1	89	2	57-120/23
206-44-0	Fluoranthene	ND		40.8	33.7	83	34.2	84	1	55-117/22
86-73-7	Fluorene	ND		40.8	32.1	79	32.0	78	0	25-135/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		20.4	18.2	89	18.5	91	2	57-118/22
91-20-3	Naphthalene	ND		40.8	28.3	69	27.6	68	3	18-129/45
90-12-0	1-Methylnaphthalene	ND		40.8	29.1	71	28.3	69	3	18-131/46
91-57-6	2-Methylnaphthalene	ND		40.8	28.9	71	28.2	69	2	12-135/48
85-01-8	Phenanthrene	ND		40.8	32.8	80	32.9	81	0	39-129/27
129-00-0	Pyrene	ND		40.8	33.6	82	34.0	83	1	57-116/21

CAS No.	Surrogate Recoveries	MS	MSD	F16080-2	Limits
84-15-1	o-Terphenyl	83%	83%	81%	32-142%
92-94-4	p-Terphenyl	84%	86%	83%	30-128%

Response Factor Report FID 2

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Tue Dec 03 15:25:44 2002
Response via : Initial Calibration

Calibration Files
1 =OP25894.D 2 =OP25895.D 3 =OP25896.D
4 =OP25897.D 5 =OP25898.D 6 =OP25899.D 7 =OP25900.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1)S O-TERPHENYL	3.601	3.702	3.759	3.751	3.803			3.723 E4	2.07
2)H TPH (C8-C40)	3.420	3.482	3.499	3.475	3.454	3.097	3.084	3.359 E4	5.51

Average % RSD = 3.8

(#) = Out of Range

FL_PRO_F.M Wed Dec 04 06:56:40 2002

SW 12-4-02

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0108PRO\OP26465.D Vial: 14
Acq On : 8 Jan 2003 2:46 pm Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6707,gop912,30.0,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	64.572	-7.6	107	0.00
2	H	TPH (C8-C40)	1020.000	1055.594	-3.5	99	0.00

Average % D = 5.5548

1-8-03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0108PRO\OP26476.D Vial: 25
Acq On : 8 Jan 2003 6:34 pm Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6706,gop912,490,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	64.767	-7.9	107	0.00
2	H	TPH (C8-C40)	1020.000	1061.659	-4.1	100	0.00

Average % D = 6.01461

1-9-03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Method Blank Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6706-MB	OP26467.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912

The QC reported here applies to the following samples: **Method:** FLORIDA-PRO

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.25	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	104%	51-125%

Semivolatile Surrogate Recovery Summary

Job Number: F16080
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]
F16080-1	OP26470.D	103.0
F16080-2	OP26471.D	101.0
F16080-3	OP26472.D	98.0
F16080-4	OP26473.D	105.0
OP6706-BS	OP26466.D	105.0
OP6706-MB	OP26467.D	104.0
OP6706-MS	OP26474.D	102.0
OP6706-MSD	OP26475.D	105.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	51-125%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GOP912-CC894	**Injection Date:**	01/08/03
Lab File ID:	OP26465.D	**Injection Time:**	14:46
Instrument ID:	GCOP	**Method:**	FLORIDA-PRO

	S1 [a] RT
Check Std	5.17

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP6706-BS	OP26466.D	01/08/03	15:06	5.17
OP6706-MB	OP26467.D	01/08/03	15:27	5.17
ZZZZZZ	OP26468.D	01/08/03	15:48	5.17
F16083-2	OP26469.D	01/08/03	16:09	5.17
F16080-1	OP26470.D	01/08/03	16:29	5.17
F16080-2	OP26471.D	01/08/03	16:50	5.17
F16080-3	OP26472.D	01/08/03	17:11	5.17
F16080-4	OP26473.D	01/08/03	17:32	5.17
OP6706-MS	OP26474.D	01/08/03	17:53	5.17
OP6706-MSD	OP26475.D	01/08/03	18:13	5.17

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

Blank Spike Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6706-BS	OP26466.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912

The QC reported here applies to the following samples: **Method:** FLORIDA-PRO

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C8-C40)	0.85	0.777	91	59-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	105%	51-125%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16080
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6706-MS	OP26474.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912
OP6706-MSD	OP26475.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912
F16083-2	OP26469.D	1	01/08/03	SKW	01/08/03	OP6706	GOP912

The QC reported here applies to the following samples: **Method:** FLORIDA-PRO

F16080-1, F16080-2, F16080-3, F16080-4

CAS No.	Compound	F16083-2 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	ND		1.73	1.65	95	1.63	94	1	38-133/23

CAS No.	Surrogate Recoveries	MS	MSD	F16083-2	Limits
84-15-1	o-Terphenyl	102%	105%	103%	51-125%

CLEAR LAKE

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**G. WALKER**	**DATE:**	**FEBRUARY 7, 2003**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION –LEAD**
NAS PENSACOLA – CTO 274
SAMPLE DELIVERY GROUP (SDG) – F16080

SAMPLES: 4/AQUEOUS/

OLFS-2406-DMW31	OLFS-2406-DMW32
OLFS-2406-DMW37	OLFS-2406-DUP01

Overview

The sample set for NAS Pensacola, CTO 274, SDG F16080, consists of four (4) aqueous environmental samples. One (1) field duplicate pair (OLFS-2406-DUP01 / OLFS-2406-DMW37) is included in this SDG.

All samples were analyzed for lead. The samples were collected by Tetra Tech NUS January 6, 2003 and analyzed by Accutest Laboratories Southeast, Inc. Lead analyses were conducted using method SW846 6010B.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Analyses
• Laboratory Method/Preparation Blank Analyses
* • Field Duplicate 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	2.3 ug/L	11.5 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 considered when evaluating for blank contamination. The positive result less than the action level for lead was qualified as nondetected (U) as a result of laboratory blank contamination. The other samples were not qualified because the results were nondetects.

TO: WALKER, G. – PAGE 2
DATE: FEBRUARY 7, 2003

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 (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard 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)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW31
samp_date	1/6/2003
lab_id	F16080-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	3.3	U	A

nsample	OLFS-2406-DMW32
samp_date	1/6/2003
lab_id	F16080-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	1.2	U	

nsample	OLFS-2406-DMW37
samp_date	1/6/2003
lab_id	F16080-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	1.2	U	

PROJ_NO: 2642

SDG: F16080 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DUP01
samp_date	1/6/2003
lab_id	F16080-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	OLFS-2406-DMW37

Parameter	Result	Val Qual	Qual Code
LEAD	1.2	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW31		
Lab Sample ID:	F16080-3	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	3.3 B	5.0	1.2	ug/l	1	01/09/03	01/10/03	DM	SW846 6010B	SW846 3010A

0359

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result > = IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW32		
Lab Sample ID:	F16080-4	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	01/09/03	01/10/03	DM	SW846 6010B	SW846 3010A

0360

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW37		
Lab Sample ID:	F16080-1	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	01/09/03	01/10/03 DM	SW846 6010B	SW846 3010A

0357

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DUP01		
Lab Sample ID:	F16080-2	**Date Sampled:**	01/06/03
Matrix:	AQ - Ground Water	**Date Received:**	01/07/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	01/09/03	01/10/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

APPENDIX C

SUPPORT DOCUMENTATION

F16080

HOLDING TIME
02/05/03

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
UG/L	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	EDB	01/06/03	01/09/03	01/09/03	3	0	3
UG/L	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	EDB	01/06/03	01/09/03	01/09/03	3	0	3
%	OLFS-2406-DMW37	OP6720-MSD	MS	F16080	EDB	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	OLFS-2406-DUP01	F16080-2	MSD	F16080	EDB	01/06/03	01/09/03	01/09/03	3	0	3
%	OP6720-BS	OP6720-BS	BSP	F16080	EDB	01/09/03	01/09/03	01/09/03	0	0	0
%	OP6720-BS2	OP6720-BS2	BSP	F16080	EDB	01/09/03	01/09/03	01/09/03	0	0	0
UG/L	VBLK1	OP6720-MB	M_BLANK	F16080	EDB	01/08/03	01/09/03	01/09/03	1	0	1
%	MP5072-B1	MP5072-B1	BSP	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	MP5072-D1	MP5072-D1	DUPLICATE	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	MP5072-S1	MP5072-S1	MS	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	MP5072-S2	MP5072-S2	MSD	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	MP5072-SD1	MP5072-SD1	SDL	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
UG/L	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	M	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	M	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	OLFS-2406-DMW37	F16080-1	NORMAL	F16080	M	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	OLFS-2406-DUP01	F16080-2	MSD	F16080	M	01/06/03	01/09/03	01/10/03	3	1	4
UG/L	PBW1	MP5072-MB1	M_BLANK	F16080	M	01/09/03	01/09/03	01/10/03	0	1	1
%	F16088-3DUP	F16088-3DUP	DUPLICATE	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	F16088-8MS	F16088-8MS	MS	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	F16088-8MSD	F16088-8MSD	MSD	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	OV	01/06/03	/ /	01/08/03	0	0	2
%	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	OV	01/06/03	/ /	01/08/03	0	0	2
%	OLFS-2406-DMW37	F16080-1	NORMAL	F16080	OV	01/06/03	/ /	01/08/03	0	0	2
%	OLFS-2406-DUP01	F16080-2	MS	F16080	OV	01/06/03	/ /	01/08/03	0	0	2

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
%	OLFS-2406-TB010603	F16080-5	NORMAL	F16080	OV	01/06/03	/ /	01/08/03	0	0	2
UG/L	VBLK1	VG677-MB	M_BLANK	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	VG677-BS	VG677-BS	BSP	F16080	OV	01/08/03	/ /	01/08/03	0	0	0
%	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	PAH	01/06/03	01/07/03	01/09/03	1	2	3
%	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	PAH	01/06/03	01/07/03	01/09/03	1	2	3
%	OLFS-2406-DMW37	F16080-1	NORMAL	F16080	PAH	01/06/03	01/07/03	01/09/03	1	2	3
%	OLFS-2406-DUP01	OP6703-MSD	NORMAL	F16080	PAH	01/06/03	01/07/03	01/09/03	1	2	3
%	OP6703-BS	OP6703-BS	BSP	F16080	PAH	01/07/03	01/07/03	01/09/03	0	2	2
UG/L	PBLK1	OP6703-MB	M_BLANK	F16080	PAH	01/07/03	01/07/03	01/09/03	0	2	2
%	OLFS-2406-DMW31	F16080-3	NORMAL	F16080	TPH	01/06/03	01/08/03	01/08/03	2	0	2
%	OLFS-2406-DMW32	F16080-4	NORMAL	F16080	TPH	01/06/03	01/08/03	01/08/03	2	0	2
%	OLFS-2406-DMW37	F16080-1	NORMAL	F16080	TPH	01/06/03	01/08/03	01/08/03	2	0	2
%	OLFS-2406-DUP01	F16080-2	MS	F16080	TPH	01/06/03	01/08/03	01/08/03	2	0	2
%	OP6706-BS	OP6706-BS	BSP	F16080	TPH	01/08/03	01/08/03	01/08/03	0	0	0
%	OP6706-MS	OP6706-MS	MS	F16080	TPH	01/08/03	01/08/03	01/08/03	0	0	0
%	OP6706-MSD	OP6706-MSD	MSD	F16080	TPH	01/08/03	01/08/03	01/08/03	0	0	0
MG/L	PBLK1	OP6706-MB	M_BLANK	F16080	TPH	01/07/03	01/08/03	01/08/03	1	0	1

TE...TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 4255 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
N2642	OLF Sanford	Gerry Walker	850-385-9899	Accutest Sue Bell
SAMPLERS (SIGNATURE):		FIELD OPERATIONS LEADER: Howard Engle	PHONE NUMBER: 850-385-9899	ADDRESS: 4405 Vineland Rd
		CARRIER/WAYBILL NUMBER: FED-EX		CITY, STATE: Orlando FL 32811

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

F16080

	DATE YEAR 2003	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	TYPE OF ANALYSIS: PPL VOH's, BTEXM and 1,2-DCA	PAH's 8260B	EDB 8310	Total Lead SOW 1 6010B	IRPH FDEP-FL PRD				COMMENTS
										CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	P	G			
										PRESERVATIVE USED	HCL	NA	NA	HNO_3	HCL			
1	1/6	1135	OLFS-2406-DMW37	DMW37			GW	G	11	3	2	3	1 ✓	2				
2	1/6	—	OLFS-2406-DUP01	↓			GW	G	11	3	2	3	1 ✓	2				
3	1/6	1520	OLFS-2406-DMW31	DMW31			GW	G	11	3	2	3	1 ✓	2				See WR N2642WR03(5)
4	1/6	1530	OLFS-2406-DMW32	DMW32			GW	G	11	3	2	3	1 ✓	2				for Cmp List + RLs.
5	1/6	—	OLFS-2406-TB010603	—			GW	G	2	2								

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1/6/03	1700	1. RECEIVED BY FED EX		
2. RELINQUISHED BY FED EX			2. RECEIVED BY Mona Mohammed	1/7/03	0900
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

Accutest Laboratories Southeast, Inc.
Analytical Narrative

Client: Tetra Tech, NUS
Site: NAS Pensacola, CTO# 274
Report Date: January 15, 2003
Job Number: F16080

5 samples were collected on January 06, 2003 and received on January 07, 2003.
Samples were properly cooled, preserved and intact. A listing of the Laboratory Sample ID, Client Sample ID, and dates of collection are presented in the Results Summary section of this report.

All method specified holding times, calibrations and quality control performance criteria were met, with the following notes:

VOCs, SW 846 8260B

- The Blank Spikes associated with analytical batch VG677 had one compound with a recovery above acceptance limits. This compound was non-detect in the associated samples. Data not adversely affected.
- The Method Blank associated with analytical batch VG677 had one surrogate recovery above acceptance limits. The Blank was non-detect. Data not adversely affected.

Metals, SW846 6010B

- The MS/MSD associated with batch MP5072 had a recovery below acceptance limits. The Blank Spike was within limits. Data not adversely affected.

Accutest Laboratories Southeast, Inc. certifies that this report meets the project requirements for analytical data produced for the samples as received at the Accutest Laboratories Southeast location as stated in the Analytical Task Order and the COC. In addition, Accutest Laboratories Southeast, Inc. certifies that data as reported meet the Data Quality Objectives for precision, accuracy and completeness as specified in the Accutest Laboratories Southeast, Inc. Quality Manual for other that conditions detailed above. ALSE routinely reports Organic target analytes down to 1/2 the Reporting Level. These positive results are flagged with a "J" qualifier. It is recommended by Accutest Laboratories Southeast, Inc. that this report is to be used in its entirety. Accutest Laboratories Southeast, Inc. is not responsible for any assumptions of data quality if partial data packages are used to interpret data. The Accutest Laboratories Southeast, Inc. Laboratory Director as verified by the signature on the front page has authorized release of this report.

Narrative prepared by:

Date: January 15, 2003

Sue O. Bell, Project Manager (signature on file)

0005

Accutest Laboratories

Sample Summary

Tetra-Tech, NUS

Job No: F16080

NAS Pensacola CTO# 274 N2642
Project No: N2642-WR#83(SS)

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F16080-1	01/06/03	11:35 GW	01/07/03	AQ	Ground Water	OLFS-2406-DMW37
F16080-2	01/06/03	00:00 GW	01/07/03	AQ	Ground Water	OLFS-2406-DUP01
F16080-3	01/06/03	15:20 GW	01/07/03	AQ	Ground Water	OLFS-2406-DMW31
F16080-4	01/06/03	15:30 GW	01/07/03	AQ	Ground Water	OLFS-2406-DMW32
F16080-5	01/06/03	00:00 GW	01/07/03	AQ	Trip Blank Water	OLFS-2406-TB010603

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F16080
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

QC Batch ID: MP5072
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 01/09/03

Metal	RL	IDL	MB raw	final
Aluminum	200	6.6		
Antimony	5.0	1.5		
Arsenic	10	2.8		
Barium	200	.49		
Beryllium	5.0	.26	anr	
Cadmium	5.0	.26		
Calcium	1000	3.8	anr	
Chromium	10	.43		
Cobalt	50	.5		
Copper	25	.44	anr	
Iron	300	7.1		
Lead	5.0	1.2	1.6	<5.0
Magnesium	5000	9.9	anr	
Manganese	15	.16	anr	
Molybdenum	50	.75		
Nickel	40	1.1		
Potassium	5000	14		
Selenium	10	2		
Silver	10	.55	anr	
Sodium	5000	150		
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47		
Zinc	20	.59		

Associated samples MP5072: F16080-1, F16080-2, F16080-3, F16080-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16080
Account: TETRPLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011003.ASC
QC Limits: result < RL

Date Analyzed: 01/10/03
Run ID: MA3131

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								
Arsenic	10	2.8	anr							
Barium	200	.49	anr							
Beryllium	5.0	.26	anr							
Cadmium	5.0	.26	anr							
Calcium	1000	3.8	anr							
Chromium	10	.43	anr							
Cobalt	50	.5								
Copper	25	.44	anr							
Iron	300	7.1								
Lead	5.0	1.2	2.2	<5.0	1.6	<5.0	1.1	<5.0	2.3	<5.0
Magnesium	5000	9.9	anr							
Manganese	15	.16	anr							
Molybdenum	50	.75								
Nickel	40	1.1								
Potassium	5000	14								
Selenium	10	2	anr							
Silver	10	.55	anr							
Sodium	5000	150								
Thallium	10	1.5								
Tin	50	2.2								
Vanadium	50	.47								
Zinc	20	.59								

(*) Outside of QC limits
(anr) Analyte not requested

0362

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16080
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011003.ASC
QC Limits: result < RL

Date Analyzed: 01/10/03
Run ID: MA3131

Methods: SW846 6010B
Units: ug/l

Metal	RL	IDL	CCB raw	final
Aluminum	200	6.6		
Antimony	5.0	1.5		
Arsenic	10	2.8	anr	
Barium	200	.49	anr	
Beryllium	5.0	.26	anr	
Cadmium	5.0	.26	anr	
Calcium	1000	3.8	anr	
Chromium	10	.43	anr	
Cobalt	50	.5		
Copper	25	.44	anr	
Iron	300	7.1		
Lead	5.0	1.2	1.9	<5.0
Magnesium	5000	9.9	anr	
Manganese	15	.16	anr	
Molybdenum	50	.75		
Nickel	40	1.1		
Potassium	5000	14		
Selenium	10	2	anr	
Silver	10	.55	anr	
Sodium	5000	150		
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47		
Zinc	20	.59		

(*) Outside of QC limits
(anr) Analyte not requested

0363

MP 5072

Metals Digestion Log: Water

Method of Digestion: SW846-3010A/3005A/EPA 200.7 (CIRCLE ONE) Temp: 9.1 Thermometer ID 104

	HNO3	HCl	Spk. Sol.*	Amount Used*
Added:			1 Acc 287	1.0 mL
			2 Acc 288	0.25 mL
			3 Mat 825	0.5 mL
Mfg:	Fisher	Fisher		
Lot#	~~110 2100~~ 110 2100 1/9	~~410 2020~~ 410 2020 1/9	Digestion Tube Lot# C2266	

Sample #	Init. Vol/Wt	Fin. Vol/Wt	Date	Comments
MB 1/9/03	50 mL	50 ml	1/9/03	
SB ↓				
MS F16102-1				
MSD F16102-1				
Dup F16102-1				
1 QC F16102-1				
2 F16102-2				
3 F16102-3				
4 F16102-4				
5 5				
6 6				
7 7				
8 8				
9 9				
10 10				
11 F16099-2				
12 F15993-1				
13 F16080-1				
14 -2				
15 -3				
16 -4				
17 F16071-1				
18 F16037-3				
19 F16034-2				
20 F16083-2	✓	↓	✓	

Analyst [signature] Date 1/9/03

QC Review [signature] Date 1/9/03

Rev. 11/08/02 DJM *Used For SB, MS, MSD Page Number:

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16080
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011003.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 01/10/03
Run ID: MA3131

Methods: SW846 6010B

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:16	MA3131-ICV1	1		
10:19	MA3131-ICB1	1		
10:22	MA3131-CRI1	1		
10:25	MA3131-ICSA1	1		
10:27	MA3131-ICSA2	1		
10:29	MA3131-ICSAB1	1		
10:39	MA3131-CCV1	1		
10:45	MA3131-CCB1	1		
10:49	MP5072-MB1	1		
10:53	MP5072-B1	1		
10:59	F16102-1	1		(sample used for QC only; not part of login F16080)
11:03	MP5072-D1	1		
11:07	MP5072-SD1	5		
11:11	MP5072-S1	1		
11:15	MP5072-S2	1		
11:21	ZZZZZZ	1		
11:25	ZZZZZZ	1		
11:29	ZZZZZZ	1		
11:33	MA3131-CCV2	1		
11:39	MA3131-CCB2	1		
11:43	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:51	ZZZZZZ	1		
11:55	ZZZZZZ	1		
11:59	ZZZZZZ	1		
12:03	ZZZZZZ	1		
12:07	ZZZZZZ	1		
12:10	ZZZZZZ	1		
12:14	F16080-1	1		
12:18	F16080-2	1		
12:22	MA3131-CCV3	1		
12:29	MA3131-CCB3	1		
12:33	F16080-3	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16080
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011003.ASC Date Analyzed: 01/10/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3131
Parameters: Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	12:36	F16080-4	1		
---------->	Last reportable sample/prep for job F16080				
	12:40	ZZZZZZ	1		
	12:44	ZZZZZZ	1		
	12:48	ZZZZZZ	1		
	12:52	ZZZZZZ	1		
	12:56	MP5073-MB1	1		
	13:00	MP5073-B1	1		
	13:06	F16102-4A	1		(sample used for QC only; not part of login F16080)
	13:10	MP5073-D1	1		
	13:14	MA3131-CCV4	1		
	13:20	MA3131-CCB4	1		
---------->	Last reportable CCB for job F16080				
	13:24	MP5073-SD1	5		
	13:28	MP5073-S1	1		
	13:32	MP5073-S2	1		
	13:38	ZZZZZZ	1		
	13:42	ZZZZZZ	1		
	13:46	ZZZZZZ	1		
	13:50	ZZZZZZ	1		
	13:54	ZZZZZZ	1		
	13:58	ZZZZZZ	1		
	14:02	ZZZZZZ	1		
	14:06	MA3131-CCV5	1		
	14:12	MA3131-CCB5	1		
	14:16	ZZZZZZ	1		
	14:20	ZZZZZZ	1		
	14:24	ZZZZZZ	1		
	14:28	ZZZZZZ	1		
	14:32	ZZZZZZ	1		
	14:36	ZZZZZZ	1		
	14:39	ZZZZZZ	1		
	14:43	ZZZZZZ	1		
	14:47	ZZZZZZ	1		
	14:51	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16080
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011003.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 01/10/03
Run ID: MA3131

Methods: SW846 6010B

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:55	MA3131-CCV6	1		
15:02	MA3131-CCB6	1		
15:06	MP5074-MB1	1		
15:09	MP5074-B1	1		
15:16	F16090-1	1		(sample used for QC only; not part of login F16080)
15:20	MP5074-D1	1		
15:24	MP5074-SD1	5		
15:28	MP5074-S1	1		
15:32	MP5074-S2	1		
15:38	ZZZZZZ	1		
15:42	MP5074-MB2	1		
15:46	MP5074-B2	1		
15:52	MA3131-CCV7	1		
15:59	MA3131-CCB7	1		
16:03	MA3131-CRI2	1		
16:07	MA3131-CCV8	1		
16:13	MA3131-CCB8	1		

Refer to raw data for calibration curve and standards.

FIELD DUPLICATE PRECISION

ANALYTE	OLFS-2406-DUP01	OLFS-2406-DMW37	RPD	DIFFERENCE
Lead	1.2U	1.2U	#VALUE!	#VALUE!

2Ce421111

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**G. WALKER**	**DATE:**	**FEBRUARY 25, 2003**
FROM:	**BERNARD F SPADA III**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOC/PAH/TPH**
CTO 274, NAS PENSACOLA
SDG F16103

SAMPLES: 10/Aqueous

OLFS-2406-DMW23	OLFS-2406-DMW24	OLFS-2406-DMW25
OLFS-2406-DMW26	OLFS-2406-DMW27	OLFS-2406-DMW28
OLFS-2406-DMW29	OLFS-2406-DMW30	OLFS-2406-DMW33
TRIP BLANK-010703		

OVERVIEW

The sample set for CTO 274, NAS Pensacola, SDG F16103 consists of nine (9) environmental aqueous samples and one (1) trip blank. All environmental samples were analyzed for volatile organic compounds (VOC), polynuclear aromatic hydrocarbons (PAH), and total petroleum hydrocarbons (TPH). The trip blank denoted with an asterisk (*) was analyzed for VOC only.

The samples were collected by Tetra Tech NUS on January 7, 2003 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

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

The matrix spike/matrix spike duplicate (MS/MSD) of sample OLFS-2406-DMW30 had 0% recovery for 2-chloroethylviny ether. The result for 2-chloroethylvinyl ether in sample OLFS-2406-DMW30 was rejected (UR).

The MS/MSD of sample F16104-9 had 0% recovery for 2-chloroethylviny ether. No qualifications were made on this basis because the spiked sample was not a sample contained in this SDG.

The MS/MSD of sample F16121-6 had <10% recovery for bromomethane and cis-1,2-dichloropropene. No qualifications were made on this basis because the spiked sample was not a sample contained in this SDG.

Samples OLFS-2406-DMW23, OLFS-2406-DMW25, and OLFS-2406-DMW28 were analyzed at dilutions because the concentration of target analytes present exceeded the linear calibration range of the instrument. The samples were not analyzed un-diluted. This accounts for the elevated reporting limits for all non-detected compounds.

Sample OLFS-2406-DMW26 was not preserved to pH<2. Since the sample was analyzed within 7 days of collection, no action was required.

The data package was missing the second page of the continuing calibration performed on January 10 at 09:41. The missing page was provided upon request.

Dibromoethane

No qualifications were assigned to this fraction.

PAH

The positive result less than the reporting limit (RL) was qualified as estimated (J), due to uncertainty near the detection limit.

TPH

No qualifications were assigned to this fraction.

Additional Comments

The laboratory reported to the MDLs. Positive results >MDL but <RL were qualified as estimated (J) due to uncertainty near the detection limit.

EXECUTIVE SUMMARY

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: MS/MSD percent recovery of 2-chloroethylvinyl ether was poor.

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

TetraTech 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 (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard 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)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW23
samp_date	
lab_id	F16103-9
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	100	U	
1,1,2,2-TETRACHLOROETHANE	100	U	
1,1,2-TRICHLOROETHANE	100	U	
1,1-DICHLOROETHANE	100	U	
1,1-DICHLOROETHENE	100	U	
1,2-DIBROMOETHANE	0.0093	U	
1,2-DICHLOROBENZENE	100	U	
1,2-DICHLOROETHANE	100	U	
1,2-DICHLOROPROPANE	100	U	
1,3-DICHLOROBENZENE	100	U	
1,4-DICHLOROBENZENE	100	U	
2-CHLOROETHYL VINYL ETHER	500	U	
BENZENE	15600		
BROMODICHLOROMETHANE	100	U	
BROMOFORM	100	U	
BROMOMETHANE	200	U	
CARBON TETRACHLORIDE	100	U	
CHLOROBENZENE	100	U	
CHLORODIBROMOMETHANE	80	U	
CHLOROETHANE	200	U	
CHLOROFORM	100	U	
CHLOROMETHANE	200	U	
CIS-1,2-DICHLOROETHENE	100	U	
CIS-1,3-DICHLOROPROPENE	100	U	
ETHYLBENZENE	837		
METHYL TERT-BUTYL ETHER	100	U	
METHYLENE CHLORIDE	200	U	
TETRACHLOROETHENE	100	U	
TOLUENE	10700		
TOTAL XYLENES	2480		

nsample	OLFS-2406-DMW23
samp_date	
lab_id	F16103-9
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	100	U	
TRANS-1,3-DICHLOROPROPENE	100	U	
TRICHLOROETHENE	100	U	
VINYL CHLORIDE	100	U	

nsample	OLFS-2406-DMW24
samp_date	1/7/2003
lab_id	F16103-8
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	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	0.66	J	P
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	0.92	J	P
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.61	J	P
TOTAL XYLENES	1	U	

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW24
samp_date	1/7/2003
lab_id	F16103-8
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-DMW25
samp_date	1/7/2003
lab_id	F16103-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	25	U	
1,1,2,2-TETRACHLOROETHANE	25	U	
1,1,2-TRICHLOROETHANE	25	U	
1,1-DICHLOROETHANE	25	U	
1,1-DICHLOROETHENE	25	U	
1,2-DIBROMOETHANE	0.0093	U	
1,2-DICHLOROBENZENE	25	U	
1,2-DICHLOROETHANE	25	U	
1,2-DICHLOROPROPANE	25	U	
1,3-DICHLOROBENZENE	25	U	
1,4-DICHLOROBENZENE	25	U	
2-CHLOROETHYL VINYL ETHER	130	U	
BENZENE	4190		
BROMODICHLOROMETHANE	25	U	
BROMOFORM	25	U	
BROMOMETHANE	50	U	
CARBON TETRACHLORIDE	25	U	
CHLOROBENZENE	25	U	
CHLORODIBROMOMETHANE	20	U	
CHLOROETHANE	50	U	
CHLOROFORM	25	U	
CHLOROMETHANE	50	U	
CIS-1,2-DICHLOROETHENE	25	U	
CIS-1,3-DICHLOROPROPENE	25	U	
ETHYLBENZENE	120		
METHYL TERT-BUTYL ETHER	25	U	
METHYLENE CHLORIDE	50	U	
TETRACHLOROETHENE	25	U	
TOLUENE	2930		
TOTAL XYLENES	580		

nsample	OLFS-2406-DMW25
samp_date	1/7/2003
lab_id	F16103-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	25	U	
TRANS-1,3-DICHLOROPROPENE	25	U	
TRICHLOROETHENE	25	U	
VINYL CHLORIDE	25	U	

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

sample	OLFS-2406-DMW26
amp_date	1/7/2003
ab_id	F16103-5
c_type	NM
nits	UG/L
ct_Solids	0
UP_OF:	

Parameter	Result	Val Qual	Qual Code
,1,1-TRICHLOROETHANE	0.5	U	
,1,2,2-TETRACHLOROETHANE	0.5	U	
,1,2-TRICHLOROETHANE	0.5	U	
,1-DICHLOROETHANE	0.5	U	
,1-DICHLOROETHENE	0.5	U	
,2-DIBROMOETHANE	0.0092	U	
,2-DICHLOROBENZENE	0.5	U	
,2-DICHLOROETHANE	0.5	U	
,2-DICHLOROPROPANE	0.5	U	
,3-DICHLOROBENZENE	0.5	U	
,4-DICHLOROBENZENE	0.5	U	
-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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	1		
TOTAL XYLENES	1	U	

nsample	OLFS-2406-DMW26
samp_date	1/7/2003
lab_id	F16103-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-DMW27
samp_date	1/7/2003
lab_id	F16103-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	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	0.58	J	P
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	1.3		
CHLOROMETHANE	1	U	
CIS-1,2-DICHLOROETHENE	0.5	U	
CIS-1,3-DICHLOROPROPENE	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW27
samp_date	1/7/2003
lab_id	F16103-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-DMW28
samp_date	1/7/2003
lab_id	F16103-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	50	U	
1,1,2,2-TETRACHLOROETHANE	50	U	
1,1,2-TRICHLOROETHANE	50	U	
1,1-DICHLOROETHANE	50	U	
1,1-DICHLOROETHENE	50	U	
1,2-DIBROMOETHANE	0.031		
1,2-DICHLOROBENZENE	50	U	
1,2-DICHLOROETHANE	50	U	
1,2-DICHLOROPROPANE	50	U	
1,3-DICHLOROBENZENE	50	U	
1,4-DICHLOROBENZENE	50	U	
2-CHLOROETHYL VINYL ETHER	250	U	
BENZENE	4240		
BROMODICHLOROMETHANE	50	U	
BROMOFORM	50	U	
BROMOMETHANE	100	U	
CARBON TETRACHLORIDE	50	U	
CHLOROBENZENE	50	U	
CHLORODIBROMOMETHANE	40	U	
CHLOROETHANE	100	U	
CHLOROFORM	50	U	
CHLOROMETHANE	100	U	
CIS-1,2-DICHLOROETHENE	50	U	
CIS-1,3-DICHLOROPROPENE	50	U	
ETHYLBENZENE	70	U	
METHYL TERT-BUTYL ETHER	50	U	
METHYLENE CHLORIDE	100	U	
TETRACHLOROETHENE	50	U	
TOLUENE	50	U	
TOTAL XYLENES	100	U	

nsample	OLFS-2406-DMW28
samp_date	1/7/2003
lab_id	F16103-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	50	U	
TRANS-1,3-DICHLOROPROPENE	50	U	
TRICHLOROETHENE	50	U	
VINYL CHLORIDE	50	U	

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW29
samp_date	1/7/2003
lab_id	F16103-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.048		
1,2-DICHLOROBENZENE	0.5	U	
1,2-DICHLOROETHANE	4.8		
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	194		
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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	OLFS-2406-DMW29
samp_date	1/7/2003
lab_id	F16103-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-DMW30
samp_date	1/7/2003
lab_id	F16103-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.0091	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	UR	D
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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW30
samp_date	1/7/2003
lab_id	F16103-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-DMW33
samp_date	1/7/2003
lab_id	F16103-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.23		
1,2-DICHLOROBENZENE	0.5	U	
1,2-DICHLOROETHANE	4.8		
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	35.6		
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	0.5	U	
ETHYLBENZENE	1.9		
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	2.4	J	P

nsample	OLFS-2406-DMW33
samp_date	1/7/2003
lab_id	F16103-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

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SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	TRIP BLANK-010703
samp_date	1/7/2003
lab_id	F16103-10
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.0094	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	2.5		
TOTAL XYLENES	1	U	

nsample	TRIP BLANK-010703
samp_date	1/7/2003
lab_id	F16103-10
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW23	nsample	OLFS-2406-DMW24	nsample	OLFS-2406-DMW25
samp_date	1/7/2003	samp_date	1/7/2003	samp_date	1/7/2003
lab_id	F16103-9	lab_id	F16103-8	lab_id	F16103-7
qc_type	NM	qc_type	NM	qc_type	NM
units	UG/L	units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	3.1		
2-METHYLNAPHTHALENE	3.6		
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	5.8		
PHENANTHRENE	1	U	
PYRENE	0.51	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.51	U	
PHENANTHRENE	1	U	
PYRENE	0.51	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	2	U	
2-METHYLNAPHTHALENE	1.1	J	P
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	1.5	J	P
PHENANTHRENE	1	U	
PYRENE	0.51	U	

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

sample	OLFS-2406-DMW26
samp_date	1/7/2003
lab_id	F16103-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.69	J	P
PHENANTHRENE	1	U	
PYRENE	0.51	U	

nsample	OLFS-2406-DMW27
samp_date	1/7/2003
lab_id	F16103-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.53	U	
2-METHYLNAPHTHALENE	0.53	U	
ACENAPHTHENE	1.1	U	
ACENAPHTHYLENE	1.1	U	
ANTHRACENE	1.1	U	
BENZO(A)ANTHRACENE	0.11	U	
BENZO(A)PYRENE	0.11	U	
BENZO(B)FLUORANTHENE	0.11	U	
BENZO(G,H,I)PERYLENE	0.11	U	
BENZO(K)FLUORANTHENE	0.11	U	
CHRYSENE	1.1	U	
DIBENZO(A,H)ANTHRACENE	0.11	U	
FLUORANTHENE	0.53	U	
FLUORENE	1.1	U	
INDENO(1,2,3-CD)PYRENE	0.11	U	
NAPHTHALENE	0.53	U	
PHENANTHRENE	1.1	U	
PYRENE	0.53	U	

nsample	OLFS-2406-DMW28
samp_date	1/7/2003
lab_id	F16103-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	2	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.51	U	
PHENANTHRENE	1	U	
PYRENE	0.51	U	

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW29
samp_date	1/7/2003
lab_id	F16103-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.5	U	
2-METHYLNAPHTHALENE	0.5	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.5	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.5	U	
PHENANTHRENE	1	U	
PYRENE	0.5	U	

nsample	OLFS-2406-DMW30
samp_date	1/7/2003
lab_id	F16103-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.51	U	
PHENANTHRENE	1	U	
PYRENE	0.51	U	
ACENAPHTHENE	1	U	

nsample	OLFS-2406-DMW33
samp_date	1/7/2003
lab_id	F16103-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.5	U	
2-METHYLNAPHTHALENE	0.5	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.5	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.5	U	
PHENANTHRENE	1	U	
PYRENE	0.5	U	

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PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

sample	OLFS-2406-DMW23	nsample	OLFS-2406-DMW24	nsample	OLFS-2406-DMW25
amp_date	1/7/2003	samp_date	1/7/2003	samp_date	1/7/2003
b_id	F16103-9	lab_id	F16103-8	lab_id	F16103-7
c_type	NM	qc_type	NM	qc_type	NM
nits	MG/L	units	MG/L	units	MG/L
ct_Solids	0	Pct_Solids	0	Pct_Solids	0
UP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
OTAL PETROLEUM HYDROCARBONS	4.01		

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.17	U	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.17		

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW26
samp_date	1/7/2003
lab_id	F16103-5
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.17	U	

nsample	OLFS-2406-DMW27
samp_date	1/7/2003
lab_id	F16103-6
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.18	U	

nsample	OLFS-2406-DMW28
samp_date	1/7/2003
lab_id	F16103-4
qc_type	NM
units	MG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	1.23		

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW29	nsample	OLFS-2406-DMW30	nsample	OLFS-2406-DMW33
samp_date	1/7/2003	samp_date	1/7/2003	samp_date	1/7/2003
lab_id	F16103-2	lab_id	F16103-1	lab_id	F16103-3
qc_type	NM	qc_type	NM	qc_type	NM
units	MG/L	units	MG/L	units	MG/L
Pct_Solids	0	Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.201	J	P

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.17	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-DMW23		
Lab Sample ID:	F16103-9	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	B013549.D	200	01/13/03	KW	n/a	n/a	VB596
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	15600	200	100	ug/l	
75-27-4	Bromodichloromethane	ND	200	100	ug/l	
75-25-2	Bromoform	ND	200	100	ug/l	
108-90-7	Chlorobenzene	ND	200	100	ug/l	
75-00-3	Chloroethane	ND	200	200	ug/l	
67-66-3	Chloroform	ND	200	100	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	1000	500	ug/l	
56-23-5	Carbon tetrachloride	ND	200	100	ug/l	
75-34-3	1,1-Dichloroethane	ND	200	100	ug/l	
75-35-4	1,1-Dichloroethylene	ND	200	100	ug/l	
107-06-2	1,2-Dichloroethane	ND	200	100	ug/l	
78-87-5	1,2-Dichloropropane	ND	200	100	ug/l	
124-48-1	Dibromochloromethane	ND	200	80	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	200	100	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	200	100	ug/l	
541-73-1	m-Dichlorobenzene	ND	200	100	ug/l	
95-50-1	o-Dichlorobenzene	ND	200	100	ug/l	
106-46-7	p-Dichlorobenzene	ND	200	100	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	200	100	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	200	100	ug/l	
100-41-4	Ethylbenzene	837	200	140	ug/l	
74-83-9	Methyl bromide	ND	200	200	ug/l	
74-87-3	Methyl chloride	ND	200	200	ug/l	
75-09-2	Methylene chloride	ND	1000	200	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	200	100	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	200	100	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	200	100	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	200	100	ug/l	
127-18-4	Tetrachloroethylene	ND	200	100	ug/l	
108-88-3	Toluene	10700	200	100	ug/l	
79-01-6	Trichloroethylene	ND	200	100	ug/l	
75-01-4	Vinyl chloride	ND	200	100	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW23		
Lab Sample ID:	F16103-9	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	2480	600	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		86-115%
17060-07-0	1,2-Dichloroethane-D4	100%		78-125%
2037-26-5	Toluene-D8	99%		87-113%
460-00-4	4-Bromofluorobenzene	104%		84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW24		
Lab Sample ID:	F16103-8	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	B013548.D	1	01/13/03	KW	n/a	n/a	VB596
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	0.66	1.0	0.50	ug/l	J
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	0.92	1.0	0.50	ug/l	J
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.61	1.0	0.50	ug/l	J
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW24		
Lab Sample ID:	F16103-8	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	ND	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	96%		78-125%
2037-26-5	Toluene-D8	100%		87-113%
460-00-4	4-Bromofluorobenzene	102%		84-117%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW25		
Lab Sample ID:	F16103-7	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	G0019969.D	50	01/10/03	RA	n/a	n/a	VG679
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	4190	50	25	ug/l	
75-27-4	Bromodichloromethane	ND	50	25	ug/l	
75-25-2	Bromoform	ND	50	25	ug/l	
108-90-7	Chlorobenzene	ND	50	25	ug/l	
75-00-3	Chloroethane	ND	50	50	ug/l	
67-66-3	Chloroform	ND	50	25	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	250	130	ug/l	
56-23-5	Carbon tetrachloride	ND	50	25	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	25	ug/l	
75-35-4	1,1-Dichloroethylene	ND	50	25	ug/l	
107-06-2	1,2-Dichloroethane	ND	50	25	ug/l	
78-87-5	1,2-Dichloropropane	ND	50	25	ug/l	
124-48-1	Dibromochloromethane	ND	50	20	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	50	25	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	25	ug/l	
541-73-1	m-Dichlorobenzene	ND	50	25	ug/l	
95-50-1	o-Dichlorobenzene	ND	50	25	ug/l	
106-46-7	p-Dichlorobenzene	ND	50	25	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	50	25	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	25	ug/l	
100-41-4	Ethylbenzene	120	50	35	ug/l	
74-83-9	Methyl bromide	ND	50	50	ug/l	
74-87-3	Methyl chloride	ND	50	50	ug/l	
75-09-2	Methylene chloride	ND	250	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	25	ug/l	
127-18-4	Tetrachloroethylene	ND	50	25	ug/l	
108-88-3	Toluene	2930	50	25	ug/l	
79-01-6	Trichloroethylene	ND	50	25	ug/l	
75-01-4	Vinyl chloride	ND	50	25	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW25		
Lab Sample ID:	F16103-7	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	580	150	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	105%		78-125%
2037-26-5	Toluene-D8	99%		87-113%
460-00-4	4-Bromofluorobenzene	98%		84-117%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW26		
Lab Sample ID:	F16103-5	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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 [a]	G0019967.D	1	01/10/03	RA	n/a	n/a	VG679
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.0	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW26		
Lab Sample ID:	F16103-5	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		86-115%
17060-07-0	1,2-Dichloroethane-D4	103%		78-125%
2037-26-5	Toluene-D8	102%		87-113%
460-00-4	4-Bromofluorobenzene	98%		84-117%

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW27		
Lab Sample ID:	F16103-6	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	G0019966.D	1	01/10/03	RA	n/a	n/a	VG679
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	0.58	1.0	0.50	ug/l	J
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	1.3	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW27		
Lab Sample ID:	F16103-6	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	ND	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	101%		78-125%
2037-26-5	Toluene-D8	103%		87-113%
460-00-4	4-Bromofluorobenzene	99%		84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW28		
Lab Sample ID:	F16103-4	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	B013551.D	100	01/13/03	KW	n/a	n/a	VB596
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	4240	100	50	ug/l	
75-27-4	Bromodichloromethane	ND	100	50	ug/l	
75-25-2	Bromoform	ND	100	50	ug/l	
108-90-7	Chlorobenzene	ND	100	50	ug/l	
75-00-3	Chloroethane	ND	100	100	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	500	250	ug/l	
56-23-5	Carbon tetrachloride	ND	100	50	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	100	50	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	50	ug/l	
78-87-5	1,2-Dichloropropane	ND	100	50	ug/l	
124-48-1	Dibromochloromethane	ND	100	40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	100	50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	100	50	ug/l	
541-73-1	m-Dichlorobenzene	ND	100	50	ug/l	
95-50-1	o-Dichlorobenzene	ND	100	50	ug/l	
106-46-7	p-Dichlorobenzene	ND	100	50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	100	50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	100	50	ug/l	
100-41-4	Ethylbenzene	ND	100	70	ug/l	
74-83-9	Methyl bromide	ND	100	100	ug/l	
74-87-3	Methyl chloride	ND	100	100	ug/l	
75-09-2	Methylene chloride	ND	500	100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
127-18-4	Tetrachloroethylene	ND	100	50	ug/l	
108-88-3	Toluene	ND	100	50	ug/l	
79-01-6	Trichloroethylene	ND	100	50	ug/l	
75-01-4	Vinyl chloride	ND	100	50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW28		
Lab Sample ID:	F16103-4	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	ND	300	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		86-115%
17060-07-0	1,2-Dichloroethane-D4	99%		78-125%
2037-26-5	Toluene-D8	101%		87-113%
460-00-4	4-Bromofluorobenzene	104%		84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW29		
Lab Sample ID:	F16103-2	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	G0019937.D	1	01/09/03	RA	n/a	n/a	VG678
Run #2	B013550.D	5	01/13/03	KW	n/a	n/a	VB596

	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	194 #	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	4.8	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
# = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW29		
Lab Sample ID:	F16103-2	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	98%	86-115%
17060-07-0	1,2-Dichloroethane-D4	99%	98%	78-125%
2037-26-5	Toluene-D8	101%	100%	87-113%
460-00-4	4-Bromofluorobenzene	98%	105%	84-117%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW30		
Lab Sample ID:	F16103-1	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	G0019971.D	1	01/10/03	RA	n/a	n/a	VG679
Run #2	G0019938.D	1	01/09/03	RA	n/a	n/a	VG678

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

Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
[illegible]	[illegible]dichloromethane	ND	1.0	0.50	ug/l	
[illegible]	[illegible]form	ND	1.0	0.50	ug/l	
108-90-7	[illegible]robenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-[illegible]	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
[illegible]	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
[illegible]-06-2	2-Dichl[illegible]thane	ND	1.0	0.50	ug/l	
78-87-5	2-Dichlo[illegible]pane	ND	1.0	0.50	ug/l	
124-48-1	Dibromoch[illegible]ethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dich[illegible]ene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropr[illegible]pene	ND	1.0	0.50	ug/l	
[illegible]-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
[illegible]	[illegible]chlorobenzene	ND	1.0	0.50	ug/l	
1[illegible]	[illegible]	ND	1.0	0.50	ug/l	
156[illegible]5	t[illegible]ylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-D[illegible]loro[illegible]pene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
[illegible] = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

0070

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW30		
Lab Sample ID:	F16103-1	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%	102%	86-115%
17060-07-0	1,2-Dichloroethane-D4	108%	101%	78-125%
2037-26-5	Toluene-D8	103%	132%	87-113%
460-00-4	4-Bromofluorobenzene	95%	97%	84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW33		
Lab Sample ID:	F16103-3	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	G0019953.D	1	01/09/03	RA	n/a	n/a	VG678
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	35.6	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	4.3	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	1.4	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW33		
Lab Sample ID:	F16103-3	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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)	2.4	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	104%		78-125%
2037-26-5	Toluene-D8	103%		87-113%
460-00-4	4-Bromofluorobenzene	99%		84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-070703		
Lab Sample ID:	F16103-10	**Date Sampled:**	01/07/03
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/08/03
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	G0019944.D	1	01/09/03	RA	n/a	n/a	VG678
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	2.3	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-070703		
Lab Sample ID:	F16103-10	**Date Sampled:**	01/07/03
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/08/03
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)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	101%		78-125%
2037-26-5	Toluene-D8	106%		87-113%
460-00-4	4-Bromofluorobenzene	95%		84-117%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW23		
Lab Sample ID:	F16103-9	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	ST18508.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	37.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0093	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW24		
Lab Sample ID:	F16103-8	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	ST18507.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	38.0 ml	2.0 ml
Run #2		

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

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW25		
Lab Sample ID:	F16103-7	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	ST18506.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	37.8 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0093	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW26		
Lab Sample ID:	F16103-5	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	ST18504.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
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	ND	0.018	0.0092	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
B = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW27		
Lab Sample ID:	F16103-6	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	ST18505.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
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	ND	0.018	0.0092	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW28		
Lab Sample ID:	F16103-4	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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 [a]	ST18503.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	37.3 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	0.031	0.019	0.0094	ug/l	

(a) All hits confirmed by dual column analysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW29		
Lab Sample ID:	F16103-2	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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 [a]	ST18500.D	1	01/09/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	38.2 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	0.048	0.018	0.0092	ug/l	

(a) All hits confirmed by dual column analysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW30		
Lab Sample ID:	F16103-1	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	ST18499.D	1	01/09/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	38.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.018	0.0091	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW33		
Lab Sample ID:	F16103-3	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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 [a]	ST18501.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	37.7 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	0.23	0.019	0.0093	ug/l	

(a) All hits confirmed by dual column analysis.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-070703		
Lab Sample ID:	F16103-10	**Date Sampled:**	01/07/03
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/08/03
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	ST18509.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
Run #2							

	Initial Volume	Final Volume
Run #1	37.1 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW23		
Lab Sample ID:	F16103-9	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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 [a]	EE012529.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	5.8	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	3.1	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	3.6	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	68%		32-142%
92-94-4	p-Terphenyl	71%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW24		
Lab Sample ID:	F16103-8	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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	EE012527.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		32-142%
92-94-4	p-Terphenyl	72%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW25		
Lab Sample ID:	F16103-7	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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 [a]	EE012526.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	1.5	2.0	0.51	ug/l	J
90-12-0	1-Methylnaphthalene	ND	2.0	2.0	ug/l	
91-57-6	2-Methylnaphthalene	1.1	2.0	2.0	ug/l	J
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		32-142%
92-94-4	p-Terphenyl	62%		30-128%

(a) All hits confirmed by spectral match using a diode array detector.

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW26		
Lab Sample ID:	F16103-5	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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	EE012524.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	0.69	2.0	0.51	ug/l	J
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	72%		32-142%
92-94-4	p-Terphenyl	67%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW27		
Lab Sample ID:	F16103-6	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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	EE012525.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.2	1.1	ug/l	
208-96-8	Acenaphthylene	ND	4.2	1.1	ug/l	
120-12-7	Anthracene	ND	2.1	1.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.21	0.11	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.21	0.11	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.21	0.11	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.21	0.11	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.21	0.11	ug/l	
218-01-9	Chrysene	ND	2.1	1.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.21	0.11	ug/l	
206-44-0	Fluoranthene	ND	2.1	0.53	ug/l	
86-73-7	Fluorene	ND	2.1	1.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.21	0.11	ug/l	
91-20-3	Naphthalene	ND	2.1	0.53	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.1	0.53	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.1	0.53	ug/l	
85-01-8	Phenanthrene	ND	2.1	1.1	ug/l	
129-00-0	Pyrene	ND	2.1	0.53	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	69%		32-142%
92-94-4	p-Terphenyl	53%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW28		
Lab Sample ID:	F16103-4	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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	EE012523.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	129%		32-142%
92-94-4	p-Terphenyl	75%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW29		
Lab Sample ID:	F16103-2	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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	EE012518.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
2[illegible]-8	Acenaphthylene	ND	4.0	1.0	ug/l	
[illegible]2-7	Anthracene	ND	2.0	1.0	ug/l	
[illegible]-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	
[illegible]1-9	Chrysene	ND	2.0	1.0	ug/l	
[illegible]3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-[illegible]-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	70%		32-142%
92-94-4	p-Terphenyl	67%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW30		
Lab Sample ID:	F16103-1	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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	EE012517.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		32-142%
92-94-4	p-Terphenyl	69%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW33		
Lab Sample ID:	F16103-3	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
Method:	EPA 8310 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	EE012520.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	78%		32-142%
92-94-4	p-Terphenyl	71%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW23		
Lab Sample ID:	F16103-9	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26500.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	4.01	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	103%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW24		
Lab Sample ID:	F16103-8	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26499.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	94%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW25		
Lab Sample ID:	F16103-7	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26496.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
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)	1.17	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	104%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW26		
Lab Sample ID:	F16103-5	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26494.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	106%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW27		
Lab Sample ID:	F16103-6	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26495.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	ND	0.26	0.18	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	104%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW28		
Lab Sample ID:	F16103-4	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26493.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C8-C40)	1.23	0.28	0.19	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	102%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW29		
Lab Sample ID:	F16103-2	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26490.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
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)	0.201	0.25	0.17	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	100%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW30		
Lab Sample ID:	F16103-1	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26489.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
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)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	102%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW33		
Lab Sample ID:	F16103-3	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
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	OP26491.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
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)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	101%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

APPENDIX C

SUPPORT DOCUMENTATION

F16103

HOLDING TIME
02/07/03

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
UG/L	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW25	F16103-7	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	EDB	01/07/03	01/09/03	01/09/03	2	0	2
UG/L	OLFS-2406-DMW30	F16103-1	MS	F16103	EDB	01/07/03	01/09/03	01/09/03	2	0	2
UG/L	OLFS-2406-DMW33	F16103-3	MSD	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
%	OP6720-BS	OP6720-BS	BSP	F16103	EDB	01/09/03	01/09/03	01/09/03	0	0	0
%	OP6720-BS2	OP6720-BS2	BSP	F16103	EDB	01/09/03	01/09/03	01/09/03	0	0	0
%	OP6720-MS	OP6720-MS	MS	F16103	EDB	01/09/03	01/09/03	01/10/03	0	1	1
%	OP6720-MSD	OP6720-MSD	MSD	F16103	EDB	01/09/03	01/09/03	01/10/03	0	1	1
UG/L	TRIP BLANK-010703	F16103-10	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	VBLK1	OP6720-MB	M_BLANK	F16103	EDB	01/09/03	01/09/03	01/09/03	0	0	0
%	MP5076-B1	MP5076-B1	BSP	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	MP5076-D1	MP5076-D1	DUPLICATE	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	MP5076-S1	MP5076-S1	MS	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	MP5076-S2	MP5076-S2	MSD	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	MP5076-SD1	MP5076-SD1	SDL	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
UG/L	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW25	F16103-7	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
UG/L	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW30	F16103-1	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW33	F16103-3	MS	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	PBW1	MP5076-MB1	M_BLANK	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	F16091-8DUP	F16091-8DUP	DUPLICATE	F16103	OV	01/09/03	/ /	01/09/03	0	0	0
%	F16104-9MS	F16104-9MS	MS	F16103	OV	01/13/03	/ /	01/13/03	0	0	0
%	F16104-9MSD	F16104-9MSD	MSD	F16103	OV	01/13/03	/ /	01/13/03	0	0	0
%	F16121-6MS	F16121-6MS	MS	F16103	OV	01/10/03	/ /	01/10/03	0	0	0
%	F16121-6MSD	F16121-6MSD	MSD	F16103	OV	01/10/03	/ /	01/10/03	0	0	0
%	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	OV	01/07/03	/ /	01/13/03	0	0	6
%	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	OV	01/07/03	/ /	01/13/03	0	0	6
%	OLFS-2406-DMW25	F16103-7	MSD	F16103	OV	01/07/03	/ /	01/10/03	0	0	3
%	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	OV	01/07/03	/ /	01/10/03	0	0	3
%	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	OV	01/07/03	/ /	01/10/03	0	0	3
%	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	OV	01/07/03	/ /	01/13/03	0	0	6
%	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	OV	01/07/03	/ /	01/09/03	0	0	2
%	OLFS-2406-DMW30	F16103-1MSD	NORMAL	F16103	OV	01/07/03	/ /	01/09/03	0	0	2
%	OLFS-2406-DMW33	F16103-3	NORMAL	F16103	OV	01/07/03	/ /	01/09/03	0	0	2
%	TRIP BLANK-010703	F16103-10	NORMAL	F16103	OV	01/07/03	/ /	01/09/03	0	0	2
%	VB596-BS	VB596-BS	BSP	F16103	OV	01/13/03	/ /	01/13/03	0	0	0
UG/L	VBLK1	VG679-MB	M_BLANK	F16103	OV	01/13/03	/ /	01/10/03	0	0	-3
%	VG678-BS	VG678-BS	BSP	F16103	OV	01/09/03	/ /	01/09/03	0	0	0
%	VG679-BS	VG679-BS	BSP	F16103	OV	01/10/03	/ /	01/10/03	0	0	0
%	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	
%	OLF[illegible]-DMW24	F16103-8	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3

Units	ample	Lab Id	Qc Type	Sdg	rt	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
%	OLFS-2406-DMW25	F16103-7	MS	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW30	F16103-1	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW33	OP6717-MSD	MSD	F16103	PAH	01/07/03	01/09/03	01/13/03	2	4	6
%	OP6717-BS	OP6717-BS	BSP	F16103	PAH	01/09/03	01/09/03	01/10/03	0	1	1
UG/L	PBL2	OP6717-MB	M_BLANK	F16103	PAH	01/09/03	01/09/03	01/10/03	0	1	1
UG/L	PBLK1	OP6717-MB	M_BLANK	F16103	PAH	01/09/03	01/09/03	01/13/03	0	4	4
%	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW25	OP6715-MSD	MS	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW30	F16103-1	MSD	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW33	F16103-3	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OP6715-BS	OP6715-BS	BSP	F16103	TPH	01/09/03	01/09/03	01/10/03	0	1	1
MG/L	PBL2	OP6715-MB	M_BLANK	F16103	TPH	01/09/03	01/09/03	01/13/03	0	4	4
MG/L	PBLK1	OP6715-MB	M_BLANK	F16103	TPH	01/09/03	01/09/03	01/10/03	0	1	1

Accutest Laboratories Southeast, Inc.
Analytical Narrative

Client:	Tetra Tech, NUS
Site:	NAS Pensacola, CTO# 274
Report Date:	January 15, 2003
Job Number:	F16103

10 samples were collected on January 07, 2003 and received on January 08, 2003.
Samples were properly cooled, preserved and intact. A listing of the Laboratory Sample ID, Client Sample ID, and dates of collection are presented in the Results Summary section of this report.

All method specified holding times, calibrations and quality control performance criteria were met, with the following notes:

VOCs, SW 846 8260B

- Sample OLFS02406-DMW26 was not preserved to a pH less than 2. This sample was analyzed outside of the recommended 7 day holding time for unpreserved volatile samples. Reported results should be considered minimum values.
- The Blank Spike associated with analytical batch VB596 had one compound with a recovery above acceptance limits. This compound was non-detect in the associated samples. Data not adversely affected.
- The Blank Spikes associated with analytical batches VG678 and VG679 had one compound with a recovery above acceptance limits. This compound was non-detect in the associated samples. Data not adversely affected.
- The MS/MSDs associated with analytical batches VG678 and VG679 had various recoveries and/or RPDs above and/or below acceptance limits. The Blank Spike was within limits, except where noted above. Data not adversely affected.

Accutest Laboratories Southeast, Inc. certifies that this report meets the project requirements for analytical data produced for the samples as received at the Accutest Laboratories Southeast location as stated in the Analytical Task Order and the COC. In addition, Accutest Laboratories Southeast, Inc. certifies that data as reported meet the Data Quality Objectives for precision, accuracy and completeness as specified in the Accutest Laboratories Southeast, Inc. Quality Manual for other that conditions detailed above. ALSE routinely reports Organic target analytes down to 1/2 the Reporting Level. These positive results are flagged with a "J" qualifier. It is recommended by Accutest Laboratories Southeast, Inc. that this report is to be used in its entirety. Accutest Laboratories Southeast, Inc. is not responsible for any assumptions of data quality if partial data packages are used to interpret data. The Accutest Laboratories Southeast, Inc. Laboratory Director as verified by the signature on the front page has authorized release of this report.

Narrative prepared by:

Date: January 15, 2003

Sue O. Bell, Project Manager (signature on file)

0005

ACCUTEST LABORATORIES SOUTHEAST
SAMPLE RECEIPT CONFIRMATION

Accutest's Job Number: F16103

Client/Project: TetraTech NUS / 02642

Date/Time Received: 1/8/03 / 0915 **Total Number of Coolers** 4

Method of Delivery: FedEx Greyhound UPS Pickup Delivery Other

Air Bill Number:

Cooler Temperatures: 2.0, 1.6, 2.4, 1.8

Custody Seals Intact ?	YES	NO	
Trip Blank Provided ?	YES	NO	
Trip Blank on COC ?	YES	NO	
Trip Blank Intact ?	YES	NO	N/A
Chain Of Custody Provided?	YES	NO	
Chain Of Custody Match Bottles?	YES	NO	
Sample Labels Present?	YES	NO	
Are All Bottles Unbroken?	YES	NO	
Are All Appropriate Samples Preserved?	YES	NO	
Correct Containers Used?	YES	NO	
Sufficient Sample Volume?	YES	NO	

Number of Encores: Ø

COMMENTS:

Signature: Mona McLaurine **Date:** 1/8/03

Revised 04/24/02 ASBD

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 4254 F16103 PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
N2642	OLF Sanford	Gerry Walker	850-385-9899	Accutest Sue Bell
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Howard Gagle	PHONE NUMBER: 850-385-9899	ADDRESS: 4405 Vineland Rd
		CARRIER/WAYBILL NUMBER: FED-EX		CITY, STATE: Orlando, FL 32811

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

DATE YEAR 2003	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	PPL VOAS, 1,2-DCA, 8260B	PAH's 8310	EDB 504.1	Total Lead 6010B	TRPH EPA FL-PRO				COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)									G	G	G	P	G				
PRESERVATIVE USED									HCL	NA	NA	HNO3	HCL				
1/7	0945	OLFS-2406-DMW-30	DMW30			GW	G	11	3	2	3	1	2				
1/7	1010	OLFS-2406-DMW29	DMW29			GW	G	11	3	2	3	1	2				See WR N2642-WRR3(55)
1/7	1045	OLFS-2406-DMW33	DMW33			GW	G	11	↓	↓	↓	↓	↓				for Cmpd Lists and RLs.
1/7	1100	OLFS-2406-DMW28	DMW28			GW	G	11	↓	↓	↓	↓	↓				
1/7	1330	OLFS-2406-DMW26	DMW26			GW	G	11	↓	↓	↓	↓	↓				
1/7	1400	OLFS-2406-DMW27	DMW27			GW	G	11	↓	↓	↓	↓	↓				
1/7	1425	OLFS-2406-DMW25	DMW25			GW	G	11	↓	↓	↓	↓	↓				
1/7	1555	OLFS-2406-DMW24	DMW24			↓	↓	↓	↓	↓	↓	↓	↓				
1/7	1550	OLFS-2406-DMW23	DMW23			↓	↓	↓	↓	↓	↓	↓	↓				
1/7	—	Trip Blank-010703	—			GW	G	2	2	—	—	—	—				

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1/7/03	1900	1. RECEIVED BY FedEx		
2. RELINQUISHED BY FedEx	01/08/03	0915	2. RECEIVED BY	01/08/03	0915
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS 20,1,6,2,4,1,8

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

Instrument Performance Check (BFB)

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample:	VG615-BFB	**Injection Date:**	10/29/02
Lab File ID:	G0018629.D	**Injection Time:**	10:35
Instrument ID:	GCMSG		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	26714	24.2	Pass
75	30.0 - 60.0% of mass 95	62860	56.8	Pass
95	Base peak, 100% relative abundance	110596	100.0	Pass
96	5.0 - 9.0% of mass 95	8543	7.7	Pass
173	Less than 2.0% of mass 174	502	0.45 (0.59) [a]	Pass
174	50.0 - 100.0% of mass 95	85295	77.1	Pass
175	5.0 - 9.0% of mass 174	7273	6.6 (8.5) [a]	Pass
176	95.0 - 101.0% of mass 174	82816	74.9 (97.1) [a]	Pass
177	5.0 - 9.0% of mass 176	6289	5.7 (7.6) [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
VG615-IC615	G0018630.D	10/29/02	10:52	00:17	Initial cal 1
VG615-IC615	G0018631.D	10/29/02	11:23	00:48	Initial cal 5
VG615-IC615	G0018632.D	10/29/02	11:54	01:19	Initial cal 20
VG615-ICC615	G0018633.D	10/29/02	12:25	01:50	Initial cal 40
VG615-IC615	G0018634.D	10/29/02	12:56	02:21	Initial cal 70
VG615-IC615	G0018635.D	10/29/02	13:27	02:52	Initial cal 100

Response Factor Report MSVOA1

Method : C:\HPCHEM\1\METHODS\8260-30M.M (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Tue Oct 29 13:57:07 2002
Response via : Initial Calibration

Calibration Files
1 =G0018630.D 2 =G0018631.D 3 =G0018632.D
4 =G0018633.D 5 =G0018634.D 6 =G0018635.D

		Compound	1	2	3	4	5	6	Avg	%RSD
1)	I	Fluorobenzene	----------ISTD----------							
2)		Dichlorodifluoromet		0.330	0.331	0.332	0.326	0.314	0.326	2.31
3)	P	Chloromethane	0.433	0.491	0.430	0.385	0.417	0.398	0.426	8.65
4)	C	Vinyl Chloride	0.300	0.417	0.373	0.367	0.345	0.347	0.358	10.77
5)		Bromomethane	0.245	0.299	0.238	0.236	0.229	0.214	0.244	12.00
6)		Chloroethane	0.194	0.220	0.210	0.202	0.192	0.183	0.200	6.66
7)		Trichlorofluorometh	0.322	0.410	0.344	0.351	0.360	0.359	0.358	8.15
8)		Ethyl Ether	0.255	0.241	0.235	0.219	0.223	0.206	0.230	7.53
9)	C	1,1-Dichloroethene	0.449	0.479	0.421	0.428	0.412	0.394	0.431	6.91
10)		Freon 113	0.248	0.317	0.255	0.249	0.239	0.229	0.256	12.24
11)		Acetone	0.140	0.104	0.081	0.079	0.076	0.075	0.092	27.75
		----- Linear regression ----- Coefficient = 0.9997								
		Response Ratio = 0.01348 + 0.07378 *A								
12)		Iodomethane	0.393	0.500	0.424	0.411	0.408	0.378	0.419	10.21
13)		Carbon Disulfide	0.675	0.873	0.765	0.736	0.746	0.711	0.751	8.97
14)		Methyl acetate	0.262	0.256	0.219	0.212	0.208	0.199	0.226	11.69
15)		Methylene Chloride	1.608	0.837	0.455	0.456	0.429	0.409	0.699	67.70
		----- Linear regression ----- Coefficient = 0.9986								
		Response Ratio = 0.03463 + 0.39716 *A								
16)		trans-1,2-Dichloroe	0.462	0.454	0.442	0.411	0.431	0.391	0.432	6.20
17)		Acrylonitrile	0.100	0.098	0.084	0.082	0.086	0.083	0.089	9.01
18)		Methyl Tert Butyl E	0.807	0.775	0.700	0.693	0.699	0.685	0.727	7.06
19)		Hexane		0.381	0.334	0.332	0.331	0.300	0.336	8.64
20)	P	1,1-Dichloroethane	0.461	0.585	0.504	0.498	0.496	0.472	0.503	8.67
21)		Vinyl acetate		0.331	0.360	0.313	0.315	0.301	0.324	7.00
22)		Di-isopropyl ether	0.840	1.005	0.919	0.923	0.918	0.890	0.916	5.87
23)		ETBE	0.780	0.853	0.814	0.824	0.828	0.810	0.818	2.94
24)		2,2-Dichloropropane	0.357	0.435	0.389	0.384	0.364	0.358	0.381	7.75
25)		cis-1,2-Dichloroeth	0.241	0.302	0.290	0.286	0.271	0.272	0.277	7.57
26)		2-Butanone	0.148	0.138	0.119	0.114	0.116	0.114	0.125	11.67
27)		Bromochloromethane	0.190	0.174	0.159	0.147	0.153	0.143	0.161	11.11
28)		Tetrahydrofuran		0.078	0.067	0.073	0.074	0.072	0.073	5.87
29)	C	Chloroform		0.675	0.555	0.533	0.518	0.491	0.554	12.89
30)		1,1,1-Trichloroetha	0.473	0.553	0.471	0.451	0.450	0.433	0.472	8.99
31)	S	Dibromofluoromethan	0.342	0.349	0.341	0.338	0.332	0.330	0.339	1.97
32)		Cyclohexane	0.361	0.475	0.438	0.437	0.440	0.434	0.431	8.72
33)		1,1-Dichloropropene	0.370	0.411	0.354	0.367	0.349	0.343	0.366	6.71
34)		Carbon Tetrachlorid	0.385	0.498	0.427	0.413	0.407	0.406	0.423	9.32
35)	S	1,2-Dichloroethane-	0.459	0.448	0.433	0.420	0.417	0.405	0.430	4.68
36)		Benzene	0.778	1.050	0.946	0.940	0.892	0.867	0.912	9.96
37)		1,2-Dichloroethane		0.594	0.481	0.470	0.441	0.426	0.482	13.72
38)		TAME	0.532	0.717	0.687	0.674	0.686	0.673	0.662	9.90
39)		Trichloroethene	0.299	0.303	0.291	0.290	0.289	0.278	0.291	2.97
40)		Methylcyclohexane		0.405	0.396	0.402	0.405	0.382	0.398	2.49
41)	C	1,2-Dichloropropane		0.314	0.278	0.289	0.272	0.270	0.28[illegible]	[illegible]36
42)		Dibromomethane		0.214	0.208	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

44)		2-Nitropropane		0.096	0.094	0.099	0.096	0.096	0.096	1.80
45)		2-Chloroethyl vinyl	0.085	0.096	0.096	0.092	0.090	0.084	0.090	5.74
46)		4-Methyl-2-pentanon	0.235	0.291	0.274	0.274	0.263	0.253	0.265	7.29
47)		cis-1,3-Dichloropro	0.437	0.473	0.483	0.475	0.456	0.444	0.461	4.04
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	S	Toluene-d8	1.176	1.208	1.189	1.164	1.168	1.199	1.184	1.47
50)	C	Toluene	0.915	1.198	1.150	1.139	1.079	1.113	1.099	8.96
51)		trans-1,3-Dichlorop	0.460	0.512	0.478	0.477	0.477	0.485	0.481	3.58
52)		1,1,2-Trichloroetha	0.244	0.292	0.258	0.249	0.242	0.248	0.255	7.32
53)		Tetrachloroethene	0.366	0.370	0.352	0.339	0.330	0.338	0.349	4.66
54)		2-hexanone	0.210	0.216	0.208	0.204	0.206	0.209	0.209	1.94
55)		1,3-Dichloropropane	0.492	0.541	0.506	0.488	0.474	0.469	0.495	5.27
56)		Dibromochloromethan		0.395	0.348	0.331	0.338	0.348	0.352	7.13
57)		1,2-Dibromoethane		0.330	0.312	0.285	0.285	0.294	0.301	6.53
58)		1-Chlorohexane	0.491	0.463	0.430	0.409	0.410	0.405	0.434	8.09
59)	P	Chlorobenzene	0.700	0.905	0.784	0.798	0.748	0.751	0.781	8.91
60)		1,1,1,2-Tetrachloro	0.323	0.396	0.339	0.318	0.313	0.313	0.333	9.60
61)	C	Ethylbenzene	1.165	1.406	1.360	1.348	1.297	1.276	1.309	6.43
62)		m,p-Xylene	0.839	1.181	1.116	1.071	1.035	1.017	1.043	11.13
63)		o-Xylene	0.958	1.189	1.183	1.165	1.148	1.160	1.134	7.73
64)		Styrene		0.811	0.857	0.865	0.828	0.848	0.842	2.61
65)	P	Bromoform		0.251	0.242	0.230	0.250	0.266	0.248	5.36
66)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
67)		Isopropylbenzene		1.938	1.957	1.952	1.964	1.803	1.923	3.52
68)	S	4-Bromofluorobenzen	0.957	0.985	0.981	0.942	0.972	0.912	0.958	2.89
69)		Bromobenzene	0.667	0.623	0.596	0.579	0.598	0.564	0.605	6.00
70)	P	1,1,2,2-Tetrachloro	0.642	0.657	0.610	0.576	0.587	0.529	0.600	7.80
71)		1,2,3-Trichloroprop	0.197	0.219	0.203	0.168	0.174	0.160	0.187	12.24
72)		trans-1,4-Dichloro-	0.195	0.228	0.228	0.197	0.215	0.199	0.210	7.40
73)		n-Propylbenzene		2.760	2.729	2.610	2.564	2.345	2.602	6.34
74)		2-Chlorotoluene	1.345	1.901	1.737	1.619	1.617	1.483	1.617	11.95
75)		4-Chlorotoluene		2.182	2.074	1.935	1.930	1.770	1.978	7.93
76)		1,3,5-Trimethylbenz		1.937	1.906	1.793	1.815	1.707	1.832	5.03
77)		sec-Butylbenzene		2.233	2.160	2.143	2.133	2.019	2.138	3.61
78)		1,3-Dichlorobenzene	1.127	1.186	1.134	1.078	1.062	1.005	1.099	5.79
79)		4-Isopropyltoluene		2.034	1.855	1.876	1.806	1.707	1.856	6.42
80)		1,4-Dichlorobenzene	1.213	1.302	1.165	1.087	1.086	1.072	1.154	7.88
81)		tert-Butylbenzene		1.283	1.298	1.236	1.233	1.132	1.236	5.26
82)		Benzyl Chloride	0.958	1.112	1.062	1.058	1.073	1.036	1.050	4.90
83)		n-Butylbenzene		1.992	1.981	1.925	1.900	1.785	1.917	4.33
84)		1,2-Dichlorobenzene	1.163	1.241	1.130	1.057	1.039	0.997	1.104	8.16
85)		1,2,4-Trimethylbenz	1.513	2.119	1.962	1.870	1.861	1.752	1.846	11.07
86)		1,2-Dibromo-3-Chlor	0.139	0.140	0.149	0.137	0.144	0.135	0.141	3.55
87)		1,2,4-Trichlorobenz	0.885	0.913	0.837	0.831	0.836	0.828	0.855	4.14
88)		Hexachlorobutadiene		0.473	0.353	0.357	0.360	0.348	0.378	13.99
89)		Naphthalene	1.546	1.807	1.783	1.691	1.740	1.687	1.709	5.45
90)		1,2,3-Trichlorobenz	0.851	0.820	0.790	0.762	0.791	0.742	0.793	4.91
91)	I	Tert Butyl Alcohol-d1	----------ISTD----------							
92)		Acrolein	3.150	3.386	2.760	2.666	2.510	2.418	2.815	13.42
93)		Tert Butyl Alcohol	1.468	1.420	1.392	1.398	1.303	1.280	1.377	5.21
94)		1,4-Dioxane	0.165	0.114	0.141	0.144	0.139	0.136	0.140	11.64
95)		Cyclohexanone		0.344	0.598	0.593	0.579	0.530	0.529	20.20

----- Linear regression ----- Coefficient = 0.9931

Response Ratio = 0.01513 + 0.54126 *A

(#) = Out of Range

Volatile Surrogate Recovery Summary

Job Number: F16103
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
F16103-1	G0019971.D	107.0	108.0	103.0	95.0
F16103-1	G0019938.D	102.0	101.0	132.0*	97.0
F16103-2	B013550.D	98.0	98.0	100.0	105.0
F16103-2	G0019937.D	102.0	99.0	101.0	98.0
F16103-3	G0019953.D	102.0	104.0	103.0	99.0
F16103-4	B013551.D	99.0	99.0	101.0	104.0
F16103-5	G0019967.D	98.0	103.0	102.0	98.0
F16103-6	G0019966.D	103.0	101.0	103.0	99.0
F16103-7	G0019969.D	102.0	105.0	99.0	98.0
F16103-8	B013548.D	101.0	96.0	100.0	102.0
F16103-9	B013549.D	99.0	100.0	99.0	104.0
F16103-10	G0019944.D	102.0	101.0	106.0	95.0
F16091-8DUP	G0019948.D	130.0*	128.0*	101.0	101.0
F16103-1MS	G0019942.D	100.0	102.0	127.0*	95.0
F16103-1MSD	G0019943.D	100.0	98.0	128.0*	96.0
F16104-9MS	B013542.D	101.0	102.0	98.0	96.0
F16104-9MSD	B013543.D	101.0	99.0	99.0	97.0
F16121-6MS	G0019973.D	125.0*	105.0	102.0	96.0
F16121-6MSD	G0019974.D	106.0	105.0	99.0	93.0
VB596-BS	B013536.D	101.0	101.0	99.0	98.0
VB596-MB	B013537.D	101.0	97.0	99.0	103.0
VG678-BS	G0019935.D	96.0	95.0	99.0	96.0
VG678-MB	G0019936.D	101.0	103.0	103.0	94.0
VG679-BS	G0019963.D	99.0	98.0	100.0	91.0
VG679-MB	G0019964.D	103.0	100.0	99.0	101.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	86-115%
S2 = 1,2-Dichloroethane-D4	78-125%
S3 = Toluene-D8	87-113%
S4 = 4-Bromofluorobenzene	84-117%

Instrument Performance Check (BFB)

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample:	VG678-BFB	**Injection Date:**	01/09/03
Lab File ID:	G0019931.D	**Injection Time:**	09:22
Instrument ID:	GCMSG		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	38038	23.9	Pass
75	30.0 - 60.0% of mass 95	91400	57.4	Pass
95	Base peak, 100% relative abundance	159329	100.0	Pass
96	5.0 - 9.0% of mass 95	12811	8.0	Pass
173	Less than 2.0% of mass 174	767	0.48 (0.53) [a]	Pass
174	50.0 - 100.0% of mass 95	145013	91.0	Pass
175	5.0 - 9.0% of mass 174	11886	7.5 (8.2) [a]	Pass
176	95.0 - 101.0% of mass 174	141727	89.0 (97.7) [a]	Pass
177	5.0 - 9.0% of mass 176	10328	6.5 (7.3) [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
VG678-CC615	G0019932.D	01/09/03	09:50	00:28	Continuing cal 20
VG678-BS	G0019935.D	01/09/03	11:29	02:07	Blank Spike
VG678-MB	G0019936.D	01/09/03	12:41	03:19	Method Blank
F16103-2	G0019937.D	01/09/03	13:11	03:49	OLFS-2406-DMW29
F16103-1	G0019938.D	01/09/03	13:41	04:19	OLFS-2406-DMW30
ZZZZZZ	G0019939.D	01/09/03	14:12	04:50	(unrelated sample)
F16103-1MS	G0019942.D	01/09/03	15:43	06:21	Matrix Spike
F16103-1MSD	G0019943.D	01/09/03	16:13	06:51	Matrix Spike Duplicate
F16103-10	G0019944.D	01/09/03	16:43	07:21	TRIP BLANK-070703
ZZZZZZ	G0019945.D	01/09/03	17:14	07:52	(unrelated sample)
F16091-8	G0019947.D	01/09/03	18:14	08:52	(used for QC only; not part of job F16103)
F16091-8DUP	G0019948.D	01/09/03	18:45	09:23	Duplicate
ZZZZZZ	G0019949.D	01/09/03	19:15	09:53	(unrelated sample)
ZZZZZZ	G0019950.D	01/09/03	19:46	10:24	(unrelated sample)
ZZZZZZ	G0019951.D	01/09/03	20:17	10:55	(unrelated sample)
ZZZZZZ	G0019952.D	01/09/03	20:47	11:25	(unrelated sample)
F16103-3	G0019953.D	01/09/03	21:18	11:56	OLFS-2406-DMW33

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\010903\G0019932.D Vial: 1
Acq On : 9 Jan 2003 9:50 am Operator: RachidA
Sample : CC615-20 Inst : MSVOA1
Misc : ms2020,vg678,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260-30M.M (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Tue Oct 29 14:24:03 2002
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)
1	I	Fluorobenzene	1.000	1.000	0.0	133	-0.01
2		Dichlorodifluoromethane	0.326	0.424	-30.1#	171	0.05
3	P	Chloromethane	0.426	0.511	-20.0	158	0.06
4	C	Vinyl Chloride	0.358	0.347	3.1	124	0.06
5		Bromomethane	0.244	0.218	10.7	122	0.09
6		Chloroethane	0.200	0.213	-6.5	135	0.04
7		Trichlorofluoromethane	0.358	0.337	5.9	130	0.04
8		Ethyl Ether	0.230	0.199	13.5	113	0.02
9	C	1,1-Dichloroethene	0.431	0.391	9.3	124	0.04
10		Freon 113	0.256	0.252	1.6	132	0.04
11		Acetone	0.092	0.095	-3.3	157	0.02
12		Iodomethane	0.419	0.445	-6.2	140	0.03
13		Carbon Disulfide	0.751	0.809	-7.7	141	0.04
14		Methyl acetate	0.226	0.217	4.0	132	0.01
15		Methylene Chloride	0.699	0.443	36.6#	130	0.02
16		trans-1,2-Dichloroethene	0.432	0.389	10.0	117	0.01
17		Acrylonitrile	0.089	0.074	16.9	118	0.01
18		Methyl Tert Butyl Ether	0.727	0.716	1.5	136	0.00
19		Hexane	0.336	0.357	-6.2	143	0.03
20	P	1,1-Dichloroethane	0.503	0.483	4.0	127	0.00
21		Vinyl acetate	0.324	4.384	-1253.1#	1623#	0.02
22		Di-isopropyl ether	0.916	1.053	-15.0	153	0.01
23		ETBE	0.818	0.825	-0.9	135	0.00
24		2,2-Dichloropropane	0.381	0.336	11.8	115	0.00
25		cis-1,2-Dichloroethene	0.277	0.270	2.5	124	0.01
26		2-Butanone	0.125	0.134	-7.2	150	0.00
27		Bromochloromethane	0.161	0.161	0.0	135	0.00
28		Tetrahydrofuran	0.073	0.090	-23.3#	181	0.00
29	C	Chloroform	0.554	0.489	11.7	117	0.00
30		1,1,1-Trichloroethane	0.472	0.428	9.3	121	0.00
31	S	Dibromofluoromethane	0.339	0.321	5.3	125	0.00
32		Cyclohexane	0.431	0.482	-11.8	146	0.00
33		1,1-Dichloropropene	0.366	0.358	2.2	135	0.00
34		Carbon Tetrachloride	0.423	0.376	11.1	117	-0.00
35	S	1,2-Dichloroethane-d4	0.430	0.400	7.0	123	0.00
36		Benzene	0.912	0.926	-1.5	130	0.00
37		1,2-Dichloroethane	0.482	0.471	2.3	130	0.00
38		TAME	0.662	0.681	-2.9	132	0.00
39		Trichloroethene	0.291	0.283	2.7	130	0.00
40		Methylcyclohexane	0.398	0.426	-7.0	143	0.00
41	C	1,2-Dichloropropane	0.285	0.292	-2.5	140	-0.01
42		Dibromomethane	0.201	0.195	3.0	125	0.00
43		Bromodichloromethane	0.437	0.399	8.7	122	0.00
44		2-Nitropropane	0.096	0.110	-14.6	156	-0.01

OK. linear

46		4-Methyl-2-pentanone	0.265	0.320	-20.8#	155	-0.01
47		cis-1,3-Dichloropropene	0.461	0.462	-0.2	127	-0.01
48	I	Chlorobenzene-d5	1.000	1.000	0.0	136	-0.02
49	S	Toluene-d8	1.184	1.153	2.6	132	-0.01
50	C	Toluene	1.099	1.167	-6.2	138	-0.01
51		trans-1,3-Dichloropropene	0.481	0.484	-0.6	137	-0.02
52		1,1,2-Trichloroethane	0.255	0.244	4.3	128	-0.01
53		Tetrachloroethene	0.349	0.361	-3.4	139	-0.02
54		2-hexanone	0.209	0.238	-13.9	155	-0.01
55		1,3-Dichloropropane	0.495	0.512	-3.4	137	-0.02
56		Dibromochloromethane	0.352	0.331	6.0	129	0.00
57		1,2-Dibromoethane	0.301	0.298	1.0	130	-0.01
58		1-Chlorohexane	0.434	0.426	1.8	134	-0.02
59	P	Chlorobenzene	0.781	0.784	-0.4	136	-0.02
60		1,1,1,2-Tetrachloroethane	0.333	0.325	2.4	130	-0.02
61	C	Ethylbenzene	1.309	1.344	-2.7	134	-0.02
62		m,p-Xylene	1.043	1.095	-5.0	133	-0.02
63		o-Xylene	1.134	1.220	-7.6	140	-0.01
64		Styrene	0.842	0.865	-2.7	137	-0.02
65	P	Bromoform	0.248	0.248	0.0	139	-0.02
66	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	145	-0.03
67		Isopropylbenzene	1.923	1.998	-3.9	148	-0.02
68	S	4-Bromofluorobenzene	0.958	0.911	4.9	134	-0.02
69		Bromobenzene	0.605	0.601	0.7	146	-0.02
70	P	1,1,2,2-Tetrachloroethane	0.600	0.597	0.5	142	-0.02
71		1,2,3-Trichloropropane	0.187	0.186	0.5	133	-0.02
72		trans-1,4-Dichloro-2-Butene	0.210	0.210	0.0	133	-0.03
73		n-Propylbenzene	2.602	2.604	-0.1	138	-0.02
74		2-Chlorotoluene	1.617	1.576	2.5	131	-0.02
75		4-Chlorotoluene	1.978	1.911	3.4	133	-0.02
76		1,3,5-Trimethylbenzene	1.832	1.757	4.1	133	-0.03
77		sec-Butylbenzene	2.138	2.185	-2.2	146	-0.02
78		1,3-Dichlorobenzene	1.099	1.159	-5.5	148	-0.02
79		4-Isopropyltoluene	1.856	1.809	2.5	141	-0.03
80		1,4-Dichlorobenzene	1.154	1.144	0.9	142	-0.01
81		tert-Butylbenzene	1.236	1.183	4.3	132	-0.03
82		Benzyl Chloride	1.050	1.194	-13.7	163	-0.02
83		n-Butylbenzene	1.917	1.798	6.2	131	-0.02
84		1,2-Dichlorobenzene	1.104	1.084	1.8	139	-0.02
85		1,2,4-Trimethylbenzene	1.846	1.852	-0.3	137	-0.01
86		1,2-Dibromo-3-Chloropropane	0.141	0.103	27.0#	100	-0.02
87		1,2,4-Trichlorobenzene	0.855	0.686	19.8	118	-0.01
88		Hexachlorobutadiene	0.378	0.296	21.7#	121	-0.02
89		Naphthalene	1.709	1.285	24.8#	104	-0.02
90		1,2,3-Trichlorobenzene	0.793	0.597	24.7#	109	-0.03
91	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	161	0.01
92		Acrolein	2.815	1.547	45.0#	90	0.01
93		Tert Butyl Alcohol	1.377	1.356	1.5	157	0.01
94		1,4-Dioxane	0.140	0.132	5.7	150	0.00
95		Cyclohexanone	0.529	0.584	-10.4	158	-0.03

Average % D = 22.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0

G0018632.D 8260-30M.M Fri Jan 10 13:39:24 2003 RP1

C.00

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG678-MB	G0019936.D	1	01/09/03	RA	n/a	n/a	VG678

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-2, F16103-3, F16103-10

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG678-MB	G0019936.D	1	01/09/03	RA	n/a	n/a	VG678

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-2, F16103-3, F16103-10

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	103%	78-125%
2037-26-5	Toluene-D8	103%	87-113%
460-00-4	4-Bromofluorobenzene	94%	84-117%

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG678-BS	G0019935.D	1	01/09/03	RA	n/a	n/a	VG678

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-2, F16103-3, F16103-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	28.1	112	76-123
75-27-4	Bromodichloromethane	25	24.0	96	72-122
75-25-2	Bromoform	25	27.6	110	59-124
108-90-7	Chlorobenzene	25	26.4	106	78-115
75-00-3	Chloroethane	25	27.0	108	65-141
67-66-3	Chloroform	25	24.6	98	74-123
110-75-8	2-Chloroethyl vinyl ether	125	222	178*	24-148
56-23-5	Carbon tetrachloride	25	25.9	104	68-137
75-34-3	1,1-Dichloroethane	25	28.3	113	73-125
75-35-4	1,1-Dichloroethylene	25	28.7	115	64-136
107-06-2	1,2-Dichloroethane	25	25.2	101	66-118
78-87-5	1,2-Dichloropropane	25	28.5	114	75-129
124-48-1	Dibromochloromethane	25	24.3	97	72-117
156-59-2	cis-1,2-Dichloroethylene	25	28.2	113	79-127
10061-01-5	cis-1,3-Dichloropropene	25	25.6	102	71-117
541-73-1	m-Dichlorobenzene	25	26.9	108	74-117
95-50-1	o-Dichlorobenzene	25	25.6	102	73-115
106-46-7	p-Dichlorobenzene	25	25.2	101	74-117
156-60-5	trans-1,2-Dichloroethylene	25	28.5	114	67-125
10061-02-6	trans-1,3-Dichloropropene	25	26.0	104	65-113
100-41-4	Ethylbenzene	25	27.3	109	76-117
74-83-9	Methyl bromide	25	23.1	92	45-137
74-87-3	Methyl chloride	25	28.3	113	47-149
75-09-2	Methylene chloride	25	27.0	108	63-126
1634-04-4	Methyl Tert Butyl Ether	25	26.5	106	68-125
71-55-6	1,1,1-Trichloroethane	25	26.9	108	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	23.8	95	69-114
79-00-5	1,1,2-Trichloroethane	25	25.7	103	74-115
127-18-4	Tetrachloroethylene	25	28.6	114	75-124
108-88-3	Toluene	25	27.5	110	76-118
79-01-6	Trichloroethylene	25	27.7	111	75-122
75-01-4	Vinyl chloride	25	25.9	104	62-142
1330-20-7	Xylene (total)	75	82.5	110	78-120

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG678-BS	G0019935.D	1	01/09/03	RA	n/a	n/a	VG678

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-2, F16103-3, F16103-10

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	86-115%
17060-07-0	1,2-Dichloroethane-D4	95%	78-125%
2037-26-5	Toluene-D8	99%	87-113%
460-00-4	4-Bromofluorobenzene	96%	84-117%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16103-1MS	G0019942.D	1	01/09/03	RA	n/a	n/a	VG678
F16103-1MSD	G0019943.D	1	01/09/03	RA	n/a	n/a	VG678
F16103-1	G0019938.D	1	01/09/03	RA	n/a	n/a	VG678

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-2, F16103-3, F16103-10

CAS No.	Compound	F16103-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	28.1	112	27.7	111	1	71-127/8
75-27-4	Bromodichloromethane	ND		25	24.1	96	24.2	97	0	70-121/10
75-25-2	Bromoform	ND		25	24.7	99	25.3	101	2	50-124/18
108-90-7	Chlorobenzene	ND		25	26.7	107	26.3	105	2	77-113/6
75-00-3	Chloroethane	ND		25	29.5	118	27.8	111	6	57-155/19
67-66-3	Chloroform	ND		25	25.4	102	25.4	102	0	72-125/11
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	10-1[illegible]7
56-23-5	Carbon tetrachloride	ND		25	27.1	108	26.7	107	1	61-1[illegible]3
75-34-3	1,1-Dichloroethane	ND		25	27.4	110	26.8	107	2	71-129/11
75-35-4	1,1-Dichloroethylene	ND		25	30.5	122	29.0	116	5	60-141/14
107-06-2	1,2-Dichloroethane	ND		25	25.5	102	25.5	102	0	64-121/9
78-87-5	1,2-Dichloropropane	ND		25	28.1	112	27.7	111	1	73-131/8
124-48-1	Dibromochloromethane	ND		25	31.1	124*	30.9	124*	1	65-118/12
156-59-2	cis-1,2-Dichloroethylene	ND		25	28.1	112	27.1	108	4	75-131/12
10061-01-5	cis-1,3-Dichloropropene	ND		25	25.3	101	26.0	104	3	62-115/13
541-73-1	m-Dichlorobenzene	ND		25	26.7	107	26.0	104	3	72-115/7
95-50-1	o-Dichlorobenzene	ND		25	25.4	102	23.8	95	7	72-113/8
106-46-7	p-Dichlorobenzene	ND		25	25.2	101	24.6	98	2	72-116/7
156-60-5	trans-1,2-Dichloroethylene	ND		25	28.0	112	27.3	109	3	65-127/12
10061-02-6	trans-1,3-Dichloropropene	ND		25	34.3	137*	33.2	133*	3	51-115/13
100-41-4	Ethylbenzene	ND		25	27.3	109	27.8	111	2	72-119/7
74-83-9	Methyl bromide	ND		25	22.2	89	23.2	93	4	44-140/19
74-87-3	Methyl chloride	ND		25	30.5	122	28.9	116	5	43-148/23
75-09-2	Methylene chloride	ND		25	26.4	106	26.3	105	0	61-131/11
1634-04-4	Methyl Tert Butyl Ether	ND		25	27.0	108	26.0	104	4	65-125/12
71-55-6	1,1,1-Trichloroethane	ND		25	25.7	103	27.0	108	5	69-135/13
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	24.6	98	23.8	95	3	62-120/10
79-00-5	1,1,2-Trichloroethane	ND		25	31.8	127*	32.2	129*	1	71-117/10
127-18-4	Tetrachloroethylene	ND		25	34.2	137*	32.8	131*	4	74-123/11
108-88-3	Toluene	0.51	J	25	35.9	142*	36.9	146*	3	73-119/10
79-01-6	Trichloroethylene	ND		25	26.5	106	26.3	105	1	71-124/9
75-01-4	Vinyl chloride	ND		25	26.6	106	26.0	104	2	53-149/[illegible]
1330-20-7	Xylene (total)	ND		75	83.3	111	83.2	111	0	73-123.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16103-1MS	G0019942.D	1	01/09/03	RA	n/a	n/a	VG678
F16103-1MSD	G0019943.D	1	01/09/03	RA	n/a	n/a	VG678
F16103-1	G0019938.D	1	01/09/03	RA	n/a	n/a	VG678

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-2, F16103-3, F16103-10

CAS No.	Surrogate Recoveries	MS	MSD	F16103-1	Limits
1868-53-7	Dibromofluoromethane	100%	100%	102%	86-115%
17060-07-0	1,2-Dichloroethane-D4	102%	98%	101%	78-125%
2037-26-5	Toluene-D8	127%*	128%*	132%*	87-113%
460-00-4	4-Bromofluorobenzene	95%	96%	97%	84-117%

Volatile Internal Standard Area Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	VG678-CC615	**Injection Date:**	01/09/03
Lab File ID:	G0019932.D	**Injection Time:**	09:50
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1797849	7.70	1664079	12.76	1088666	17.19	171541	4.35
Upper Limit [a]	3595698	8.20	3328158	13.26	2177332	17.69	343082	4.85
Lower Limit [b]	898925	7.20	832040	12.26	544333	16.69	85771	3.85

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VG678-BS	1427124	7.71	1273750	12.77	823805	17.19	129619	4.37
VG678-MB	1835483	7.72	1601523	12.77	1054308	17.20	168831	4.37
F16103-2	1357174	7.73	1226625	12.78	766575	17.20	122400	4.39
F16103-1	1741154	7.74	1184906	12.78	738263	17.20	133110	4.38
ZZZZZZ	1636377	7.73	1139330	12.77	727917	17.20	131162	4.39
F16103-1MS	1687835	7.73	1192913	12.78	772681	17.21	145553	4.37
F16103-1MSD	1724539	7.73	1218977	12.78	793935	17.21	140645	4.38
F16103-10	1768136	7.74	1526619	12.78	770585	17.20	148495	4.39
ZZZZZZ	1689009	7.74	1490374	12.78	737446	17.21	137996	4.37
F16091-8	1502831	7.74	1185571	12.78	727893	17.21	142942	4.40
F16091-8DUP	1289752	7.73	1167652	12.79	692500	17.20	142227	4.38
ZZZZZZ	1308789	7.73	1109618	12.78	676678	17.20	100292	4.40
ZZZZZZ	1199777	7.73	1029308	12.77	631100	17.21	91870	4.38
ZZZZZZ	1193919	7.73	1049457	12.77	654214	17.20	91702	4.38
ZZZZZZ	1487374	7.73	1057393	12.78	676183	17.20	132003	4.39
F16103-3	1204975	7.73	1030155	12.78	617621	17.20	93421	4.39

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.

Instrument Performance Check (BFB)

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample:	VG679-BFB	**Injection Date:**	01/10/03
Lab File ID:	G0019961.D	**Injection Time:**	09:20
Instrument ID:	GCMSG		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	20833	25.5	Pass
75	30.0 - 60.0% of mass 95	47510	58.2	Pass
95	Base peak, 100% relative abundance	81582	100.0	Pass
96	5.0 - 9.0% of mass 95	6789	8.3	Pass
173	Less than 2.0% of mass 174	489	0.6 (0.74) [a]	Pass
174	50.0 - 100.0% of mass 95	65688	80.5	Pass
175	5.0 - 9.0% of mass 174	5715	7.0 (8.7) [a]	Pass
176	95.0 - 101.0% of mass 174	65947	80.8 (100.4) [a]	Pass
177	5.0 - 9.0% of mass 176	5120	6.3 (7.8) [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
VG679-CC615	G0019962.D	01/10/03	09:41	00:21	Continuing cal 40
VG679-BS	G0019963.D	01/10/03	10:36	01:16	Blank Spike
VG679-MB	G0019964.D	01/10/03	11:06	01:46	Method Blank
F16103-6	G0019966.D	01/10/03	12:07	02:47	OLFS-2406-DMW27
F16103-5	G0019967.D	01/10/03	12:38	03:18	OLFS-2406-DMW26
F16103-7	G0019969.D	01/10/03	13:40	04:20	OLFS-2406-DMW25
F16103-1	G0019971.D	01/10/03	14:41	05:21	OLFS-2406-DMW30
F16121-6	G0019972.D	01/10/03	15:12	05:52	(used for QC only; not part of job F16103)
F16121-6MS	G0019973.D	01/10/03	15:42	06:22	Matrix Spike
F16121-6MSD	G0019974.D	01/10/03	16:13	06:53	Matrix Spike Duplicate
ZZZZZZ	G0019979.D	01/10/03	18:53	09:33	(unrelated sample)
ZZZZZZ	G0019980.D	01/10/03	19:24	10:04	(unrelated sample)
ZZZZZZ	G0019981.D	01/10/03	19:55	10:35	(unrelated sample)
ZZZZZZ	G0019982.D	01/10/03	20:26	11:06	(unrelated sample)
ZZZZZZ	G0019983.D	01/10/03	20:56	11:36	(unrelated sample)

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\1\DATA\011003\G0019962.D Vial: 1
Acq On : 10 Jan 2003 9:41 am Operator: RachidA
Sample : CC615-40 Inst : MSVOA1
Misc : ms2020,vg679,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\HPCHEM\1\METHODS\8260-30M.M (RTE Integrator)
Title : SW-846 Method 5030B/8260B & EPA 624
Last Update : Tue Oct 29 13:57:07 2002
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)
1	I	Fluorobenzene	1.000	1.000	0.0	87	0.00
2		Dichlorodifluoromethane	0.326	0.525	-61.0#	137	0.06
3	P	Chloromethane	0.426	0.532	-24.9#	120	0.08
4	C	Vinyl Chloride	0.358	0.383	-7.0	91	0.08
5		Bromomethane	0.244	0.243	0.4	89	0.07
6		Chloroethane	0.200	0.222	-11.0	95	0.05
7		Trichlorofluoromethane	0.358	0.423	-18.2	105	0.04
8		Ethyl Ether	0.230	0.192	16.5	76	0.04
9	C	1,1-Dichloroethene	0.431	0.423	1.9	86	0.03
10		Freon 113	0.256	0.278	-8.6	97	0.03
11		Acetone	0.092	0.086	6.5	95	0.02
12		Iodomethane	0.419	0.450	-7.4	95	0.03
13		Carbon Disulfide	0.751	0.814	-8.4	96	0.04
14		Methyl acetate	0.226	0.197	12.8	81	0.02
15		Methylene Chloride	0.699	0.406	41.9#	77	0.02 OK, Linear
16		trans-1,2-Dichloroethene	0.432	0.391	9.5	83	0.02
17		Acrylonitrile	0.089	0.063	29.2#	67	0.03
18		Methyl Tert Butyl Ether	0.727	0.665	8.5	83	0.02
19		Hexane	0.336	0.351	-4.5	92	0.02
20	P	1,1-Dichloroethane	0.503	0.498	1.0	87	0.01
21		Vinyl acetate	0.324	3.903	-1104.6#	1082#	0.02
22		Di-isopropyl ether	0.916	0.966	-5.5	91	0.02
23		ETBE	0.818	0.794	2.9	84	0.01
24		2,2-Dichloropropane	0.381	0.323	15.2	73	0.00
25		cis-1,2-Dichloroethene	0.277	0.267	3.6	81	0.02
26		2-Butanone	0.125	0.118	5.6	90	0.01
27		Bromochloromethane	0.161	0.154	4.3	91	0.00
28		Tetrahydrofuran	0.073	0.081	-11.0	96	0.00
29	C	Chloroform	0.554	0.488	11.9	80	0.01
30		1,1,1-Trichloroethane	0.472	0.427	9.5	82	0.01
31	S	Dibromofluoromethane	0.339	0.347	-2.4	89	0.01
32		Cyclohexane	0.431	0.462	-7.2	92	0.01
33		1,1-Dichloropropene	0.366	0.349	4.6	83	0.01
34		Carbon Tetrachloride	0.423	0.401	5.2	84	0.00
35	S	1,2-Dichloroethane-d4	0.430	0.423	1.6	87	0.01
36		Benzene	0.912	0.919	-0.8	85	0.00
37		1,2-Dichloroethane	0.482	0.456	5.4	84	0.00
38		TAME	0.662	0.654	1.2	84	0.00
39		Trichloroethene	0.291	0.276	5.2	83	0.00
40		Methylcyclohexane	0.398	0.400	-0.5	86	0.00
41	C	1,2-Dichloropropane	0.285	0.277	2.8	83	0.00
42		Dibromomethane	0.201	0.189	6.0	83	0.00
43		Bromodichloromethane	0.437	0.404	7.6	84	0.01

46		4-Methyl-2-pentanone	0.265	0.267	-0.8	85	0.00
47		cis-1,3-Dichloropropene	0.461	0.440	4.6	80	0.00
48	I	Chlorobenzene-d5	1.000	1.000	0.0	85	0.00
49	S	Toluene-d8	1.184	1.157	2.3	85	0.00
50	C	Toluene	1.099	1.045	4.9	78	0.00
51		trans-1,3-Dichloropropene	0.481	0.468	2.7	83	0.00
52		1,1,2-Trichloroethane	0.255	0.244	4.3	83	0.00
53		Tetrachloroethene	0.349	0.314	10.0	79	0.00
54		2-hexanone	0.209	0.212	-1.4	88	0.00
55		1,3-Dichloropropane	0.495	0.463	6.5	81	0.00
56		Dibromochloromethane	0.352	0.321	8.8	83	0.00
57		1,2-Dibromoethane	0.301	0.271	10.0	81	0.00
58		1-Chlorohexane	0.434	0.411	5.3	86	0.00
59	P	Chlorobenzene	0.781	0.741	5.1	79	0.00
60		1,1,1,2-Tetrachloroethane	0.333	0.305	8.4	82	0.00
61	C	Ethylbenzene	1.309	1.271	2.9	80	0.00
62		m,p-Xylene	1.043	1.009	3.3	80	0.00
63		o-Xylene	1.134	1.123	1.0	82	0.00
64		Styrene	0.842	0.801	4.9	79	-0.02
65	P	Bromoform	0.248	0.226	8.9	84	0.00
66	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	-0.03
67		Isopropylbenzene	1.923	1.790	6.9	82	-0.02
68	S	4-Bromofluorobenzene	0.958	0.881	8.0	83	0.00
69		Bromobenzene	0.605	0.535	11.6	82	-0.02
70	P	1,1,2,2-Tetrachloroethane	0.600	0.522	13.0	81	-0.02
71		1,2,3-Trichloropropane	0.187	0.159	15.0	84	-0.02
72		trans-1,4-Dichloro-2-Butene	0.210	0.201	4.3	91	-0.02
73		n-Propylbenzene	2.602	2.367	9.0	81	0.00
74		2-Chlorotoluene	1.617	1.501	7.2	83	0.00
75		4-Chlorotoluene	1.978	1.771	10.5	82	-0.02
76		1,3,5-Trimethylbenzene	1.832	1.622	11.5	81	-0.02
77		sec-Butylbenzene	2.138	1.982	7.3	82	0.00
78		1,3-Dichlorobenzene	1.099	1.007	8.4	83	-0.02
79		4-Isopropyltoluene	1.856	1.683	9.3	80	-0.02
80		1,4-Dichlorobenzene	1.154	1.017	11.9	83	0.00
81		tert-Butylbenzene	1.236	1.141	7.7	82	-0.02
82		Benzyl Chloride	1.050	1.079	-2.8	91	0.00
83		n-Butylbenzene	1.917	1.765	7.9	82	-0.02
84		1,2-Dichlorobenzene	1.104	0.990	10.3	84	-0.02
85		1,2,4-Trimethylbenzene	1.846	1.711	7.3	82	0.00
86		1,2-Dibromo-3-Chloropropane	0.141	0.122	13.5	79	-0.02
87		1,2,4-Trichlorobenzene	0.855	0.762	10.9	82	0.00
88		Hexachlorobutadiene	0.378	0.302	20.1#	75	0.00
89		Naphthalene	1.709	1.403	17.9	74	-0.02
90		1,2,3-Trichlorobenzene	0.793	0.655	17.4	77	-0.02
91	I	Tert Butyl Alcohol-d10	1.000	1.000	0.0	89	0.02
92		Acrolein	2.815	1.736	38.3#	58	0.02
93		Tert Butyl Alcohol	1.377	1.348	2.1	86	0.02
94		1,4-Dioxane	0.140	0.144	-2.9	89	0.00
95		Cyclohexanone	0.529	0.636	-20.2#	95	-0.02

Average % D = 22.1

(#) = Out of Range SPCC's out = 0 CCC's out = 0

G0018633.D 8260-30M.M Sat Jan 11 12:00:12 2003 RP1

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG679-MB	G0019964.D	1	01/10/03	RA	n/a	n/a	VG679

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-5, F16103-6, F16103-7

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG679-MB	G0019964.D	1	01/10/03	RA	n/a	n/a	VG679

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-5, F16103-6, F16103-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	103%	86-115%
17060-07-0	1,2-Dichloroethane-D4	100%	78-125%
2037-26-5	Toluene-D8	99%	87-113%
460-00-4	4-Bromofluorobenzene	101%	84-117%

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG679-BS	G0019963.D	1	01/10/03	RA	n/a	n/a	VG679

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-5, F16103-6, F16103-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	28.9	116	76-123
75-27-4	Bromodichloromethane	25	24.8	99	72-122
75-25-2	Bromoform	25	25.6	102	59-124
108-90-7	Chlorobenzene	25	26.9	108	78-115
75-00-3	Chloroethane	25	28.3	113	65-141
67-66-3	Chloroform	25	24.5	98	74-123
110-75-8	2-Chloroethyl vinyl ether	125	212	170*	24-148
56-23-5	Carbon tetrachloride	25	27.8	111	68-137
75-34-3	1,1-Dichloroethane	25	27.5	110	73-125
75-35-4	1,1-Dichloroethylene	25	30.4	122	64-136
107-06-2	1,2-Dichloroethane	25	25.8	103	66-118
78-87-5	1,2-Dichloropropane	25	26.9	108	75-129
124-48-1	Dibromochloromethane	25	25.3	101	72-117
156-59-2	cis-1,2-Dichloroethylene	25	29.4	118	79-127
10061-01-5	cis-1,3-Dichloropropene	25	25.8	103	71-117
541-73-1	m-Dichlorobenzene	25	27.1	108	74-117
95-50-1	o-Dichlorobenzene	25	26.0	104	73-115
106-46-7	p-Dichlorobenzene	25	24.8	99	74-117
156-60-5	trans-1,2-Dichloroethylene	25	27.3	109	67-125
10061-02-6	trans-1,3-Dichloropropene	25	25.8	103	65-113
100-41-4	Ethylbenzene	25	28.9	116	76-117
74-83-9	Methyl bromide	25	23.8	95	45-137
74-87-3	Methyl chloride	25	27.1	108	47-149
75-09-2	Methylene chloride	25	26.6	106	63-126
1634-04-4	Methyl Tert Butyl Ether	25	24.8	99	68-125
71-55-6	1,1,1-Trichloroethane	25	27.6	110	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	23.4	94	69-114
79-00-5	1,1,2-Trichloroethane	25	25.7	103	74-115
127-18-4	Tetrachloroethylene	25	27.5	110	75-124
108-88-3	Toluene	25	28.6	114	76-118
79-01-6	Trichloroethylene	25	27.1	108	75-122
75-01-4	Vinyl chloride	25	25.2	101	62-142
1330-20-7	Xylene (total)	75	86.2	115	78-120

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG679-BS	G0019963.D	1	01/10/03	RA	n/a	n/a	VG679

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-5, F16103-6, F16103-7

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	86-115%
17060-07-0	1,2-Dichloroethane-D4	98%	78-125%
2037-26-5	Toluene-D8	100%	87-113%
460-00-4	4-Bromofluorobenzene	91%	84-117%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16121-6MS	G0019973.D	1	01/10/03	RA	n/a	n/a	VG679
F16121-6MSD	G0019974.D	1	01/10/03	RA	n/a	n/a	VG679
F16121-6 [a]	G0019972.D	1	01/10/03	RA	n/a	n/a	VG679

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-5, F16103-6, F16103-7

CAS No.	Compound	F16121-6 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	26.4	106	1	71-127/8
75-27-4	Bromodichloromethane	ND		25	24.6	98	24.5	98	0	70-121/10
75-25-2	Bromoform	ND		25	24.9	100	23.2	93	7	50-124/18
108-90-7	Chlorobenzene	ND		25	25.3	101	24.1	96	5	77-113/6
75-00-3	Chloroethane	ND		25	34.1	136	28.7	115	17	57-155/19
67-66-3	Chloroform	ND		25	31.3	125	25.6	102	20*	72-125/11
110-75-8	2-Chloroethyl vinyl ether	ND		125	218	174*	231	185*	6	10-158/37
56-23-5	Carbon tetrachloride	ND		25	30.9	124	26.2	105	16*	61-1[illegible]
75-34-3	1,1-Dichloroethane	ND		25	32.8	131*	27.4	110	18*	71-1[illegible]
75-35-4	1,1-Dichloroethylene	ND		25	34.7	139	28.9	116	18*	60-141/14
107-06-2	1,2-Dichloroethane	ND		25	25.6	102	25.4	102	1	64-121/9
78-87-5	1,2-Dichloropropane	ND		25	25.3	101	27.0	108	7	73-131/8
124-48-1	Dibromochloromethane	ND		25	24.4	98	23.5	94	4	65-118/12
156-59-2	cis-1,2-Dichloroethylene	ND		25	33.5	134*	28.0	112	18*	75-131/12
10061-01-5	cis-1,3-Dichloropropene	ND		25	0.52	2*	ND	0*	200*	62-115/13
541-73-1	m-Dichlorobenzene	ND		25	24.7	99	23.8	95	4	72-115/7
95-50-1	o-Dichlorobenzene	ND		25	24.1	96	23.3	93	3	72-113/8
106-46-7	p-Dichlorobenzene	ND		25	23.8	95	22.9	92	4	72-116/7
156-60-5	trans-1,2-Dichloroethylene	ND		25	34.1	136*	26.4	106	25*	65-127/12
10061-02-6	trans-1,3-Dichloropropene	ND		25	7.0	28*	3.9	16*	57*	51-115/13
100-41-4	Ethylbenzene	ND		25	26.8	107	25.7	103	4	72-119/7
74-83-9	Methyl bromide	ND		25	ND	0*	ND	0*	nc	44-140/19
74-87-3	Methyl chloride	ND		25	28.7	115	23.2	93	21	43-148/23
75-09-2	Methylene chloride	ND		25	35.1	140*	26.5	106	28*	61-131/11
1634-04-4	Methyl Tert Butyl Ether	ND		25	28.9	116	23.7	95	20*	65-125/12
71-55-6	1,1,1-Trichloroethane	ND		25	33.4	134	26.4	106	23*	69-135/13
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	25.6	102	24.7	99	4	62-120/10
79-00-5	1,1,2-Trichloroethane	ND		25	24.5	98	25.5	102	4	71-117/10
127-18-4	Tetrachloroethylene	2.6		25	28.2	102	26.4	95	7	74-123/11
108-88-3	Toluene	ND		25	26.9	108	26.3	105	2	73-119/10
79-01-6	Trichloroethylene	ND		25	24.6	98	24.4	98	1	71-124/9
75-01-4	Vinyl chloride	ND		25	32.3	129	27.5	110	16	53-149/22
1330-20-7	Xylene (total)	ND		75	79.3	106	76.9	103	3	73-12[illegible]

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16121-6MS	G0019973.D	1	01/10/03	RA	n/a	n/a	VG679
F16121-6MSD	G0019974.D	1	01/10/03	RA	n/a	n/a	VG679
F16121-6 [a]	G0019972.D	1	01/10/03	RA	n/a	n/a	VG679

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-1, F16103-5, F16103-6, F16103-7

CAS No.	Surrogate Recoveries	MS	MSD	F16121-6	Limits
1868-53-7	Dibromofluoromethane	125%*	106%	103%	86-115%
17060-07-0	1,2-Dichloroethane-D4	105%	105%	106%	78-125%
2037-26-5	Toluene-D8	102%	99%	104%	87-113%
460-00-4	4-Bromofluorobenzene	96%	93%	100%	84-117%

(a) Sample was not preserved to a pH < 2; reported results are considered minimum values.

Volatile Internal Standard Area Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	VG679-CC615	**Injection Date:**	01/10/03
Lab File ID:	G0019962.D	**Injection Time:**	09:41
Instrument ID:	GCMSG	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	1174774	7.72	1085437	12.77	718470	17.19	95213	4.35
Upper Limit [a]	2349548	8.22	2170874	13.27	1436940	17.69	190426	4.85
Lower Limit [b]	587387	7.22	542719	12.27	359235	16.69	47607	3.85

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VG679-BS	1237994	7.71	1113182	12.77	747533	17.20	101596	4.36
VG679-MB	1335769	7.73	1201847	12.78	707376	17.19	114457	4.39
F16103-6	1274545	7.72	1082118	12.78	520142	17.20	104030	4.39
F16103-5 [c]	969200	7.72	841731	12.77	513702	17.19	77700	4.39
F16103-7	932635	7.72	836100	12.79	513349	17.21	79610	4.38
F16103-1	913832	7.72	800769	12.77	515370	17.20	80156	4.37
F16121-6	890125	7.73	763848	12.79	480760	17.20	83172	4.39
F16121-6MS	960883	7.72	873238	12.77	569531	17.20	116839	4.36
F16121-6MSD	923062	7.72	855002	12.76	557413	17.20	96930	4.36
ZZZZZZ	907875	7.72	782970	12.76	475383	17.19	105931	4.37
ZZZZZZ	871348	7.72	734580	12.77	467228	17.19	139915	4.35
ZZZZZZ	868151	7.71	728870	12.76	460016	17.19	96146	4.37
ZZZZZZ	876467	7.71	759152	12.76	467592	17.19	81740	4.37
ZZZZZZ	862384	7.71	746479	12.77	463454	17.19	107426	4.38

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.
(c) Sample was not preserved to a pH < 2; reported results are considered minimum values.

Instrument Performance Check (BFB)

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample:	VB591-BFB	**Injection Date:**	01/03/03
Lab File ID:	B013424.D	**Injection Time:**	13:22
Instrument ID:	GCMSB		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	40938	27.1	Pass
75	30.0 - 60.0% of mass 95	69778	46.1	Pass
95	Base peak, 100% relative abundance	151338	100.0	Pass
96	5.0 - 9.0% of mass 95	9330	6.2	Pass
173	Less than 2.0% of mass 174	262	0.17 (0.21) [a]	Pass
174	50.0 - 100.0% of mass 95	124848	82.5	Pass
175	5.0 - 9.0% of mass 174	9059	6.0 (7.3) [a]	Pass
176	95.0 - 101.0% of mass 174	126037	83.3 (101.0) [a]	Pass
177	5.0 - 9.0% of mass 176	8110	5.4 (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
VB591-IC591	B013425.D	01/03/03	13:48	00:26	Initial cal 1
VB591-IC591	B013426.D	01/03/03	14:16	00:54	Initial cal 5
VB591-IC591	B013427.D	01/03/03	14:43	01:21	Initial cal 20
VB591-ICC591	B013428.D	01/03/03	15:11	01:49	Initial cal 40
VB591-IC591	B013429.D	01/03/03	15:38	02:16	Initial cal 70
VB591-IC591	B013430.D	01/03/03	16:05	02:43	Initial cal 100

Response Factor Report MSVOA4

Method : C:\MSDCHEM\1\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 03 16:53:17 2003
Response via : Initial Calibration

Calibration Files
1 =B013425.D 2 =B013426.D 3 =B013427.D
4 =B013428.D 5 =B013429.D 6 =B013430.D

		Compound	1	2	3	4	5	6	Avg	%RS
1)	I	Fluorobenzene	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	0.242	0.328	0.289	0.290	0.282	0.289	0.287	9.48
3)	P	Chloromethane	0.639	0.638	0.589	0.575	0.546	0.526	0.586	8.00
4)	C	Vinyl Chloride	0.383	0.452	0.403	0.398	0.372	0.358	0.394	8.29
5)		Bromomethane	0.212	0.242	0.210	0.199	0.189	0.173	0.204	11.54
6)		Chloroethane	0.198	0.215	0.205	0.199	0.191	0.178	0.198	6.37
7)		Trichlorofluorometh	0.354	0.444	0.406	0.413	0.392	0.394	0.400	7.40
8)		Ethyl Ether	0.181	0.221	0.221	0.223	0.213	0.201	0.210	7.82
9)	C	1,1-Dichloroethene	0.363	0.384	0.403	0.418	0.423	0.435	0.404	6.61
10)		Freon 113	0.222	0.203	0.222	0.229	0.230	0.231	0.223	4.72
11)		Acetone		0.115	0.092	0.095	0.087	0.086	0.095	12.41
12)		Iodomethane	0.315	0.329	0.352	0.367	0.377	0.382	0.354	7.67
13)		Methyl acetate	0.219	0.226	0.219	0.230	0.225	0.224	0.224	1.98
14)		Carbon Disulfide	0.988	0.680	0.749	0.792	0.809	0.827	0.808	1[illegible] 73
15)		Methylene Chloride	0.528	0.499	0.484	0.484	0.479	0.478	0.492	38
16)		trans-1,2-Dichloroe	0.361	0.345	0.376	0.385	0.393	0.408	0.378	5.95
17)		Acrylonitrile	0.079	0.076	0.081	0.091	0.091	0.089	0.085	7.73
18)		Methyl Tert Butyl E		0.498	0.535	0.573	0.590	0.610	0.561	7.99
19)		Hexane	0.326	0.282	0.329	0.365	0.364	0.378	0.341	10.45
20)	P	1,1-Dichloroethane	0.440	0.452	0.462	0.485	0.492	0.503	0.472	5.27
21)		ETBE		0.697	0.781	0.834	0.868	0.892	0.814	9.55
22)		Vinyl acetate		0.826	0.838	0.935	0.905	0.748	0.850	8.61
23)		Di-isopropyl ether		1.113	1.203	1.257	1.272	1.284	1.226	5.76
24)		2,2-Dichloropropane	0.182	0.195	0.203	0.212	0.214	0.219	0.204	6.79
25)		cis-1,2-Dichloroeth	0.222	0.254	0.248	0.255	0.253	0.255	0.248	5.18
26)		2-Butanone	0.113	0.123	0.126	0.136	0.135	0.134	0.128	7.11
27)		Bromochloromethane	0.120	0.126	0.127	0.131	0.128	0.128	0.127	3.05
28)	C	Chloroform	0.421	0.388	0.393	0.406	0.414	0.423	0.408	3.63
29)		Tetrahydrofuran	0.094	0.081	0.079	0.087	0.084	0.085	0.085	6.20
30)		1,1,1-Trichloroetha	0.268	0.267	0.290	0.310	0.317	0.332	0.297	8.97
31)	S	Dibromofluoromethan	0.263	0.266	0.261	0.261	0.260	0.259	0.262	0.93
32)		Cyclohexane		0.359	0.439	0.492	0.498	0.517	0.461	13.91
33)		1,1-Dichloropropene		0.218	0.259	0.278	0.284	0.300	0.268	11.69
34)		Carbon Tetrachlorid		0.210	0.226	0.249	0.261	0.284	0.246	11.82
35)	S	1,2-Dichloroethane-	0.300	0.298	0.306	0.306	0.318	0.321	0.308	3.02
36)		TAME		0.531	0.577	0.619	0.640	0.655	0.604	8.28
37)		Benzene	0.869	0.881	0.905	0.920	0.929	0.927	0.905	2.78
38)		1,2-Dichloroethane	0.441	0.365	0.349	0.354	0.361	0.367	0.373	9.13
39)		Trichloroethene	0.216	0.193	0.210	0.224	0.228	0.234	0.218	6 79
40)		Methylcyclohexane		0.247	0.299	0.333	0.337	0.352	0.314	1 2
41)	C	1,2-Dichloropropane	0.244	0.270	0.270	0.277	0.282	0.285	0.271	5.42
42)		Dibromomethane	0.125	0.145	0.144	0.147	0.147	0.148	0.143	6.20

0271

(#) = Out of Range

Response Factor Report MSVOA4

Method : C:\MSDCHEM\1\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 03 16:53:17 2003
Response via : Initial Calibration

Calibration Files
1 =B013425.D 2 =B013426.D 3 =B013427.D
4 =B013428.D 5 =B013429.D 6 =B013430.D

		Compound	1	2	3	4	5	6	Avg	%RS
43)		Bromodichloromethan	0.237	0.233	0.258	0.281	0.296	0.308	0.269	11.62
44)		2-Nitropropane		0.068	0.075	0.081	0.082	0.082	0.078	7.73
45)		2-Chloroethyl vinyl		0.100	0.117	0.129	0.135	0.133	0.123	11.96
46)		4-Methyl-2-pentanon		0.265	0.289	0.317	0.315	0.310	0.299	7.38
47)		cis-1,3-Dichloropro	0.242	0.236	0.297	0.342	0.362	0.378	0.310	19.67
		----- Linear regression ----- Coefficient = 0.9980								
		Response Ratio= -0.01953 + 0.38159 *Amt.ratio								
48)	I	Chlorobenzene-d5	----------ISTD----------							
49)	S	Toluene-d8	1.296	1.289	1.291	1.286	1.289	1.287	1.290	0.26
50)	C	Toluene	1.225	1.218	1.276	1.329	1.336	1.363	1.291	4.71
51)		trans-1,3-Dichlorop	0.287	0.271	0.332	0.385	0.414	0.436	0.354	19.23
		----- Linear regression ----- Coefficient = 0.9971								
		Response Ratio= -0.02489 + 0.43968 *Amt.ratio								
52)		1,1,2-Trichloroetha	0.219	0.241	0.239	0.242	0.241	0.239	0.237	3.73
53)		Tetrachloroethene	0.264	0.263	0.286	0.302	0.305	0.304	0.287	6.84
54)		2-hexanone		0.217	0.252	0.277	0.277	0.275	0.260	10.04
55)		1,3-Dichloropropane	0.417	0.473	0.472	0.487	0.485	0.492	0.471	5.84
56)		Dibromochloromethan	0.198	0.177	0.219	0.252	0.273	0.290	0.235	18.78
		----- Linear regression ----- Coefficient = 0.9966								
		Response Ratio= -0.01734 + 0.29178 *Amt.ratio								
57)		1,2-Dibromoethane	0.222	0.270	0.274	0.286	0.289	0.291	0.272	9.51
58)		1-Chlorohexane	0.221	0.271	0.361	0.400	0.411	0.423	0.348	23.86
		----- Linear regression ----- Coefficient = 0.9993								
		Response Ratio= -0.01648 + 0.42694 *Amt.ratio								
59)	P	Chlorobenzene	0.857	0.877	0.881	0.913	0.895	0.900	0.887	2.20
60)		1,1,1,2-Tetrachloro	0.265	0.285	0.299	0.313	0.317	0.325	0.300	7.50
61)	C	Ethylbenzene	1.200	1.267	1.397	1.469	1.519	1.551	1.401	10.06
62)		m,p-Xylene		0.971	1.077	1.145	1.191	1.189	1.114	8.29
63)		o-Xylene		0.940	1.099	1.171	1.224	1.234	1.134	10.64
64)		Styrene		0.737	0.881	0.939	0.967	0.963	0.897	10.70
65)	P	Bromoform	0.098	0.060	0.083	0.113	0.128	0.144	0.104	29.13
		----- Quadratic regression ----- Coefficient = 0.9994								
		Resp. Ratio= -0.00260 + 0.09068 *Amt.ratio + 0.02750 *Amt.ratio^2								
66)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
67)		Isopropylbenzene		2.032	2.417	2.565	2.622	2.764	2.480	11.27
68)	S	4-Bromofluorobenzen	0.975	0.969	0.956	0.944	0.959	0.990	0.965	1.68

0272

(#) = Out of Range

Response Factor Report MSVOA4

Method : C:\MSDCHEM\1\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 03 16:53:17 2003
Response via : Initial Calibration

Calibration Files
1 =B013425.D 2 =B013426.D 3 =B013427.D
4 =B013428.D 5 =B013429.D 6 =B013430.D

		Compound	1	2	3	4	5	6	Avg	%RS
69)		Bromobenzene	0.680	0.754	0.752	0.749	0.732	0.719	0.731	3.90
70)	P	1,1,2,2-Tetrachloro	0.731	0.770	0.712	0.717	0.694	0.701	0.721	3.80
71)		trans-1,4-Dichloro-	0.087	0.054	0.049	0.066	0.070	0.096	0.070	26.06
		----- Quadratic regression ----- Coefficient = 0.9957								
		Resp. Ratio= 0.00275 + 0.02800 *Amt.ratio + 0.03262 *Amt.ratio^2								
72)		1,2,3-Trichloroprop	0.193	0.202	0.194	0.198	0.193	0.194	0.196	1.81
73)		n-Propylbenzene		2.823	3.125	3.323	3.403	3.477	3.230	8.14
74)		2-Chlorotoluene	1.881	2.195	2.190	2.262	2.331	2.385	2.207	8.03
75)		4-Chlorotoluene		1.754	1.948	2.006	2.090	2.180	1.996	8.06
76)		1,3,5-Trimethylbenz		1.835	2.100	2.191	2.242	2.312	2.136	8.66
77)		sec-Butylbenzene		2.114	2.508	2.653	2.704	2.792	2.554	10.45
78)		1,3-Dichlorobenzene	1.170	1.288	1.287	1.338	1.328	1.348	1.293	5.09
79)		4-Isopropyltoluene		1.665	1.995	2.134	2.147	2.261	2.040	11.27
80)		1,4-Dichlorobenzene	1.170	1.373	1.357	1.382	1.359	1.374	1.336	[illegible]
81)		tert-Butylbenzene		0.970	1.156	1.219	1.248	1.336	1.186	1[illegible]5
82)		Benzyl Chloride	0.987	1.061	1.137	1.229	1.229	1.253	1.149	9.35
83)		n-Butylbenzene		1.603	1.846	2.012	2.047	2.138	1.929	10.93
84)		1,2-Dichlorobenzene	1.151	1.205	1.245	1.276	1.263	1.280	1.237	4.05
85)		1,2,4-Trimethylbenz		1.909	2.192	2.277	2.319	2.417	2.223	8.69
86)		1,2-Dibromo-3-Chlor		0.076	0.073	0.086	0.087	0.090	0.082	8.98
87)		1,2,4-Trichlorobenz	0.779	0.646	0.657	0.705	0.708	0.721	0.702	6.82
88)		Hexachlorobutadiene		0.270	0.274	0.287	0.285	0.302	0.284	4.45
89)		Naphthalene		1.307	1.393	1.562	1.548	1.593	1.480	8.38
90)		1,2,3-Trichlorobenz	0.697	0.546	0.557	0.605	0.600	0.611	0.602	8.86
91)	I	Tert Butyl alcohol-d1 ----------ISTD----------								
92)		Acrolein		3.103	2.999	3.076	3.074	2.888	3.028	2.88
93)		Tert-Butyl Alcohol	1.683	1.824	1.977	1.949	2.022	2.032	1.915	7.09
94)		1,4-Dioxane	0.175	0.157	0.153	0.172	0.188	0.190	0.173	9.07
95)		Cyclohexanone		0.730	0.728	0.711	0.741	0.750	0.732	2.02

0273

(#) = Out of Range

Instrument Performance Check (BFB)

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample:	VB596-BFB	**Injection Date:**	01/13/03
Lab File ID:	B013534.D	**Injection Time:**	09:39
Instrument ID:	GCMSB		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	44370	26.1	Pass
75	30.0 - 60.0% of mass 95	77613	45.7	Pass
95	Base peak, 100% relative abundance	169856	100.0	Pass
96	5.0 - 9.0% of mass 95	12058	7.1	Pass
173	Less than 2.0% of mass 174	288	0.17 (0.21) [a]	Pass
174	50.0 - 100.0% of mass 95	135400	79.7	Pass
175	5.0 - 9.0% of mass 174	9382	5.5 (6.9) [a]	Pass
176	95.0 - 101.0% of mass 174	132914	78.3 (98.2) [a]	Pass
177	5.0 - 9.0% of mass 176	8162	4.8 (6.1) [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
VB596-CC591	B013535.D	01/13/03	10:05	00:26	Continuing cal 40
VB596-BS	B013536.D	01/13/03	10:32	00:53	Blank Spike
VB596-MB	B013537.D	01/13/03	11:00	01:21	Method Blank
ZZZZZZ	B013538.D	01/13/03	11:33	01:54	(unrelated sample)
ZZZZZZ	B013539.D	01/13/03	12:01	02:22	(unrelated sample)
ZZZZZZ	B013540.D	01/13/03	12:28	02:49	(unrelated sample)
F16104-9	B013541.D	01/13/03	12:55	03:16	(used for QC only; not part of job F16103)
F16104-9MS	B013542.D	01/13/03	13:22	03:43	Matrix Spike
F16104-9MSD	B013543.D	01/13/03	13:49	04:10	Matrix Spike Duplicate
ZZZZZZ	B013544.D	01/13/03	14:18	04:39	(unrelated sample)
ZZZZZZ	B013545.D	01/13/03	14:45	05:06	(unrelated sample)
ZZZZZZ	B013546.D	01/13/03	15:12	05:33	(unrelated sample)
ZZZZZZ	B013547.D	01/13/03	15:40	06:01	(unrelated sample)
F16103-8	B013548.D	01/13/03	16:07	06:28	OLFS-2406-DMW24
F16103-9	B013549.D	01/13/03	16:34	06:55	OLFS-2406-DMW23
F16103-2	B013550.D	01/13/03	17:03	07:24	OLFS-2406-DMW29
F16103-4	B013551.D	01/13/03	17:32	07:53	OLFS-2406-DMW28
ZZZZZZ	B013552.D	01/13/03	17:59	08:20	(unrelated sample)
ZZZZZZ	B013553.D	01/13/03	18:26	08:47	(unrelated sample)
ZZZZZZ	B013554.D	01/13/03	18:53	09:14	(unrelated sample)
ZZZZZZ	B013555.D	01/13/03	19:20	09:41	(unrelated sample)
ZZZZZZ	B013556.D	01/13/03	19:47	10:08	(unrelated sample)
ZZZZZZ	B013557.D	01/13/03	20:14	10:35	(unrelated sample)
ZZZZZZ	B013558.D	01/13/03	20:41	11:02	(unrelated sample)

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\011303\B013535.D Vial: 1
Acq On : 13 Jan 2003 10:05 am Operator: Karenw
Sample : CC591-40 Inst : MSVOA
Misc : ms2023,vb596,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 10 15:09:17 2003
Response via : Multiple Level Calibration

KW 1/14/03

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)
1	I	Fluorobenzene	1.000	1.000	0.0	107	0.00
2		Dichlorodifluoromethane	0.287	0.298	-3.8	111	0.00
3	P	Chloromethane	0.586	0.583	0.5	109	0.00
4	C	Vinyl Chloride	0.394	0.408	-3.6	110	0.00
5		Bromomethane	0.204	0.214	-4.9	115	0.00
6		Chloroethane	0.198	0.214	-8.1	115	0.00
7		Trichlorofluoromethane	0.400	0.472	-18.0	123	0.00
8		Ethyl Ether	0.210	0.232	-10.5	112	0.00
9	C	1,1-Dichloroethene	0.404	0.471	-16.6	121	0.00
10		Freon 113	0.223	0.248	-11.2	116	-0.01
11		Acetone	0.095	0.099	-4.2	111	0.00
12		Iodomethane	0.354	0.374	-5.6	109	-0.0
13		Methyl acetate	0.224	0.237	-5.8	110	-0.01
14		Carbon Disulfide	0.808	0.824	-2.0	112	0.00
15		Methylene Chloride	0.492	0.508	-3.3	113	0.00
16		trans-1,2-Dichloroethene	0.378	0.393	-4.0	109	0.00
17		Acrylonitrile	0.085	0.049	42.4#	58	0.00
18		Methyl Tert Butyl Ether	0.561	0.566	-0.9	106	-0.01
19		Hexane	0.341	0.382	-12.0	112	0.00
20	P	1,1-Dichloroethane	0.472	0.498	-5.5	110	0.00
21		ETBE	0.814	0.823	-1.1	106	-0.01
22		Vinyl acetate	0.850	0.959	-12.8	110	0.00
23		Di-isopropyl ether	1.226	1.268	-3.4	108	-0.01
24		2,2-Dichloropropane	0.204	0.217	-6.4	110	0.00
25		cis-1,2-Dichloroethene	0.248	0.257	-3.6	108	0.00
26		2-Butanone	0.128	0.140	-9.4	110	0.00
27		Bromochloromethane	0.127	0.134	-5.5	110	-0.01
28	C	Chloroform	0.408	0.415	-1.7	110	0.00
29		Tetrahydrofuran	0.085	0.082	3.5	101	-0.01
30		1,1,1-Trichloroethane	0.297	0.315	-6.1	109	0.00
31	S	Dibromofluoromethane	0.262	0.263	-0.4	108	0.00
32		Cyclohexane	0.461	0.497	-7.8	108	0.00
33		1,1-Dichloropropene	0.268	0.281	-4.9	108	0.00
34		Carbon Tetrachloride	0.246	0.268	-8.9	115	-0.01
35	S	1,2-Dichloroethane-d4	0.308	0.304	1.3	107	0.00
36		TAME	0.604	0.612	-1.3	106	0.00
37		Benzene	0.905	0.951	-5.1	111	0.00
38		1,2-Dichloroethane	0.373	0.359	3.8	109	0.00
39		Trichloroethene	0.218	0.227	-4.1	108	-0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\011303\B013535.D Vial: 1
Acq On : 13 Jan 2003 10:05 am Operator: Karenw
Sample : CC591-40 Inst : MSVOA4
Misc : ms2023,vb596,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 10 15:09:17 2003
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)
40		Methylcyclohexane	0.314	0.340	-8.3	110	0.00
41	C	1,2-Dichloropropane	0.271	0.281	-3.7	109	0.00
42		Dibromomethane	0.143	0.150	-4.9	110	0.00
43		Bromodichloromethane	0.269	0.296	-10.0	113	0.00
44		2-Nitropropane	0.078	0.082	-5.1	108	0.00
45		2-Chloroethyl vinyl ether	0.123	0.136	-10.6	113	0.00
46		4-Methyl-2-pentanone	0.299	0.328	-9.7	111	0.00
47		cis-1,3-Dichloropropene	0.310	0.363	-17.1	114	0.00
48	I	Chlorobenzene-d5	1.000	1.000	0.0	111	0.00
49	S	Toluene-d8	1.290	1.275	1.2	110	0.00
50	C	Toluene	1.291	1.323	-2.5	111	0.00
51		trans-1,3-Dichloropropene	0.354	0.394	-11.3	114	0.00
52		1,1,2-Trichloroethane	0.237	0.242	-2.1	111	0.00
53		Tetrachloroethene	0.287	0.300	-4.5	111	0.00
54		2-hexanone	0.260	0.276	-6.2	111	0.00
55		1,3-Dichloropropane	0.471	0.486	-3.2	111	0.00
56		Dibromochloromethane	0.235	0.292	-24.3#	129	0.00 LR
57		1,2-Dibromoethane	0.272	0.283	-4.0	110	0.00
58		1-Chlorohexane	0.348	0.390	-12.1	108	0.00
59	P	Chlorobenzene	0.887	0.902	-1.7	110	0.00
60		1,1,1,2-Tetrachloroethane	0.300	0.324	-8.0	115	0.00
61	C	Ethylbenzene	1.401	1.459	-4.1	110	0.00
62		m,p-Xylene	1.114	1.142	-2.5	111	0.00
63		o-Xylene	1.134	1.152	-1.6	109	0.00
64		Styrene	0.897	0.927	-3.3	110	0.00
65	P	Bromoform	0.104	0.160	-53.8#	158	0.00
66	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	113	0.00
67		Isopropylbenzene	2.480	2.503	-0.9	110	0.00
68	S	4-Bromofluorobenzene	0.965	0.934	3.2	111	0.00
69		Bromobenzene	0.731	0.728	0.4	109	0.00
70	P	1,1,2,2-Tetrachloroethane	0.721	0.701	2.8	110	0.00
71		trans-1,4-Dichloro-2-Butene	0.070	0.167	-138.6#	285#	0.00
72		1,2,3-Trichloropropane	0.196	0.193	1.5	110	0.00
73		n-Propylbenzene	3.230	3.301	-2.2	112	0.00
74		2-Chlorotoluene	2.207	2.230	-1.0	111	0.00
75		4-Chlorotoluene	1.996	1.978	0.9	111	0.00
76		1,3,5-Trimethylbenzene	2.136	2.157	-1.0	111	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\011303\B013535.D Vial: 1
Acq On : 13 Jan 2003 10:05 am Operator: Karen
Sample : CC591-40 Inst : MSVOA4
Misc : ms2023,vb596,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 10 15:09:17 2003
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)
77		sec-Butylbenzene	2.554	2.589	-1.4	110	0.00
78		1,3-Dichlorobenzene	1.293	1.313	-1.5	110	0.00
79		4-Isopropyltoluene	2.040	2.095	-2.7	111	0.00
80		1,4-Dichlorobenzene	1.336	1.367	-2.3	111	0.00
81		tert-Butylbenzene	1.186	1.172	1.2	108	0.00
82		Benzyl Chloride	1.149	1.264	-10.0	116	0.00
83		n-Butylbenzene	1.929	1.973	-2.3	110	0.00
84		1,2-Dichlorobenzene	1.237	1.247	-0.8	110	0.00
85		1,2,4-Trimethylbenzene	2.223	2.219	0.2	110	0.00
86		1,2-Dibromo-3-Chloropropane	0.082	0.089	-8.5	116	0.00
87		1,2,4-Trichlorobenzene	0.702	0.614	12.5	98	0.0[illegible]
88		Hexachlorobutadiene	0.284	0.257	9.5	101	0.0[illegible]
89		Naphthalene	1.480	1.421	4.0	102	0.00
90		1,2,3-Trichlorobenzene	0.602	0.531	11.8	99	0.00
91	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	109	-0.01
92		Acrolein	3.028	1.434	52.6#	51	-0.01
93		Tert-Butyl Alcohol	1.915	1.965	-2.6	110	0.00
94		1,4-Dioxane	0.173	0.175	-1.2	110	-0.01
95		Cyclohexanone	0.732	0.701	4.2	108	0.00

Average % D = 8.26007

(#) = Out of Range SPCC's out = 0 CCC's out = 0

B013535.D 826045.M Mon Jan 13 10:41:50 2003

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB596-MB	B013537.D	1	01/13/03	KW	n/a	n/a	VB596

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-2, F16103-4, F16103-8, F16103-9

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB596-MB	B013537.D	1	01/13/03	KW	n/a	n/a	VB596

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-2, F16103-4, F16103-8, F16103-9

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	97%	78-125%
2037-26-5	Toluene-D8	99%	87-113%
460-00-4	4-Bromofluorobenzene	103%	84-117%

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB596-BS	B013536.D	1	01/13/03	KW	n/a	n/a	VB596

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-2, F16103-4, F16103-8, F16103-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	28.2	113	76-123
75-27-4	Bromodichloromethane	25	26.7	107	72-122
75-25-2	Bromoform	25	30.6	122	59-124
108-90-7	Chlorobenzene	25	26.1	104	78-115
75-00-3	Chloroethane	25	28.2	113	65-141
67-66-3	Chloroform	25	26.6	106	74-123
110-75-8	2-Chloroethyl vinyl ether	125	111	89	24-148
56-23-5	Carbon tetrachloride	25	29.8	119	68-137
75-34-3	1,1-Dichloroethane	25	27.8	111	73-125
75-35-4	1,1-Dichloroethylene	25	34.3	137*	64-136
107-06-2	1,2-Dichloroethane	25	24.8	99	66-118
78-87-5	1,2-Dichloropropane	25	26.8	107	75-129
124-48-1	Dibromochloromethane	25	25.0	100	72-117
156-59-2	cis-1,2-Dichloroethylene	25	28.5	114	79-127
10061-01-5	cis-1,3-Dichloropropene	25	24.4	98	71-117
541-73-1	m-Dichlorobenzene	25	26.5	106	74-117
95-50-1	o-Dichlorobenzene	25	26.0	104	73-115
106-46-7	p-Dichlorobenzene	25	25.8	103	74-117
156-60-5	trans-1,2-Dichloroethylene	25	29.4	118	67-125
10061-02-6	trans-1,3-Dichloropropene	25	23.0	92	65-113
100-41-4	Ethylbenzene	25	27.2	109	76-117
74-83-9	Methyl bromide	25	29.5	118	45-137
74-87-3	Methyl chloride	25	28.2	113	47-149
75-09-2	Methylene chloride	25	27.8	111	63-126
1634-04-4	Methyl Tert Butyl Ether	25	25.1	100	68-125
71-55-6	1,1,1-Trichloroethane	25	30.1	120	73-131
79-34-5	1,1,2,2-Tetrachloroethane	25	24.3	97	69-114
79-00-5	1,1,2-Trichloroethane	25	25.3	101	74-115
127-18-4	Tetrachloroethylene	25	28.5	114	75-124
108-88-3	Toluene	25	27.2	109	76-118
79-01-6	Trichloroethylene	25	27.6	110	75-122
75-01-4	Vinyl chloride	25	30.6	122	62-142
1330-20-7	Xylene (total)	75	79.5	106	78-120

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VB596-BS	B013536.D	1	01/13/03	KW	n/a	n/a	VB596

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-2, F16103-4, F16103-8, F16103-9

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	101%	78-125%
2037-26-5	Toluene-D8	99%	87-113%
460-00-4	4-Bromofluorobenzene	98%	84-117%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16104-9MS	B013542.D	1	01/13/03	KW	n/a	n/a	VB596
F16104-9MSD	B013543.D	1	01/13/03	KW	n/a	n/a	VB596
F16104-9	B013541.D	1	01/13/03	KW	n/a	n/a	VB596

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-2, F16103-4, F16103-8, F16103-9

CAS No.	Compound	F16104-9 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		25	28.8	115	28.2	113	2	71-127/8
75-27-4	Bromodichloromethane	ND		25	26.7	107	26.7	107	0	70-121/10
75-25-2	Bromoform	ND		25	30.5	122	29.0	116	5	50-124/18
108-90-7	Chlorobenzene	ND		25	26.0	104	26.0	104	0	77-113/6
75-00-3	Chloroethane	ND		25	29.1	116	28.1	112	3	57-155/19
67-66-3	Chloroform	ND		25	26.9	108	26.4	106	2	72-125/11
110-75-8	2-Chloroethyl vinyl ether	ND		125	ND	0*	ND	0*	nc	10-158/37
56-23-5	Carbon tetrachloride	ND		25	30.7	123	29.6	118	4	61-140/13
75-34-3	1,1-Dichloroethane	ND		25	28.2	113	27.7	111	2	71-129/11
75-35-4	1,1-Dichloroethylene	ND		25	32.0	128	31.9	128	0	60-141/14
107-06-2	1,2-Dichloroethane	ND		25	24.8	99	24.6	98	1	64-121/9
78-87-5	1,2-Dichloropropane	ND		25	27.2	109	27.0	108	1	73-131/8
124-48-1	Dibromochloromethane	ND		25	25.2	101	24.9	100	1	65-118/12
156-59-2	cis-1,2-Dichloroethylene	ND		25	28.0	112	28.0	112	0	75-131/12
10061-01-5	cis-1,3-Dichloropropene	ND		25	23.6	94	23.2	93	2	62-115/13
541-73-1	m-Dichlorobenzene	ND		25	25.6	102	25.5	102	0	72-115/7
95-50-1	o-Dichlorobenzene	ND		25	25.3	101	24.8	99	2	72-113/8
106-46-7	p-Dichlorobenzene	ND		25	25.6	102	25.1	100	2	72-116/7
156-60-5	trans-1,2-Dichloroethylene	ND		25	29.6	118	29.1	116	2	65-127/12
10061-02-6	trans-1,3-Dichloropropene	ND		25	23.1	92	22.9	92	1	51-115/13
100-41-4	Ethylbenzene	ND		25	27.0	108	26.9	108	0	72-119/7
74-83-9	Methyl bromide	ND		25	29.1	116	28.6	114	2	44-140/19
74-87-3	Methyl chloride	ND		25	28.0	112	28.1	112	0	43-148/23
75-09-2	Methylene chloride	ND		25	27.4	110	27.5	110	0	61-131/11
1634-04-4	Methyl Tert Butyl Ether	ND		25	24.6	98	24.6	98	0	65-125/12
71-55-6	1,1,1-Trichloroethane	ND		25	30.4	122	30.2	121	1	69-135/13
79-34-5	1,1,2,2-Tetrachloroethane	ND		25	24.7	99	23.4	94	5	62-120/10
79-00-5	1,1,2-Trichloroethane	ND		25	24.7	99	25.4	102	3	71-117/10
127-18-4	Tetrachloroethylene	3.2		25	31.1	112	31.3	112	1	74-123/11
108-88-3	Toluene	ND		25	26.9	108	26.7	107	1	73-119/10
79-01-6	Trichloroethylene	ND		25	27.5	110	27.5	110	0	71-124/9
75-01-4	Vinyl chloride	ND		25	30.8	123	30.8	123	0	53-149/22
1330-20-7	Xylene (total)	ND		75	78.6	105	77.9	104	1	73-123/8

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F16104-9MS	B013542.D	1	01/13/03	KW	n/a	n/a	VB596
F16104-9MSD	B013543.D	1	01/13/03	KW	n/a	n/a	VB596
F16104-9	B013541.D	1	01/13/03	KW	n/a	n/a	VB596

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16103-2, F16103-4, F16103-8, F16103-9

CAS No.	Surrogate Recoveries	MS	MSD	F16104-9	Limits
1868-53-7	Dibromofluoromethane	101%	101%	101%	86-115%
17060-07-0	1,2-Dichloroethane-D4	102%	99%	96%	78-125%
2037-26-5	Toluene-D8	98%	99%	100%	87-113%
460-00-4	4-Bromofluorobenzene	96%	97%	103%	84-117%

Volatile Internal Standard Area Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	VB596-CC591	**Injection Date:**	01/13/03
Lab File ID:	B013535.D	**Injection Time:**	10:05
Instrument ID:	GCMSB	**Method:**	SW846 8260B

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
Check Std	3166511	9.57	2487753	12.79	1281548	15.34	182733	6.87
Upper Limit [a]	6333022	10.07	4975506	13.29	2563096	15.84	365466	7.37
Lower Limit [b]	1583256	9.07	1243877	12.29	640774	14.84	91367	6.37

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT
VB596-BS	3291994	9.58	2554216	12.79	1287997	15.34	188365	6.88
VB596-MB	3146734	9.58	2303942	12.79	1016501	15.34	176374	6.89
ZZZZZZ	2997739	9.58	2180840	12.79	970483	15.34	167343	6.88
ZZZZZZ	2914795	9.58	2134428	12.79	937879	15.34	169656	6.89
ZZZZZZ	2874253	9.58	2094641	12.79	912537	15.34	159194	6.89
F16104-9	2835778	9.58	2063755	12.80	891696	15.34	155518	6.89
F16104-9MS	3093409	9.58	2414833	12.79	1237734	15.34	182361	6.89
F16104-9MSD	3252168	9.58	2499630	12.79	1278495	15.34	175789	6.89
ZZZZZZ	3096583	9.58	2236597	12.79	982330	15.34	181228	6.89
ZZZZZZ	2975179	9.58	2153402	12.79	929923	15.34	158391	6.89
ZZZZZZ	2902501	9.58	2123487	12.79	916324	15.34	147349	6.89
ZZZZZZ	2856493	9.58	2075678	12.79	881903	15.34	150068	6.89
F16103-8	2803787	9.58	2047213	12.79	888043	15.34	132748	6.89
F16103-9	2862919	9.58	2085329	12.79	921064	15.34	154940	6.89
F16103-2	2862175	9.58	2077846	12.79	885496	15.34	154742	6.89
F16103-4	2825122	9.58	2008491	12.79	871897	15.34	147814	6.88
ZZZZZZ	2762347	9.58	1992306	12.79	851302	15.34	145181	6.89
ZZZZZZ	2718549	9.58	1960737	12.79	837922	15.34	130558	6.89
ZZZZZZ	2671672	9.58	1940573	12.80	826537	15.34	131391	6.89
ZZZZZZ	2681715	9.58	1954528	12.79	836679	15.34	134329	6.89
ZZZZZZ	2678927	9.58	1954045	12.79	920143	15.34	144044	6.89
ZZZZZZ	2692909	9.58	1935205	12.79	844158	15.34	130479	6.89
ZZZZZZ	2665731	9.58	1934604	12.79	815377	15.34	142565	6.88

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.

Response Factor Report ECD 3

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
Response via : Initial Calibration

SN 1-13-02

Calibration Files
.125 =ST18478.D .250 =ST18479.D .500 =ST18480.D
0.75 =ST18481.D 1.0 =ST18482.D

	Compound	.125	.250	.500	0.75	1.0	Avg		%RSD
1)	1,2-Dibromoethane	1.391	1.259	1.362	1.255	1.243	1.302	E5	5.32
2)	1,2-Dibromo-3-chlorop	3.648	3.543	3.702	3.554	3.612	3.612	E5	1.83
Signal #2									
1)	1,2-Dibromoethane	4.037	3.661	3.985	3.768	3.774	3.845	E4	4.14
2)	1,2-Dibromo-3-chlorop	1.318	1.309	1.397	1.340	1.383	1.350	E5	2.89

(#) = Out of Range

504_1.M Fri Jan 10 15:12:42 2003 GCECD2

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18493.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18493.D\ECD2B.CH
Acq On : 09 Jan 2003 9:38 pm Operator: stephw
Sample : CC661-0.25 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.249	0.4	103	0.00
2	1,2-Dibromo-3-chloropropane	0.250	0.242	3.2	98	0.00

Signal #2

KW 1-13-03

1	1,2-Dibromoethane	0.250	0.247	1.2	104	0.00
2	1,2-Dibromo-3-chloropropa	0.250	0.249	0.4	103	0.00

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18493.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18493.D\ECD2B.CH
Acq On : 09 Jan 2003 9:38 pm Operator: stephw
Sample : CC661-0.25 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ST18479.D 504_1.M Fri Jan 10 15:27:25 2003 GCECD2

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18502.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18502.D\ECD2B.CH
Acq On : 10 Jan 2003 12:36 am Operator: stephw
Sample : CC661-0.50 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.500	0.493	1.4	94	0.00
2	1,2-Dibromo-3-chloropropane	0.500	0.527	-5.4	103	0.00

Signal #2

SDN 1-13-03

1	1,2-Dibromoethane	0.500	0.491	1.8	95	0.00
2	1,2-Dibromo-3-chloropropa	0.500	0.532	-6.4	103	0.00

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18502.D\ECD1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18502.D\ECD2B.CH
Acq On : 10 Jan 2003 12:36 am Operator: stephw
Sample : CC661-0.50 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ST18480.D 504_1.M Fri Jan 10 15:42:10 2003 GCECD2

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18512.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18512.D\ECD2B.CH
Acq On : 10 Jan 2003 3:54 am Operator: stephw
Sample : ECC661-0.25 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.218	12.8	90	0.00
2	1,2-Dibromo-3-chloropropane	0.250	0.241	3.6	98	0.00
Signal #2						
1	1,2-Dibromoethane	0.250	0.224	10.4	94	0.00
2	1,2-Dibromo-3-chloropropa	0.250	0.245	2.0	101	0.00

1-13-03

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0109EDB\ST18512.D\ECD1A.CH Vial: 3
Signal #2 : C:\HPCHEM\1\DATA\0109EDB\ST18512.D\ECD2B.CH
Acq On : 10 Jan 2003 3:54 am Operator: stephw
Sample : ECC661-0.25 Inst : ECD 3
Misc : op6720,gst661,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: EVENTS2.E

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Fri Jan 10 15:08:58 2003
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.	%Dev	Area%	Dev(Min)
Signal #2						

(#) = Out of Range SPCC's out = 0 CCC's out = 0
ST18479.D 504_1.M Mon Jan 13 11:09:51 2003 GCECD2

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6720-MB	ST18485.D	1	01/09/03	SKW	01/09/03	OP6720	GST661

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9, F16103-10

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6720-BS	ST18486.D	1	01/09/03	SKW	01/09/03	OP6720	GST661

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9, F16103-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.23	92	80-120

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6720-BS2	ST18487.D	1	01/09/03	SKW	01/09/03	OP6720	GST661

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9, F16103-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
106-93-4	1,2-Dibromoethane	0.25	0.24	96	80-120

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6720-MS	ST18510.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
OP6720-MSD	ST18511.D	1	01/10/03	SKW	01/09/03	OP6720	GST661
F16080-1	ST18494.D	1	01/09/03	SKW	01/09/03	OP6720	GST661

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9, F16103-10

CAS No.	Compound	F16080-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
106-93-4	1,2-Dibromoethane	ND		0.228	0.20	88	0.22	95	10	74-120/22

GC/MS VOA [illegible] LOG

DATE:	01/10/03
COLUMN TYPE:	RTX- 624
DETECTOR:	MS5970
INSTRUMENT:	MS 6
ANALYST:	[illegible]

METHODS:	8260/624
METHOD FILE:	8260-30M
CALIB. DATE:	10/29/02
RUN BATCH:	V6 679

STANDARDS	
BFB	V3479
ICAL/CCV	V3478, V3485, V3472
ISTD/SURR	~~V3394~~ 1/10 V3489
ICV/QC	V3453, V3470, V3440

DATA FILE	SAMPLE ID	SAMPLE AMT.	MATRIX	PH	ALS #	DIL.	METHOD	VIAL #	COMMENTS
5001 9960	BFB	1µl	—	—	—	—	BF3	—	FAIL autofind
61	BFB	↓	—	—	—	—	↓	—	PASS average
62	CC615-40	5ml	ω	6	1	1x	8260	—	Pass
63	BS	↓	↓	↓	2	↓	↓	—	✓
64	MB	↓	↓	↓	3	↓	↓	—	ND
65	F16103-8	↓	↓	1	4	↓	↓	2	✓ µs (10 Kam) MS2020
66	-6	↓	↓	1	5	↓	↓	2	✓
67	-5	↓	↓	6	6	↓	↓	1	PH: ✓
68	-4	0.250	↓	1	7	20x	8260	2	✓ RR e 100 µs (Tokarem)
69	F16103-7	0.100	↓	1	8	50x	↓	2	✓
70	-9	↓	↓	↓	9	200x	↓	2	Manual dilution ✓ SM (Tokarem)
1	1	5ml	↓	↓	10	1	↓	2	ND
2	F16121-6	↓	↓	↓	11	1	↓	1	✓ MS2024
3	6MS	↓	↓	↓	12	1	↓	2	✓ µs
4	6MSD	↓	↓	↓	12	1	↓	2	✓
5	17	↓	↓	1	13	↓	↓	1	ND. µs RRe1
6	F16103-2	2x	↓	1	14	2	↓	2	✓ (RRes) (To Kam)
7	F16121-3	↓	↓	7	15	2	↓	1	PH: [RRe1 Acetone] MS2024
8	4	↓	↓	↓	16	2	↓	1	[RRe1]
9	9 2x10	↓	↓	↓	17	1	↓	1 2	OK [~~RRe1~~] 1/13 Pm Y13
10	10 5ml 10	↓	↓	↓	18	↓	↓	1 2	✓
1	7	↓	↓	↓	19	↓	↓	1	✓
2	8	↓	↓	↓	20	↓	↓	1	✓
3	-10-5 2	↓	↓	↓	21	↓	↓	1	✓
4	1	↓	↓	↓	22	↓	↓	1	✗ RRe1
5	5	↓	↓	↓	23	↓	↓	1	✗ RRe1
6	11	↓	↓	↓	24	↓	↓	1	✗ RRe1

Notes: [illegible]

Matrix: Designate [illegible] Water, "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "[illegible]. Leachate

Response Factor Report G1315A

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Initial Calibration

JM 1/8/03

Calibration Files
L1 =EE012439.D L2 =EE012440.D L3 =EE012441.D
L4 =EE012442.D L5 =EE012443.D L6 =EE012444.D

		Compound	L1	L2	L3	L4	L5	L6	Avg		%RSD
1)		Naphthalene	8.860	8.020	7.867	7.379	7.251	7.288	7.777	E5	7.96
2)		Acenaphthylene	3.460	2.985	3.101	2.942	2.878	2.907	3.045	E5	7.14
3)		1-Methyl Naphthalen	7.371	6.555	6.511	6.115	6.008	6.060	6.437	E5	7.99
4)		2-Methyl Naphthalen	7.450	6.678	6.622	6.216	6.105	6.161	6.539	E5	7.77
5)		Acenaphthene	5.858	5.286	5.301	4.981	4.888	4.935	5.208	E5	7.01
6)		Fluorene	2.182	1.964	1.955	1.842	1.805	1.820	1.928	E6	7.35
7)		Phenanthrene	1.917	1.695	1.675	1.573	1.540	1.551	1.658	E6	8.60
8)	S	O-Terphenyl	7.042	6.655	6.628	6.270	6.150	6.209	6.492	E5	5.31
9)		Anthracene	2.532	2.291	2.173	2.084	1.961	1.932	2.162	E5	10.39
10)		Fluoranthene	1.603	1.493	1.449	1.374	1.343	1.356	1.437	E6	6.99
11)		Pyrene	2.568	2.377	2.292	2.169	2.100	2.092	2.267	E6	8.17
12)	S	P-Terphenyl	2.918	2.565	2.539	2.399	2.346	2.365	2.522	E6	8.50
13)		Benzo(a)Anthracene	4.645	4.234	4.147	3.890	3.804	3.835	4.093	E6	7.87
14)		Chrysene	6.320	5.804	5.701	5.299	5.146	5.127	5.566	E6	8.37
15)		Benzo(b)Fluoranthen	2.336	2.216	2.120	1.998	2.002	1.993	2.111	E6	6.71
16)		Benzo(k)Fluoranthen	1.361	1.323	1.280	1.237	1.168	1.182	1.259	E6	6.11
17)		Benzo(a) Pyrene	2.709	2.572	2.571	2.425	2.390	2.419	2.514	E6	4.94
[illegible])		Dibenzo(a,h)anthrac	2.067	1.945	2.064	1.958	1.932	1.878	1.974	E6	3.85
19)		Benzo(g,h,i) Peryle	1.449	1.385	1.396	1.330	1.317	1.314	1.365	E6	3.96
20)		Indeno(1,2,3-cd)pyr	1.128	1.078	1.151	1.090	1.078	1.091	1.103	E6	2.71

Signal #2

1)		Naphthalene	5.288	4.682	4.568	4.283	4.290	4.309	4.570	E5	8.51
2)		Acenaphthylene	3.485	3.124	3.034	2.850	2.900	2.923	3.053	E5	7.67
3)		1-Methyl Naphthalen	3.243	2.821	2.801	2.635	2.651	2.671	2.804	E5	8.18
4)		2-Methyl Naphthalen	4.541	3.996	3.995	3.754	3.738	3.771	3.966	E5	7.71
5)		Acenaphthene	1.814	1.730	1.851	1.741	1.738	1.749	1.770	E5	2.80
6)		Fluorene	2.367	2.149	2.149	2.029	2.001	2.019	2.119	E6	6.51
7)		Phenanthrene	6.517	5.788	5.587	5.203	5.071	5.059	5.538	E6	10.16
8)	S	O-Terphenyl	1.161	1.167	1.161	1.093	1.079	1.089	1.125	E6	3.73
9)		Anthracene	1.429	1.294	1.169	0.995	0.868	0.775	1.088	E7	23.26

----- Quadratic regression ----- Coefficient = 0.9994
Response Ratio = 2824171.07000 + 12023621.84282 *A + -109952.33392 *A^

10)		Fluoranthene	1.449	1.642	1.640	1.568	1.543	1.558	1.567	E6	4.54
11)		Pyrene	1.428	1.339	1.359	1.320	1.299	1.309	1.342	E6	3.52
12)	S	P-Terphenyl	1.416	1.256	1.220	1.177	1.154	1.165	1.232	E6	7.98
13)		Benzo(a)Anthracene	3.412	3.140	2.980	2.858	2.806	2.838	3.005	E6	7.78
14)		Chrysene	5.262	4.743	4.475	4.329	4.243	4.270	4.554	E6	8.63
15)		Benzo(b)Fluoranthen	2.155	2.009	1.973	1.849	1.854	1.835	1.946	E6	6.44
16)		Benzo(k)Fluoranthen	3.270	3.130	3.063	2.882	2.835	2.865	3.007	E6	5.81
17)		Benzo(a) Pyrene	2.259	2.080	2.072	1.951	1.917	1.933	2.035	E6	6.40
)		Dibenzo(a,h)anthrac	5.645	5.352	5.319	4.994	4.883	4.898	5.182	E6	5.90
19)		Benzo(g,h,i) Peryle	2.440	2.271	2.277	2.165	2.140	2.171	2.244	E6	4.98
20)		Indeno(1,2,3-cd)pyr	1.599	1.498	1.549	1.449	1.442	1.460	1.499	E6	4.20

(#) = Out of Range

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0110PAH\EE012510.D\DAD1B.CH Vial: 2
Signal #2 : E:\HPCHEM\1\DATA\0110PAH\EE012510.D\DAD1A.CH
Acq On : 10-Jan-2003, 13:27:03 Operator: MIKEE
Sample : CC541-10 Inst : G1315A
Misc : op6717,gee544,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.480	-4.8	104	-0.03
2		Acenaphthylene	10.000	10.506	-5.1	103	-0.03
3		1-Methyl Naphthalene	10.000	10.434	-4.3	103	-0.03
4		2-Methyl Naphthalene	10.000	10.457	-4.6	103	-0.02
5		Acenaphthene	10.000	10.587	-5.9	104	-0.02
6		Fluorene	10.000	10.525	-5.3	104	-0.02
7		Phenanthrene	10.000	10.469	-4.7	104	-0.02
8	S	O-Terphenyl	10.000	10.585	-5.9	104	-0.01
9		Anthracene	10.000	10.282	-2.8	102	-0.01
10		Fluoranthene	10.000	10.462	-4.6	104	-0.01
11		Pyrene	10.000	10.524	-5.2	104	0.00
12	S	P-Terphenyl	10.000	10.209	-2.1	101	0.00
13		Benzo(a)Anthracene	5.000	5.116	-2.3	101	0.00
14		Chrysene	5.000	5.233	-4.7	102	0.00
15		Benzo(b)Fluoranthene	5.000	5.237	-4.7	104	0.00
16		Benzo(k)Fluoranthene	5.000	5.274	-5.5	104	0.00
17		Benzo(a) Pyrene	5.000	5.313	-6.3	104	0.00
18		Dibenzo(a,h)anthracene	5.000	5.484	-9.7	105	0.00
19		Benzo(g,h,i) Perylene	5.000	5.366	-7.3	105	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	5.477	-9.5	105	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.392	-3.9	104	-0.03
2		Acenaphthylene	10.000	10.210	-2.1	103	-0.03
3		1-Methyl Naphthalene	10.000	10.211	-2.1	102	-0.02
4		2-Methyl Naphthalene	10.000	10.366	-3.7	103	-0.02
5		Acenaphthene	10.000	10.689	-6.9	102	-0.02
6		Fluorene	10.000	10.491	-4.9	103	-0.02
7		Phenanthrene	10.000	10.469	-4.7	104	-0.02
8	S	O-Terphenyl	10.000	10.610	-6.1	103	-0.01
9		Anthracene	10.000	10.921	-9.2	104	-0.01
10		Fluoranthene	10.000	10.822	-8.2	103	-0.01
11		Pyrene	10.000	10.459	-4.6	103	0.00
12	S	P-Terphenyl	10.000	10.403	-4.0	105	0.00
13		Benzo(a)Anthracene	5.000	5.240	-4.8	106	0.00
14		Chrysene	5.000	5.276	-5.5	107	0.00
15		Benzo(b)Fluoranthene	5.000	5.288	-5.8	104	0.00
16		Benzo(k)Fluoranthene	5.000	5.311	-6.2	104	0.00

0500

19	Benzo(g,h,i) Perylene	5.000	5.324	-6.5	105	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	5.422	-8.4	105	0.00

Average % D = 5.4

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE012441.D 8310_32.M Mon Jan 13 10:12:38 2003

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0110PAH\EE012537.D\DAD1B.CH Vial: 11
Signal #2 : E:\HPCHEM\1\DATA\0110PAH\EE012537.D\DAD1A.CH
Acq On : 11-Jan-2003, 00:25:20 Operator: MIKEE
Sample : ECC541-20 Inst : G1315A
Misc : op6717,gee544,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	21.870	-9.4	115	0.00
2		Acenaphthylene	20.000	21.942	-9.7	114	0.00
3		1-Methyl Naphthalene	20.000	21.711	-8.6	114	0.00
4		2-Methyl Naphthalene	20.000	21.789	-8.9	115	0.00
5		Acenaphthene	20.000	21.992	-10.0	115	0.00
6		Fluorene	20.000	21.811	-9.1	114	0.00
7		Phenanthrene	20.000	21.634	-8.2	114	0.00
8	S	O-Terphenyl	20.000	21.962	-9.8	114	0.00
9		Anthracene	20.000	20.077	-0.4	104	0.00
10		Fluoranthene	20.000	21.679	-8.4	113	0.00
11		Pyrene	20.000	21.445	-7.2	112	0.00
12	S	P-Terphenyl	20.000	21.586	-7.9	113	0.01
13		Benzo(a)Anthracene	10.000	10.832	-8.3	114	0.01
14		Chrysene	10.000	10.813	-8.1	114	0.01
15		Benzo(b)Fluoranthene	10.000	10.874	-8.7	115	0.02
16		Benzo(k)Fluoranthene	10.000	10.845	-8.5	110	0.02
17		Benzo(a) Pyrene	10.000	10.783	-7.8	112	0.02
18		Dibenzo(a,h)anthracene	10.000	11.399	-14.0	115	0.03
19		Benzo(g,h,i) Perylene	10.000	11.194	-11.9	115	0.03
20		Indeno(1,2,3-cd)pyrene	10.000	11.348	-13.5	115	0.03

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	21.695	-8.5	116	0.00
2		Acenaphthylene	20.000	21.388	-6.9	115	0.00
3		1-Methyl Naphthalene	20.000	21.581	-7.9	115	0.00
4		2-Methyl Naphthalene	20.000	21.713	-8.6	115	0.00
5		Acenaphthene	20.000	22.917	-14.6	117	0.00
6		Fluorene	20.000	21.983	-9.9	115	0.00
7		Phenanthrene	20.000	21.518	-7.6	115	0.00
8	S	O-Terphenyl	20.000	22.329	-11.6	115	0.00
9		Anthracene	20.000	22.602	-13.0	110	0.00
10		Fluoranthene	20.000	22.849	-14.2	114	0.00
11		Pyrene	20.000	22.431	-12.2	114	0.00
12	S	P-Terphenyl	20.000	21.900	-9.5	115	0.00
13		Benzo(a)Anthracene	10.000	10.911	-9.1	115	0.01
14		Chrysene	10.000	10.905	-9.0	115	0.01
15		Benzo(b)Fluoranthene	10.000	10.948	-9.5	115	0.02
16		Benzo(k)Fluoranthene	10.000	11.038	-10.4	115	0.02

0508

19	Benzo(g,h,i) Perylene	10.000	11.072	-10.7	115	0.03
20	Indeno(1,2,3-cd)pyrene	10.000	11.158	-11.6	115	0.03

Average % D = 9.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE012442.D 8310_32.M Mon Jan 13 10:13:44 2003

Evaluate Continuing Calibration Report

Signal #1 : E:\HPCHEM\1\DATA\0113PAH\EE012539.D\DAD1B.CH Vial: 2
Signal #2 : E:\HPCHEM\1\DATA\0113PAH\EE012539.D\DAD1A.CH
Acq On : 13-Jan-2003, 08:59:19 Operator: MIKEE
Sample : CC541-10 Inst : G1315A
Misc : op6717,gee545,1000,,,1,,water Multiplr: 1.00
IntFile Signal #1: EVENTS.E IntFile Signal #2: events2.e

Method : C:\HPCHEM\2\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 07 13:07:18 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.420	-4.2	103	-0.03
2		Acenaphthylene	10.000	10.160	-1.6	100	-0.03
3		1-Methyl Naphthalene	10.000	10.437	-4.4	103	-0.03
4		2-Methyl Naphthalene	10.000	10.507	-5.1	104	-0.02
5		Acenaphthene	10.000	10.565	-5.6	104	-0.02
6		Fluorene	10.000	10.551	-5.5	104	-0.02
7		Phenanthrene	10.000	10.510	-5.1	104	-0.02
8	S	O-Terphenyl	10.000	10.667	-6.7	104	-0.02
9		Anthracene	10.000	10.283	-2.8	102	-0.01
10		Fluoranthene	10.000	10.574	-5.7	105	-0.01
11		Pyrene	10.000	10.612	-6.1	105	0.00
12	S	P-Terphenyl	10.000	10.340	-3.4	103	0.00
13		Benzo(a)Anthracene	5.000	5.159	-3.2	102	0.00
14		Chrysene	5.000	5.269	-5.4	103	0.00
15		Benzo(b)Fluoranthene	5.000	5.270	-5.4	105	0.00
16		Benzo(k)Fluoranthene	5.000	5.292	-5.8	104	0.01
17		Benzo(a) Pyrene	5.000	5.259	-5.2	103	0.00
18		Dibenzo(a,h)anthracene	5.000	5.488	-9.8	105	0.02
19		Benzo(g,h,i) Perylene	5.000	5.343	-6.9	104	0.01
20		Indeno(1,2,3-cd)pyrene	5.000	5.469	-9.4	105	0.02

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	10.559	-5.6	106	-0.03
2		Acenaphthylene	10.000	10.411	-4.1	105	-0.03
3		1-Methyl Naphthalene	10.000	10.477	-4.8	105	-0.02
4		2-Methyl Naphthalene	10.000	10.534	-5.3	105	-0.02
5		Acenaphthene	10.000	11.064	-10.6	106	-0.02
6		Fluorene	10.000	10.640	-6.4	105	-0.02
7		Phenanthrene	10.000	10.555	-5.5	105	-0.02
8	S	O-Terphenyl	10.000	10.809	-8.1	105	-0.02
9		Anthracene	10.000	10.994	-9.9	104	-0.02
10		Fluoranthene	10.000	10.992	-9.9	105	-0.01
11		Pyrene	10.000	10.676	-6.8	105	0.00
12	S	P-Terphenyl	10.000	10.563	-5.6	107	0.00
13		Benzo(a)Anthracene	5.000	5.310	-6.2	107	0.00
14		Chrysene	5.000	5.327	-6.5	108	0.00
15		Benzo(b)Fluoranthene	5.000	5.328	-6.6	105	0.00
16		Benzo(k)Fluoranthene	5.000	5.348	-7.0	105	0.01

19	Benzo(g,h,i) Perylene	5.000	5.309	-6.2	105	0.01
20	Indeno(1,2,3-cd)pyrene	5.000	5.440	-8.8	105	0.02

Average % D = 6.1

(#) = Out of Range SPCC's out = 0 CCC's out = 0
EE012441.D 8310_32.M Mon Jan 13 13:37:57 2003

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6717-MB	EE012512.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544

The QC reported here applies to the following samples: **Method:** EPA 8310

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	78%	32-142%
92-94-4	p-Terphenyl	78%	30-128%

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6717-MB	EE012540.D	1	01/13/03	MRE	01/09/03	OP6717	GEE545

The QC reported here applies to the following samples: **Method:** EPA 8310

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	78%	32-142%
92-94-4	p-Terphenyl	80%	30-128%

Semivolatile Surrogate Recovery Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Method: EPA 8310 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
F16103-1	EE012517.D	73.0		69.0	
F16103-2	EE012518.D	70.0		67.0	
F16103-3	EE012520.D	78.0		71.0	
F16103-4	EE012523.D		129.0		75.0
F16103-5	EE012524.D	72.0		67.0	
F16103-6	EE012525.D	69.0		53.0	
F16103-7	EE012526.D	73.0		62.0	
F16103-8	EE012527.D	76.0		72.0	
F16103-9	EE012529.D	68.0		71.0	
OP6717-BS	EE012511.D	82.0		88.0	
OP6717-MB	EE012512.D	78.0		78.0	
OP6717-MB	EE012540.D	78.0		80.0	
OP6717-MS	EE012545.D	83.0		86.0	
OP6717-MSD	EE012546.D	70.0		81.0	

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	32-142%
S2 = p-Terphenyl	30-128%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GEE544-CC541	**Injection Date:**	01/10/03
Lab File ID:	EE012510.D	**Injection Time:**	13:27
Instrument ID:	GCEE	**Method:**	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	[illegible]	10.92

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP6717-BS	EE012511.D	01/10/03	13:51	[illegible]	10.92
OP6717-MB	EE012512.D	01/10/03	14:15	[illegible]	10.93
ZZZZZZ	EE012513.D	01/10/03	14:40	[illegible]	10.93
ZZZZZZ	EE012514.D	01/10/03	15:04	[illegible]	10.93
ZZZZZZ	EE012516.D	01/10/03	15:53	[illegible]	10.93
F16103-1	EE012517.D	01/10/03	16:17	[illegible]	10.93
F16103-2	EE012518.D	01/10/03	16:42	[illegible]	10.94

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GEE544-CC541	**Injection Date:**	01/10/03
Lab File ID:	EE012519.D	**Injection Time:**	17:06
Instrument ID:	GCEE	**Method:**	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	8.84	8.84	10.93	10.93

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
F16103-3	EE012520.D	01/10/03	17:30	8.84		10.94	
F16103-4	EE012523.D	01/10/03	18:43		8.84		10.94
F16103-5	EE012524.D	01/10/03	19:08	8.84		10.94	
F16103-6	EE012525.D	01/10/03	19:32	8.84		10.94	
F16103-7	EE012526.D	01/10/03	19:57	8.84		10.94	
F16103-8	EE012527.D	01/10/03	20:21	8.84		10.94	

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GEE544-CC541	**Injection Date:**	01/10/03
Lab File ID:	EE012528.D	**Injection Time:**	20:45
Instrument ID:	GCEE	**Method:**	EPA 8310

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	8.84	8.84	10.94	10.94

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
F16103-9	EE012529.D	01/10/03	21:10	8.84		10.94	
ZZZZZZ	EE012530.D	01/10/03	21:34	8.83		10.92	
ZZZZZZ	EE012531.D	01/10/03	21:59	8.81		10.90	
ZZZZZZ	EE012532.D	01/10/03	22:23	8.84		10.94	
ZZZZZZ	EE012533.D	01/10/03	22:47	8.84		10.94	
ZZZZZZ	EE012534.D	01/10/03	23:12	8.84		10.94	
ZZZZZZ	EE012535.D	01/10/03	23:36	8.84		10.94	
GEE544-ECC541	EE012537.D	01/11/03	00:25	8.84	8.84	10.94	10.94

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6717-BS	EE012511.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544

The QC reported here applies to the following samples: **Method: EPA 8310**

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	20	14.7	74	52-104
208-96-8	Acenaphthylene	20	14.5	73	51-103
120-12-7	Anthracene	20	16.7	84	60-112
56-55-3	Benzo(a)anthracene	10	8.7	87	64-111
50-32-8	Benzo(a)pyrene	10	8.9	89	56-118
205-99-2	Benzo(b)fluoranthene	10	8.8	88	63-117
191-24-2	Benzo(g,h,i)perylene	10	9.1	91	45-118
207-08-9	Benzo(k)fluoranthene	10	8.8	88	56-118
218-01-9	Chrysene	10	8.8	88	67-112
53-70-3	Dibenzo(a,h)anthracene	10	9.0	90	41-119
206-44-0	Fluoranthene	20	16.4	82	61-111
86-73-7	Fluorene	20	15.0	75	54-105
193-39-5	Indeno(1,2,3-cd)pyrene	10	9.3	93	46-118
91-20-3	Naphthalene	20	13.2	66	44-105
90-12-0	1-Methylnaphthalene	20	13.8	69	47-102
91-57-6	2-Methylnaphthalene	20	13.7	69	47-101
85-01-8	Phenanthrene	20	15.6	78	55-109
129-00-0	Pyrene	20	16.4	82	61-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	82%	32-142%
92-94-4	p-Terphenyl	88%	30-128%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6717-MS	EE012545.D	1	01/13/03	MRE	01/09/03	OP6717	GEE545
OP6717-MSD	EE012546.D	1	01/13/03	MRE	01/09/03	OP6717	GEE545
F16103-3	EE012520.D	1	01/10/03	MRE	01/09/03	OP6717	GEE544

The QC reported here applies to the following samples: **Method: EPA 8310**

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

CAS No.	Compound	F16103-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND		40	30.9	77	25.9	65	18	20-140/45
208-96-8	Acenaphthylene	ND		40	30.6	77	25.6	64	18	17-141/46
120-12-7	Anthracene	ND		40	33.8	85	28.3	71	18	48-123/23
56-55-3	Benzo(a)anthracene	ND		20	17.8	89	16.9	85	5	42-134/22
50-32-8	Benzo(a)pyrene	ND		20	18.0	90	17.4	87	3	55-119/23
205-99-2	Benzo(b)fluoranthene	ND		20	18.0	90	17.5	88	3	58-118/22
191-24-2	Benzo(g,h,i)perylene	ND		20	18.5	93	18.1	91	2	57-118/23
207-08-9	Benzo(k)fluoranthene	ND		20	18.8	94	18.3	92	3	58-120/22
218-01-9	Chrysene	ND		20	18.0	90	17.3	87	4	49-137/23
53-70-3	Dibenzo(a,h)anthracene	ND		20	18.4	92	18.0	90	2	57-120/23
206-44-0	Fluoranthene	ND		40	33.8	85	28.9	72	16	55-117/22
86-73-7	Fluorene	ND		40	31.6	79	26.5	66	18	25-135/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		20	18.9	95	18.4	92	3	57-118/22
91-20-3	Naphthalene	ND		40	28.8	72	24.3	61	17	18-129/45
90-12-0	1-Methylnaphthalene	ND		40	29.2	73	24.8	62	16	18-131/46
91-57-6	2-Methylnaphthalene	ND		40	29.2	73	24.7	62	17	12-135/48
85-01-8	Phenanthrene	ND		40	32.3	81	27.1	68	18	39-129/27
129-00-0	Pyrene	ND		40	33.6	84	28.9	72	15	57-116/21

CAS No.	Surrogate Recoveries	MS	MSD	F16103-3	Limits
84-15-1	o-Terphenyl	83%	70%	78%	32-142%
92-94-4	p-Terphenyl	86%	81%	71%	30-128%

Response Factor Report FID 2

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Tue Dec 03 15:25:44 2002
Response via : Initial Calibration

Calibration Files
1 =OP25894.D 2 =OP25895.D 3 =OP25896.D
4 =OP25897.D 5 =OP25898.D 6 =OP25899.D 7 =OP25900.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1)S O-TERPHENYL	3.601	3.702	3.759	3.751	3.803			3.723 E4	2.07
2)H TPH (C8-C40)	3.420	3.482	3.499	3.475	3.454	3.097	3.084	3.359 E4	5.51

Average % RSD = 3.8

(#) = Out of Range

FL_PRO_F.M Wed Dec 04 06:56:40 2002

SW 12-4-02

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0110PRO\OP26479.D Vial: 1
Acq On : 10 Jan 2003 7:57 am Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6707,gop913,30.0,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	61.421	-2.4	101	-0.01
2	H	TPH (C8-C40)	1020.000	1062.854	-4.2	100	0.00

Average % D = 3.28485

1-13-03

0602

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0110PRO\OP26480.D Vial: 2
Acq On : 10 Jan 2003 8:22 am Operator: stephw
Sample : CC894-340 Inst : FID 2
Misc : op6707,gop913,30.0,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	20.000	20.659	-3.3	107	-0.01
2	H	TPH (C8-C40)	340.000	364.178	-7.1	105	0.00

Average % D = 5.20309

SN 1-13-03

0605

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0110PRO\OP26492.D Vial: 14
Acq On : 10 Jan 2003 12:30 pm Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6715,gop913,1000,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	60.926	-1.5	101	-0.01
2	H	TPH (C8-C40)	1020.000	1042.968	-2.3	98	0.00

Average % D = 1.89755

SM 1-13-03

0608

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0110PRO\OP26501.D Vial: 23
Acq On : 10 Jan 2003 3:37 pm Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6715,gop913,990,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	62.003	-3.3	102	-0.01
2	H	TPH (C8-C40)	1020.000	1065.115	-4.4	100	0.00

Average % D = 3.88069

SW 1-13-03

0611

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0113PRO\OP26536.D Vial: 1
Acq On : 13 Jan 2003 9:49 am Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6721,gop91,1000,,,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 Jan 13 13:23:16 2003
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	61.886	-3.1	102	0.00
2	H	TPH (C8-C40)	1020.000	1107.084	-8.5	104	0.00

Average % D = 5.84049

SW 1-13-03

C614

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0113PRO\OP26537.D Vial: 2
Acq On : 13 Jan 2003 10:13 am Operator: stephw
Sample : CC894-340 Inst : FID 2
Misc : op6721,gop91,1000,,,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 Jan 13 13:23:16 2003
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	20.000	20.305	-1.5	105	0.00
2	H	TPH (C8-C40)	340.000	382.264	-12.4	110	0.00

Average % D = 6.97779

SW 1-13-03

0617

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0113PRO\OP26548.D Vial: 13
Acq On : 13 Jan 2003 2:00 pm Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6721,gop914,980,,,1,10,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 Jan 13 13:23:16 2003
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	59.769	0.4	99	0.00
2	H	TPH (C8-C40)	1020.000	1071.432	-5.0	101	0.00

Average % D = 2.71368

1-13-03

0620

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP26548.D FL_PRO_F.M Mon Jan 13 14:29:03 2003

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6715-MB	OP26483.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913

The QC reported here applies to the following samples: **Method: FLORIDA-PRO**

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.25	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	101%	51-125%

Method Blank Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6715-MB	OP26540.D	1	01/13/03	SKW	01/09/03	OP6715	GOP914

The QC reported here applies to the following samples: **Method: FLORIDA-PRO**

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.25	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	97%	51-125%

Semivolatile Surrogate Recovery Summary

Job Number: F16103
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]
F16103-1	OP26489.D	102.0
F16103-2	OP26490.D	100.0
F16103-3	OP26491.D	101.0
F16103-4	OP26493.D	102.0
F16103-5	OP26494.D	106.0
F16103-6	OP26495.D	104.0
F16103-7	OP26496.D	104.0
F16103-8	OP26499.D	94.0
F16103-9	OP26500.D	105.0
OP6715-BS	OP26482.D	108.0
OP6715-MB	OP26483.D	101.0
OP6715-MB	OP26540.D	97.0
OP6715-MS	OP26497.D	105.0
OP6715-MSD	OP26498.D	101.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	51-125%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GOP913-CC894	**Injection Date:**	01/10/03
Lab File ID:	OP26479.D	**Injection Time:**	07:57
Instrument ID:	GCOP	**Method:**	FLORIDA-PRO

	S1 [a] RT
Check Std	5.16

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP6715-BS	OP26482.D	01/10/03	09:03	5.16
OP6715-MB	OP26483.D	01/10/03	09:24	5.16
ZZZZZZ	OP26484.D	01/10/03	09:45	5.16
ZZZZZZ	OP26485.D	01/10/03	10:06	5.16
ZZZZZZ	OP26486.D	01/10/03	10:26	5.16
ZZZZZZ	OP26487.D	01/10/03	10:47	5.16
F16103-1	OP26489.D	01/10/03	11:28	5.16
F16103-2	OP26490.D	01/10/03	11:49	5.16
F16103-3	OP26491.D	01/10/03	12:10	5.16

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GOP913-CC894	**Injection Date:**	01/10/03
Lab File ID:	OP26492.D	**Injection Time:**	12:30
Instrument ID:	GCOP	**Method:**	FLORIDA-PRO

	S1 [a] RT
Check Std	5.16

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
F16103-4	OP26493.D	01/10/03	12:51	5.16
F16103-5	OP26494.D	01/10/03	13:12	5.16
F16103-6	OP26495.D	01/10/03	13:33	5.16
F16103-7	OP26496.D	01/10/03	13:53	5.16
OP6715-MS	OP26497.D	01/10/03	14:14	5.16
OP6715-MSD	OP26498.D	01/10/03	14:35	5.16
F16103-8	OP26499.D	01/10/03	14:56	5.16
F16103-9	OP26500.D	01/10/03	15:16	5.16

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GOP914-CC894	**Injection Date:**	01/13/03
Lab File ID:	OP26536.D	**Injection Time:**	09:49
Instrument ID:	GCOP	**Method:**	FLORIDA-PRO

	S1 [a] RT
Check Std	5.16

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT
OP6715-MB	OP26540.D	01/13/03	11:15	5.16
ZZZZZZ	OP26541.D	01/13/03	11:36	5.15
OP6721-MB	OP26542.D	01/13/03	11:56	5.16
ZZZZZZ	OP26543.D	01/13/03	12:17	5.16
ZZZZZZ	OP26544.D	01/13/03	12:38	5.16
ZZZZZZ	OP26545.D	01/13/03	12:58	5.16
ZZZZZZ	OP26546.D	01/13/03	13:19	5.16

Surrogate Compounds

S1 = o-Terphenyl

(a) Retention time from GC signal #1

Blank Spike Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6715-BS	OP26482.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913

The QC reported here applies to the following samples: **Method: FLORIDA-PRO**

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C8-C40)	0.85	0.786	92	59-109

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	103%	51-125%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F16103
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6715-MS	OP26497.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
OP6715-MSD	OP26498.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913
F16103-7	OP26496.D	1	01/10/03	SKW	01/09/03	OP6715	GOP913

The QC reported here applies to the following samples: **Method: FLORIDA-PRO**

F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

CAS No.	Compound	F16103-7 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C8-C40)	1.17		1.7	2.73	92	2.69	89	1	38-133/23

CAS No.	Surrogate Recoveries	MS	MSD	F16103-7	Limits
84-15-1	o-Terphenyl	103%	101%	104%	51-125%

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**G. WALKER**	**DATE:**	**FEBRUARY 11, 2003**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION –LEAD**
NAS PENSACOLA – CTO 274
SAMPLE DELIVERY GROUP (SDG) – F16103

SAMPLES: 9/AQUEOUS/

OLFS-2406-DMW23	OLFS-2406-DMW24	OLFS-2406-DMW25
OLFS-2406-DMW26	OLFS-2406-DMW27	OLFS-2406-DMW28
OLFS-2406-DMW29	OLFS-2406-DMW30	OLFS-2406-DMW33

Overview

The sample set for NAS Pensacola, CTO 274, SDG F16103, consists of nine (9) aqueous environmental samples.

All samples were analyzed for lead. The samples were collected by Tetra Tech NUS January 7, 2003 and analyzed by Accutest Laboratories Southeast, Inc. Lead analyses were conducted using method SW846 6010B.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Analyses
  • Laboratory Method/Preparation 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	1.8 ug/L	9.0 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 considered when evaluating for blank contamination. The positive results less than the action level for lead were qualified as nondetected (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)."

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 (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard 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)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW23
samp_date	1/7/2003
lab_id	F16103-9
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	5.6	U	A

nsample	OLFS-2406-DMW24
samp_date	1/7/2003
lab_id	F16103-8
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	6.8	U	A

nsample	OLFS-2406-DMW25
samp_date	1/7/2003
lab_id	F16103-7
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	2.0	U	A

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW26
samp_date	1/7/2003
lab_id	F16103-5
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	1.2	U	

nsample	OLFS-2406-DMW27
samp_date	1/7/2003
lab_id	F16103-6
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	1.2	U	

nsample	OLFS-2406-DMW28
samp_date	1/7/2003
lab_id	F16103-4
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	17.9		

PROJ_NO: 2642

SDG: F16103 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW29
samp_date	1/7/2003
lab_id	F16103-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	3.3	U	A

nsample	OLFS-2406-DMW30
samp_date	1/7/2003
lab_id	F16103-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	4.0	U	A

nsample	OLFS-2406-DMW33
samp_date	1/7/2003
lab_id	F16103-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	1.2	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW23		
Lab Sample ID:	F16103-9	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	5.6	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

0645

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW24		
Lab Sample ID:	F16103-8	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	6.8	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

0644

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW25		
Lab Sample ID:	F16103-7	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	2.0 B	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

0643

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW26		
Lab Sample ID:	F16103-5	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW27		
Lab Sample ID:	F16103-6	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

0642

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW28		
Lab Sample ID:	F16103-4	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	17.9	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

0640

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW29		
Lab Sample ID:	F16103-2	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	3.3 B	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

0638

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW30		
Lab Sample ID:	F16103-1	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	4.0 B	5.0	1.2	ug/l	1	01/10/03	01/13/03 DM	SW846 6010B	SW846 3010A

0637

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW33		
Lab Sample ID:	F16103-3	**Date Sampled:**	01/07/03
Matrix:	AQ - Ground Water	**Date Received:**	01/08/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

0659

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

APPENDIX C

SUPPORT DOCUMENTATION

F16103

HOLDING TIME
02/07/03

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
UG/L	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW25	F16103-7	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	EDB	01/07/03	01/09/03	01/09/03	2	0	2
UG/L	OLFS-2406-DMW30	F16103-1	MS	F16103	EDB	01/07/03	01/09/03	01/09/03	2	0	2
UG/L	OLFS-2406-DMW33	F16103-3	MSD	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
%	OP6720-BS	OP6720-BS	BSP	F16103	EDB	01/09/03	01/09/03	01/09/03	0	0	0
%	OP6720-BS2	OP6720-BS2	BSP	F16103	EDB	01/09/03	01/09/03	01/09/03	0	0	0
%	OP6720-MS	OP6720-MS	MS	F16103	EDB	01/09/03	01/09/03	01/10/03	0	1	1
%	OP6720-MSD	OP6720-MSD	MSD	F16103	EDB	01/09/03	01/09/03	01/10/03	0	1	1
UG/L	TRIP BLANK-010703	F16103-10	NORMAL	F16103	EDB	01/07/03	01/09/03	01/10/03	2	1	3
UG/L	VBLK1	OP6720-MB	M_BLANK	F16103	EDB	01/09/03	01/09/03	01/09/03	0	0	0
%	MP5076-B1	MP5076-B1	BSP	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	MP5076-D1	MP5076-D1	DUPLICATE	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	MP5076-S1	MP5076-S1	MS	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	MP5076-S2	MP5076-S2	MSD	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	MP5076-SD1	MP5076-SD1	SDL	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
UG/L	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW25	F16103-7	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
UG/L	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW30	F16103-1	NORMAL	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	OLFS-2406-DMW33	F16103-3	MS	F16103	M	01/07/03	01/10/03	01/13/03	3	3	6
UG/L	PBW1	MP5076-MB1	M_BLANK	F16103	M	01/10/03	01/10/03	01/13/03	0	3	3
%	F16091-8DUP	F16091-8DUP	DUPLICATE	F16103	OV	01/09/03	/ /	01/09/03	0	0	0
%	F16104-9MS	F16104-9MS	MS	F16103	OV	01/13/03	/ /	01/13/03	0	0	0
%	F16104-9MSD	F16104-9MSD	MSD	F16103	OV	01/13/03	/ /	01/13/03	0	0	0
%	F16121-6MS	F16121-6MS	MS	F16103	OV	01/10/03	/ /	01/10/03	0	0	0
%	F16121-6MSD	F16121-6MSD	MSD	F16103	OV	01/10/03	/ /	01/10/03	0	0	0
%	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	OV	01/07/03	/ /	01/13/03	0	0	6
%	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	OV	01/07/03	/ /	01/13/03	0	0	6
%	OLFS-2406-DMW25	F16103-7	MSD	F16103	OV	01/07/03	/ /	01/10/03	0	0	3
%	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	OV	01/07/03	/ /	01/10/03	0	0	3
%	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	OV	01/07/03	/ /	01/10/03	0	0	3
%	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	OV	01/07/03	/ /	01/13/03	0	0	6
%	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	OV	01/07/03	/ /	01/09/03	0	0	2
%	OLFS-2406-DMW30	F16103-1MSD	NORMAL	F16103	OV	01/07/03	/ /	01/09/03	0	0	2
%	OLFS-2406-DMW33	F16103-3	NORMAL	F16103	OV	01/07/03	/ /	01/09/03	0	0	2
%	TRIP BLANK-010703	F16103-10	NORMAL	F16103	OV	01/07/03	/ /	01/09/03	0	0	2
%	VB596-BS	VB596-BS	BSP	F16103	OV	01/13/03	/ /	01/13/03	0	0	0
UG/L	VBLK1	VG679-MB	M_BLANK	F16103	OV	01/13/03	/ /	01/10/03	0	0	-3
%	VG678-BS	VG678-BS	BSP	F16103	OV	01/09/03	/ /	01/09/03	0	0	0
%	VG679-BS	VG679-BS	BSP	F16103	OV	01/10/03	/ /	01/10/03	0	0	0
%	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	.	01/07/03	01/09/03	01/10/03	2	1	3

Units	ample	Lab Id	Qc Type	Sdg	ort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
%	OLFS-2406-DMW25	F16103-7	MS	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW30	F16103-1	NORMAL	F16103	PAH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW33	OP6717-MSD	MSD	F16103	PAH	01/07/03	01/09/03	01/13/03	2	4	6
%	OP6717-BS	OP6717-BS	BSP	F16103	PAH	01/09/03	01/09/03	01/10/03	0	1	1
UG/L	PBL2	OP6717-MB	M_BLANK	F16103	PAH	01/09/03	01/09/03	01/10/03	0	1	1
UG/L	PBLK1	OP6717-MB	M_BLANK	F16103	PAH	01/09/03	01/09/03	01/13/03	0	4	4
%	OLFS-2406-DMW23	F16103-9	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW24	F16103-8	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW25	OP6715-MSD	MS	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW26	F16103-5	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW27	F16103-6	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW28	F16103-4	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW29	F16103-2	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW30	F16103-1	MSD	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OLFS-2406-DMW33	F16103-3	NORMAL	F16103	TPH	01/07/03	01/09/03	01/10/03	2	1	3
%	OP6715-BS	OP6715-BS	BSP	F16103	TPH	01/09/03	01/09/03	01/10/03	0	1	1
MG/L	PBL2	OP6715-MB	M_BLANK	F16103	TPH	01/09/03	01/09/03	01/13/03	0	4	4
MG/L	PBLK1	OP6715-MB	M_BLANK	F16103	TPH	01/09/03	01/09/03	01/10/03	0	1	1

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 4254 F16103 PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
N2642	OLF Sanford	Gerry Walker	850-385-9899	Accutest Sue Bell
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Howard Engle	PHONE NUMBER: 850-385-9899	ADDRESS: 4405 Vineland Rd
		CARRIER/WAYBILL NUMBER: FED-EX		CITY, STATE: Orlando, FL 32811

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

	DATE YEAR 2003	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	PPL VOAS, 1,2-DCA, 8260B	PAH's 8310	EDB 504.1	Total Lead 6010B	TRPH FDEP FL-PRO	COMMENTS
										CONTAINER TYPE PLASTIC (P) or GLASS (G)	G	G	G	P	G
										PRESERVATIVE USED	HCL	NA	NA	HNO_3	HCL
1	1/7	0945	OLFS-2406-DMW-30	DMW30			GW	G	11	3	2	3	1	2	
2	1/7	1010	OLFS-2406-DMW29	DMW29			GW	G	11	3	2	3	1	2	See WR N2642-WR83(55) for Coped Lists and RL's.
3	1/7	1045	OLFS-2406-DMW33	DMW33			GW	G	11						
4	1/7	1100	OLFS-2406-DMW28	DMW28			GW	G	11						
5	1/7	1330	OLFS-2406-DMW26	DMW26			GW	G	11						
6	1/7	1400	OLFS-2406-DMW27	DMW27			GW	G	11						
7	1/7	1425	OLFS-2406-DMW25	DMW25			GW	G	11						
8	1/7	1555	OLFS-2406-DMW24	DMW24											
9	1/7	1550	OLFS-2406-DMW23	DMW23											
10	1/7	—	Trip Blank-010703	—			GW	G	2	2					

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	1/7/03	1900	1. RECEIVED BY FedEx		
2. RELINQUISHED BY FedEx	01/08/03	0915	2. RECEIVED BY	01/08/03	0915
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS 20,1.6,2.4,1.8

WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) 4/02R

Southeast
ACCUTEST.
Laboratories

01/28/03

Technical Report for

Tetra-Tech, NUS

NAS Pensacola CTO# 274 N2642

N2642-WR#83(SS)

Accutest Job Number: F16103

Report to:

Tetra Tech, NUS
Foster Plaza 7
661 Andersen Drive
Pittsburgh, PA 15220-2745

ATTN: Amy Thomson

Total number of pages in report: 782

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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Accutest Laboratories Southeast, Inc.
Analytical Narrative

Client: Tetra Tech, NUS
Site: NAS Pensacola, CTO# 274
Report Date: January 15, 2003
Job Number: F16103

10 samples were collected on January 07, 2003 and received on January 08, 2003.
Samples were properly cooled, preserved and intact. A listing of the Laboratory Sample ID, Client Sample ID, and dates of collection are presented in the Results Summary section of this report.

All method specified holding times, calibrations and quality control performance criteria were met, with the following notes:

VOCs, SW 846 8260B

- Sample OLFS02406-DMW26 was not preserved to a pH less than 2. This sample was analyzed outside of the recommended 7 day holding time for unpreserved volatile samples. Reported results should be considered minimum values.
- The Blank Spike associated with analytical batch VB596 had one compound with a recovery above acceptance limits. This compound was non-detect in the associated samples. Data not adversely affected.
- The Blank Spikes associated with analytical batches VG678 and VG679 had one compound with a recovery above acceptance limits. This compound was non-detect in the associated samples. Data not adversely affected.
- The MS/MSDs associated with analytical batches VG678 and VG679 had various recoveries and/or RPDs above and/or below acceptance limits. The Blank Spike was within limits, except where noted above. Data not adversely affected.

Accutest Laboratories Southeast, Inc. certifies that this report meets the project requirements for analytical data produced for the samples as received at the Accutest Laboratories Southeast location as stated in the Analytical Task Order and the COC. In addition, Accutest Laboratories Southeast, Inc. certifies that data as reported meet the Data Quality Objectives for precision, accuracy and completeness as specified in the Accutest Laboratories Southeast, Inc. Quality Manual for other that conditions detailed above. ALSE routinely reports Organic target analytes down to 1/2 the Reporting Level. These positive results are flagged with a "J" qualifier. It is recommended by Accutest Laboratories Southeast, Inc. that this report is to be used in its entirety. Accutest Laboratories Southeast, Inc. is not responsible for any assumptions of data quality if partial data packages are used to interpret data. The Accutest Laboratories Southeast, Inc. Laboratory Director as verified by the signature on the front page has authorized release of this report.

Narrative prepared by:

Date: January 15, 2003

Sue O. Bell, Project Manager (signature on file)

0005

Sample Summary

Tetra-Tech, NUS

Job No: F16103

NAS Pensacola CTO# 274 N2642
Project No: N2642-WR#83(SS)

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F16103-1	01/07/03	09:45 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW30
F16103-2	01/07/03	10:10 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW29
F16103-3	01/07/03	10:45 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW33
F16103-4	01/07/03	13:00 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW28
F16103-5	01/07/03	13:30 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW26
F16103-6	01/07/03	14:00 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW27
F16103-7	01/07/03	14:25 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW25
F16103-8	01/07/03	15:55 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW24
F16103-9	01/07/03	15:50 GH	01/08/03	AQ	Ground Water	OLFS-2406-DMW23
F16103-10	01/07/03	00:00 GH	01/08/03	AQ	Trip Blank Water	TRIP BLANK-070703

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F16103
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

QC Batch ID: MP5076
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 01/10/03

Metal	RL	IDL	MB raw	final
Aluminum	200	6.6		
Antimony	5.0	1.5	anr	
Arsenic	10	2.8	anr	
Barium	200	.49	anr	
Beryllium	5.0	.26	anr	
Cadmium	5.0	.26	anr	
Calcium	1000	3.8	anr	
Chromium	10	.43	anr	
Cobalt	50	.5	anr	
Copper	25	.44	anr	
Iron	300	7.1	anr	
Lead	5.0	1.2	1.4	<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	.55	anr	
Sodium	5000	150	anr	
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47	anr	
Zinc	20	.59	anr	

Associated samples MP5076: F16103-1, F16103-2, F16103-3, F16103-4, F16103-5, F16103-6, F16103-7, F16103-8, F16103-9

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

C658

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16103
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC
QC Limits: result < RL

Date Analyzed: 01/13/03
Run ID: MA3132

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	.49	anr							
Beryllium	5.0	.26	anr							
Cadmium	5.0	.26	anr							
Calcium	1000	3.8	anr							
Chromium	10	.43	anr							
Cobalt	50	.5	anr							
Copper	25	.44	anr							
Iron	300	7.1	anr							
Lead	5.0	1.2	1.8	<5.0	1.5	<5.0	0.020	<5.0	0.68	<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	.55	anr							
Sodium	5000	150	anr							
Thallium	10	1.5								
Tin	50	2.2								
Vanadium	50	.47	anr							
Zinc	20	.59	anr							

(*) Outside of QC limits
(anr) Analyte not requested

0647

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16103
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC
QC Limits: result < RL

Date Analyzed: 01/13/03
Run ID: MA3132

Methods: SW846 6010B
Units: ug/l

Metal	RL	IDL	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	.49	anr					
Beryllium	5.0	.26	anr					
Cadmium	5.0	.26	anr					
Calcium	1000	3.8	anr					
Chromium	10	.43	anr					
Cobalt	50	.5	anr					
Copper	25	.44	anr					
Iron	300	7.1	anr					
Lead	5.0	1.2	1.3	<5.0	0.65	<5.0	0.13	<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	.55	anr					
Sodium	5000	150	anr					
Thallium	10	1.5						
Tin	50	2.2						
Vanadium	50	.47	anr					
Zinc	20	.59	anr					

(*) Outside of QC limits
(anr) Analyte not requested

0648

MP 5109

TCLP

Metals Digestion Log: Water

Method of Digestion: SW846-3010A/3005A/EPA 200.7 (CIRCLE ONE) Temp: 92 Thermometer ID 104

	HNO3	HCl	Spk. Sol.*	Amount Used*
Added:			1 Acc 290	1.0 mL
			2 Acc 288	.25 mL
			3 Met 825	.5 mL
Mfg:	Fisher	Fisher		
Lot#	1102100	4102020	Digestion Tube Lot#	C 2220

Sample #	Init. Vol/Wt	Fin. Vol/Wt	Date	Comments
MB 1/22/03	50 mL	50mL	1/22/03	
SB				
MS F16219-1				
MSD				
Dup				
1 QC				
2				
3				
4				
5				
6				
7				
8				
9		LE 1/22/03		
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Analyst [signature] Date 1/22/03

QC Review [signature] Date 1/22/03

Rev. 11/08/02 DJM * Used For SB, MS, MSD Page Number:

TCLP

Metals Digestion Log: Water

MP 5104

Method of Digestion: SW846-3010A/3005A/EPA 200.7 (CIRCLE ONE) Temp: 93 Thermometer ID 104

	HNO3	HCl	Spk. Sol.*	Amount Used*
Added:			1 Acc 280	1.0 mL
			2 Acc 258	.25 mL
			3 Mct 825	.5 mL
Mfg:	Fisher	Fisher		
Lot#	1102100	4102020	Digestion Tube Lot#	C 2220

Sample #	Init. Vol/Wt	Fin. Vol/Wt	Date	Comments
MB F 1/21/03	50 mL	50mL	1/21/03	
SB ↓	↓	↓	↓	
MS F16211-1				
MSD ↓				
Dup				
1 QC ↓				
2 F16247-1				
3 F16219-2				
4 ↓ -3				
5 ↓ -4	↓	↓	↓	
6 SB 2	↓	↓	↓	
7 MB 2	↓	↓	↓	
8				
9				
10				
11				
12				
13		1/21/03		
14				
15				
16				
17				
18				
19				
20				

Analyst Samuel Yates Date 1/21/03

QC Review [illegible] Date 1/21/03

Rev. 11/08/02 DJM / *Used For SB, MS, MSD Page Number:

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16103
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 01/13/03
Run ID: MA3132

Methods: SW846 6010B

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:19	MA3132-ICV1	1		
10:21	MA3132-ICB1	1		
10:24	MA3132-CRI1	1		
10:27	MA3132-CRI2	1		
10:28	MA3132-ICSA1	1		
10:31	MA3132-ICSAB1	1		
10:38	MA3132-CCV1	1		
10:44	MA3132-CCB1	1		
10:48	MP5079-MB1	1		
10:52	MP5079-B1	1		
10:59	ZZZZZZ	1		
11:03	F16117-1	1		(sample used for QC only; not part of login F16103)
11:06	MP5079-D1	1		
11:10	MP5079-SD1	5		
11:14	MP5079-S1	1		
11:18	MP5079-S2	1		
11:25	ZZZZZZ	1		
11:28	ZZZZZZ	1		
11:32	MA3132-CCV2	1		
11:39	MA3132-CCB2	1		
11:43	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:50	ZZZZZZ	1		
11:54	ZZZZZZ	1		
11:58	ZZZZZZ	1		
12:02	ZZZZZZ	1		
12:06	ZZZZZZ	1		
12:10	ZZZZZZ	1		
12:14	ZZZZZZ	1		
12:18	ZZZZZZ	1		
12:22	MA3132-CCV3	1		
12:28	MA3132-CCB3	1		
12:42	ZZZZZZ	1		

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16103
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC Date Analyzed: 01/13/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3132
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:45	MP5076-MB1	1		
12:49	MP5076-B1	1		
12:55	F16113-2	1		(sample used for QC only; not part of login F16103)
12:58	MP5076-D1	1		
13:02	MP5076-SD1	5		
13:05	MP5076-S1	1		
13:09	MP5076-S2	1		
13:15	ZZZZZZ	1		
13:19	ZZZZZZ	1		
13:22	MA3132-CCV4	1		
13:28	MA3132-CCB4	1		
13:32	ZZZZZZ	1		
13:35	ZZZZZZ	1		
13:39	ZZZZZZ	1		
13:42	ZZZZZZ	1		
13:46	ZZZZZZ	1		
13:49	ZZZZZZ	1		
13:53	F16103-1	1		
13:56	F16103-2	1		
14:00	F16103-3	1		
14:03	F16103-4	1		
14:07	MA3132-CCV5	1		
14:13	MA3132-CCB5	1		
14:16	F16103-5	1		
14:20	F16103-6	1		
14:23	F16103-7	1		
14:27	F16103-8	1		
14:30	F16103-9	1		
---------->	Last reportable sample/prep for job F16103			
14:34	MP5078-MB1	1		
14:37	MP5078-B1	1		
14:43	F16089-1	1		(sample used for QC only; not part of login F16103)
14:47	MP5078-D1	1		
14:50	MP5078-SD1	5		

0668

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16103
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC Date Analyzed: 01/13/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3132
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:54	MA3132-CCV6	1		
15:00	MA3132-CCB6	1		
----------> Last reportable CCB for job F16103				
15:03	MP5078-S1	1		
15:07	MP5078-S2	1		
15:13	ZZZZZZ	1		
15:18	MA3132-CRI3	1		
15:21	MA3132-CCV7	1		
15:27	MA3132-CCB7	1		

Refer to raw data for calibration curve and standards.

26421110

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**MR. G. WALKER**	**DATE:**	**FEBRUARY 25, 2003**
FROM:	**EDWARD SEDLMYER**	**COPIES:**	**DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION- VOA/PAH/TPH**
CTO 274, NAS PENSACOLA
SDG F16113

SAMPLES: 3/Aqueous

OLFS-2406-DMW36 OLFS-2406-DMW35 TRIP BLANK

OVERVIEW

The sample set for CTO 274, NAS Pensacola, SDG F16113 consists of two (2) aqueous environmental samples and one (1) trip blank. The samples were analyzed for volatile organic compounds (VOCs), polynuclear aromatic hydrocarbons (PAHs), and total petroleum hydrocarbon (TPH).

The samples were collected by TetraTech NUS on January 8, 2003 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, and FDEP FL-PRO (TPH) 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
* • Field Duplicate 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

Toluene was detected in the TRIP BLANK at a concentration of 2.1 ug/L. No action was taken on this basis because toluene was not detected in any associated samples.

PAHs

No qualification of the data was necessary.

TPH

No qualification of the data is necessary.

Additional Comments:

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

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard 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)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 2642

SDG: F16113 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW35
samp_date	1/8/2003
lab_id	F16113-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.0094	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

nsample	OLFS-2406-DMW35
samp_date	1/8/2003
lab_id	F16113-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	OLFS-2406-DMW36
samp_date	1/8/2003
lab_id	F16113-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.0097	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	0.5	U	
TOTAL XYLENES	1	U	

PROJ_NO: 2642

SDG: F16113 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW36
samp_date	1/8/2003
lab_id	F16113-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

nsample	TRIP BLANK
samp_date	1/8/2003
lab_id	F16113-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1,1,1-TRICHLOROETHANE	0.5	U	
1,1,2,2-TETRACHLOROETHANE	0.5	U	
1,1,2-TRICHLOROETHANE	0.5	U	
1,1-DICHLOROETHANE	0.5	U	
1,1-DICHLOROETHENE	0.5	U	
1,2-DIBROMOETHANE	0.0096	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	0.5	U	
ETHYLBENZENE	0.7	U	
METHYL TERT-BUTYL ETHER	0.5	U	
METHYLENE CHLORIDE	1	U	
TETRACHLOROETHENE	0.5	U	
TOLUENE	2.1		
TOTAL XYLENES	1	U	

nsample	TRIP BLANK
samp_date	1/8/2003
lab_id	F16113-3
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TRANS-1,2-DICHLOROETHENE	0.5	U	
TRANS-1,3-DICHLOROPROPENE	0.5	U	
TRICHLOROETHENE	0.5	U	
VINYL CHLORIDE	0.5	U	

PROJ_NO: 2642

SDG: F16113 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW35	nsample	OLFS-2406-DMW36
samp_date	1/8/2003	samp_date	1/8/2003
lab_id	F16113-2	lab_id	F16113-1
qc_type	NM	qc_type	NM
units	UG/L	units	UG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.51	U	
2-METHYLNAPHTHALENE	0.51	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.51	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.51	U	
PHENANTHRENE	1	U	
PYRENE	0.51	U	

Parameter	Result	Val Qual	Qual Code
1-METHYLNAPHTHALENE	0.5	U	
2-METHYLNAPHTHALENE	0.5	U	
ACENAPHTHENE	1	U	
ACENAPHTHYLENE	1	U	
ANTHRACENE	1	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	1	U	
DIBENZO(A,H)ANTHRACENE	0.1	U	
FLUORANTHENE	0.5	U	
FLUORENE	1	U	
INDENO(1,2,3-CD)PYRENE	0.1	U	
NAPHTHALENE	0.5	U	
PHENANTHRENE	1	U	
PYRENE	0.5	U	

PROJ_NO: 2642

SDG: F16113 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW35	nsample	OLFS-2406-DMW36
samp_date	1/8/2003	samp_date	1/8/2003
lab_id	F16113-2	lab_id	F16113-1
qc_type	NM	qc_type	NM
units	MG/L	units	MG/L
Pct_Solids	0	Pct_Solids	0
DUP_OF:		DUP_OF:	

Parameter	Result	Val Qual	Qual Code
TOTAL PETROLEUM HYDROCARBONS	0.17	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-DMW35		
Lab Sample ID:	F16113-2	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
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	C0014175.D	1	01/14/03	KW	n/a	n/a	VC622
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW35		
Lab Sample ID:	F16113-2	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
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)	ND	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	94%		78-125%
2037-26-5	Toluene-D8	95%		87-113%
460-00-4	4-Bromofluorobenzene	96%		84-117%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

QC 1

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW35		
Lab Sample ID:	F16113-2	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
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	AB24330.D	1	01/16/03	SKW	01/15/03	OP6747	GAB891
Run #2							

	Initial Volume	Final Volume
Run #1	37.2 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0094	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW36		
Lab Sample ID:	F16113-1	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
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	C0014174.D	1	01/14/03	KW	n/a	n/a	VC622
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW36		
Lab Sample ID:	F16113-1	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
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)	ND	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	91%		78-125%
2037-26-5	Toluene-D8	96%		87-113%
460-00-4	4-Bromofluorobenzene	96%		84-117%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW36		
Lab Sample ID:	F16113-1	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
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	AB24329.D	1	01/16/03	SKW	01/15/03	OP6747	GAB891
Run #2							

	Initial Volume	Final Volume
Run #1	36.2 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0097	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F16113-3	**Date Sampled:**	01/08/03
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/09/03
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	C0014166.D	1	01/14/03	KW	n/a	n/a	VC622
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	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	1.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.70	ug/l	
74-83-9	Methyl bromide	ND	1.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	1.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	2.1	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F16113-3	**Date Sampled:**	01/08/03
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/09/03
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)	ND	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	92%		78-125%
2037-26-5	Toluene-D8	96%		87-113%
460-00-4	4-Bromofluorobenzene	95%		84-117%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F16113-3	**Date Sampled:**	01/08/03
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/09/03
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	AB24331.D	1	01/16/03	SKW	01/15/03	OP6747	GAB891
Run #2							

	Initial Volume	Final Volume
Run #1	36.6 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.019	0.0096	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW35		
Lab Sample ID:	F16113-2	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
Method:	EPA 8310 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	AA013844.D	1	01/13/03	SM	01/10/03	OP6724	GAA657
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.51	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.51	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.51	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.51	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.51	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	78%		32-142%
92-94-4	p-Terphenyl	72%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW36		
Lab Sample ID:	F16113-1	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
Method:	EPA 8310 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	AA013842.D	1	01/13/03	SM	01/10/03	OP6724	GAA657
Run #2							

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

Polynuclear Aromatic Hydrocarbons

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	1.0	ug/l	
120-12-7	Anthracene	ND	2.0	1.0	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	2.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	0.10	ug/l	
206-44-0	Fluoranthene	ND	2.0	0.50	ug/l	
86-73-7	Fluorene	ND	2.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	0.10	ug/l	
91-20-3	Naphthalene	ND	2.0	0.50	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	0.50	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	0.50	ug/l	
85-01-8	Phenanthrene	ND	2.0	1.0	ug/l	
129-00-0	Pyrene	ND	2.0	0.50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		32-142%
92-94-4	p-Terphenyl	55%		30-128%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW35		
Lab Sample ID:	F16113-2	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
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	OP26530.D	1	01/11/03	SKW	01/10/03	OP6721	GOP913
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

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

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	102%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW36		
Lab Sample ID:	F16113-1	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
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	OP26529.D	1	01/11/03	SKW	01/10/03	OP6721	GOP913
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)	ND	0.25	0.17	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	95%		51-125%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

APPENDIX C

SUPPORT DOCUMENTATION

F16113

HOLDING TIME
02/10/03

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
%	OLFS-2406-DMW35	OP6747-MSD	MSD	F16113	EDB	01/08/03	01/15/03	01/16/03	7	1	8
UG/L	OLFS-2406-DMW36	F16113-1	NORMAL	F16113	EDB	01/08/03	01/15/03	01/16/03	7	1	8
%	OP6747-BS	OP6747-BS	BSP	F16113	EDB	01/15/03	01/15/03	01/16/03	0	1	1
%	OP6747-BS2	OP6747-BS2	BSP	F16113	EDB	01/15/03	01/15/03	01/16/03	0	1	1
UG/L	TRIP BLANK	F16113-3	NORMAL	F16113	EDB	01/08/03	01/15/03	01/16/03	7	1	8
UG/L	VBLK1	OP6747-MB	M_BLANK	F16113	EDB	01/14/03	01/15/03	01/16/03	1	1	2
%	MP5076-B1	MP5076-B1	BSP	F16113	M	01/10/03	01/10/03	01/13/03	0	3	3
%	OLFS-2406-DMW35	MP5076-D1	NORMAL	F16113	M	01/08/03	01/10/03	01/13/03	2	3	5
UG/L	OLFS-2406-DMW36	F16113-1	NORMAL	F16113	M	01/08/03	01/10/03	01/13/03	2	3	5
UG/L	PBW1	MP5076-MB1	M_BLANK	F16113	M	01/10/03	01/10/03	01/13/03	0	3	3
%	F16141-1MS	F16141-1MS	MS	F16113	OV	01/14/03	/ /	01/14/03	0	0	0
%	F16141-1MSD	F16141-1MSD	MSD	F16113	OV	01/14/03	/ /	01/14/03	0	0	0
%	OLFS-2406-DMW35	F16113-2	NORMAL	F16113	OV	01/08/03	/ /	01/14/03	0	0	6
%	OLFS-2406-DMW36	F16113-1	NORMAL	F16113	OV	01/08/03	/ /	01/14/03	0	0	6
%	TRIP BLANK	F16113-3	NORMAL	F16113	OV	01/08/03	/ /	01/14/03	0	0	6
UG/L	VBLK1	VC622-MB	M_BLANK	F16113	OV	01/15/03	/ /	01/14/03	0	0	-1
%	VC622-BS	VC622-BS	BSP	F16113	OV	01/14/03	/ /	01/14/03	0	0	0
%	OLFS-2406-DMW35	OP6724-MSD	MSD	F16113	PAH	01/08/03	01/10/03	01/13/03	2	3	5
%	OLFS-2406-DMW36	F16113-1	NORMAL	F16113	PAH	01/08/03	01/10/03	01/13/03	2	3	5
%	OP6724-BS	OP6724-BS	BSP	F16113	PAH	01/10/03	01/10/03	01/13/03	0	3	3
UG/L	PBL2	OP6724-MB	M_BLANK	F16113	PAH	01/10/03	01/10/03	01/13/03	0	3	3
UG/L	PBLK1	OP6724-MB	M_BLANK	F16113	PAH	01/10/03	01/10/03	01/14/03	0	4	4
%	OLFS-2406-DMW35	OP6721-MSD	NORMAL	F16113	TPH	01/08/03	01/10/03	01/11/03	2	1	3
%	(2406-DMW36	F16113-1	NORMAL	F16113		01/08/03	01/10/03	01/11/03	2	1	3

Units	mple	Lab Id	Qc Type	Sdg	t	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
%	OP6721-BS	OP6721-BS	BSP	F16113	TPH	01/10/03	01/10/03	01/10/03	0	0	0
MG/L	PBL2	OP6721-MB	M_BLANK	F16113	TPH	01/10/03	01/10/03	01/13/03	0	3	3
MG/L	PBLK1	OP6721-MB	M_BLANK	F16113	TPH	01/10/03	01/10/03	01/10/03	0	0	0

Southeast ACCUTEST Laboratories

01/29/03

Technical Report for

Tetra-Tech, NUS

NAS Pensacola CTO# 274 N2642

N2642-WR#83 (ss)

Accutest Job Number: F16113

Report to:

Tetra Tech, NUS
Foster Plaza 7
661 Andersen Drive
Pittsburgh, PA 15220-2745

ATTN: Amy Thomson

Total number of pages in report: 479

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),

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Accutest Laboratories Southeast, Inc.
Analytical Narrative

Client: Tetra Tech, NUS
Site: NAS Pensacola, CTO 274
Report Date: January 29, 2003
Job Number: F16113

3 samples were collected on January 08, 2003 and received on January 09, 2003.
Samples were properly cooled, preserved and intact. A listing of the Laboratory Sample ID, Client Sample ID, and dates of collection are presented in the Results Summary section of this report.

All method specified holding times, calibrations and quality control performance criteria were met, with the following notes:

VOCs, SW 846 8260B:

- The Blank Spike associated with analytical batch VC622 had one compound with a recovery above acceptance limits. This compound was non-detect in all associated samples. Data not adversely affected.
- The MS/MSD associated with analytical batch VC622 had various recoveries below and/or above acceptance limits. The Blank Spike was within limits, except where noted above. Data not adversely affected.

Accutest Laboratories Southeast, Inc. certifies that this report meets the project requirements for analytical data produced for the samples as received at the Accutest Laboratories Southeast location as stated in the Analytical Task Order and the COC. In addition, Accutest Laboratories Southeast, Inc. certifies that data as reported meet the Data Quality Objectives for precision, accuracy and completeness as specified in the Accutest Laboratories Southeast, Inc. Quality Manual for other that conditions detailed above. ALSE routinely reports Organic target analytes down to 1/2 the Reporting Level. These positive results are flagged with a "J" qualifier. It is recommended by Accutest Laboratories Southeast, Inc. that this report is to be used in its entirety. Accutest Laboratories Southeast, Inc. is not responsible for any assumptions of data quality if partial data packages are used to interpret data. The Accutest Laboratories Southeast, Inc. Laboratory Director as verified by the signature on the front page has authorized release of this report.

Narrative prepared by:

Date: January 29, 2003

Sue O. Bell, Project Manager (signature on file)

0005

ACCUTEST LABORATORIES SOUTHEAST
SAMPLE RECEIPT CONFIRMATION

Accutest's Job Number: F16113

Client/Project: Tetra Tech NUS, Inc. / N2642

Date/Time Received: 1/9/03 9:10 am **Total Number of Coolers** 1

Method of Delivery: (FedEx) Greyhound UPS Pickup Delivery Other

Air Bill Number: TRK# 7906 6749 4318

Cooler Temperatures: 2.0

Custody Seals Intact ?	(YES)	NO	
Trip Blank Provided ?	(YES)	NO	
Trip Blank on COC ?	(YES)	NO	
Trip Blank Intact ?	(YES)	NO	N/A
Chain Of Custody Provided?	(YES)	NO	
Chain Of Custody Match Bottles?	(YES)	NO	
Sample Labels Present?	(YES)	NO	
Are All Bottles Unbroken?	(YES)	NO	
Are All Appropriate Samples Preserved?	(YES)	NO	
Correct Containers Used?	(YES)	NO	
Sufficient Sample Volume?	(YES)	NO	

Number of Encores: Ø

COMMENTS:

- Received sample #1 w/one bottle of EDB cap off and sample had leaked out / missing 1 set of EDB vials for Sample #2/MS/MSD

Signature: [signature] **Date:** 1/9/03

0007

Revised 04/24/02 ASBD

F16113

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 4252 | PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
N2642	OLF Sanford	Gerry Walker	850-385-9899	Accutest Sue Beid
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
William Howard Eng		Howard Engle	850-385-9899	4405 Vineland Rd
		CARRIER/WAYBILL NUMBER		CITY, STATE
		Fed Ex		Orlando, FL 32811

STANDARD TAT ☒
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

	DATE YEAR 2003	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	PPL VOHS, BTEXM, and 1,2-DCA	PAHs	EDB	Total Lead	TRPH			COMMENTS
CONTAINER TYPE PLASTIC (P) or GLASS (G)										G	G	G	P	G			
PRESERVATIVE USED										HCL	NA	NA	HNO3	HCL			
TYPE OF ANALYSIS										8260B	8310	504.1	6010B	FDEP-FLPRO			
1	01/8	1015	OLFS-2406-DMW36	DMW36			GW	G	11	3	2	3	1	2			
2	01/8	1100	OLFS-2406-DMW35	DMW35			↓	↓	↓	↓	↓	↓	↓	↓			See WR N2642-WR836
2	01/8	1100	OLFS-2406-DMW35MS/MSD	DMW35			↓	↓	↓	↓	↓	↓	↓	↓			for Cmpd Lists and RL's
3			Trip Blank						2	↓		↓					

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY William Howard Eng	01/08/03	1500	1. RECEIVED BY 2d ex		
2. RELINQUISHED BY 2d ex	1/9/03	9:10	2. RECEIVED BY Wendell Edwards	1/9/03	9:10
3. RELINQUISHED BY			3. RECEIVED BY		

COMMENTS

Accutest Laboratories

Sample Summary

Tetra-Tech, NUS

Job No: F16113

NAS Pensacola CTO# 274 N2642
Project No: N2642-WR#83 (ss)

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F16113-1	01/08/03	10:15 WH	01/09/03	AQ	Ground Water	OLFS-2406-DMW36
F16113-2	01/08/03	11:00 WH	01/09/03	AQ	Ground Water	OLFS-2406-DMW35
F16113-3	01/08/03	00:00 WH	01/09/03	AQ	Trip Blank Water	TRIP BLANK

Volatile Surrogate Recovery Summary

Job Number: F16113
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
F16113-1	C0014174.D	101.0	91.0	96.0	96.0
F16113-2	C0014175.D	101.0	94.0	95.0	96.0
F16113-3	C0014166.D	101.0	92.0	96.0	95.0
F16141-1MS	C0014168.D	101.0	89.0	93.0	91.0
F16141-1MSD	C0014169.D	100.0	89.0	94.0	90.0
VC622-BS	C0014163.D	102.0	92.0	94.0	93.0
VC622-MB	C0014164.D	102.0	92.0	94.0	97.0

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	86-115%
S2 = 1,2-Dichloroethane-D4	78-125%
S3 = Toluene-D8	87-113%
S4 = 4-Bromofluorobenzene	84-117%

Method Blank Summary

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC622-MB	C0014164.D	1	01/14/03	KW	n/a	n/a	VC622

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16113-1, F16113-2, F16113-3

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	ug/l	
75-25-2	Bromoform	ND	2.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	ug/l	
75-00-3	Chloroethane	ND	2.0	ug/l	
67-66-3	Chloroform	ND	2.0	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	ug/l	
75-35-4	1,1-Dichloroethylene	ND	2.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	ug/l	
541-73-1	m-Dichlorobenzene	ND	2.0	ug/l	
95-50-1	o-Dichlorobenzene	ND	2.0	ug/l	
106-46-7	p-Dichlorobenzene	ND	2.0	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	2.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
74-83-9	Methyl bromide	ND	2.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	ug/l	
127-18-4	Tetrachloroethylene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
79-01-6	Trichloroethylene	ND	2.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	

Method Blank Summary

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC622-MB	C0014164.D	1	01/14/03	KW	n/a	n/a	VC622

The QC reported here applies to the following samples: **Method:** SW846 8260B

F16113-1, F16113-2, F16113-3

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	86-115%
17060-07-0	1,2-Dichloroethane-D4	92%	78-125%
2037-26-5	Toluene-D8	94%	87-113%
460-00-4	4-Bromofluorobenzene	97%	84-117%

Instrument Performance Check (BFB)

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample:	VC622-BFB	**Injection Date:**	01/14/03
Lab File ID:	C0014161.D	**Injection Time:**	09:19
Instrument ID:	GCMSC		

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	13782	35.2	Pass
75	30.0 - 60.0% of mass 95	16675	42.6	Pass
95	Base peak, 100% relative abundance	39112	100.0	Pass
96	5.0 - 9.0% of mass 95	2513	6.4	Pass
173	Less than 2.0% of mass 174	78	0.2 (0.2) [a]	Pass
174	50.0 - 100.0% of mass 95	38192	97.6	Pass
175	5.0 - 9.0% of mass 174	2571	6.6 (6.7) [a]	Pass
176	95.0 - 101.0% of mass 174	36642	93.7 (95.9) [a]	Pass
177	5.0 - 9.0% of mass 176	2333	6.0 (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
VC622-CC617	C0014162.D	01/14/03	09:45	00:26	Continuing cal 40
VC622-BS	C0014163.D	01/14/03	10:12	00:53	Blank Spike
VC622-MB	C0014164.D	01/14/03	10:39	01:20	Method Blank
ZZZZZZ	C0014165.D	01/14/03	11:06	01:47	(unrelated sample)
F16113-3	C0014166.D	01/14/03	11:33	02:14	TRIP BLANK
F16141-1	C0014167.D	01/14/03	11:59	02:40	(used for QC only; not part of job F16113)
F16141-1MS	C0014168.D	01/14/03	12:26	03:07	Matrix Spike
F16141-1MSD	C0014169.D	01/14/03	12:53	03:34	Matrix Spike Duplicate
ZZZZZZ	C0014170.D	01/14/03	13:20	04:01	(unrelated sample)
ZZZZZZ	C0014171.D	01/14/03	13:47	04:28	(unrelated sample)
ZZZZZZ	C0014172.D	01/14/03	14:14	04:55	(unrelated sample)
ZZZZZZ	C0014173.D	01/14/03	14:41	05:22	(unrelated sample)
F16113-1	C0014174.D	01/14/03	15:08	05:49	OLFS-2406-DMW36
F16113-2	C0014175.D	01/14/03	15:35	06:16	OLFS-2406-DMW35
ZZZZZZ	C0014176.D	01/14/03	16:02	06:43	(unrelated sample)
ZZZZZZ	C0014177.D	01/14/03	16:29	07:10	(unrelated sample)
ZZZZZZ	C0014178.D	01/14/03	16:56	07:37	(unrelated sample)
ZZZZZZ	C0014179.D	01/14/03	17:22	08:03	(unrelated sample)
ZZZZZZ	C0014180.D	01/14/03	17:49	08:30	(unrelated sample)
ZZZZZZ	C0014181.D	01/14/03	18:16	08:57	(unrelated sample)
ZZZZZZ	C0014182.D	01/14/03	18:42	09:23	(unrelated sample)
ZZZZZZ	C0014183.D	01/14/03	19:09	09:50	(unrelated sample)
ZZZZZZ	C0014184.D	01/14/03	19:36	10:17	(unrelated sample)
ZZZZZZ	C0014185.D	01/14/03	20:02	10:43	(unrelated sample)

Instrument Performance Check (BFB)

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample: VC617-BFB
Lab File ID: C0014063.D
Instrument ID: GCMSC
Injection Date: 01/03/03
Injection Time: 13:18

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance	Pass/Fail
50	15.0 - 40.0% of mass 95	16317	37.5	Pass
75	30.0 - 60.0% of mass 95	19976	45.9	Pass
95	Base peak, 100% relative abundance	43528	100.0	Pass
96	5.0 - 9.0% of mass 95	3350	7.7	Pass
173	Less than 2.0% of mass 174	152	0.35 (0.37) [a]	Pass
174	50.0 - 100.0% of mass 95	41416	95.1	Pass
175	5.0 - 9.0% of mass 174	3273	7.5 (7.9) [a]	Pass
176	95.0 - 101.0% of mass 174	40938	94.0 (98.8) [a]	Pass
177	5.0 - 9.0% of mass 176	2616	6.0 (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
VC617-IC617	C0014064.D	01/03/03	13:44	00:26	Initial cal 1
VC617-IC617	C0014065.D	01/03/03	14:10	00:52	Initial cal 5
VC617-IC617	C0014066.D	01/03/03	14:37	01:19	Initial cal 20
VC617-ICC617	C0014067.D	01/03/03	15:03	01:45	Initial cal 40
VC617-IC617	C0014068.D	01/03/03	15:30	02:12	Initial cal 70
VC617-IC617	C0014069.D	01/03/03	15:56	02:38	Initial cal 100

Response Factor Report MSVOA5

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 03 16:30:41 2003
Response via : Initial Calibration

KW
1/7/03

Calibration Files
1 =C0014064.D 2 =C0014065.D 3 =C0014066.D
4 =C0014067.D 5 =C0014068.D 6 =C0014069.D

		Compound	1	2	3	4	5	6	Avg	%RS
1)	I	Fluorobenzene	----------	----------	----------	ISTD	----------	----------	----------	
2)		Dichlorodifluoromet	0.248	0.287	0.265	0.265	0.252	0.258	0.263	5.19
3)	P	Chloromethane	0.766	0.750	0.645	0.647	0.628	0.640	0.680	9.07
4)	C	Vinyl Chloride	0.452	0.487	0.435	0.434	0.413	0.418	0.440	6.13
5)		Bromomethane		0.191	0.173	0.173	0.167	0.159	0.172	6.69
6)		Chloroethane	0.211	0.226	0.202	0.202	0.201	0.199	0.207	5.03
7)		Trichlorofluorometh	0.314	0.327	0.299	0.314	0.310	0.321	0.314	3.14
8)		Ethyl ether	0.233	0.286	0.281	0.288	0.288	0.291	0.278	7.96
9)	C	1,1-Dichloroethene	0.435	0.416	0.456	0.485	0.485	0.502	0.463	7.25
10)		Freon 113	0.248	0.190	0.206	0.220	0.218	0.227	0.218	9.05
11)		Acetone		0.138	0.109	0.109	0.108	0.109	0.115	11.30
12)		Iodomethane	0.337	0.356	0.374	0.384	0.394	0.403	0.375	6.60
13)		Methyl Acetate	0.264	0.295	0.284	0.288	0.297	0.300	0.288	4.60
14)		Carbon Disulfide	0.752	0.634	0.660	0.706	0.703	0.725	0.697	6.21
15)		Hexane		0.389	0.412	0.452	0.451	0.469	0.434	~ 59
16)		Methylene Chloride		0.631	0.623	0.628	0.627	0.636	0.629	79
17)		trans-1,2-Dichloroe	0.450	0.446	0.457	0.476	0.487	0.496	0.469	4.35
18)		Acrylonitrile	0.116	0.106	0.120	0.126	0.130	0.132	0.121	7.99
19)		Methyl Tert Butyl E		0.564	0.563	0.582	0.594	0.606	0.582	3.21
20)	P	1,1-Dichloroethane	0.538	0.530	0.544	0.561	0.570	0.579	0.554	3.50
21)		Vinyl acetate		1.231	1.234	1.316	1.345	1.327	1.291	4.21
22)		Di-isopropyl ether	1.386	1.638	1.649	1.679	1.700	1.699	1.625	7.39
23)		ETBE		1.025	1.092	1.130	1.167	1.184	1.120	5.68
24)		2,2-Dichloropropane	0.165	0.172	0.193	0.199	0.195	0.196	0.187	7.61
25)		cis-1,2-Dichloroeth	0.214	0.219	0.227	0.227	0.233	0.237	0.226	3.74
26)		2-Butanone	0.159	0.178	0.175	0.182	0.186	0.187	0.178	5.66
27)		Bromochloromethane	0.109	0.119	0.117	0.122	0.125	0.126	0.120	5.11
28)	C	Chloroform	0.320	0.355	0.344	0.356	0.358	0.365	0.350	4.57
29)		Tetrahydrofuran		0.121	0.114	0.118	0.123	0.122	0.119	3.02
30)		1,1,1-Trichloroetha	0.233	0.257	0.276	0.287	0.294	0.299	0.274	9.14
31)		Cyclohexane	0.652	0.543	0.605	0.657	0.671	0.691	0.636	8.44
32)	S	Dibromofluoromethan	0.256	0.258	0.255	0.252	0.257	0.255	0.255	0.80
33)		1,1-Dichloropropene	0.261	0.237	0.253	0.268	0.272	0.276	0.261	5.58
34)		Carbon Tetrachlorid	0.248	0.243	0.272	0.290	0.300	0.310	0.277	9.89
35)	S	1,2-Dichloroethane-	0.341	0.345	0.344	0.331	0.332	0.325	0.336	2.34
36)		Benzene	0.834	0.837	0.833	0.857	0.875	0.881	0.853	2.51
37)		TAME	0.492	0.587	0.594	0.617	0.636	0.647	0.596	9.33
38)		1,2-Dichloroethane	0.548	0.449	0.432	0.437	0.440	0.444	0.459	9.68
39)		Trichloroethene	0.212	0.195	0.202	0.211	0.216	0.221	0.209	4.51
40)		Methylcyclohexane		0.245	0.274	0.300	0.307	0.319	0.289	32
41)	C	1,2-Dichloropropane	0.289	0.328	0.327	0.338	0.346	0.348	0.330	52
42)		Dibromomethane	0.114	0.129	0.131	0.135	0.137	0.138	0.131	6.88

(#) = Out of Range

Response Factor Report MSVOA5

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 03 16:30:41 2003
Response via : Initial Calibration

Calibration Files
1 =C0014064.D 2 =C0014065.D 3 =C0014066.D
4 =C0014067.D 5 =C0014068.D 6 =C0014069.D

		Compound	1	2	3	4	5	6	Avg	%RS
43)		Bromodichloromethan	0.230	0.265	0.267	0.272	0.279	0.285	0.266	7.30
44)		2-Nitropropane	0.100	0.108	0.110	0.116	0.118	0.118	0.112	6.25
45)		2-Chloroethyl vinyl		0.192	0.204	0.211	0.218	0.215	0.208	5.16
46)		4-Methyl-2-pentanon	0.356	0.414	0.419	0.426	0.438	0.439	0.415	7.35
47)		cis-1,3-Dichloropro	0.303	0.341	0.348	0.360	0.368	0.375	0.349	7.41
48)	I	Chlorobenzene-d5	----------	----------	----------	ISTD	----------	----------	----------	
49)	S	Toluene-d8	1.192	1.190	1.185	1.165	1.173	1.163	1.178	1.08
50)	C	Toluene	1.169	1.086	1.111	1.150	1.173	1.192	1.147	3.52
51)		trans-1,3-Dichlorop	0.319	0.369	0.378	0.404	0.410	0.416	0.383	9.49
52)		1,1,2-Trichloroetha	0.194	0.195	0.192	0.195	0.196	0.199	0.195	1.18
53)		Tetrachloroethene	0.303	0.267	0.282	0.295	0.302	0.317	0.294	5.95
54)		2-hexanone	0.316	0.335	0.349	0.362	0.370	0.370	0.350	6.14
55)		1,3-Dichloropropane	0.394	0.429	0.415	0.422	0.422	0.424	0.418	2.98
56)		Dibromochloromethan	0.231	0.253	0.270	0.283	0.291	0.302	0.272	9.62
57)		1,2-Dibromoethane	0.223	0.236	0.244	0.249	0.255	0.261	0.245	5.55
58)		1-Chlorohexane	0.346	0.268	0.319	0.348	0.361	0.374	0.336	11.33
59)	P	Chlorobenzene	0.781	0.753	0.755	0.776	0.792	0.814	0.778	2.96
60)		1,1,1,2-Tetrachloro	0.252	0.280	0.289	0.303	0.310	0.316	0.292	8.07
61)	C	Ethylbenzene	1.249	1.165	1.226	1.291	1.324	1.356	1.268	5.48
62)		m,p-Xylene	0.952	0.909	0.961	1.008	1.041	1.055	0.988	5.74
63)		o-Xylene	0.934	0.942	1.006	1.053	1.088	1.100	1.021	7.05
64)		Styrene		0.747	0.819	0.882	0.915	0.935	0.860	8.94
65)	P	Bromoform		0.183	0.197	0.207	0.221	0.230	0.207	8.85
66)	I	1,4-Dichlorobenzene-d	----------	----------	----------	ISTD	----------	----------	----------	
67)		Isopropylbenzene	1.910	1.765	1.978	2.066	2.167	2.209	2.016	8.26
68)	S	4-Bromofluorobenzen	0.873	0.853	0.843	0.832	0.832	0.836	0.845	1.89
69)		Bromobenzene	0.678	0.665	0.674	0.674	0.707	0.708	0.684	2.69
70)	P	1,1,2,2-Tetrachloro	0.572	0.551	0.533	0.525	0.536	0.531	0.541	3.25
71)		trans-1,4-Dichloro-	0.197	0.173	0.222	0.256	0.276	0.289	0.236	19.36
		----- Linear regression ----- Coefficient = 0.9974								
		Response Ratio= -0.01627 + 0.29159 *Amt.ratio								
72)		1,2,3-Trichloroprop	0.147	0.152	0.156	0.153	0.157	0.156	0.154	2.38
73)		n-Propylbenzene	2.789	2.355	2.522	2.633	2.730	2.790	2.636	6.52
74)		2-Chlorotoluene	1.989	1.715	1.772	1.810	1.910	1.913	1.851	5.54
75)		4-Chlorotoluene	1.662	1.584	1.622	1.651	1.719	1.755	1.665	3.77
76)		1,3,5-Trimethylbenz	1.808	1.639	1.746	1.827	1.935	1.940	1.816	6.32
77)		Benzyl chloride		0.877	0.981	1.011	1.058	1.060	0.998	7.54
78)		sec-Butylbenzene	2.326	1.738	1.987	2.063	2.153	2.205	2.079	9.80
79)		1,3-Dichlorobenzene	1.364	1.161	1.165	1.191	1.236	1.265	1.230	6.28
80)		4-Isopropyltoluene	1.889	1.482	1.677	1.787	1.847	1.895	1.763	9.05

(#) = Out of Range

Response Factor Report MSVOA5

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Fri Jan 03 16:30:41 2003
Response via : Initial Calibration

Calibration Files
1 =C0014064.D 2 =C0014065.D 3 =C0014066.D
4 =C0014067.D 5 =C0014068.D 6 =C0014069.D

	Compound	1	2	3	4	5	6	Avg	%RS
81)	1,4-Dichlorobenzene	1.439	1.249	1.221	1.251	1.286	1.318	1.294	6.07
82)	tert-Butylbenzene	1.046	0.861	0.940	0.986	1.024	1.036	0.982	7.21
83)	n-Butylbenzene		1.348	1.502	1.589	1.622	1.667	1.546	8.15
84)	1,2-Dichlorobenzene	1.285	1.113	1.145	1.153	1.198	1.216	1.185	5.20
85)	1,2,4-Trimethylbenz	1.938	1.746	1.851	1.919	1.998	2.025	1.913	5.33
86)	1,2-Dibromo-3-Chlor		0.083	0.078	0.082	0.083	0.087	0.083	3.82
87)	1,2,4-Trichlorobenz		0.646	0.672	0.700	0.720	0.745	0.697	5.60
88)	Hexachlorobutadiene		0.259	0.245	0.268	0.265	0.275	0.262	4.26
89)	Naphthalene		1.344	1.381	1.450	1.520	1.570	1.453	6.46
90)	1,2,3-Trichlorobenz		0.585	0.606	0.617	0.645	0.661	0.623	4.86
91) I	Tert Butyl alcohol-d1	----------	----------	----------	ISTD	----------	----------	----------	
92)	Acrolein	3.271	2.721	2.811	3.095	2.938	3.122	2.993	6.91
93)	Tert-Butyl Alcohol	1.890	2.133	2.042	2.161	2.156	2.202	2.097	5.46
94)	1,4-Dioxane	0.171	0.149	0.140	0.158	0.148	0.149	0.153	7.03
95)	Cyclohexanone		0.831	0.778	0.850	0.878	0.869	0.841	4.72

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\011403\C0014162.D Vial: 1
Acq On : 14 Jan 2003 9:45 am Operator: KarenW
Sample : CC617-40 Inst : MSVOA5
Misc : ms2025,vc622,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Jan 07 13:05:57 2003
Response via : Multiple Level Calibration

KW 1/15/03

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)
1	I	Fluorobenzene	1.000	1.000	0.0	80	0.00
2		Dichlorodifluoromethane	0.263	0.256	2.7	77	0.01
3	P	Chloromethane	0.680	0.628	7.6	78	0.00
4	C	Vinyl Chloride	0.440	0.406	7.7	75	0.02
5		Bromomethane	0.172	0.211	-22.7#	98	0.00
6		Chloroethane	0.207	0.204	1.4	81	0.00
7		Trichlorofluoromethane	0.314	0.420	-33.8#	107	0.00
8		Ethyl ether	0.278	0.267	4.0	74	0.00
9	C	1,1-Dichloroethene	0.463	0.440	5.0	72	0.00
10		Freon 113	0.218	0.225	-3.2	82	-0.01
11		Acetone	0.115	0.114	0.9	84	-0.01
12		Iodomethane	0.375	0.380	-1.3	79	0.00
13		Methyl Acetate	0.288	0.310	-7.6	86	0.00
14		Carbon Disulfide	0.697	0.731	-4.9	83	0.00
15		Hexane	0.434	0.424	2.3	75	0.00
16		Methylene Chloride	0.629	0.627	0.3	80	0.00
17		trans-1,2-Dichloroethene	0.469	0.443	5.5	74	0.00
18		Acrylonitrile	0.121	0.147	-21.5#	94	0.00
19		Methyl Tert Butyl Ether	0.582	0.596	-2.4	82	0.00
20	P	1,1-Dichloroethane	0.554	0.540	2.5	77	0.00
21		Vinyl acetate	1.291	1.322	-2.4	80	0.00
22		Di-isopropyl ether	1.625	1.650	-1.5	78	0.00
23		ETBE	1.120	1.054	5.9	74	0.00
24		2,2-Dichloropropane	0.187	0.182	2.7	73	0.00
25		cis-1,2-Dichloroethene	0.226	0.246	-8.8	87	0.00
26		2-Butanone	0.178	0.195	-9.6	86	0.00
27		Bromochloromethane	0.120	0.132	-10.0	86	0.00
28	C	Chloroform	0.350	0.360	-2.9	81	0.00
29		Tetrahydrofuran	0.119	0.122	-2.5	83	0.00
30		1,1,1-Trichloroethane	0.274	0.266	2.9	74	0.00
31		Cyclohexane	0.636	0.599	5.8	73	0.00
32	S	Dibromofluoromethane	0.255	0.256	-0.4	81	0.00
33		1,1-Dichloropropene	0.261	0.261	0.0	78	0.00
34		Carbon Tetrachloride	0.277	0.284	-2.5	78	0.00
35	S	1,2-Dichloroethane-d4	0.336	0.290	13.7	70	0.00
36		Benzene	0.853	0.904	-6.0	84	0.00
37		TAME	0.596	0.637	-6.9	82	0.00
38		1,2-Dichloroethane	0.459	0.391	14.8	71	0.00
39		Trichloroethene	0.209	0.220	-5.3	83	0.00

0112

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\011403\C0014162.D Vial: 1
Acq On : 14 Jan 2003 9:45 am Operator: KarenW
Sample : CC617-40 Inst : MSVOA5
Misc : ms2025,vc622,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Jan 07 13:05:57 2003
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)
40		Methylcyclohexane	0.289	0.307	-6.2	82	0.00
41	C	1,2-Dichloropropane	0.330	0.336	-1.8	79	0.00
42		Dibromomethane	0.131	0.148	-13.0	87	0.00
43		Bromodichloromethane	0.266	0.280	-5.3	82	0.00
44		2-Nitropropane	0.112	0.120	-7.1	83	0.00
45		2-Chloroethyl vinyl ether	0.208	0.204	1.9	77	0.00
46		4-Methyl-2-pentanone	0.415	0.469	-13.0	88	0.00
47		cis-1,3-Dichloropropene	0.349	0.377	-8.0	84	0.00
48	I	Chlorobenzene-d5	1.000	1.000	0.0	91	0.00
49	S	Toluene-d8	1.178	1.084	8.0	85	0.00
50	C	Toluene	1.147	1.088	5.1	86	0.00
51		trans-1,3-Dichloropropene	0.383	0.373	2.6	84	0.00
52		1,1,2-Trichloroethane	0.195	0.201	-3.1	94	0.00
53		Tetrachloroethene	0.294	0.287	2.4	88	0.00
54		2-hexanone	0.350	0.360	-2.9	90	0.00
55		1,3-Dichloropropane	0.418	0.414	1.0	89	0.00
56		Dibromochloromethane	0.272	0.276	-1.5	89	0.00
57		1,2-Dibromoethane	0.245	0.255	-4.1	93	0.00
58		1-Chlorohexane	0.336	0.327	2.7	85	0.00
59	P	Chlorobenzene	0.778	0.765	1.7	89	0.00
60		1,1,1,2-Tetrachloroethane	0.292	0.295	-1.0	88	0.00
61	C	Ethylbenzene	1.268	1.225	3.4	86	0.00
62		m,p-Xylene	0.988	0.951	3.7	86	0.00
63		o-Xylene	1.021	1.017	0.4	88	0.00
64		Styrene	0.860	0.840	2.3	87	0.00
65	P	Bromoform	0.207	0.216	-4.3	95	0.00
66	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00
67		Isopropylbenzene	2.016	1.851	8.2	88	0.00
68	S	4-Bromofluorobenzene	0.845	0.756	10.5	90	0.00
69		Bromobenzene	0.684	0.655	4.2	96	0.00
70	P	1,1,2,2-Tetrachloroethane	0.541	0.546	-0.9	103	0.00
71		trans-1,4-Dichloro-2-butene	0.236	0.200	15.3	77	0.00
72		1,2,3-Trichloropropane	0.154	0.151	1.9	97	0.00
73		n-Propylbenzene	2.636	2.408	8.6	90	0.00
74		2-Chlorotoluene	1.851	1.661	10.3	90	0.00
75		4-Chlorotoluene	1.665	1.526	8.3	91	0.00
76		1,3,5-Trimethylbenzene	1.816	1.681	7.4	91	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\2\DATA\011403\C0014162.D Vial: 1
Acq On : 14 Jan 2003 9:45 am Operator: KarenW
Sample : CC617-40 Inst : MSVOA5
Misc : ms2025,vc622,,,,, Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\2\METHODS\826045.M (RTE Integrator)
Title : EPA 624 & SWA 5030B/8260B
Last Update : Tue Jan 07 13:05:57 2003
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)
77		Benzyl chloride	0.998	1.109	-11.1	108	0.00
78		sec-Butylbenzene	2.079	1.920	7.6	92	0.00
79		1,3-Dichlorobenzene	1.230	1.179	4.1	98	0.00
80		4-Isopropyltoluene	1.763	1.670	5.3	92	0.00
81		1,4-Dichlorobenzene	1.294	1.242	4.0	98	0.00
82		tert-Butylbenzene	0.982	0.890	9.4	89	0.00
83		n-Butylbenzene	1.546	1.513	2.1	94	0.00
84		1,2-Dichlorobenzene	1.185	1.166	1.6	100	0.00
85		1,2,4-Trimethylbenzene	1.913	1.789	6.5	92	0.00
86		1,2-Dibromo-3-Chloropropane	0.083	0.080	3.6	96	0.00
87		1,2,4-Trichlorobenzene	0.697	0.691	0.9	97	0.00
88		Hexachlorobutadiene	0.262	0.265	-1.1	98	0.00
89		Naphthalene	1.453	1.571	-8.1	107	0.00
90		1,2,3-Trichlorobenzene	0.623	0.638	-2.4	102	0.00
91	I	Tert Butyl alcohol-d10	1.000	1.000	0.0	90	0.00
92		Acrolein	2.993	1.987	33.6#	58	0.00
93		Tert-Butyl Alcohol	2.097	1.960	6.5	82	0.00
94		1,4-Dioxane	0.153	0.161	-5.2	92	0.00
95		Cyclohexanone	0.841	0.834	0.8	88	0.00

Average % D = 5.91632

0114

(#) = Out of Range SPCC's out = 0 CCC's out = 0

GC/MS VOA ANALYSIS LOG

DATE:	1/14/03
COLUMN TYPE:	DB-624
DETECTOR:	5973 MSD
INSTRUMENT:	MS-C
ANALYST:	KW

METHODS:	8260/624
METHOD FILE:	8260 45
CALIB. DATE:	01/03/03
RUN BATCH:	VC622

STANDARDS	
BFB	V3479
ICAL/CCV	V3485 V3472 V3478
ISTD/SURR	V3471
ICV/QC	V3440 V3470 V3490

DATA FILE	SAMPLE ID	SAMPLE AMT.	MATRIX	PH	ALS #	DIL.	METHOD	VIAL #	COMMENTS
00014161	BFB	2ul							Ato
62	CL617-40	5ml	W	7	1	1	8260	–	Pass
63	BS				2				Pass
64	MB KW 1/14/03			↓	3				ND
65	F16093-X3			1	4			1	✓
66	F16113-3				5			↓	✓
67	F16141-1				6			↓	✓
68	-1ms				7			2	OK
69	-1msD				7			↓	OK
70	-2				8			1	ND
71	-3				9				ND
72	F16093-1				10				✓
73	-2				11				ND
74	F16113-1				12				ND
75	-2				13				ND
76	F16143-1				14				✓ rw 5X
77	-2				15				ND
78	-3				16				ND
79	-4				17				ND
80	F16139-1				18				ND
81	-2				19				ND
82	-3				20				✓
83	-4				21				✓
84	-5				22				✓
85	-6				23				✓
86	-7				24				✓
87									

Notes:

Matrix: Designate "W" for Water, "S" for Soil, "O" for Oil, "Liq" for Non-aqueous Liquid, and "TCLP" or "SPLP" for Leachate

MSVOA_log.xls NF 8/01

Method Blank Summary

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6747-MB	AB24326.D	1	01/16/03	SKW	01/15/03	OP6747	GAB891

The QC reported here applies to the following samples: **Method:** EPA 504.1

F16113-1, F16113-2, F16113-3

CAS No.	Compound	Result	RL	Units	Q
106-93-4	1,2-Dibromoethane	ND	0.020	ug/l	

Response Factor Report ECD 1

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Jan 16 14:31:47 2003

Calibration Files
.125 =AB24319.D 0.25 =AB24320.D 0.50 =AB24321.D
0.75 =AB24322.D 1.0 =AB24323.D

	Compound	.125	0.25	0.50	0.75	1.0	Avg	%RSD
1)	1,2-Dibromoethane	1.773	1.595	1.515	1.448	1.417	1.550 E4	9.18
2)	1,2-Dibromo-3-chlorop	1.865	1.924	2.077	2.058	2.192	2.023 E4	6.42

Signal #2 Calibration Files
.125 =AB24319.D 0.25 =AB24320.D 0.50 =AB24321.D
0.75 =AB24322.D 1.0 =AB24323.D

	Compound	.125	0.25	0.50	0.75	1.0	Avg	%RSD
1)	1,2-Dibromoethane	2.354	2.145	2.055	1.964	1.922	2.088 E4	8.23
2)	1,2-Dibromo-3-chlorop	4.362	4.386	4.383	4.233	4.272	4.327 E4	1.62

(#) = Out of Range

504_1.M Thu Jan 16 14:33:41 2003 RPT1

AWA
1/21/03

Evaluate Continuing Calibration Report

Signal #1 : C:\HPCHEM\1\DATA\0116EDB\AB24334.D\ECD1B.CH Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\0116EDB\AB24334.D\ECD2A.CH
Acq On : 16 Jan 2003 4:57 pm Operator: stephw
Sample : ECC891-0.25 Inst : ECD 1
Misc : op6747,gab891,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Jan 16 14:31:47 2003
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.	%Dev	Area%	Dev(Min)
1	1,2-Dibromoethane	0.250	0.251	-0.4	98	0.00
2	1,2-Dibromo-3-chloropropane	0.250	0.255	-2.0	107	0.00

Signal #2

1	1,2-Dibromoethane	0.250	0.246	1.6	96	0.00
2	1,2-Dibromo-3-chloropropa	0.250	0.254	-1.6	100	0.00

Evaluate Continuing Calibration Report - Not Founds

Signal #1 : C:\HPCHEM\1\DATA\0116EDB\AB24334.D\ECD1B.CH Vial: 17
Signal #2 : C:\HPCHEM\1\DATA\0116EDB\AB24334.D\ECD2A.CH
Acq On : 16 Jan 2003 4:57 pm Operator: stephw
Sample : ECC891-0.25 Inst : ECD 1
Misc : op6747,gab891,35,,,2,1,water Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\504_1.M (Chemstation Integrator)
Title : EDB/DBCP by EPA 504.1 or SW846 8011
Last Update : Thu Jan 16 14:31:47 2003
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.	%Dev	Area%	Dev(Min)

Signal #2

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AB24320.D 504_1.M Fri Jan 17 16:22:45 2003 RPT1

EDB/DBCP SAMPLE PREP REPORT

Method: 504

Date: 1/15/03 Batch#: OP 6747 Analyst: ACA/SW

Sample ID	Bottle Number	Sample pH	Sample/Vial Weight	Vial Weight	Sample Amount	Surr Amount	Spike Amount	Final Volume (ml)	Comments
OP 6747 MB		6			35ml	NA		2.0	
OP 6747 BS		↓			↓	↓	25ul ↓	↓	
OP 6747 BSD		↓			↓	↓	↓	↓	
F16113 - 1	5	6	63.4	27.2	36.2	↓		↓	
-2	14	6	63.8	26.6	37.2	↓		↓	MS/MSD
-3	3	6	63.0	26.4	36.6	↓		↓	pH = <2
OP 6747 MS	13	6	64.0	26.6	37.4	NA	25ul	2.0	F16113-2
OP 6747 MSD	15	6	63.6	26.6	37.0	↓		↓	↓
OP DUP									

ACA 1/21/03

Standard ID: P685 Conc: 350ppb Exp. Date: 4.24.03

QC Mix ID: P684 Conc: 350ppb Exp. Date: 4.24.03

MDL Check ID: P686 Conc: 35ppb Exp. Date: 4.24.03

Spike ID: P685 Conc: 350ppb Exp. Date: 4.24.03

Surrogate ID: _____ Conc: _____ Exp. Date: _____

NaCl Lot # 025638

Hexane Lot # GG233

Relinquished By: [signature] Date: 1/21/03

Accepted By: [signature] Date: 1/21/03

GC Surrogate Retention Time Summary

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Check Std:	GAA657-CC629	**Injection Date:**	01/13/03
Lab File ID:	AA013834.D	**Injection Time:**	14:08
Instrument ID:	GCAA	**Method:**	EPA 8310

	S1 [a] RT	S2 [a] RT
Check Std	8.97	11.25

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP6724-BS	AA013835.D	01/13/03	14:32	8.97	11.24
OP6724-MB	AA013836.D	01/13/03	14:56	8.96	11.24
ZZZZZZ	AA013837.D	01/13/03	15:19	8.96	11.23
ZZZZZZ	AA013838.D	01/13/03	15:43	8.95	11.23
ZZZZZZ	AA013839.D	01/13/03	16:07	8.95	11.23
ZZZZZZ	AA013840.D	01/13/03	16:31	8.95	11.23
ZZZZZZ	AA013841.D	01/13/03	16:55	8.95	11.23
F16113-1	AA013842.D	01/13/03	17:18	8.95	11.24

Surrogate Compounds

S1 = o-Terphenyl
S2 = p-Terphenyl

(a) Retention time from GC signal #1

Method Blank Summary

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6724-MB	AA013836.D	1	01/13/03	SM	01/10/03	OP6724	GAA657

The QC reported here applies to the following samples: **Method:** EPA 8310

F16113-1, F16113-2

CAS No.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	4.0	ug/l	
208-96-8	Acenaphthylene	ND	4.0	ug/l	
120-12-7	Anthracene	ND	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.20	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.20	ug/l	
218-01-9	Chrysene	ND	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.20	ug/l	
206-44-0	Fluoranthene	ND	2.0	ug/l	
86-73-7	Fluorene	ND	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.20	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	ug/l	
85-01-8	Phenanthrene	ND	2.0	ug/l	
129-00-0	Pyrene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	75%	32-142%
92-94-4	p-Terphenyl	73%	30-128%

Response Factor Report DAD

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Thu Dec 05 08:19:44 2002
Response via : Initial Calibration

MK 12/5/02

Calibration Files
L1 =AA013280.D L2 =AA013274.D L3 =AA013275.D
L4 =AA013276.D L5 =AA013277.D L6 =AA013278.D L7 =AA013279.D

	Compound	L1	L2	L3	L4	L5	L6	L7	Avg	%RSD
1)	Naphthalene	4.658	5.393	4.608	4.390	4.127	4.274		4.575 E5	9.79
2)	Acenaphthylene	1.977	2.129	1.813	1.719	1.632	1.686		1.826 E5	10.49
3)	1-Methyl Naphthal	4.023	4.337	3.888	3.681	3.425	3.550		3.817 E5	8.78
4)	2-Methyl Naphthal	3.441	4.252	3.891	3.691	3.427	3.558		3.710 E5	8.55
5)	Acenaphthene	2.435	3.416	3.177	3.032	2.828	2.927		2.969 E5	11.20
6)	Fluorene	1.263	1.271	1.175	1.108	1.023	1.054		1.149 E6	9.16
7)	Phenanthrene	1.100	1.100	1.027	0.972	0.895	0.924		1.003 E6	8.75
8)S	O-Terphenyl	3.897	4.268	4.040	3.805	3.512	3.639		3.860 E5	7.07
9)	Anthracene	1.160	1.314	1.159	1.091	0.997	1.020		1.123 E5	10.28
10)	Fluoranthene	1.005	0.964	0.884	0.846	0.776	0.803		0.880 E6	10.22
11)	Pyrene	1.529	1.450	1.327	1.253	1.139	1.159		1.310 E6	11.98
12)S	P-Terphenyl	1.671	1.584	1.427	1.343	1.235	1.278		1.423 E6	12.18
13)	Benzo(a)Anthracen	2.860	2.685	2.393	2.279	2.083	2.147		2.408 E6	12.74
14)	Chrysene	3.533	3.568	3.131	2.896	2.600	2.596		3.054 E6	14.19
15)	Benzo(b)Fluoranth	1.624	1.396	1.276	1.230	1.131	1.173		1.305 E6	13.88
16)	Benzo(k)Fluoranth	8.509	8.255	7.539	7.365	6.744	7.002		7.569 E5	9.15
17)	Benzo(a) Pyrene	1.243	1.181	1.147	1.162	1.097	1.181	1.415	1.204 E6	8.53
18)	Dibenzo(a,h)anthr	1.401	1.220	1.129	1.095	1.010	1.052		1.151 E6	12.32
19)	Benzo(g,h,i) Pery	7.617	7.729	7.406	7.343	6.813	7.197		7.351 E5	4.43
20)	Indeno(1,2,3-cd)p	7.333	7.679	6.382	6.250	5.770	6.049		6.577 E5	11.50

Signal #2

1)	Naphthalene	3.066	3.061	2.828	2.675	2.563	2.652		2.808 E5	7.70
2)	Acenaphthylene	1.984	1.921	1.812	1.721	1.624	1.675		1.790 E5	7.94
3)	1-Methyl Naphthal	1.986	1.728	1.672	1.597	1.492	1.542		1.670 E5	10.59
4)	2-Methyl Naphthal	2.479	2.606	2.387	2.277	2.115	2.191		2.343 E5	7.85
5)	Acenaphthene	1.020	1.010	1.064	1.039	0.978	1.013		1.021 E5	2.83
6)	Fluorene	1.465	1.436	1.314	1.264	1.169	1.212		1.310 E6	9.13
7)	Phenanthrene	3.950	3.768	3.354	3.167	2.884	2.938		3.343 E6	13.07
8)S	O-Terphenyl	6.320	7.188	6.554	6.325	5.817	6.038		6.374 E5	7.44
9)	Anthracene	8.103	7.774	6.254	5.211	4.358		7.770	6.578 E6	23.63

----- Quadratic regression ----- Coefficient = 0.9998
Response Ratio = 864484.84652 + 6997554.26038 *A + -89299.77338 *A^2

10)	Fluoranthene	0.938	1.005	0.919	0.904	0.832	0.863		0.910 E6	6.63
11)	Pyrene	9.059	8.788	8.073	8.062	7.446	7.728		8.192 E5	7.54
12)S	P-Terphenyl	8.435	7.872	7.294	6.837	6.302	6.526		7.211 E5	11.40
13)	Benzo(a)Anthracen	2.149	1.989	1.830	1.741	1.600	1.656		1.828 E6	11.43
14)	Chrysene	2.870	2.914	2.674	2.545	2.335	2.409		2.624 E6	9.06
15)	Benzo(b)Fluoranth	1.325	1.266	1.142	1.092	0.999	1.036		1.143 E6	11.27
16)	Benzo(k)Fluoranth	2.115	1.982	1.787	1.719	1.575	1.636		1.802 E6	11.55
17)	Benzo(a) Pyrene	1.006	0.968	0.899	0.895	0.841	0.889	0.985	0.926 E6	6.53
18)	Dibenzo(a,h)anthr	3.250	3.292	2.920	2.747	2.498	2.533		2.873 E6	11.97
19)	Benzo(g,h,i) Pery	1.275	1.292	1.219	1.191	1.107	1.158		1.207 E6	5.83
20)	Indeno(1,2,3-cd)p	0.991	1.124	0.911	0.877	0.811	0.844		0.926 E6	12.40

(#) = Out of Range

0218

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0113APAH\AA013834.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\0113APAH\AA013834.D\DAD1A.CH
Acq On : 13-Jan-2003, 14:08:36 Operator: SARAHM
Sample : CC629-10 Inst : DAD
Misc : op6724,gaa657,1000,,,1,,WATER Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Fri Jan 10 07:49:34 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	9.145	8.6	91	-0.01
2		Acenaphthylene	10.000	9.541	4.6	96	-0.01
3		1-Methyl Naphthalene	10.000	9.717	2.8	95	-0.01
4		2-Methyl Naphthalene	10.000	9.910	0.9	94	-0.01
5		Acenaphthene	10.000	10.503	-5.0	98	-0.01
6		Fluorene	10.000	9.743	2.6	95	-0.01
7		Phenanthrene	10.000	9.977	0.2	97	-0.01
8	S	O-Terphenyl	10.000	9.826	1.7	94	0.00
9		Anthracene	10.000	10.508	-5.1	102	0.00
10		Fluoranthene	10.000	9.567	4.3	95	0.00
11		Pyrene	10.000	9.578	4.2	95	0.00
12	S	P-Terphenyl	10.000	10.003	-0.0	100	0.01
13		Benzo(a)Anthracene	5.000	4.799	4.0	97	0.02
14		Chrysene	5.000	4.844	3.1	94	0.00
15		Benzo(b)Fluoranthene	5.000	4.711	5.8	96	0.00
16		Benzo(k)Fluoranthene	5.000	4.849	3.0	97	0.00
17		Benzo(a) Pyrene	5.000	5.627	-12.5	118	0.00
18		Dibenzo(a,h)anthracene	5.000	4.784	4.3	98	0.00
19		Benzo(g,h,i) Perylene	5.000	5.201	-4.0	103	0.00
20		Indeno(1,2,3-cd)pyrene	5.000	4.802	4.0	99	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	9.282	7.2	92	-0.01
2		Acenaphthylene	10.000	9.318	6.8	92	-0.01
3		1-Methyl Naphthalene	10.000	9.238	7.6	92	-0.01
4		2-Methyl Naphthalene	10.000	9.290	7.1	91	-0.01
5		Acenaphthene	10.000	9.806	1.9	94	-0.01
6		Fluorene	10.000	9.486	5.1	95	-0.01
7		Phenanthrene	10.000	9.672	3.3	96	-0.01
8	S	O-Terphenyl	10.000	9.827	1.7	96	0.00
9		Anthracene	10.000	10.365	-3.7	96	0.00
10		Fluoranthene	10.000	11.131	-11.3	110	0.00
11		Pyrene	10.000	9.462	5.4	96	0.00
12	S	P-Terphenyl	10.000	9.982	0.2	99	0.01
13		Benzo(a)Anthracene	5.000	4.757	4.9	95	0.02
14		Chrysene	5.000	4.874	2.5	96	0.00
15		Benzo(b)Fluoranthene	5.000	4.354	12.9	87	0.00
16		Benzo(k)Fluoranthene	5.000	4.748	5.0	96	0.00
17		Benzo(a) Pyrene	5.000	5.677	-13.5	117	0.00

19	Benzo(g,h,i) Perylene	5.000	5.087	-1.7	101	0.00
20	Indeno(1,2,3-cd)pyrene	5.000	4.732	5.4	96	0.00

Average % D = 4.8

(#) = Out of Range SPCC's out = 0 CCC's out = 0

AA013275.D 8310_32.M Tue Jan 14 10:15:01 2003

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0113APAH\AA013843.D\DAD1B.CH Vial: 11
Signal #2 : F:\HPCHEM\1\DATA\0113APAH\AA013843.D\DAD1A.CH
Acq On : 13-Jan-2003, 17:42:38 Operator: SARAHM
Sample : CC629-20 Inst : DAD
Misc : op6724,gaa657,1000,,,1,,WATER Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Fri Jan 10 07:49:34 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	17.528	12.4	91	-0.03
2		Acenaphthylene	20.000	17.498	12.5	93	-0.03
3		1-Methyl Naphthalene	20.000	18.072	9.6	94	-0.03
4		2-Methyl Naphthalene	20.000	18.392	8.0	92	-0.03
5		Acenaphthene	20.000	19.406	3.0	95	-0.04
6		Fluorene	20.000	17.797	11.0	92	-0.04
7		Phenanthrene	20.000	18.351	8.2	95	-0.03
8	S	O-Terphenyl	20.000	18.267	8.7	93	-0.03
9		Anthracene	20.000	19.396	3.0	100	-0.03
10		Fluoranthene	20.000	17.759	11.2	92	-0.03
11		Pyrene	20.000	17.951	10.2	94	-0.03
12	S	P-Terphenyl	20.000	18.422	7.9	98	0.00
13		Benzo(a)Anthracene	10.000	8.803	12.0	93	0.00
14		Chrysene	10.000	8.649	13.5	91	-0.02
15		Benzo(b)Fluoranthene	10.000	8.615	13.9	91	-0.02
16		Benzo(k)Fluoranthene	10.000	8.864	11.4	91	-0.02
17		Benzo(a) Pyrene	10.000	10.551	-5.5	109	-0.02
18		Dibenzo(a,h)anthracene	10.000	8.856	11.4	93	-0.02
19		Benzo(g,h,i) Perylene	10.000	9.527	4.7	95	-0.02
20		Indeno(1,2,3-cd)pyrene	10.000	8.794	12.1	93	-0.01

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	17.427	12.9	91	-0.03
2		Acenaphthylene	20.000	18.034	9.8	94	-0.03
3		1-Methyl Naphthalene	20.000	17.949	10.3	94	-0.03
4		2-Methyl Naphthalene	20.000	17.844	10.8	92	-0.03
5		Acenaphthene	20.000	19.486	2.6	96	-0.04
6		Fluorene	20.000	17.665	11.7	92	-0.04
7		Phenanthrene	20.000	17.590	12.1	93	-0.03
8	S	O-Terphenyl	20.000	18.380	8.1	93	-0.03
9		Anthracene	20.000	18.080	9.6	92	-0.03
10		Fluoranthene	20.000	20.785	-3.9	105	-0.03
11		Pyrene	20.000	17.437	12.8	89	-0.03
12	S	P-Terphenyl	20.000	18.236	8.8	96	0.00
13		Benzo(a)Anthracene	10.000	8.710	12.9	91	0.00
14		Chrysene	10.000	8.922	10.8	92	-0.02
15		Benzo(b)Fluoranthene	10.000	8.654	13.5	91	-0.02
16		Benzo(k)Fluoranthene	10.000	8.692	13.1	91	-0.02
17		Benzo(a) Pyrene	10.000	10.342	-3.4	107	~~0.02~~

19	Benzo(g,h,i) Perylene	10.000	9.267	7.3	94	-0.02
20	Indeno(1,2,3-cd)pyrene	10.000	8.655	13.5	91	-0.01

Average % D = 9.7

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA013276.D 8310_32.M Tue Jan 14 10:15:45 2003

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0113APAH\AA013854.D\DAD1B.CH Vial: 11
Signal #2 : F:\HPCHEM\1\DATA\0113APAH\AA013854.D\DAD1A.CH
Acq On : 13-Jan-2003, 22:04:29 Operator: SARAHM
Sample : ECC629-20 Inst : DAD
Misc : op6724,gaa657,1000,,,1,,WATER Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Fri Jan 10 07:49:34 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.018	9.9	94	-0.06
2		Acenaphthylene	20.000	19.014	4.9	101	-0.06
3		1-Methyl Naphthalene	20.000	18.624	6.9	97	-0.06
4		2-Methyl Naphthalene	20.000	18.923	5.4	95	-0.06
5		Acenaphthene	20.000	19.633	1.8	96	-0.05
6		Fluorene	20.000	17.945	10.3	93	-0.05
7		Phenanthrene	20.000	18.578	7.1	96	-0.05
8	S	O-Terphenyl	20.000	18.464	7.7	94	-0.04
9		Anthracene	20.000	19.118	4.4	98	-0.04
10		Fluoranthene	20.000	17.893	10.5	93	-0.04
11		Pyrene	20.000	17.775	11.1	93	-0.03
12	S	P-Terphenyl	20.000	18.570	7.1	98	0.00
13		Benzo(a)Anthracene	10.000	8.867	11.3	94	0.00
14		Chrysene	10.000	8.684	13.2	92	-0.01
15		Benzo(b)Fluoranthene	10.000	8.686	13.1	92	-0.02
16		Benzo(k)Fluoranthene	10.000	8.922	10.8	92	-0.01
17		Benzo(a) Pyrene	10.000	10.615	-6.2	110	0.00
18		Dibenzo(a,h)anthracene	10.000	8.925	10.7	94	0.00
19		Benzo(g,h,i) Perylene	10.000	9.600	4.0	96	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	8.878	11.2	93	0.02

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	17.715	11.4	93	-0.06
2		Acenaphthylene	20.000	18.288	8.6	95	-0.06
3		1-Methyl Naphthalene	20.000	18.325	8.4	96	-0.06
4		2-Methyl Naphthalene	20.000	18.232	8.8	94	-0.06
5		Acenaphthene	20.000	19.447	2.8	96	-0.05
6		Fluorene	20.000	17.824	10.9	92	-0.05
7		Phenanthrene	20.000	17.732	11.3	94	-0.05
8	S	O-Terphenyl	20.000	18.676	6.6	94	-0.04
9		Anthracene	20.000	18.094	9.5	92	-0.04
10		Fluoranthene	20.000	20.864	-4.3	105	-0.04
11		Pyrene	20.000	17.539	12.3	89	-0.03
12	S	P-Terphenyl	20.000	18.384	8.1	97	0.00
13		Benzo(a)Anthracene	10.000	8.799	12.0	92	0.00
14		Chrysene	10.000	9.007	9.9	93	-0.01
15		Benzo(b)Fluoranthene	10.000	8.682	13.2	91	-0.02
16		Benzo(k)Fluoranthene	10.000	8.714	12.9	91	-0.02
17		Benzo(a) Pyrene	10.000	10.372	-3.7	107	0.00

19	Benzo(g,h,i) Perylene	10.000	9.335	6.6	95	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	8.736	12.6	92	0.02

Average % D = 8.8

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA013276.D 8310_32.M Tue Jan 14 10:15:47 2003

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0114PAH\AA013856.D\DAD1B.CH Vial: 2
Signal #2 : F:\HPCHEM\1\DATA\0114PAH\AA013856.D\DAD1A.CH
Acq On : 14-Jan-2003, 09:42:57 Operator: SARAHM
Sample : CC629-10 Inst : DAD
Misc : op6724,gaa658,1000,,,1,,WATER Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 14 12:49:04 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	9.752	2.5	97	0.03
2		Acenaphthylene	10.000	9.680	3.2	97	0.03
3		1-Methyl Naphthalene	10.000	9.916	0.8	97	0.02
4		2-Methyl Naphthalene	10.000	10.116	-1.2	96	0.02
5		Acenaphthene	10.000	10.583	-5.8	99	0.02
6		Fluorene	10.000	9.899	1.0	97	0.02
7		Phenanthrene	10.000	10.070	-0.7	98	0.02
8	S	O-Terphenyl	10.000	9.828	1.7	94	0.00
9		Anthracene	10.000	10.455	-4.6	101	-0.01
10		Fluoranthene	10.000	9.739	2.6	97	0.00
11		Pyrene	10.000	9.799	2.0	97	0.00
12	S	P-Terphenyl	10.000	10.235	-2.3	102	0.02
13		Benzo(a)Anthracene	5.000	4.904	1.9	99	0.03
14		Chrysene	5.000	4.976	0.5	97	0.02
15		Benzo(b)Fluoranthene	5.000	4.759	4.8	97	0.04
16		Benzo(k)Fluoranthene	5.000	4.867	2.7	98	0.04
17		Benzo(a) Pyrene	5.000	5.820	-16.4#	122	0.04
18		Dibenzo(a,h)anthracene	5.000	4.861	2.8	99	0.04
19		Benzo(g,h,i) Perylene	5.000	5.250	-5.0	104	0.04
20		Indeno(1,2,3-cd)pyrene	5.000	4.787	4.3	99	0.03

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	10.000	9.484	5.2	94	0.03
2		Acenaphthylene	10.000	9.831	1.7	97	0.03
3		1-Methyl Naphthalene	10.000	9.670	3.3	97	0.02
4		2-Methyl Naphthalene	10.000	9.683	3.2	95	0.02
5		Acenaphthene	10.000	10.261	-2.6	98	0.02
6		Fluorene	10.000	9.709	2.9	97	0.02
7		Phenanthrene	10.000	9.849	1.5	98	0.02
8	S	O-Terphenyl	10.000	9.701	3.0	94	0.00
9		Anthracene	10.000	10.648	-6.5	99	-0.01
10		Fluoranthene	10.000	10.895	-8.9	108	0.00
11		Pyrene	10.000	9.722	2.8	99	0.00
12	S	P-Terphenyl	10.000	10.193	-1.9	101	0.02
13		Benzo(a)Anthracene	5.000	4.853	2.9	97	0.03
14		Chrysene	5.000	5.004	-0.1	98	0.02
15		Benzo(b)Fluoranthene	5.000	4.823	3.5	97	0.04
16		Benzo(k)Fluoranthene	5.000	4.822	3.6	97	0.04
17		Benzo(a) Pyrene	5.000	5.758	-15.2#	119	0.04
		[illegible]	[illegible]	[illegible]	1.4	97	0.04

19	Benzo(g,h,i) Perylene	5.000	5.209	-4.2	103	0.04
20	Indeno(1,2,3-cd)pyrene	5.000	4.793	4.1	97	0.03

Average % D = 3.6

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA013275.D 8310_32.M Tue Jan 14 13:28:46 2003

Evaluate Continuing Calibration Report

Signal #1 : F:\HPCHEM\1\DATA\0114PAH\AA013863.D\DAD1B.CH Vial: 9
Signal #2 : F:\HPCHEM\1\DATA\0114PAH\AA013863.D\DAD1A.CH
Acq On : 14-Jan-2003, 12:29:22 Operator: SARAHM
Sample : ECC629-20 Inst : DAD
Misc : op6724,gaa658,1000,,,1,,WATER Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\HPCHEM\1\METHODS\8310_32.M (Chemstation Integrator)
Title : PAH's BY EPA 8310
Last Update : Tue Jan 14 12:49:01 2003
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 15% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	18.006	10.0	94	0.00
2		Acenaphthylene	20.000	18.420	7.9	98	0.00
3		1-Methyl Naphthalene	20.000	18.440	7.8	96	0.00
4		2-Methyl Naphthalene	20.000	18.782	6.1	94	0.00
5		Acenaphthene	20.000	19.470	2.7	95	0.00
6		Fluorene	20.000	18.002	10.0	93	0.00
7		Phenanthrene	20.000	18.381	8.1	95	0.00
8	S	O-Terphenyl	20.000	18.091	9.5	92	-0.02
9		Anthracene	20.000	18.631	6.8	96	-0.02
10		Fluoranthene	20.000	17.744	11.3	92	-0.02
11		Pyrene	20.000	17.553	12.2	92	-0.01
12	S	P-Terphenyl	20.000	18.539	7.3	98	0.01
13		Benzo(a)Anthracene	10.000	8.873	11.3	94	0.01
14		Chrysene	10.000	8.762	12.4	92	0.00
15		Benzo(b)Fluoranthene	10.000	8.721	12.8	92	0.00
16		Benzo(k)Fluoranthene	10.000	8.939	10.6	92	0.00
17		Benzo(a) Pyrene	10.000	10.728	-7.3	111	0.00
18		Dibenzo(a,h)anthracene	10.000	8.935	10.7	94	0.00
19		Benzo(g,h,i) Perylene	10.000	9.663	3.4	97	0.00
20		Indeno(1,2,3-cd)pyrene	10.000	8.825	11.8	93	0.00

Signal #2

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1		Naphthalene	20.000	17.847	10.8	94	0.00
2		Acenaphthylene	20.000	18.509	7.5	96	0.00
3		1-Methyl Naphthalene	20.000	18.233	8.8	95	0.00
4		2-Methyl Naphthalene	20.000	18.213	8.9	94	0.00
5		Acenaphthene	20.000	19.715	1.4	97	0.00
6		Fluorene	20.000	17.983	10.1	93	0.00
7		Phenanthrene	20.000	17.771	11.1	94	0.00
8	S	O-Terphenyl	20.000	18.075	9.6	91	-0.02
9		Anthracene	20.000	18.550	7.2	93	-0.02
10		Fluoranthene	20.000	19.839	0.8	100	-0.02
11		Pyrene	20.000	17.745	11.3	90	-0.01
12	S	P-Terphenyl	20.000	18.515	7.4	98	0.01
13		Benzo(a)Anthracene	10.000	8.844	11.6	93	0.01
14		Chrysene	10.000	9.077	9.2	94	0.00
15		Benzo(b)Fluoranthene	10.000	8.645	13.6	91	0.00
16		Benzo(k)Fluoranthene	10.000	8.793	12.1	92	0.00
17		Benzo(a) Pyrene	10.000	10.573	-5.7	109	0.00

19	Benzo(g,h,i) Perylene	10.000	9.466	5.3	96	0.00
20	Indeno(1,2,3-cd)pyrene	10.000	8.770	12.3	93	0.00

Average % D = 8.9

(#) = Out of Range SPCC's out = 0 CCC's out = 0
AA013276.D 8310_32.M Tue Jan 14 14:13:50 2003

LIQUID SAMPLE PREP REPORT

Date: 1/10/03 Method*: 8310 Batch#: OP 6724

Batch Started On: 1/10/03 Prior Number Of Samples In Batch: Ø Analyst: ~~SA~~/MM

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 6724 MB		1000	6	N/A	0.5mL		1.0	
OP 6724 BS		↓				0.5mL		
F16110-1	5	1060						emulsion
-2	5	1060						emulsion
-3	5	1060						emulsion
-4	5	1060						emulsion
-5	5	1060						
F16116-1	5	980						heavy emulsion
F16113-1	8	1000						
-2	23	990			↓			MS/MSD
F16120-1	1	950			0.5mL			emulsion
F16118-3	5	990						
-5	5	990						
F16120-5	6	910						
-6	1	950						emulsion
-8	5	900	↓	↓	↓		↓	
OP 6724 MS	21	480	6	N/A	0.5mL	0.5mL	1.0	F16113-2
OP 6724 MSD	21	480	↓	↓	↓	↓	↓	↓
OP DUP								

MM 1/10/03

~~SA~~ MM Surrogate ID: E1189E Conc: 40ppm Exp. Date: 6/16/03 Bath Temp.: 40°C

~~SA~~ MM Spike ID: E1194 Conc: 40/20ppm Exp. Date: 6/19/03 Bath Temp2.: 55°C

CH2CL2 Lot # CG615 Hexane Lot # — Na2SO4 Lot# —

Acetonitrile Lot # CG170 Methanol Lot # — Acetone Lot# —

Reagent # NaCl Lot #027992 Reagent # Reagent #

Comments:

Relinquished By: Nathaniel West Date: 1/10/03 0264

Accepted By: S. McNeff Date: 1/10/3

*Prep method for SW846 methods is 3510C for waters and 3580A for non-aqueous liquids. 8330A and 8332 prepped by 3535A.

Semivolatile Surrogate Recovery Summary

Job Number: F16113
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]
F16113-1	OP26529.D	95.0
F16113-2	OP26530.D	102.0
OP6721-BS	OP26511.D	102.0
OP6721-MB	OP26512.D	106.0
OP6721-MB	OP26542.D	99.0
OP6721-MS	OP26531.D	103.0
OP6721-MSD	OP26532.D	109.0

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	51-125%

(a) Recovery from GC signal #1

Method Blank Summary

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6721-MB	OP26512.D	1	01/10/03	SKW	01/10/03	OP6721	GOP913

The QC reported here applies to the following samples: **Method:** FLORIDA-PRO

F16113-1, F16113-2

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.25	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	106%	51-125%

Method Blank Summary

Job Number: F16113
Account: TETRFLTA Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6721-MB	OP26542.D	1	01/13/03	SKW	01/10/03	OP6721	GOP914

The QC reported here applies to the following samples: **Method:** FLORIDA-PRO

F16113-1, F16113-2

CAS No.	Compound	Result	RL	Units	Q
	TPH (C8-C40)	ND	0.25	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	99%	51-125%

Response Factor Report FID 2

Method : C:\HPCHEM\2\METHODS\FL_PRO_F.M (Chemstation Integrator)
Title : TPH by FL_PRO
Last Update : Tue Dec 03 15:25:44 2002
Response via : Initial Calibration

Calibration Files
1 =OP25894.D 2 =OP25895.D 3 =OP25896.D
4 =OP25897.D 5 =OP25898.D 6 =OP25899.D 7 =OP25900.D

Compound	1	2	3	4	5	6	7	Avg	%RSD
1)S O-TERPHENYL	3.601	3.702	3.759	3.751	3.803			3.723 E4	2.07
2)H TPH (C8-C40)	3.420	3.482	3.499	3.475	3.454	3.097	3.084	3.359 E4	5.51

Average % RSD = 3.8

(#) = Out of Range

FL_PRO_F.M Wed Dec 04 06:56:40 2002

SW 12-4-02

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0110PRO\OP26528.D Vial: 23
Acq On : 11 Jan 2003 12:53 am Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6721,gop913,990,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	63.041	-5.1	104	-0.01
2	H	TPH (C8-C40)	1020.000	1054.805	-3.4	99	0.00

Average % D = 4.24029

SW 1-13-03

0319

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0110PRO\OP26535.D Vial: 23
Acq On : 11 Jan 2003 3:17 am Operator: stephw
Sample : ECC894-1020 Inst : FID 2
Misc : op6721,gop913,980,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	63.729	-6.2	105	0.00
2	H	TPH (C8-C40)	1020.000	1222.311	-19.8	115	0.00

Average % D = 13.0247

SN 1-13-03

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0110PRO\OP26510.D Vial: 23
Acq On : 10 Jan 2003 6:43 pm Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6713,gop913,30.8,,,1,10,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	62.740	-4.6	104	-0.01
2	H	TPH (C8-C40)	1020.000	1029.703	-1.0	97	0.00

Average % D = 2.75897

1-13-03

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OP26510.D FL_PRO_F.M Mon Jan 13 09:22:27 2003

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0110PRO\OP26519.D Vial: 23
Acq On : 10 Jan 2003 9:48 pm Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6721,gop913,1060,,,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 Dec 30 15:34:16 2002
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	61.565	-2.6	102	-0.01
2	H	TPH (C8-C40)	1020.000	1033.700	-1.3	97	0.00

Average % D = 1.97574

SM 1-13-03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0113PRO\OP26536.D Vial: 1
Acq On : 13 Jan 2003 9:49 am Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6721,gop91,1000,,,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 Jan 13 13:23:16 2003
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	61.886	-3.1	102	0.00
2	H	TPH (C8-C40)	1020.000	1107.084	-8.5	104	0.00

Average % D = 5.84049

SW 1-13-03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0113PRO\OP26537.D Vial: 2
Acq On : 13 Jan 2003 10:13 am Operator: stephw
Sample : CC894-340 Inst : FID 2
Misc : op6721,gop91,1000,,,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 Jan 13 13:23:16 2003
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	20.000	20.305	-1.5	105	0.00
2	H	TPH (C8-C40)	340.000	382.264	-12.4	110	0.00

Average % D = 6.97779

SW 1-13-03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Evaluate Continuing Calibration Report

Data File : C:\HPCHEM\2\DATA\0113PRO\OP26548.D Vial: 13
Acq On : 13 Jan 2003 2:00 pm Operator: stephw
Sample : CC894-1020 Inst : FID 2
Misc : op6721,gop914,980,,,1,10,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 Jan 13 13:23:16 2003
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.	%Dev	Area%	Dev(min)
1	S	O-TERPHENYL	60.000	59.769	0.4	99	0.00
2	H	TPH (C8-C40)	1020.000	1071.432	-5.0	101	0.00

Average % D = 2.71368

1-13-03

(#) = Out of Range SPCC's out = 0 CCC's out = 0

LIQUID SAMPLE PREP REPORT

Date: 1/10/03 Method*: FL PRO Batch#: OP6721

Batch Started On: 1/10/03 Prior Number Of Samples in Batch: Ø Analyst: SA/MM

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount	Spike Amount	Final Volume (ml)	Comments
OP 6721 MB		1000	6	<2	0.5mL		1.0 mL	
OP 6721 BS		↓	↓	↓		0.5mL		
F16100-1	6	990	<2	N/A				
-2	6	990						
F16110-1	6	1060						emulsion
-2	6	1050						emulsion
-3	6	1050						emulsion
-4	6	1060						emulsion
-5	6	1060						emulsion
F16106-1	8	980						
-2	7	1000						
-3	8	980						
-4	10	1000						
-5	7	980						
-6	7	1000						
-7	7	990						emulsion
F16113-1	11	1000						
-2	26	990	↓	↓	↓			MS/MSD
F16120-4	5	980	<2	N/A	0.5mL			emulsions
-7	5	980	↓	↓	↓		↓	emulsions
	DC	1-10-03						
OP 6721 MS	25	500	<2	N/A	0.5mL	0.5mL	1.0 Ml	F16113-2
OP 6721 MSD	25	500	↓	↓	↓	↓	↓	↓
OP DUP								

SA Surrogate ID: E1187E Conc: 100ppm Exp. Date: 6/13/03 Bath Temp.: 40°C

SA Spike ID: E81195 Conc: 100ppm Exp. Date: 6/23/03 Bath Temp2.: —

CH2CL2 Lot #: CG615 Hexane Lot #: — Na2SO4 Lot#: —

Acetonitrile Lot #: — Methanol Lot #: — Acetone Lot#: —

Reagent #: H_2SO_4 ER#327 Reagent #: SILICA GEL 025356 Reagent #: —

Comments:

Relinquished By: Date: 1-10-03

Accepted By: Date: 1-10-03

*Prep method for SW846 methods is 3510C for waters and 3580A for non-aqueous liquids. 8330A and 8332 prepped by 3535A.

0354

Tetra Tech NUS **INTERNAL CORRESPONDENCE**

TO:	**G. WALKER**	**DATE:**	**FEBRUARY 11, 2003**
FROM:	**ETHAN G. LEE**	**COPIES:**	**DV FILE**

SUBJECT: **INORGANIC DATA VALIDATION –LEAD**
NAS PENSACOLA – CTO 274
SAMPLE DELIVERY GROUP (SDG) – F16113

SAMPLES: 2/AQUEOUS/

OLFS-2406-DMW35 OLFS-2406-DMW36

Overview

The sample set for NAS Pensacola, CTO 274, SDG F16113, consists of two (2) aqueous environmental samples.

All samples were analyzed for lead. The samples were collected by Tetra Tech NUS January 8, 2003 and analyzed by Accutest Laboratories Southeast, Inc. Lead analyses were conducted using method SW846 6010B.

These data were evaluated based on the following parameters:

* • Data Completeness
* • Holding Times
* • Calibration Analyses
  • Laboratory Method/Preparation 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	1.8 ug/L	9.0 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 considered when evaluating for blank contamination. The positive result less than the action level for lead was qualified as nondetected (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)."

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 (i.e., % RSDs, %Ds, ICVs, CCVs, RPDs, RRFs, etc.) Noncompliance
D = MS/MSD Noncompliance
E = LCS/LCSD Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS - GFAA MSA's $r < 0.995$
K = ICP Interference - include ICSAB % R's
L = Instrument Calibration Range Exceedance
M = Sample Preservation
N = Internal Standard Noncompliance
N01 = Internal Standard 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)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = Pest/PCD% between columns for positive results
V = Non-linear calibrations, tuning $r < 0.995$ (correlation coefficient)
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity

PROJ_NO: 2642

SDG: F16113 MEDIA: WATER DATA FRACTION:

nsample	OLFS-2406-DMW35
samp_date	1/8/2003
lab_id	F16113-2
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	1.2	U	

nsample	OLFS-2406-DMW36
samp_date	1/8/2003
lab_id	F16113-1
qc_type	NM
units	UG/L
Pct_Solids	0
DUP_OF:	

Parameter	Result	Val Qual	Qual Code
LEAD	2.6	U	A

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW35		
Lab Sample ID:	F16113-2	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	1.2 U	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

Accutest Laboratories

Report of Analysis

Client Sample ID:	OLFS-2406-DMW36		
Lab Sample ID:	F16113-1	**Date Sampled:**	01/08/03
Matrix:	AQ - Ground Water	**Date Received:**	01/09/03
		Percent Solids:	n/a
Project:	NAS Pensacola CTO# 274 N2642		

Metals Analysis

Analyte	Result	RL	IDL	Units	DF	Prep	Analyzed By		Method	Prep Method
Lead	2.6 B	5.0	1.2	ug/l	1	01/10/03	01/13/03	DM	SW846 6010B	SW846 3010A

RL = Reporting Limit
IDL = Instrument Detection Limit

U = Indicates a result < IDL
B = Indicates a result >= IDL but < RL

APPENDIX C

SUPPORT DOCUMENTATION

F16113

HOLDING TIME
02/10/03

Units	Nsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
%	OLFS-2406-DMW35	OP6747-MSD	MSD	F16113	EDB	01/08/03	01/15/03	01/16/03	7	1	8
UG/L	OLFS-2406-DMW36	F16113-1	NORMAL	F16113	EDB	01/08/03	01/15/03	01/16/03	7	1	8
%	OP6747-BS	OP6747-BS	BSP	F16113	EDB	01/15/03	01/15/03	01/16/03	0	1	1
%	OP6747-BS2	OP6747-BS2	BSP	F16113	EDB	01/15/03	01/15/03	01/16/03	0	1	1
UG/L	TRIP BLANK	F16113-3	NORMAL	F16113	EDB	01/08/03	01/15/03	01/16/03	7	1	8
UG/L	VBLK1	OP6747-MB	M_BLANK	F16113	EDB	01/14/03	01/15/03	01/16/03	1	1	2
%	MP5076-B1	MP5076-B1	BSP	F16113	M	01/10/03	01/10/03	01/13/03	0	3	3
%	OLFS-2406-DMW35	MP5076-D1	NORMAL	F16113	M	01/08/03	01/10/03	01/13/03	2	3	5
UG/L	OLFS-2406-DMW36	F16113-1	NORMAL	F16113	M	01/08/03	01/10/03	01/13/03	2	3	5
UG/L	PBW1	MP5076-MB1	M_BLANK	F16113	M	01/10/03	01/10/03	01/13/03	0	3	3
%	F16141-1MS	F16141-1MS	MS	F16113	OV	01/14/03	/ /	01/14/03	0	0	0
%	F16141-1MSD	F16141-1MSD	MSD	F16113	OV	01/14/03	/ /	01/14/03	0	0	0
%	OLFS-2406-DMW35	F16113-2	NORMAL	F16113	OV	01/08/03	/ /	01/14/03	0	0	6
%	OLFS-2406-DMW36	F16113-1	NORMAL	F16113	OV	01/08/03	/ /	01/14/03	0	0	6
%	TRIP BLANK	F16113-3	NORMAL	F16113	OV	01/08/03	/ /	01/14/03	0	0	6
UG/L	VBLK1	VC622-MB	M_BLANK	F16113	OV	01/15/03	/ /	01/14/03	0	0	-1
%	VC622-BS	VC622-BS	BSP	F16113	OV	01/14/03	/ /	01/14/03	0	0	0
%	OLFS-2406-DMW35	OP6724-MSD	MSD	F16113	PAH	01/08/03	01/10/03	01/13/03	2	3	5
%	OLFS-2406-DMW36	F16113-1	NORMAL	F16113	PAH	01/08/03	01/10/03	01/13/03	2	3	5
%	OP6724-BS	OP6724-BS	BSP	F16113	PAH	01/10/03	01/10/03	01/13/03	0	3	3
UG/L	PBL2	OP6724-MB	M_BLANK	F16113	PAH	01/10/03	01/10/03	01/13/03	0	3	3
UG/L	PBLK1	OP6724-MB	M_BLANK	F16113	PAH	01/10/03	01/10/03	01/14/03	0	4	4
%	OLFS-2406-DMW35	OP6721-MSD	NORMAL	F16113	TPH	01/08/03	01/10/03	01/11/03	2	1	3
%	[illegible]S-2406-DMW36	F16113-1	NORMAL	F16113	[illegible]H	01/08/03	01/10/03	01/11/03	2	1	3

Units	Vsample	Lab Id	Qc Type	Sdg	Sort	Samp Date	Extr Date	Anal Date	SAMP_DATE TO EXTR_DATE	EXTR_DATE TO ANAL_DATE	SAMP_DATE TO ANAL_DATE
%	OP6721-BS	OP6721-BS	BSP	F16113	TPH	01/10/03	01/10/03	01/10/03	0	0	0
MG/L	PBL2	OP6721-MB	M_BLANK	F16113	TPH	01/10/03	01/10/03	01/13/03	0	3	3
MG/L	PBLK1	OP6721-MB	M_BLANK	F16113	TPH	01/10/03	01/10/03	01/10/03	0	0	0

TETRA TECH NUS, INC.

CHAIN OF CUSTODY

NUMBER 4252 F16113

PAGE 1 OF 1

PROJECT NO:	FACILITY:	PROJECT MANAGER	PHONE NUMBER	LABORATORY NAME AND CONTACT:
N2642	OLF Sanford	Gerry Walker	850-385-9899	Accutest Sue Beitz
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER	PHONE NUMBER	ADDRESS
William Howard Engle		Howard Engle	850-385-9899	4405 Vineland Rd
		CARRIER/WAYBILL NUMBER		CITY, STATE
		FedEx		Orlando, FL 32811

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

	DATE YEAR 2003	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	PPL VOHs, BTEXM, and 1,2-DCA	PAHs 8260B	EDB 8310	504.1	Total Lead 6010B	TRPH FDEP-FLPRO			COMMENTS
			CONTAINER TYPE PLASTIC (P) or GLASS (G)							G	G	G	P	G				
			PRESERVATIVE USED							HCL	NA	NA	HNO3	HCL				
1	01/8	1015	OLFS-2406-DMW36	DMW36			GW	G	11	3	2	3	1	2				
2	01/8	1100	OLFS-2406-DMW35	DMW35			↓	↓	↓	↓	↓	↓	↓	↓				See WR N2642-WR836
2	01/8	1100	OLFS-2406-DMW35MS/MSD	DMW35			↓	↓	↓	↓	↓	↓	↓	↓				for Cmpd Lists and RLs
3			Trip Blank						2	↓		↓						

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY William Howard Engle	01/08/03	1500	1. RECEIVED BY 2nd ex		
2. RELINQUISHED BY 2nd ex	1/9/03	9:10	2. RECEIVED BY Wendell Edwards	1/9/03	0
3. RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	

COMMENTS

Southeast ACCUTEST. Laboratories

01/29/03

Technical Report for

Tetra-Tech, NUS

NAS Pensacola CTO# 274 N2642

N2642-WR#83 (ss)

Accutest Job Number: F16113

Report to:

Tetra Tech, NUS
Foster Plaza 7
661 Andersen Drive
Pittsburgh, PA 15220-2745

ATTN: Amy Thomson

Total number of pages in report: 479

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

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Accutest Laboratories Southeast, Inc.
Analytical Narrative

Client:	Tetra Tech, NUS
Site:	NAS Pensacola, CTO 274
Report Date:	January 29, 2003
Job Number:	F16113

3 samples were collected on January 08, 2003 and received on January 09, 2003.
Samples were properly cooled, preserved and intact. A listing of the Laboratory Sample ID, Client Sample ID, and dates of collection are presented in the Results Summary section of this report.

All method specified holding times, calibrations and quality control performance criteria were met, with the following notes:

VOCs, SW 846 8260B:

- The Blank Spike associated with analytical batch VC622 had one compound with a recovery above acceptance limits. This compound was non-detect in all associated samples. Data not adversely affected.
- The MS/MSD associated with analytical batch VC622 had various recoveries below and/or above acceptance limits. The Blank Spike was within limits, except where noted above. Data not adversely affected.

Accutest Laboratories Southeast, Inc. certifies that this report meets the project requirements for analytical data produced for the samples as received at the Accutest Laboratories Southeast location as stated in the Analytical Task Order and the COC. In addition, Accutest Laboratories Southeast, Inc. certifies that data as reported meet the Data Quality Objectives for precision, accuracy and completeness as specified in the Accutest Laboratories Southeast, Inc. Quality Manual for other that conditions detailed above. ALSE routinely reports Organic target analytes down to 1/2 the Reporting Level. These positive results are flagged with a "J" qualifier. It is recommended by Accutest Laboratories Southeast, Inc. that this report is to be used in its entirety. Accutest Laboratories Southeast, Inc. is not responsible for any assumptions of data quality if partial data packages are used to interpret data. The Accutest Laboratories Southeast, Inc. Laboratory Director as verified by the signature on the front page has authorized release of this report.

Narrative prepared by:

Date: January 29, 2003

Sue O. Bell, Project Manager (signature on file)

0005

Sample Summary

Tetra-Tech, NUS

Job No: F16113

NAS Pensacola CTO# 274 N2642
Project No: N2642-WR#83 (ss)

Sample Number	Collected Date	Collected Time By	Received	Matrix Code	Matrix Type	Client Sample ID
F16113-1	01/08/03	10:15 WH	01/09/03	AQ	Ground Water	OLFS-2406-DMW36
F16113-2	01/08/03	11:00 WH	01/09/03	AQ	Ground Water	OLFS-2406-DMW35
F16113-3	01/08/03	00:00 WH	01/09/03	AQ	Trip Blank Water	TRIP BLANK

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F16113
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

QC Batch ID: MP5076
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 01/10/03

Metal	RL	IDL	MB raw	final
Aluminum	200	6.6		
Antimony	5.0	1.5	anr	
Arsenic	10	2.8	anr	
Barium	200	.49	anr	
Beryllium	5.0	.26	anr	
Cadmium	5.0	.26	anr	
Calcium	1000	3.8	anr	
Chromium	10	.43	anr	
Cobalt	50	.5	anr	
Copper	25	.44	anr	
Iron	300	7.1	anr	
Lead	5.0	1.2	1.4	<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	.55	anr	
Sodium	5000	150	anr	
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47	anr	
Zinc	20	.59	anr	

Associated samples MP5076: F16113-1, F16113-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

0370

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16113
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC
QC Limits: result < RL

Date Analyzed: 01/13/03
Run ID: MA3132

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	.49	anr							
Beryllium	5.0	.26	anr							
Cadmium	5.0	.26	anr							
Calcium	1000	3.8	anr							
Chromium	10	.43	anr							
Cobalt	50	.5	anr							
Copper	25	.44	anr							
Iron	300	7.1	anr							
Lead	5.0	1.2	1.8	<5.0	1.5	<5.0	0.020	<5.0	0.68	<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	.55	anr							
Sodium	5000	150	anr							
Thallium	10	1.5								
Tin	50	2.2								
Vanadium	50	.47	anr							
Zinc	20	.59	anr							

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: F16113
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC
QC Limits: result < RL

Date Analyzed: 01/13/03
Run ID: MA3132

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	.49	anr	
Beryllium	5.0	.26	anr	
Cadmium	5.0	.26	anr	
Calcium	1000	3.8	anr	
Chromium	10	.43	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	.55	anr	
Sodium	5000	150	anr	
Thallium	10	1.5		
Tin	50	2.2		
Vanadium	50	.47	anr	
Zinc	20	.59	anr	

(*) Outside of QC limits
(anr) Analyte not requested

0361

MP 5076

Metals Digestion Log: Water

Method of Digestion: SW846-3010A/3005A/EPA 200.7 (CIRCLE ONE) Temp: 93 Thermometer ID 104

	HNO3	HCl	Spk. Sol.*	Amount Used*
Added:			1 Acc 287	1.0 mL
			2 Acc 288	.25 mL
			3 Met 8225	.5 mL
Mfg:	Fisher	Fisher		
Lot#	102100	4102020	Digestion Tube Lot#	C 2266

Sample #	Init. Vol/Wt	Fin. Vol/Wt	Date	Comments
MB 1/10/03	50 mL	50mL	1/10/03	
SB ↓	↓	↓	↓	
MS F16113-2	↓	↓	↓	
MSD -2	↓	↓	↓	
Dup -2	↓	↓	↓	
1 QC -2	↓	↓	↓	
2 ↓ -1	↓	↓	↓	
3 F16106-4	↓	↓	↓	
4 F16093-1	↓	↓	↓	
5 ↓ -2	↓	↓	↓	
6 F16109-1	↓	↓	↓	
7 F16096-1	↓	↓	↓	
8 F16097-1	↓	↓	↓	
9 F16098-1	↓	↓	↓	
10 F16603-1	↓	↓	↓	
11 F16103-2	↓	↓	↓	
12 3	↓	↓	↓	
13 4	↓	↓	↓	
14 5	↓	↓	↓	
15 6	↓	↓	↓	
16 7	↓	↓	↓	
17 8	↓	↓	↓	
18 ↓ 9	↓	↓	↓	
19				
20				

Analyst Lanna Eth Date 1/10/03

QC Review DMitzgar Date 1/10/03

Rev. 11/08/02 DJM Used For SB, MS, MSD Page Number:

0383

000026

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16113
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC
Analyst: DM
Parameters: Pb

Date Analyzed: 01/13/03
Run ID: MA3132

Methods: SW846 6010B

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:19	MA3132-ICV1	1		
10:21	MA3132-ICB1	1		
10:24	MA3132-CRI1	1		
10:27	MA3132-CRI2	1		
10:28	MA3132-ICSA1	1		
10:31	MA3132-ICSAB1	1		
10:38	MA3132-CCV1	1		
10:44	MA3132-CCB1	1		
10:48	MP5079-MB1	1		
10:52	MP5079-B1	1		
10:59	ZZZZZZ	1		
11:03	F16117-1	1		(sample used for QC only; not part of login F16113)
11:06	MP5079-D1	1		
11:10	MP5079-SD1	5		
11:14	MP5079-S1	1		
11:18	MP5079-S2	1		
11:25	ZZZZZZ	1		
11:28	ZZZZZZ	1		
11:32	MA3132-CCV2	1		
11:39	MA3132-CCB2	1		
11:43	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:50	ZZZZZZ	1		
11:54	ZZZZZZ	1		
11:58	ZZZZZZ	1		
12:02	ZZZZZZ	1		
12:06	ZZZZZZ	1		
12:10	ZZZZZZ	1		
12:14	ZZZZZZ	1		
12:18	ZZZZZZ	1		
12:22	MA3132-CCV3	1		
12:28	MA3132-CCB3	1		
12:42	ZZZZZZ	1		

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Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16113
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC Date Analyzed: 01/13/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3132
Parameters: Pb

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	12:45	MP5076-MB1	1		
	12:49	MP5076-B1	1		
	12:55	F16113-2	1		
	12:58	MP5076-D1	1		
	13:02	MP5076-SD1	5		
	13:05	MP5076-S1	1		
	13:09	MP5076-S2	1		
	13:15	F16113-1	1		
---------->	Last reportable sample/prep for job F16113				
	13:19	ZZZZZZ	1		
	13:22	MA3132-CCV4	1		
	13:28	MA3132-CCB4	1		
---------->	Last reportable CCB for job F16113				
	13:32	ZZZZZZ	1		
	13:35	ZZZZZZ	1		
	13:39	ZZZZZZ	1		
	13:42	ZZZZZZ	1		
	13:46	ZZZZZZ	1		
	13:49	ZZZZZZ	1		
	13:53	ZZZZZZ	1		
	13:56	ZZZZZZ	1		
	14:00	ZZZZZZ	1		
	14:03	ZZZZZZ	1		
	14:07	MA3132-CCV5	1		
	14:13	MA3132-CCB5	1		
	14:16	ZZZZZZ	1		
	14:20	ZZZZZZ	1		
	14:23	ZZZZZZ	1		
	14:27	ZZZZZZ	1		
	14:30	ZZZZZZ	1		
	14:34	MP5078-MB1	1		
	14:37	MP5078-B1	1		
	14:43	F16089-1	1		(sample used for QC only; not part of login F16113)
	14:47	MP5078-D1	1		
	14:50	MP5078-SD1	5		

0380

Accutest Laboratories Instrument Runlog
Inorganics Analyses

Login Number: F16113
Account: TETRFLTA - Tetra-Tech, NUS
Project: NAS Pensacola CTO# 274 N2642

File ID: IR011303.ASC Date Analyzed: 01/13/03 Methods: SW846 6010B
Analyst: DM Run ID: MA3132
Parameters: Pb

Time	Sample Description	Dilution Factor	PS Recov	Comments
14:54	MA3132-CCV6	1		
15:00	MA3132-CCB6	1		
15:03	MP5078-S1	1		
15:07	MP5078-S2	1		
15:13	ZZZZZZ	1		
15:18	MA3132-CRI3	1		
15:21	MA3132-CCV7	1		
15:27	MA3132-CCB7	1		

Refer to raw data for calibration curve and standards.

0381

APPENDIX F

SLUG TEST DATA AND ANALYTICAL PLOTS

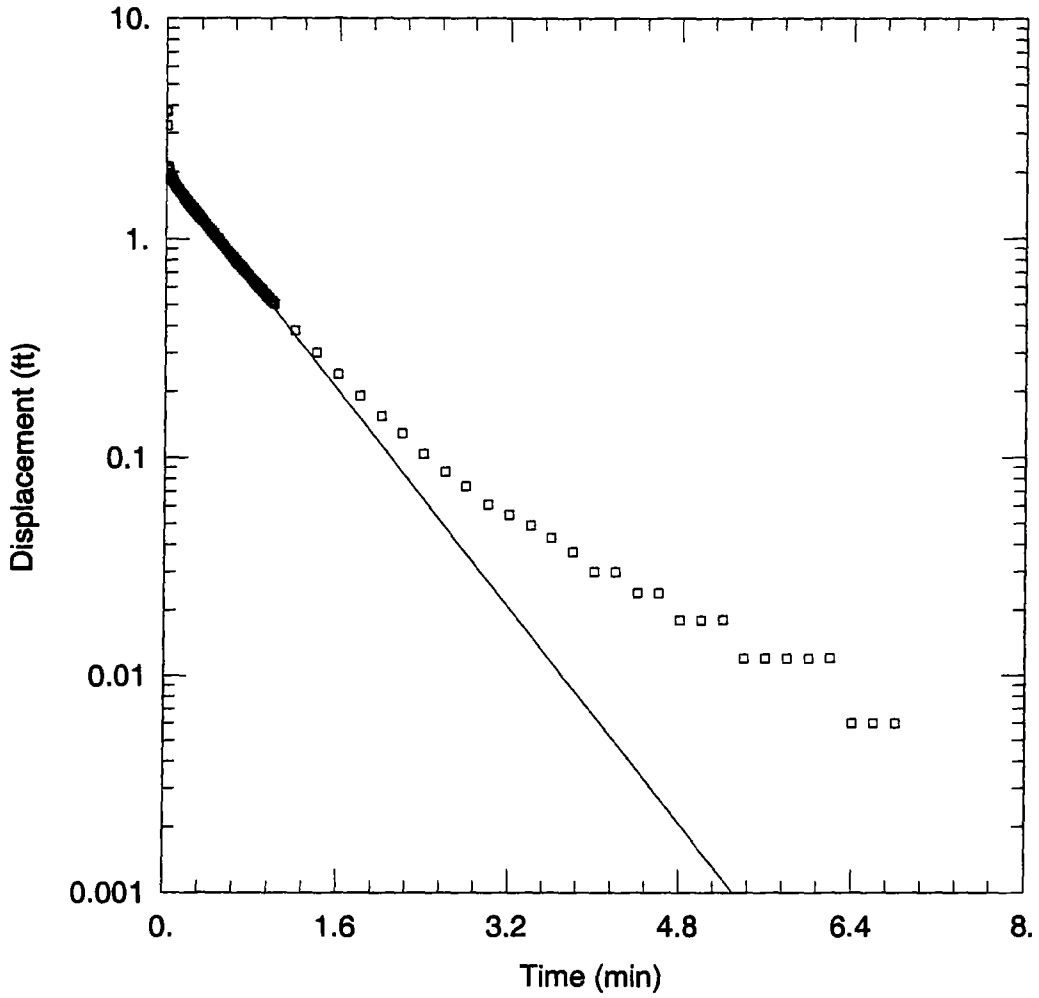
Site Information	
Site Name	UST 2406
Project	OLF SAUFLEY
Project Number	N 2042
Date	1/31/03
Personnel	W.D. Olson / M. Akers

Well Information	
Name	DMW-30
Inside Diameter	2"
Borehole Diameter	8"
Total Depth	81.70
Depth to Water	39.78
Water Column	41.92
Screen length	5
TOC Elevation	

Data Logger	
Model	SE 1000B
Serial Number	LKB -761
Test Rate	Log 1
Mode (TOC/SUR)	SUR / TOC / SUR
Level/Func.	Level

XD	
Model	PTX-161D
Serial Number	276708
Scale	19.512
Offset	-0.034
Linearity	NA
PSI	20

Test Data			
Test Number	T7	T8	T9
ID	30	30	30
Slug In/Out	IN	OUT	IN
XD depth	50'	50'	50'
XD install time	1055	1055	1055
XD reading	10.00	10.08	10.06
slug depth	~~35~~ 39.7	39.7	39.7
slug install time	1105	1108	1140
slug length	5'	5'	5'
slug diameter	1 1/4"	1 1/4"	1 1/4"
slug volume			
slug displacement			
reference setting	0.00	0.00	0.00
reference reading	10.06	10.08	10.07
start time	1108	1120	1140
initial displacement	2.471	3.85 3.833	2.736
end time	1118	1130	1150
final XD reading	10.07	10.06	10.08



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW30OU1.AQT
Date: 02/06/03 Time: 10:53:42

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

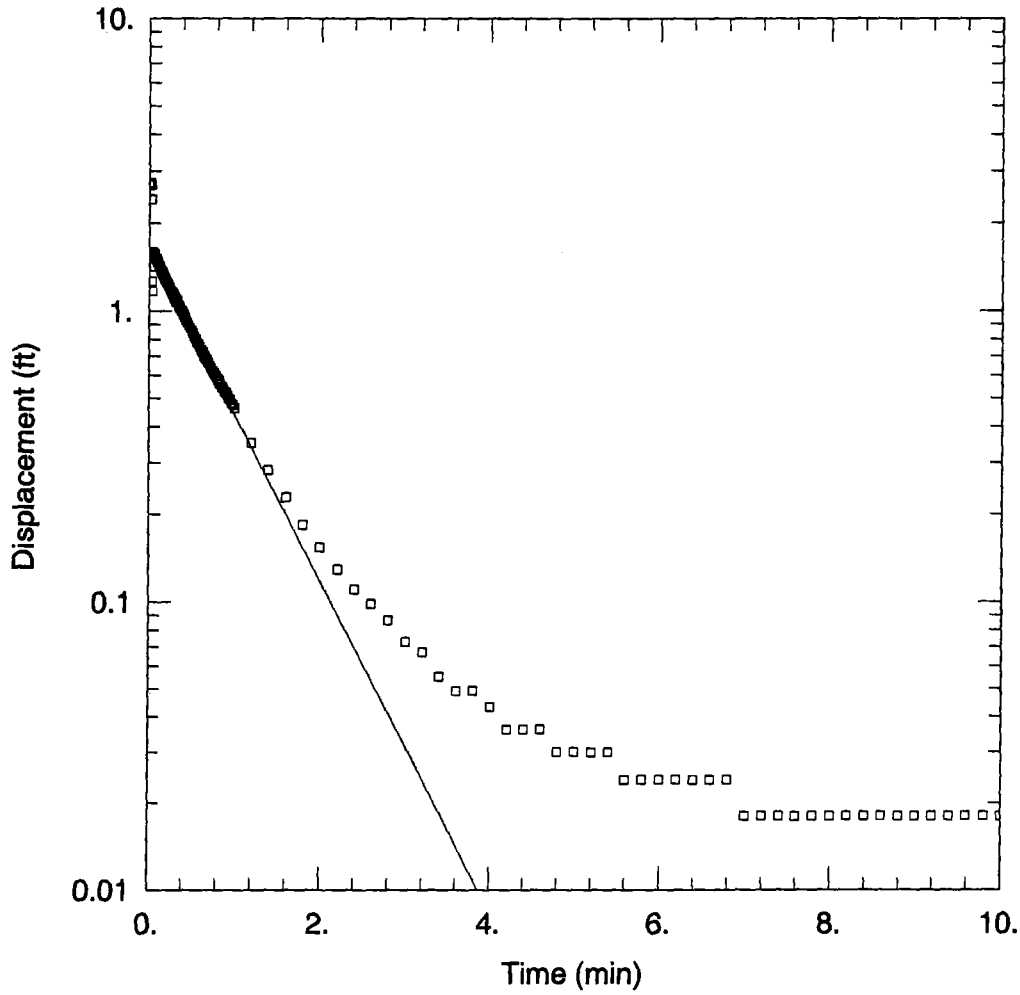
Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 3.833 ft
Casing Radius: 0.0833 ft
Screen Length: 5. ft
Water Column Height: 41.92 ft
Wellbore Radius: 0.3333 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01778 ft/min
y0 = 2.015 ft



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW30IN2.AQT
Date: 02/06/03 Time: 10:47:30

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

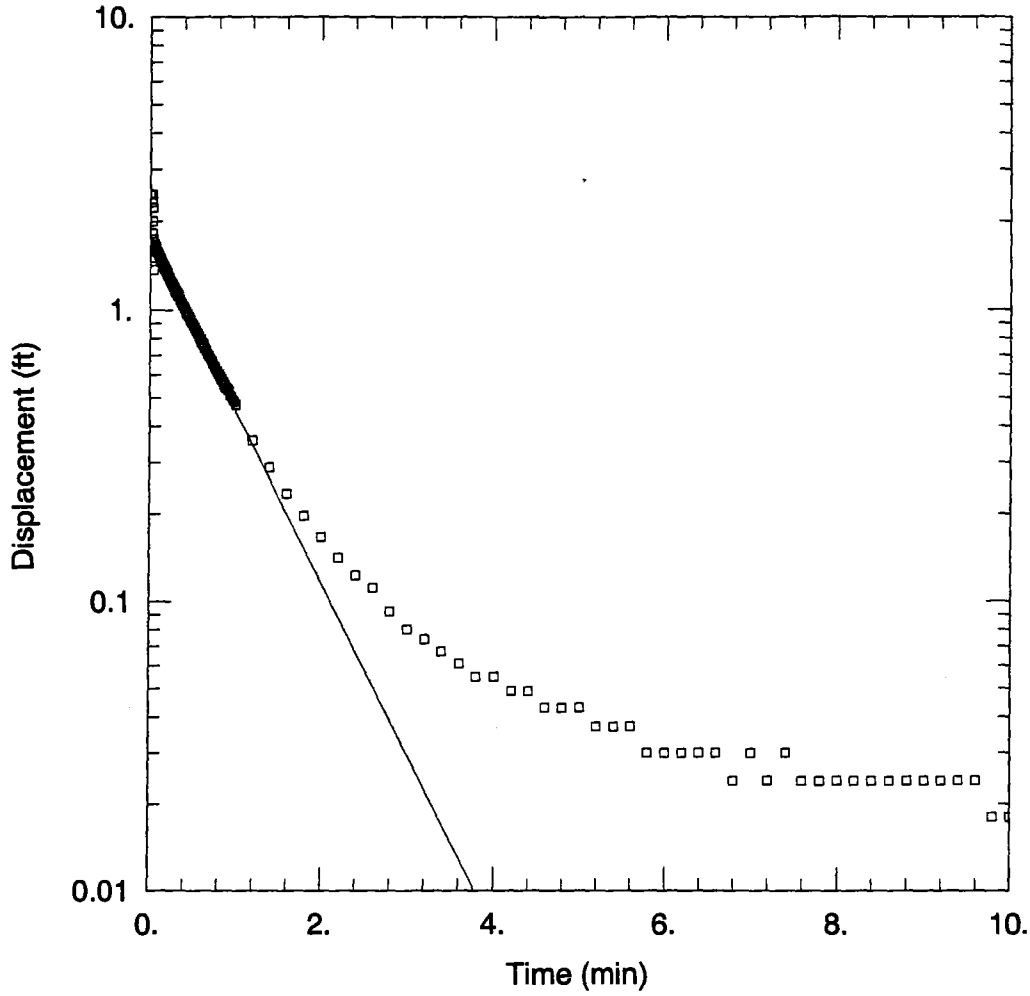
Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 2.736 ft
Casing Radius: 0.0833 ft
Screen Length: 5. ft
Water Column Height: 41.92 ft
Wellbore Radius: 0.3333 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01635 ft/min
y0 = 1.647 ft



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW30IN1.AQT
Date: 02/06/03 Time: 10:39:49

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 2.471 ft
Casing Radius: 0.0833 ft
Screen Length: 5. ft
Water Column Height: 41.92 ft
Wellbore Radius: 0.3333 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.01694 ft/min
y0 = 1.777 ft

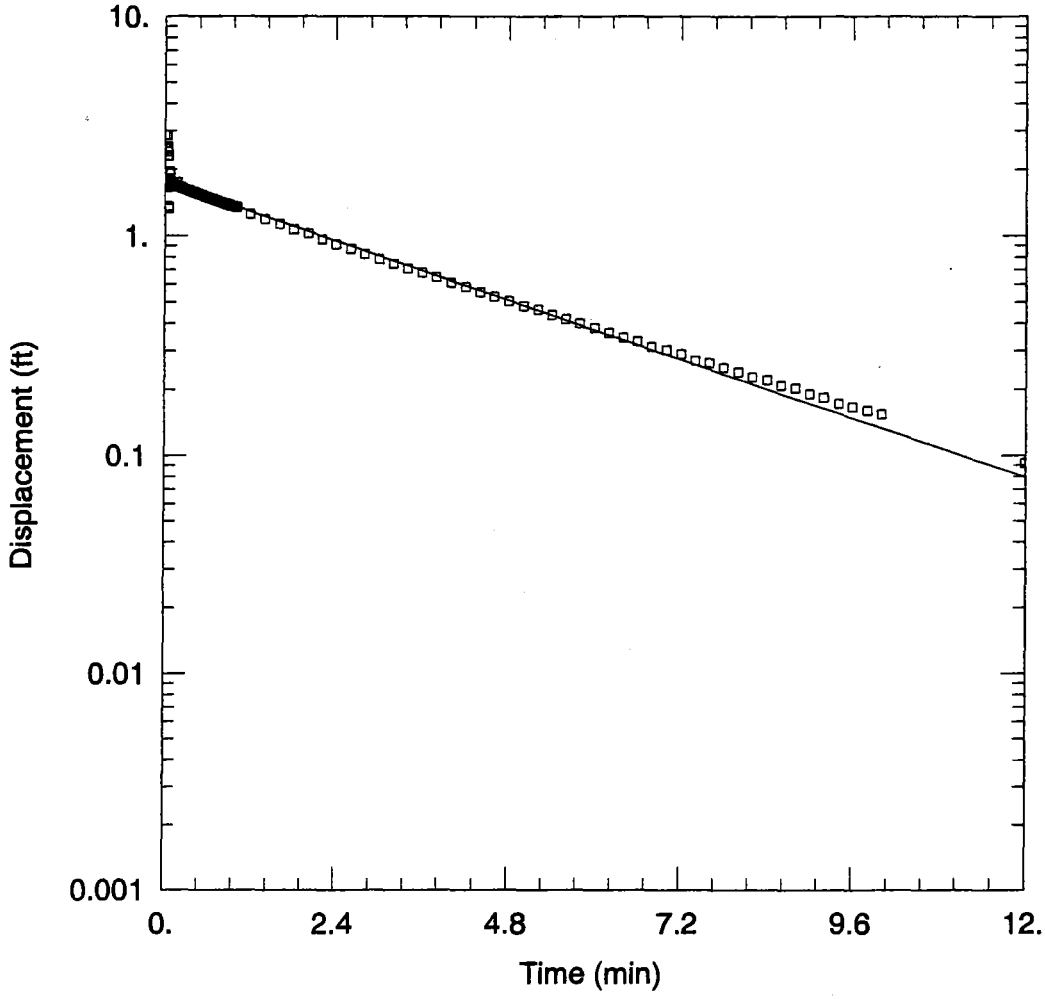
Site Information	
Site Name	UST 2406
Project	Saufley
Project Number	N
Date	N2642
Personnel	1/31/03
	W.D. Olson / M. Akers

Well Information	
Name	DMW-31
Inside Diameter	2"
Borehole Diameter	8" ?
Total Depth	79.29
Depth to Water	28.36
Water Column	50.93
Screen length	5'
TOC Elevation	

Data Logger	
Model	SE 1000B
Serial Number	1KB-761
Test Rate	Log 1
Mode (TOC/SUR)	SUR / TOC / SUR
Level/Func.	Level

XD	
Model	PTX-161D
Serial Number	276708
Scale	19.512
Offset	-0.034
Linearity	NA
PSI	20

Test Data			
Test Number	T4	T5	T6
ID	31	31	31
Slug In/Out	IN	OUT	IN
XD depth	50'	50'	50'
XD install time	0907	0907	0907
XD reading	21.30		
slug depth	33.4	33.4	33.4
slug install time	0920	0940	
slug length	5'	5'	5'
slug diameter	1 1/4"	1 1/4"	1 1/4"
slug volume			
slug displacement			
reference setting	0.00	0.00	0.00
reference reading	~~21.20~~ 21.07	21.08	21.08
start time	0940	1004	1035
initial displacement	2.724	4.814	2.960
end time	1000	1024	1047
final XD reading	~~20~~ 21.07	~~1024~~ 21.03	21.16



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW31IN2.AQT
Date: 02/06/03 Time: 11:09:27

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

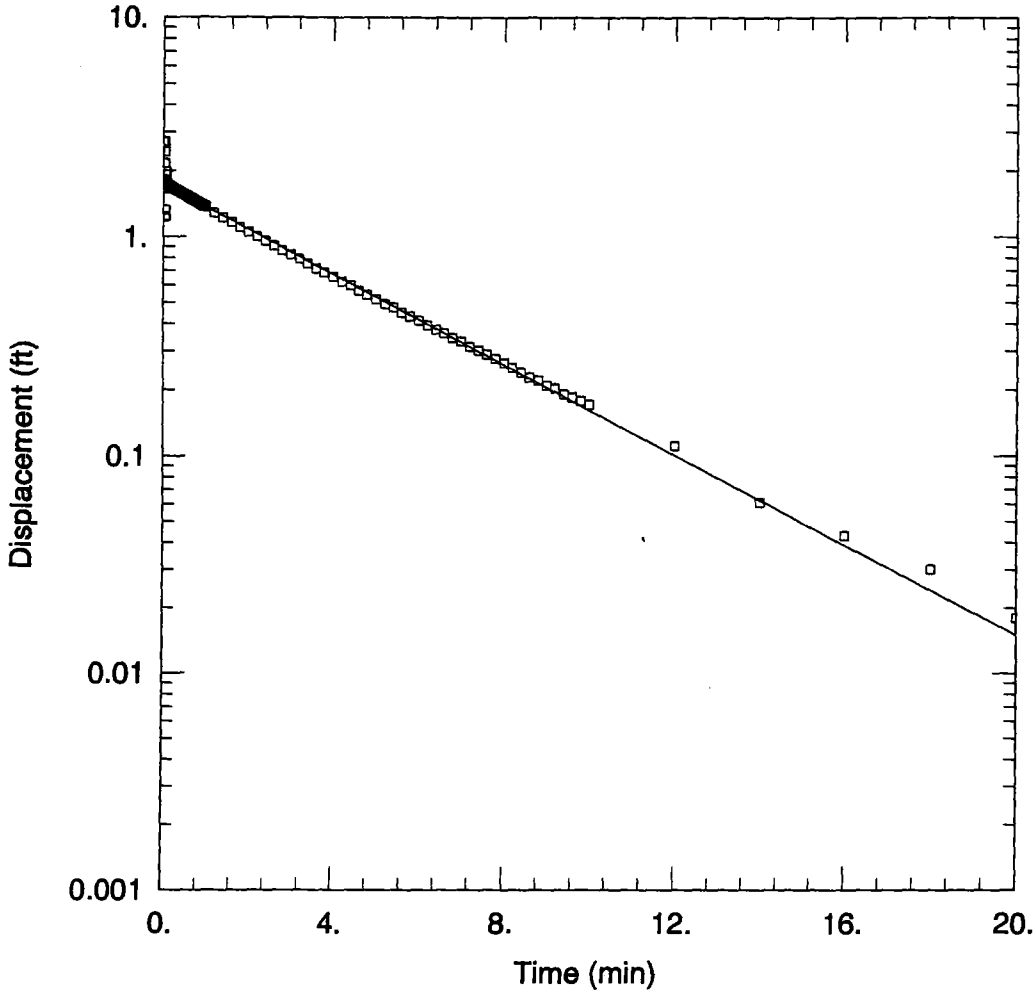
Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 2.86 ft
Casing Radius: 0.0833 ft
Screen Length: 5. ft
Water Column Height: 50.93 ft
Wellbore Radius: 0.3333 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003258 ft/min
y0 = 1.752 ft



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW31IN1.AQT
Date: 02/06/03 Time: 11:00:51

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

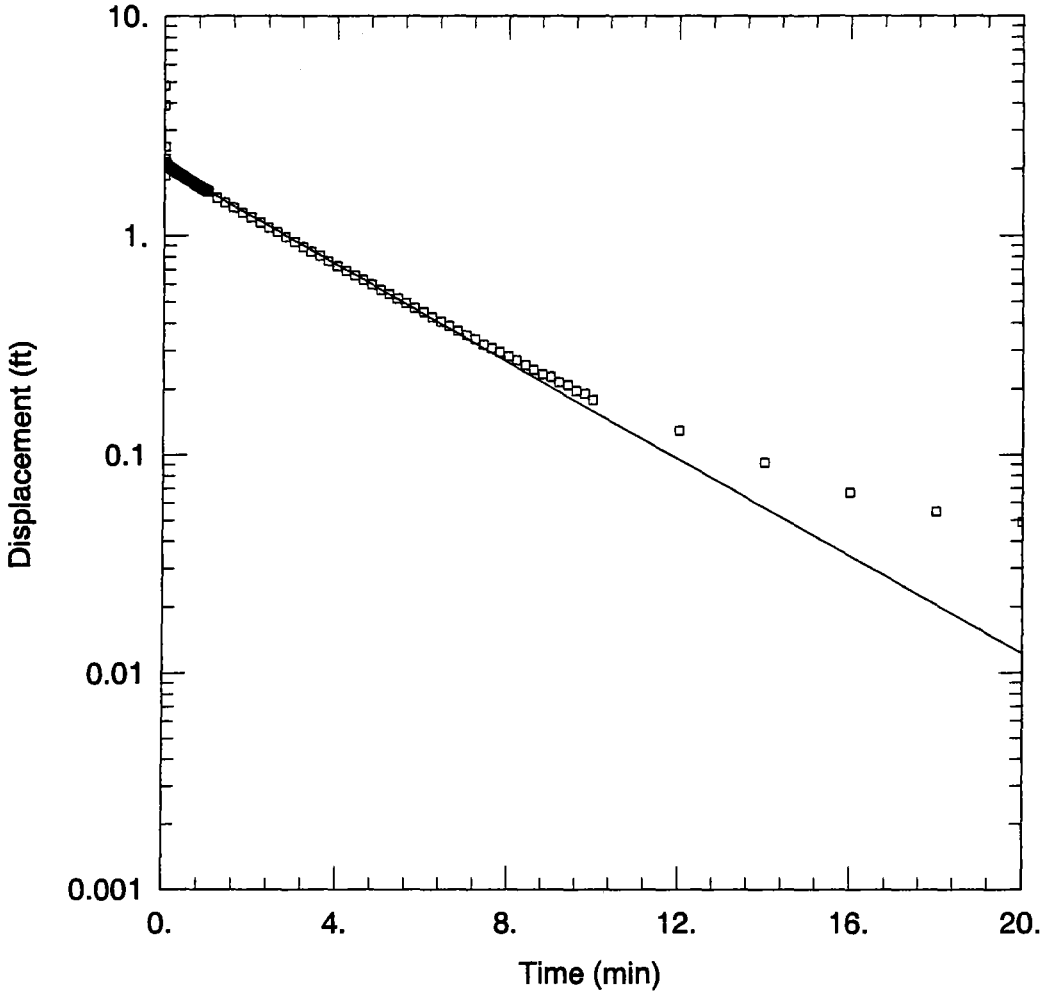
Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 2.724 ft
Casing Radius: 0.0833 ft
Screen Length: 5. ft
Water Column Height: 50.93 ft
Wellbore Radius: 0.3333 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003001 ft/min
y0 = 1.735 ft



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW31OU1.AQT
Date: 02/06/03 Time: 11:13:30

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 4.814 ft
Casing Radius: 0.0833 ft
Screen Length: 5. ft
Water Column Height: 50.93 ft
Wellbore Radius: 0.3333 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.003234 ft/min
y0 = 2.047 ft

Site Information	
Site Name	UST 2406
Project	Saufley
Project Number	N2642
Date	1/31/03
Personnel	W.D. Olson / M: Akers

Well Information	DMW32
Name	DMW32
Inside Diameter	2"
Borehole Diameter	6"
Total Depth	~~130'~~ 140'
Depth to Water	29.20
Water Column	100.80
Screen length	5'
TOC Elevation	

Data Logger	
Model	SE 1000B
Serial Number	1KB-761
Test Rate	Log 1
Mode (TOC/SUR)	SUR (TOC/SUR
Level/Func.	Level

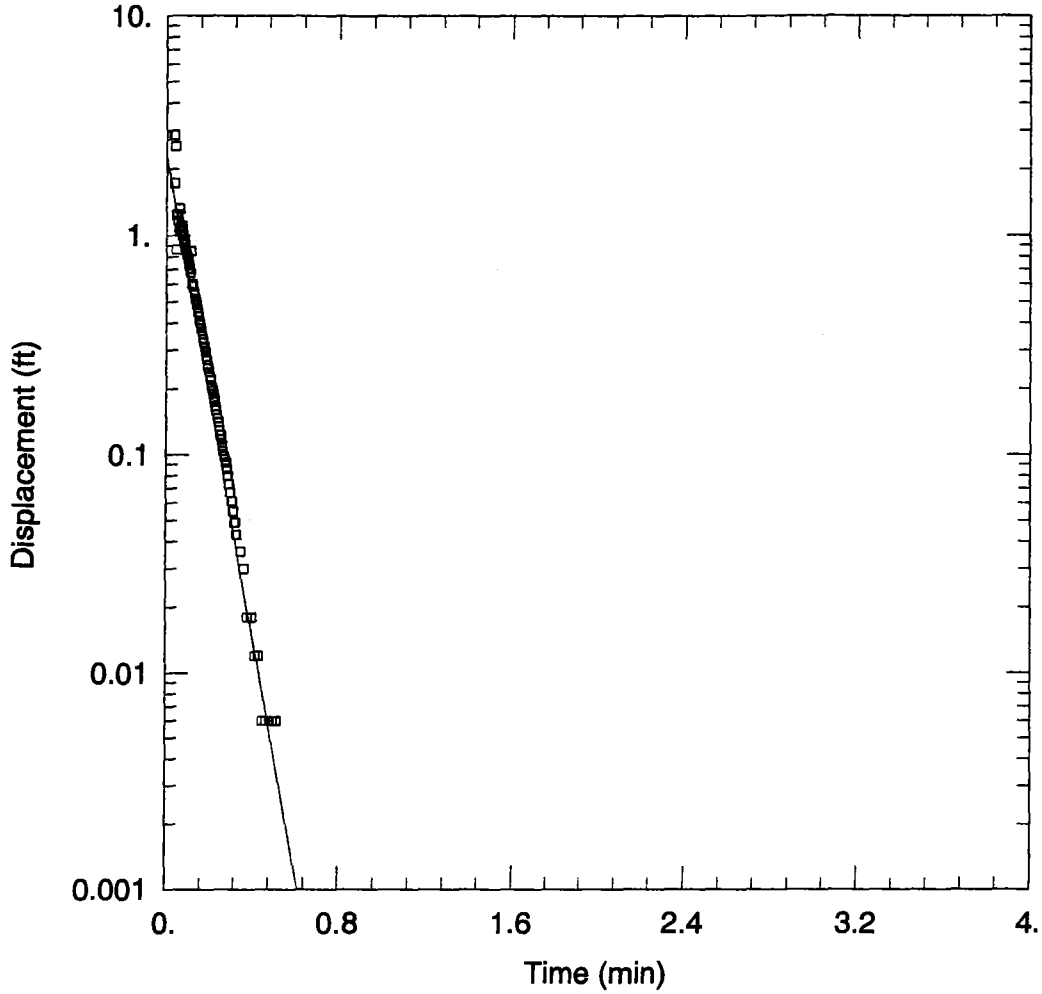
XD	
Model	PTX-161D
Serial Number	276708
Scale	19.512
Offset	-0.034
Linearity	NA
PSI	20

Test Data			
Test Number	T1	T2	T3
ID	32	32	32
Slug In/Out	IN	OUT	IN
XD depth	50'	50'	50'
XD install time	0900	0906	0900
XD reading	20.35	20.56	20.57
slug depth	35'	35'	35'
slug install time	0810	0816	0845
slug length	5'	5'	5'
slug diameter	1¼"	1¼"	1¼"
slug volume			
slug displacement			
reference setting	00.00	0.00	0.00
reference reading	20.55	20.57	20.59
start time	0818	0832	0850
initial displacement	2.539	2.12 2.150	2.83 2.841
end time	0828	0845	0900
final XD reading	20.56	20.57	20.57

add ~~0.006~~ 0.030

add 0.006

2691-655
0581



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW32IN2.AQT
Date: 02/06/03 Time: 11:24:05

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

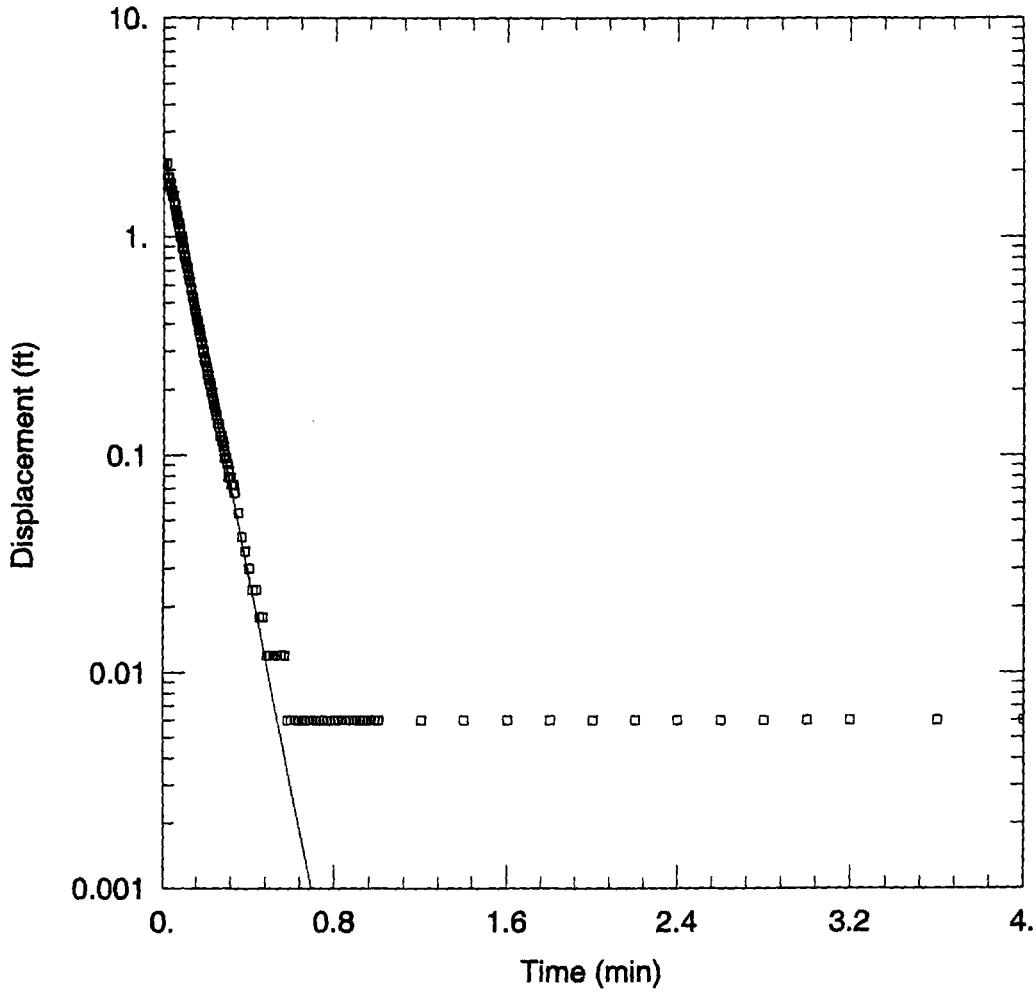
Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 2.841 ft
Water Column Height: 110.8 ft
Casing Radius: 0.0833 ft
Wellbore Radius: 0.25 ft
Screen Length: 5. ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
K = 0.1141 ft/min
Solution Method: Bouwer-Rice
y0 = 2.302 ft



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW32OU1.AQT
Date: 02/06/03 Time: 11:27:20

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

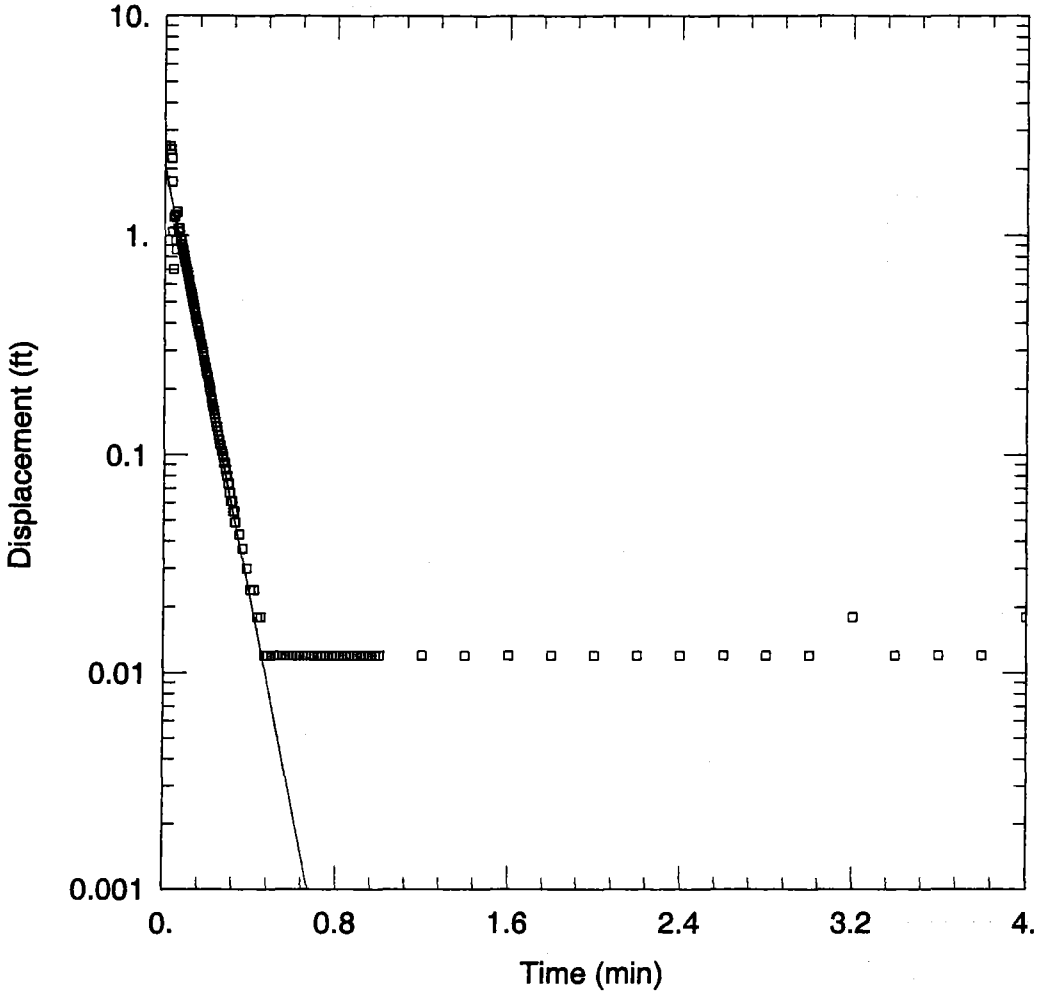
Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 2.15 ft
Casing Radius: 0.0833 ft
Screen Length: 5. ft
Water Column Height: 110.8 ft
Wellbore Radius: 0.25 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.102 ft/min
y0 = 2.435 ft



WELL TEST ANALYSIS

Data Set: E:\NAVY\NASPEN~1\CTO274~1\FIELDD~1\SLUGTE~1\DMW32IN1.AQT
Date: 02/06/03 Time: 11:21:31

PROJECT INFORMATION

Company: Tetra tech NUS
Client: South Div
Project: N2642
Test Location: Bldg 2406 SFY
Test Well: DMW-30
Test Date: 1/31/03

AQUIFER DATA

Saturated Thickness: 500. ft
Anisotropy Ratio (Kz/Kr): 0.1

WELL DATA

Initial Displacement: 2.539 ft
Casing Radius: 0.0833 ft
Screen Length: 5. ft
Water Column Height: 110.8 ft
Wellbore Radius: 0.25 ft
Gravel Pack Porosity: 0.3

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice
K = 0.1032 ft/min
y0 = 2.071 ft