2004 ANNUAL AS/SVE MONITORING REPORT
HADNOT POINT FUEL FARM/BUILDING 1115 SITES
MARINE CORPS BASE, CAMP LEJEUNE
ONSLOW COUNTY, NORTH CAROLINA

Prepared for:

Naval Facilities Engineering Command, Atlantic



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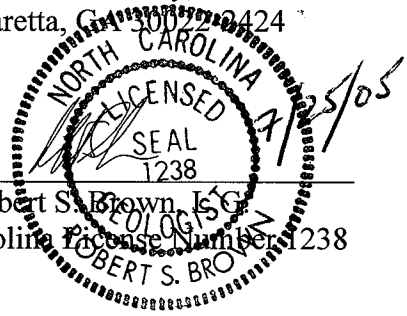
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July 2005
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TITLE PAGE

The facility name, UST owner, UST operator, and UST information is provided below:

UST Location:	Hadnot Point Industrial Area Former Hadnot Point Fuel Farm Along Ash Street Building 1115 Near Holcomb Boulevard and Ash Street Onslow County Camp Lejeune, NC 28562
UST Incident Number:	3671, 10615 and 22788
Facility ID Number:	0-002740
Risk Classification:	Intermediate
Land Use Category:	Industrial/Commercial
UST Owner:	Commanding General, MCB I&E/EMD/EQB PSC Box 20004 Onslow County Camp Lejeune, NC 28542 (910) 451-5068
UST Operator:	Commanding General, MCB I&E/EMD/EQB PSC Box 20004 Onslow County Camp Lejeune, NC 28542 (910) 451-5068
Primary Responsible Party Contact:	Nikki Hall Environmental Engineer I&E/EMD/EQB PSC Box 20004 Camp Lejeune, NC 28542 (910) 451-5068
Date of Release:	Unknown
Quantity of Release:	Unknown
Source of Release:	UST system along with one AST
Latitude and Longitude:	34° 40' 18.891" N 77° 19' 56.7026" W

Tank Number	Installation Date	Tank Capacity	Tank Dimensions	Last Contents	Previous Contents
HPFF-1	Around 1941	12000	Unknown	Petroleum Products	Petroleum Products
HPFF-2	Around 1941	12000	Unknown	Petroleum Products	Petroleum Products
HPFF-3	Around 1941	12000	Unknown	Petroleum Products	Petroleum Products
HPFF-4	Around 1941	12000	Unknown	Petroleum Products	Petroleum Products
HPFF-5	Around 1941	12000	Unknown	Petroleum Products	Petroleum Products
HPFF-6	Around 1941	12000	Unknown	Petroleum Products	Petroleum Products
HPFF-7	Around 1941	15000	Unknown	Petroleum Products	Petroleum Products
HPFF-8	Around 1941	15000	Unknown	Petroleum Products	Petroleum Products
HPFF-9	Around 1941	15000	Unknown	Petroleum Products	Petroleum Products
HPFF-10	Around 1941	15000	Unknown	Petroleum Products	Petroleum Products
HPFF-11	Around 1941	15000	Unknown	Petroleum Products	Petroleum Products
HPFF-12	Around 1941	15000	Unknown	Petroleum Products	Petroleum Products
HPFF-13	Around 1941	15000	Unknown	Petroleum Products	Petroleum Products
HPFF-14	Around 1941	15000	Unknown	Petroleum Products	Petroleum Products
HPFF-15	Around 1941	600000 (AST)	Unknown	Petroleum Products	Petroleum Products
1100-1	1942	1000	Unknown	Gasoline	Petroleum Products
1100-2	1942	3000	Unknown	Gasoline	Petroleum Products
1100-3	1942	3000	Unknown	Gasoline	Petroleum Products
1100-4	1942	5000	Unknown	Unknown	Unknown
1100-5	1942	5000	Unknown	Unknown	Unknown
1100-6	1942	5000	Unknown	Unknown	Unknown
1100-7	1942	5000	Unknown	Unknown	Unknown

1.0 INTRODUCTION

This annual monitoring report presents the monitoring results collected from September 2003 through August 2004, describes current groundwater contamination conditions, and provides recommendations for the Air Sparge (AS)/Soil Vapor Extraction (SVE) treatment system located at Building 1115 and the former Hadnot Point Fuel Farm (HPFF) site. The report is submitted per the Corrective Action Plan (CAP) dated April 4, 1998 to remediate a release of petroleum and is in compliance with *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, Volume II, Petroleum Underground Storage Tanks*, published by the State of North Carolina's Department of Environment and Natural Resources (NCDENR) Division of Water Quality dated April 2001.

The report provides a brief account of the environmental history of the site, summarizes the original CAP, describes the installation and operation of the recommended remedial alternative, and provides a brief discussion of the Revised CAP that was completed in 2003. The report provides a discussion of monitoring results of the AS/SVE system's operation and the current status of groundwater quality compared to baseline data. The report also presents conclusions about remedial progress to date and makes recommendations for further system operation.

1.1 CAMP LEJEUNE MARINE BASE LOCATION AND DESCRIPTION

Located in Onslow County, North Carolina, Marine Corps Base (MCB) Camp Lejeune is a training base for the United States Marine Corps. The base covers approximately 236 square miles (153,000 acres) and includes 14 miles of coastline. MCB Camp Lejeune is bound to the southeast by the Atlantic Ocean and to the northeast by State Route 24. Wooded areas are located north, east, and west of the site. The town of Jacksonville, North Carolina, is located north of the base (*Figure 1.1*).

1.2 SITE GEOLOGY/HYDROGEOLOGY

The project area is dominated by relatively flat topography. The nearest mapped body of surface water is Beaverdam Creek, located approximately 1,400 feet to the west of the Hadnot Point Fuel Farm/Building 1115 area. Surface water runoff from the site is diverted into a network of storm drains and shallow drainage ditches located across the site. Storm water collected by this system of drains and ditches ultimately discharges to the New River.

Sediment and stratigraphy at the site indicate a marine or near shore environment of deposition. Interfingering layers of very fine to fine grained sand, silty sand, and clayey sand occurs to a depth of approximately 12 feet below land surface (bls). Thin discontinuous beds of very fine to medium-grained sand, silty sand, sandy clay, and clay and peat with limited lateral continuity have been identified from 12 to 25 feet bls. Medium to fine-grained sandy clay, sand with minor silts, and clay with minor silts are typically encountered from below 25 feet bls to the limestone interface at an approximate depth of 40 feet bls. No continuous, confining layer has been identified during contamination assessment work at the site. However, numerous discontinuous thin beds of clay, sandy clay, and silty sand have been identified in the subsurface and may act as localized, small-scale confining units.

The groundwater aquifer is classified as GA groundwaters according to the North Carolina Administrative Code (NCAC) Title 2L Subchapter 15A, Section .0201 Groundwater Classifications. A Potential Receptor survey completed by CATLIN in 1998 did not identify any active potable water supply wells within 1,500 feet of the site, or the potential to impact surface water bodies near the site ("Leaking Underground Storage Tank Corrective Action Plan" dated 1998). Depth to groundwater ranges from 4 to 12 feet bls in shallow Type II monitoring wells. In general, the direction of groundwater flow at the site is to the west.

1.3 HADNOT POINT BUILDING 1115 FUEL FARM SITE DESCRIPTION

The site is located in the Hadnot Point "mainside" area of MCB Camp Lejeune, North Carolina *(Figure 1.2)*. The project area, the Hadnot Point Fuel Farm/Building 1115, is generally bound by Holcomb Boulevard to the north, Michael Road to the south, Birch Street to the west, and the Vehicle Ready Fuel Storage facility and Temporary Fuel Farm (off Michael Road) to the east.

The project area consists of two primary source areas: the HPFF (Southeast Compound) and the former underground storage tanks (USTs) associated with Building 1115 (Northwest Compound). Free-phased product has been observed and dissolved-phase contamination appears to have migrated from the source areas and commingled to form a continuous plume of groundwater contamination.

1.3.1 Hadnot Point Fuel Farm Area

The HPFF was constructed in about 1941 and consisted of 15 fuel storage tanks including: one 600,000-gallon aboveground storage tank, six 12,000-gallon USTs, and eight 15,000-gallon USTs. The tanks contained diesel fuel, gasoline, unleaded gasoline, and kerosene. There have been numerous recorded losses of product including diesel and unleaded gasoline. Most of the losses likely occurred because of leaks in transfer lines or transfer line valves. Leaks in the fuel lines and tanks were documented as early as 1979.

1.3.2 Building 1115 Area

Building 1115 was constructed as a fleet service and refueling area. Seven USTs were located west of the building. Three of the USTs contained gasoline and the other four contained either diesel or gasoline. There have been no reports of known releases from the tanks or distribution system associated with Building 1115. Closure of the seven USTs, which consisted of excavation and removal, was completed in March 1993. Free-phase product was observed in the tank excavation during the UST closure activities.

2.0 CONTAMINATION INVESTIGATION HISTORY

2.1 HADNOT POINT FUEL FARM AREA

The HPFF area has been the focus of numerous soil and groundwater investigations. A Verification Step Study for the Hadnot Point Industrial Area (HPIA) was completed in 1985, and a Characterization Step Report for the HPIA was completed during 1988. These investigations identified the presence of dissolved fuel constituents and/or free product associated with the shallow groundwater.

A Contaminated Groundwater Study was completed in December 1988 to investigate the site hydrogeology and delineate the contaminated groundwater plume. The study identified the presence of free product and dissolved contaminants of concern (COCs) that included: benzene, toluene, ethylbenzene and xylenes (BTEX); methyl tertiary butyl ether (MTBE); trichloroethene (TCE); and tetrachloroethane (PCA).

In 1991, a free-product recovery system consisting of five free-product recovery wells was installed at the HPFF. The system was operated through 1997 when it was discontinued in favor of Aggressive Fluid/Vapor Recovery (AFVR) activities. An estimated 27,000 gallons of free product were recovered by the system. In September 1999 three of the recovery wells (16R, RW4, and RW5) were brought back on line.

A Comprehensive Site Assessment (CSA) was completed in June 1997. Results of this investigation identified soil contamination, free-phase product contamination, and dissolved-phase groundwater contamination at the HPFF. However, the CSA did not delineate the extent of the soil contaminant plume, the downgradient extent of the free product, or the downgradient and vertical extent of the dissolved contaminant plume.

2.2 BUILDING 1115 AREA

A limited site assessment consisting of 10 monitoring wells was completed in October 1993. The findings of the assessment revealed that soil contamination, free-phase product contamination, and dissolved-phase groundwater contamination existed at the site. Additional contamination assessment work completed from 1993 through 1995 required the installation of monitoring wells to depths ranging from 10 feet deep (shallow), 50 feet deep (intermediate), and 100 feet deep (deep aquifer). Soil and groundwater analytical results provided additional information (but did not completely

delineate) on the extent of the soil contamination, and the existence of free-phase product, as well as the horizontal and vertical extent of dissolved contamination. Subsequent contamination assessment investigations completed in 1997 further defined the extent of contamination at the site. This information was used to develop the initial CAP that was submitted and subsequently approved by the NCDENR in April 1998.

2.3 CORRECTIVE ACTION PLAN

A potential receptor survey was performed during preparation of the CAP. No active water supply wells were identified within 1,500 feet of the site. The nearest active supply well at the base, HP-642, is located upgradient of the groundwater flow approximately 2,600 feet east-southeast of the project site. The nearest mapped body of surface water is Beaverdam Creek, located approximately 1,400 feet to the west of the site. A Natural Attenuation Fate and Transport Study determined contaminants at the site would not adversely affect the surface waters of the creek.

The remedial goals of the original CAP were as follows:

- Contain the free-product plumes to prevent further migration and remove accumulations of free product to the extent practicable.
- Reduce levels of unsaturated zone soil contamination in selected areas to less than the Action Levels as specified by the NCDENR.
- Prevent further migration of contaminated groundwater in the core or "hot spot" of the upper portion of the plume (less than 50 feet deep) through active remediation. The goal is to contain the "hot spots" and reduce their impact on the quality of the surrounding groundwater, as well as reduce contaminant concentrations to a level that natural degradation and attenuation can complete the remediation process.
- Reduce groundwater contamination in the "hot spots" of the lower portion of the dissolved plume (below 50 feet deep).
- Demonstrate that the natural processes of degradation and attenuation of contaminants is occurring in the fringe areas of both the upper and lower dissolved contaminant plumes.

Table 2.1 provides Site Rehabilitation Goals presented in the CAP. Contaminants identified in the CAP above State Action Levels and NCAC T15A:02L Groundwater Quality Standards at the site include:

- Gasoline-range Organic Total Petroleum Hydrocarbons (TPH-GRO) and Diesel-range Organic Total Petroleum Hydrocarbons (TPH-DRO)
- BTEX
- Naphthalene
- Tetrachloroethene (PCE)
- 1,2-Dichloroethene (DCE)
- Trichloroethene (TCE)
- 1,2-Dichloropropane
- trans-1,2-Dichloroethene

Based on the remedial technology screening process completed during development of the CAP, the most cost-effective remediation strategy for the HPFF/Building 1115 site included the following:

- AFVR for removal of free product
- Installation of free product recovery trenches along the leading edge of the free-product plumes to augment the AFVR (The trenches at the NW compound were not installed because free-phase product was not observed during system installation). The trenches at the SE compound were replaced with a dedicated free product recovery system comprised of existing and some new recovery wells.
- Soil vapor extraction for reduction of unsaturated soil remediation
- Air sparging for the containment and reduction of "shallow" dissolved hydrocarbons coupled with vapor collection and discharge to the atmosphere of petroleum hydrocarbon vapors
- Biosparging for reduction of "deep" dissolved hydrocarbons
- Natural attenuation of low concentrations of dissolved-phase petroleum constituents in the "shallow" and "deep" portions of the aquifer

2.4 REVISED CORRECTIVE PLAN (CAP)

CATLIN Engineers and Scientists submitted a CAP Addendum to the NCDENR titled "*Revised Corrective Action Plan for Hadnot Point Fuel Farm*" and dated June 13, 2003. The addendum was prepared following additional soil assessment activities, groundwater

investigation work, and completion of a long term groundwater pumping test completed by CATLIN. Recommendations of the Revised CAP included continued operation of the existing AS/SVE systems, continued AFVR events, installation of a Bio-Pulse Sparging system, and installation of a groundwater recovery well.

The objective of the Revised CAP is to propose revisions to the existing remediation systems that will remove free product from the subsurface to the extent practical, reduce contaminated soils to below State Action Levels and reduce groundwater contamination to North Carolina 2L Groundwater Quality Standards (GWQS).

Based on the remedial technology screening process completed during development of the Revised CAP, the most cost-effective remediation strategy for the HPFF/Building 1115 site included the following:

- Continued operation of the existing air sparge/biosparge/vapor extraction systems at the Northwest and Southeast Compounds;
- Installation of a bio-pulse sparge system consisting of 25 strategically located vertical sparge wells installed to a depth of 150 feet bls;
- Achieving hydraulic containment of the contaminant plume by initiating groundwater recovery and treatment by pumping groundwater recovery well HPFF-75 at a rate of 30 gpm;
- Rehabilitation of the existing groundwater treatment system located at the Southeast Compound equipment area to treat the recovered groundwater; and
- Due to the apparent effectiveness of AFVR at the site, continue AFVR events to reduce the amount of free phase product at the site.

2.5 GEOPHYSICAL INVESTIGATION

A geophysical investigation was initiated in December 2001 and completed in May 2002 to better understand the site hydrogeologic characteristics that might be influencing both free product and high dissolved contaminant concentrations observed in the deep aquifer (greater than 70 feet below the groundwater surface) at the Hadnot Point Fuel Farm. The working hypothesis developed to explain these conditions included:

- Dissolution of limestone
- Formation of voids and channels that "trap" fuel and serve as protected environments to weathering

- Depth of fuel observed at the site enhanced by drought conditions and aggressive pumping from "deep" water supply wells at the base
- Heavy rain events (i.e., hurricanes) result in flooding of voids
- Re-introduction of contaminants into the aquifer

It should be noted that the Air Injection and Bio-Sparge component of the remedial system was shut down November 26, 2001 to avoid interference during geophysical data collection activities. The system was restarted on January 30, 2003. The 2003 Annual monitoring report discussed the startup of the Air Sparge system. Geophysical investigation methods employed at the site included:

- Borehole methods (natural gamma/caliper, optical televiewer, full waveform sonics, EM induction)
- Vertical Seismic Profile (VSP)
- Multiazimuth-multioffset
- DC Resistivity (DCRES)
- Surface Reflection Seismic Profiling
- Drilling log data
- SCAPS Direct Push Method (Laser Induced Fluorescence [LIF], Cone Penetrometer Test [CPT], video probe)

Results of the geophysical investigation are presented in the report titled "*Geophysical Investigation at the Former Fuel Farm Facility and Surrounding Areas, Hadnot Point, MCB Camp Lejeune, North Carolina*", dated May 2002 as completed by Geophex, Ltd, located in Raleigh, North Carolina. Conclusions developed from the geophysical investigation indicate:

- The subsurface can be divided into two units; an upper unit of unconsolidated, inter-fingering peat, sands, silts, and clays: a lower unit comprising of all semi-consolidated and consolidated sediments below the top of the Castle Hayne.
- No discernable, laterally continuous layers occur within the upper unit of sediments. However, the resistivity profiles delineate zones of decreased electrical resistivity that are interpreted to indicate increased hydrologic conductivity. These zones are predominantly logged as well sorted fine sands in drill logs.
- The top of the Castle Hayne Formation is clearly discernable from the seismic reflection data. The interpreted Castle Hayne reflection horizon displays erosional undulations, and offsets due to near vertical faulting or fracturing. Fault/fracture

zones are interpreted to represent potential pathways for both horizontal and vertical migration of groundwater contaminants.

- Vertical seismic profiles indicate that the largest amplitude reflections at Hadnot Point correlate to limestones, but facies changes from silty sand to well sorted sand also produce observable reflections.
- Multichannel Analysis of Surface Waves (MASW) data illustrate the occurrence of a collapse feature in the western corner of the site, near Holcomb Boulevard.
- The potential for contaminant migration to depth exists in two main locations: 1) where zones of high hydrologic conductivity coincide with zones of vertical faults/fractures in the Castle Hayne, near the intersection of East Road and Ash Street; and 2) in the northwest corner of the site where a subsurface void or collapse was drilled and confirmed by MASW data. This feature is also overlain by conductive sediments.
- The permeable pathway identified in the resistivity data appears to be bound to the east and west (and possibly the south), but continues to the northwest. The southern extent coincides with the most fractured area of the Castle Hayne.

2.6 ADDITIONAL SOIL SAMPLING AND ANALYSIS

As requested during the February 28, 2002 Partnering Meeting an additional soil sampling and analysis investigation was completed at the former UST basin area at the former Hadnot Point Fuel Farm UST site during the week of June 17, 2002. Soil samples were collected using a hand auger from 0 to 14 feet bls. A sample was collected at 2 feet depth intervals. The soil sample was placed in a plastic bag, allowed to equilibrate for 15 minutes, then screened using an organic vapor analyzer (OVA) equipped with a flame ionization detector (FID). The sample with the highest FID reading was then tested on-site for total petroleum hydrocarbons (TPH) using an Ensys™ Petro Soil Test by EPA Method 4030. Additionally, 17 samples were sent to Accutest Laboratory located in Orlando, Florida for analysis using MADEP-EPH, MADEP-VPH, and total petroleum hydrocarbons. Laboratory results correlated well with field data.

Field and laboratory analytical results suggest the presence of high levels of soil contamination starting at approximately six feet bls. This contamination appears to increase with depth. Results of the additional soil investigation were submitted in a letter report from the United States Marine Corps to the NCDENR.

3.0 SYSTEM OPERATION AND RESULTS

3.1 BUILDING 1115 AREA (NORTHWEST COMPOUND)

OHM installed a network of five, 50-feet deep AS wells to inject air into the subsurface groundwater. To recover volatile organic hydrocarbons (VOHs) from the unsaturated zone, an SVE well consisting of four 20-foot sections of horizontal screen set up in a cross pattern was installed at each AS well and at four additional locations. Twelve additional 80-feet deep biosparging wells and four 100-feet-deep biosparging wells were also installed (*Figure 3.1)*. Operational data collection from the AS/SVE system began on February 11, 1999 and has continued at regular intervals to the present.

This report discusses the system's operation and monitoring results collected from September 2003 through August 2004. During the time period from September 2003 through August 2004 the system was in operation slightly above 50% of the time. The significant downtime was caused predominately by excessive groundwater recovery by the SVE system. The groundwater recovery was due to shallow groundwater conditions at the site (a result of above average rainfall). In addition, minor downtime periods ranging from one day to a few days duration occurred as a result of minor equipment repairs, and routine maintenance. The remedial system was in operation a total of 209 days for an operational efficiency of 57 percent.

Remedial system monitoring was conducted at least weekly during this operational period. During site inspections, a checklist was used to record operational measurements and conditions such as vacuum blower meter hours, inlet filter differential pressure, and bleed air valve positions. This information was used to identify areas requiring maintenance (such as filter replacement) and to fine-tune the system's operation.

The AS/SVE system was inspected on a weekly basis. Each individual well vault was examined. The system's components were checked and indicators of operational performance (such as vacuum, air velocity, and temperature) were recorded. These inspections help to identify equipment maintenance needs. Additional monitoring of the system included the measurement of organic vapor concentrations in the system's effluent.

Hydrocarbon recovery from the system is calculated from operational parameters such as organic vapor concentrations, exhaust stack pressure, velocity, and temperature. These

parameters were used to compute the cumulative mass of hydrocarbons recovered. Since system startup, a total of 14,745 pounds of hydrocarbons has been recovered from the Building 1115 Area (Northwest Compound) (*Table 3.1*). During this monitoring period, a total of 533 pounds of hydrocarbons were recovered. Hydrocarbon recovery rates ranged from 5.3 pounds per day (lbs/day) to less than 1.0 lb/day when the system was operating. The average recovery rate was 1.9 lbs/day. This is essentially the same hydrocarbon recovery from the previous year. In 2002, a total of 537 lbs of hydrocarbons were recovered with hydrocarbon recovery rates ranging from 7 lbs/day to less than 1.0 lbs/day.

A descending trend in recovery rates from start-up to the present can be observed in the data. During 1999, a total of 10,300 lbs of hydrocarbons was recovered. The recovery rate decreased to 3,540 lbs recovered in 2000, 1,900 lbs recovered in 2001, 900 lbs recovered in 2002,537 lbs recovered in 2003, and 533 lbs recovered during this operating time period. This represents a decrease of 95% from initial system vapor recovery rates. This trend is typical of the operation of SVE systems. As adsorbed-phase petroleum compounds are removed from the unsaturated zone, recovered hydrocarbon vapor concentrations will decrease.

There were no major changes made to the system's configuration or equipment during this operating time period.

3.2 HPFF FUEL FARM AREA (SOUTHEAST COMPOUND)

OHM installed a network of thirty, 50-foot-deep AS wells to inject air into the subsurface groundwater. To recover VOHs from the unsaturated zone, an SVE well consisting of four 20-foot sections of horizontal screen set up in a cross pattern were installed at each AS well and at six additional locations. Ten additional 85-feet-deep biosparging wells were also installed. For operational purposes, the southeast compound's system has been subdivided into a northern Field #1 (Motor Pool) and a southern Field #2 (Fuel Farm) (*Figure 3.2).*

During 2004 the existing groundwater treatment system that had not been operated since prior to installation of the AS/SVE system in February 1999 was upgraded. The groundwater treatment system consisting of an air stripper, oil/water separator, surge tank, bag filters and four 55-gallon liquid phase granular activated carbon canisters was upgraded to treat groundwater from the recovery well (HPFF-75) recommended in the Revised CAP. The upgrade consisted of replacing all the electrical components including

the control panel, level controls, and wiring; replacing the transfer pumps from the oil/water separator, the surge tank and the air stripper sump; piping; two bag filter housings; and the four 55-gallon carbon canisters.

Operational data collection from both the Field #1 and Field #2 AS/SVE systems began on April 4, 1999 and has continued at regular intervals to the present. This report discusses the system's operation and results collected from September 2003 through August 2004.

During the time period from September 2003 through August 2004 no significant downtime of the SVE system (exceeding several days) occurred. Minor downtime periods ranging from one day to a few days duration occurred as a result of excessive groundwater entrainment, minor equipment repairs and routine maintenance. The remedial system was in operation a total of 315 days for an operational efficiency of 86 percent.

Remedial system monitoring was conducted at least weekly during this operational period. During site inspections, a checklist was used to record operational measurements and conditions such as vacuum blower meter hours, inlet filter differential pressure, and bleed air valve positions. This information was used to identify areas requiring maintenance (such as filter replacement, hour meter replacement) and to fine-tune the system's operation.

The AS/SVE system was also inspected on a weekly basis. Each individual well vault was examined. The system components were checked and indicators of operational performance (such as vacuum, air velocity, and temperature) were recorded. These inspections help to identify equipment maintenance needs. Additional monitoring of the system included the measurement of organic vapor concentrations in the system's effluent.

Hydrocarbon recovery from the system was calculated from operational parameters such as organic concentrations, exhaust stack pressure, velocity and temperature. These parameters were used to compute the cumulative mass of hydrocarbons recovered. Since startup, the HPFF Southeast Compound remedial system has recovered approximately 1,200,000 pounds of hydrocarbons.

3.2.1 Field #1 Motor Pool Area

Since system startup, the Field #1 (Motor Pool) remedial system has recovered approximately 184,000 pounds *(Table 3.2)* of hydrocarbons. During this operating time period a total of 4,500 lbs of hydrocarbons was recovered. Hydrocarbon recovery rates ranged from 34 lbs/day to 6 lbs/day when the system was operating. The average recovery rate was 14 lbs/day. This is an increase in hydrocarbon recovery from the previous year. In 2003, a total of 2,700 lbs of hydrocarbons was recovered with hydrocarbon recovery rates ranging from 22 lbs/day to 4 lbs/day.

A descending trend in recovery rates from start-up to the present can be observed in the data. During 1999, a total of 92,500 lbs of hydrocarbons was recovered. The recovery rate decreased to 62,000 lbs recovered in 2000, 12,700 lbs recovered in 2001, 7,200 lbs recovered in 2002, and 2,700 lbs/day recovered in 2003. The increase to 4,500 lbs recovered during 2004 may be attributed to implementation of a biopulse pilot test, completed by CATLIN, that resulted in mobilization of free product (up to 14 feet of free product was observed in monitoring well HPFF-72) in the area. This represents a decrease of 95% from initial system vapor recovery rates. A descending trend is typical of the operation of SVE systems. As adsorbed-phase petroleum compounds are removed from the unsaturated zone, recovered hydrocarbon vapor concentrations will decrease.

3.2.2 Field #2 Fuel Farm

Since system startup, the Field #2 (Fuel Farm) remedial system has recovered approximately 690,500 pounds of hydrocarbons *(Table 3.3)*. During this operating time period, a total of 24,500 lbs of hydrocarbons were recovered. Hydrocarbon recovery rates ranged from 114 lbs/day to 12.7 lbs/day when the system was operating. The average recovery rate was 78 lbs/day. This is an increase in hydrocarbon recovery from the previous year. In 2003, a total of 13,000 pounds of hydrocarbons were recovered with hydrocarbon recovery rates ranging from 95 lbs/day to 15 lbs/day.

A descending trend in recovery rates from start-up to the present can be observed in the data. During 1999, a total of 117,000 pounds of hydrocarbons was recovered. The recovery rate increased to 374,500 pounds recovered in 2000, decreased substantially to 75,400 pounds recovered in 2001, continued the decreasing trend to 47,700 lbs recovered in 2002, and 13,000 lbs recovered in 2003. As stated in the previous section, the increase to 24,500 pounds recovered during 2004 was probably a result of free product mobilization due to the biopulse pilot test (as evidenced by up to 14 feet of free product in monitoring well HPFF-72). Even this increase represents a decrease of 93% from

system vapor recovery rates observed during 2000. This trend is expected to persist with continued operation of the SVE systems and continued removal of free phase product with AFVR. As free phase product and adsorbed-phase petroleum compounds are removed from the unsaturated zone, recovered hydrocarbon vapor concentrations will decrease.

3.2.3 Vapor Treatment System

A catalytic oxidation (Catox) unit was installed at the southeast compound in January 2002 to treat hydrocarbon vapors recovered by the SVE system prior to discharge to the atmosphere. A vapor sample was collected from the influent into the Catox and an effluent sample was collected to evaluate the destruction efficiency of the Catox unit. The samples were collected February 21, 2002 using a summa canister and shipped to Severn Trent Laboratories, Inc. located in Pensacola, Florida for analysis. The vapor samples were analyzed for total petroleum hydrocarbons-gasoline range organics (TPH-GRO) using Method 8015M, volatile organic compounds using Method 8260B-ModAir, and methane, ethane and ethene using Method ASTM D1946.

The vapor analytical results indicated a greater than 90% reduction in TPH-GRO concentrations (589 mg/m^3 to <100 mg/m^3) was achieved by the Catox unit. In addition, a reduction of BTEX concentrations ranged from approximately 90% for xylenes to greater than 99% for benzene.

3.3 AGGRESSIVE FLUID/VAPOR RECOVERY (AFVR)

In addition to routinely monitoring the AS/SVE system's operation, select monitoring wells that have displayed the presence of free-phase product have been monitored on a weekly basis for the presence of product. If free-phase product is observed in a well, an AFVR event is completed to remove the product from the well by vacuum lift using a vacuum recovery truck. An AFVR event consists of the removal of total fluids from an existing well that has demonstrated the presence of free-phase product. The total gallons of product recovered are calculated from liquid and vapor removal measurements of hydrocarbons from the well.

An estimated 2,000 gallons of free product was recovered during 2000 from these monitoring wells. During 2001 an estimated 1,387 gallons of free product was recovered. During 2002 an estimated 900 gallons of free product was recovered. During 2003 an estimated 170 gallons of free product was recovered. During this monitoring period an

estimated 790 gallons of free product was recovered. The large increase in product recovery was primarily due to the persistent occurrence of product in monitoring well HPFF-72 (ranging from 2 to 16 feet thick) throughout the monitoring period. It appears that product was mobilized and flowed into the well during implementation of the biosparge pilot test. Prior to implementation of the biopulse pilot test, product had been detected in HPFF-72 only sporadically (i.e., only five times during 2003). Between September 2003 and August 2004 a calculated 755 gallons was recovered from HPFF-72.

During this monitoring period, a total of 54 AFVR events were completed at the HPFF Fuel Farm area (Southeast Compound). This is a substantial increase in events from the previous year (i.e., 11 events). AFVR events were conducted at HPFF-15 (nine events, 100 gallons of product), HPGE32-3 (one event, 10 gallons of product), MW-2 (one event, 8 gallons of product) and HPFF-72 (43 events, 670 gallons of product). AFVR events were not completed at MW-11, MW-12, MW-15 and HPFF-28 from September 1, 2003 through August 31, 2004. These monitoring wells had at least one AFVR event during 2002 but no events during 2003. These wells will continue to be monitored for product thickness. A summary table of the AFVR reports is provided in *Appendix A.*

During 2000, monitoring well MW-15 displayed the greatest amount of product throughout the year with a thickness greater than 8 feet in January 2000. During 2001, product thickness in the wells (including MW-15) ranged from a sheen to less than 1 foot. During 2002 monitoring well HPFF-15 demonstrated the greatest product thickness, ranging from 0.2 feet to 1.3 feet. During this monitoring period HPFF-15 continued to display product thickness ranging from 0.2 feet to 1.0 feet. Product was not observed in MW-15 during this monitoring period, however, product was observed in nearby monitoring well HPFF-72 ranging in thickness from 0.4 feet to 16 feet.

3.4 FREE PRODUCT RECOVERY SYSTEM

Two free product recovery pumps (16R and RW5) have been in operation since September 1999 at the HPFF Southeast compound. The pump in recovery well RW4 was shutdown in September 2003 due to the absence of product observed in the well over a one year time period. During this monitoring period product was not observed in RW4 (the second year in a row). Product thickness ranged from a sheen to 1.16 feet in 16R and up to 1.61 feet in RW5. An estimated 91 gallons of product was recovered from these wells during this monitoring period. This is a decrease of 41 gallons of product recovered during the previous year (i.e., 132 gallons recovered).

During 2003 product thickness ranged from a sheen to 1.09 feet in 16R and up to 0.97 feet in RW5 (product was not observed in RW4). During 2002, product thickness in these recovery wells ranged from a sheen to 0.8 feet in 16R, 0.3 feet in RW4 and 0.5 feet in RW5. During 2001 product thickness ranged from 0.5 feet in 16R, 0.2 feet in RW4 and 0.8 feet in RW5. During 2000, product thickness in these wells ranged from a sheen to 4.2 feet in 16R, 2.5 feet in RW-4, and 2.0 feet in RW5. As much as 12.5 feet of product was measured in 16R in 1999.

Product recovery ranged from a high of 18 gallons per month during April 2004 to 1 gallon during August 2004. This is a comparable to the previous year's high of 18 gallons recovered in March 2003. The product recovery system continues to be successful in reducing the volume of free phase product in the vicinity of the recovery wells.

4.0 GROUNDWATER MONITORING RESULTS

4.1 GROUNDWATER ELEVATION MEASUREMENTS

4.1.1 Building 1115 Area (Northwest Compound)

Groundwater level measurements at the HPFF Building 1115 Northwest compound were collected from 22 monitoring wells in February and August 2004. Measurements were recorded from 11 "shallow" (less than 50 feet deep) monitoring wells (1115-1, 1115-2, 1115-4, 1115-5, 1115-9, 1115-10, 1115-11, 1115-12, 78GW22-2, GT-1, and GT-9); six "intermediate" (screened from 50 to 70 feet bls) monitoring wells (1115-13, 1115-14, 1115-15, 1115-17, 1115-18, and 1115-21); and five "deep" (greater than 70 feet deep) monitoring wells (1115-22, 1115-23, 1115-24, 1115-25, and 78-GW-19). Groundwater level measurements are presented in *Table 4.1.*

The groundwater measurement results from the February 2004 gauging event are summarized below:

- Depth to groundwater in the "shallow" wells ranged from 3.96 feet bls in 1115-5 and GT-1 to 8.89 feet bls in 1115-2. Groundwater elevations ranged from 17.08 feet National Geodetic Vertical Datum (NGVD) in 1115-2 to 22.79 feet NGVD in GT-1.

- Depth to groundwater in the "intermediate" wells ranged from 7.23 feet bls in 1115-15 to 9.75 feet bls in 1115-14. Groundwater elevations ranged from 17.79 feet NGVD in 1115-17 to 19.43 feet NGVD in 1115-18.

- Depth to groundwater in the "deep" wells ranged from 6.94 feet bls in 1115-24 to 9.97 feet bls in 1115-22. Groundwater elevations ranged from 17.51 feet NGVD in 1115-22 to 22.00 feet NGVD in 78-GW-19. *Figure 4.1* presents groundwater elevations in February 2004 in the "shallow," "intermediate," and "deep" monitoring wells respectively at the Building 1115 area.

The groundwater measurement results from the August 2004 gauging event are summarized below:

- Depth to groundwater in the "shallow" wells ranged from 3.10 feet bls in 1115-4

to 8.80 feet bls in 1115-2. Groundwater elevations ranged from 17.17 feet NGVD in 1115-2 to 24.21 feet NGVD in 1115-4.

- Depth to groundwater in the "intermediate" wells ranged from 7.00 feet bls in 1115-15 to 8.95 feet bls in 1115-13. Groundwater elevations ranged from 16.95 feet NGVD in 1115-13 to 18.93 feet NGVD in 1115-15.

- Depth to groundwater in the "deep" wells ranged from 6.52 feet bls in 1115-24 to 8.85 feet bls in 1115-23. Groundwater elevations ranged from 18.68 feet NGVD in 1115-22 to 20.76 feet NGVD in 78-GW-19. *Figure 4.2* presents groundwater elevations in August 2004 in the "shallow," "intermediate," and "deep" monitoring wells respectively at the Building 1115 area.

4.1.2 HPFF Fuel Farm Area (Southeast Compound)

Groundwater level measurements at the HPFF Fuel Farm Area Southeast compound were collected from 22 monitoring wells in February and August 2004. Measurements were recorded from 15 "shallow" monitoring wells (HPFF-1, HPFF-3, HPFF-14, HPFF-19, HPFF-20, HPFF-24, HPFF-28, HPFF-30, HPFF-42, MW-1, MW-6, MW10R, MW-17A, MW18, and MW-19), three "intermediate" monitoring wells (HPFF-7, HPFF-8, and HPFF-9), and four "deep" monitoring wells (78GW32-2, 78GW32-3, HPFF-10, and HPFF-11,). Groundwater level measurements are presented in *Table 4.2*.

The groundwater measurement results from the February 2004 gauging event are summarized below:

- Depth to groundwater in the "shallow" wells ranged from 3.87 feet bls in HPFF-30 to 11.34 feet bls in MW-10R. Groundwater elevations ranged from 19.79 feet NGVD in MW-18 to 23.25 feet NGVD in HPFF-1. It should be noted that free phased product was not observed in MW-18 during the February 2004 gauging event. This is a reduction from 0.25 feet observed during the February 2003 monitoring event.

- Depth to groundwater in the "intermediate" wells ranged from 7.09 feet bls in HPFF-9 to 13.93 feet bls in HPFF-8. Groundwater elevations ranged from 20.04 feet NGVD in HPFF-9 to 20.97 feet NGVD in HPFF-8.

- Depth to groundwater in the "deep" wells ranged from 7.33 feet bls in 78GW32-2 to 12.28 feet bls in HPFF-10. Groundwater elevations ranged from 19.26 feet NGVD in 78GW-32-3 to 20.22 feet NGVD in HPFF-10. It should be noted that 0.18 feet of free phased product was observed in 78-GW32-3 during the February 2004 gauging event. Free phased product had not been observed during the previous monitoring period. *Figure 4.3* presents groundwater elevations in February 2003 in the "shallow," "intermediate," and "deep" monitoring wells respectively at the Fuel Farm area.

The groundwater measurement results from the August 2004 gauging event are summarized below:

- Depth to groundwater in the "shallow" wells ranged from 3.31 feet bls in HPFF-30 to 11.20 feet bls in MW-10R. Groundwater elevations ranged from 19.91 feet NGVD in HPFF-19 to 25.05 feet NGVD in MW-1.

- Depth to groundwater in the "intermediate" wells ranged from 7.80 feet bls in HPFF-9 to 15.1 feet bls in HPFF-8. Groundwater elevations ranged from 19.33 feet NGVD in HPFF-9 to 20.46 feet NGVD in HPFF-7.

- Depth to groundwater in the "deep" wells ranged from 7.26 feet bls in 78GW32-3 to 13.53 feet bls in HPFF-10. Groundwater elevations ranged from 18.02 feet NGVD in 78GW32-2 to 19.94 feet NGVD in 78GW32.3. *Figure 4.4* presents groundwater elevations in the "shallow," "intermediate," and "deep" monitoring wells respectively at the Fuel Farm Southeast Compound area.

4.2 GROUNDWATER SAMPLE COLLECTION AND ANALYSIS

4.2.1 Building 1115 Area (Northwest Compound)

Groundwater sample collection and analysis was completed in February and August 2004. The samples were analyzed for Volatile Organic Analysis (VOAs) using Method 602 and polynuclear aromatic hydrocarbons (PAHs) using Method 610. A total of seven "shallow" wells (MW-1115-01, MW-1115-02, MW-1115-04, 78GW22-2, MW-GT-1, MW-GT-7 and MW-GT-9), four "intermediate" wells (MW-1115-13, MW-1115-17, MW-1115-18,, and MW-1115-21) and four "deep" wells (MW-1115-22, MW-1115-23, MW-1115-24, and MW-1115-25) were sampled. All but three monitoring wells (MW-1115-1, MW-GT-7 and MW-GT-9) sampled displayed COCs of at least one contaminant

in excess of North Carolina's Groundwater Quality Standards (NCGQS) during the February 2004 sampling event. Analytical results from the February 2004 sampling event indicated concentrations of COCs above NCGQS in the following monitoring wells:

- "shallow" 1115-02 (10.9 µg/L, benzene)
- "shallow" 1115-04 (16.8 µg/L, benzene)
- "shallow" MW-GT-1 (29.7 µg/L, benzene; 53 µg/L, ethylbenzene)
- "shallow" 78GW22-2 (6.6 µg/L, benzene)
- "intermediate" 1115-13 (228 µg/L, benzene; 53 µg/L, ethylbenzene; and 151 µg/L, naphthalene)
- "intermediate" 1115-17 (36.9 µg/L, benzene; and 89.8 µg/L, naphthalene)
- "intermediate" 1115-21 (607 µg/L, benzene)
- "deep" 1115-22 (2,230 µg/L, benzene)
- "deep" 1115-24 (4,100 µg/L, benzene)
- "deep" 1115-25 (3,580 µg/L, benzene)

Groundwater analytical results of the COCs for the February 2004 sampling event are presented in *Table 4.3.* Historical groundwater analytical results are provided in *Appendix B.* Groundwater analytical results for all monitoring wells (shallow, intermediate, and deep) are presented on *Figure 4.5.* The complete laboratory analytical reports showing all detections are provided in *Appendix C.* The groundwater sample collection field logs are provided in *Appendix D.*

The second semi-annual sampling event in 2004 was completed in August 2004. A total of 14 monitoring wells were sampled during this event. The samples were analyzed for VOAs using Method 602 and PAHs using Method 610. All 14 of the monitoring wells sampled displayed at least one COCs in excess of NCGQS during the August 2004 sampling event. Analytical results from the sampling event indicated concentrations of COCs above NCGQS in the following monitoring wells:

- "shallow" MW-GT-7 (37.9 µg/L, benzene)
- "shallow" 1115-02 (24.3 µg/L, benzene)
- "shallow" 78GW22-2 (6.4 µg/L, benzene)
- shallow" MW-1115-04 (31.5 µg/L, benzene)
- shallow" MW-GT-1 (44.7 µg/L, benzene)
- shallow" MW-1115-01 (17.7 µg/L, benzene)

- shallow" MW-GT-9 (3.2 µg/L, benzene)
- "intermediate" 1115-13 (202 µg/L, benzene; 47.6 µg/L, ethylbenzene; and 173 µg/L, naphthalene)
- "intermediate" 1115-17 (34.1 µg/L, benzene)
- "intermediate" 1115-18 (Not sampled)
- "intermediate" 1115-21 (521 µg/L, benzene)
- "deep" 1115-22 (3,270 µg/L, benzene)
- "deep" 1115-23 (2,720 µg/L, benzene; and 38.6 µg/L, ethylbenzene)
- "deep" 1115-24 (3,630 µg/L, benzene)
- "deep" 1115-25 (5,960 µg/L, benzene; and 40.4 µg/L, ethylbenzene)

Groundwater analytical results of the COCs for the August 2004 sampling event are presented in *Table 4.4.* Historical groundwater analytical results are provided in *Appendix B.* Groundwater analytical results for all monitoring wells (shallow, intermediate, and deep) are presented on *Figure 4.5.* The complete laboratory analytical reports showing all detections are provided in *Appendix C.* The groundwater sample collection field logs are provided in *Appendix D.* Hydrographs compared with analytical results from select monitoring wells that have displayed COCs in excess of NCGQS are provided in *Appendix F.*

4.2.2 HPFF Fuel Farm Area (Southeast Compound)

Groundwater sample collection and analysis was completed in February and August 2004. The samples were analyzed for VOAs using Method 602 and PAHs using Method 610. In February 2004 a total of 9 "shallow" wells (HPFF-1, HPFF-5, HPFF-19, HPFF-20, MW-1, MW-10R, MW-11, MW-17A, and MW-18), three "intermediate" wells (HPFF-7, HPFF-8, and HPFF-9) and three "deep" wells (HPFF-11, 78GW32-2 and 78GW32-3) were sampled.

All but two (HPFF-1 and HPFF-7) of the monitoring wells sampled in February 2004 displayed at least one of the COCs in excess of NCGQS. Analytical results from the February 2004 groundwater sampling event detected concentrations of COCs above NCGQS in the following monitoring wells:

- "shallow" HPFF-5 (8.4 µg/L, benzene)
- "shallow" HPFF-19 (11,300 µg/L, benzene; 847 µg/L, ethylbenzene; 13,800 µg/L, toluene; 10,300 µg/L total xylenes; and 216 µg/L, naphthalene)

- "shallow" HPFF-20 (6,430 µg/L, benzene; 444 µg/L, ethylbenzene; 9.790 µg/L, toluene; 6,140 µg/L total xylenes; and 98.9 µg/L, naphthalene)
- "shallow" MW-1 (4,970 µg/L, benzene; 3,580 µg/L, ethylbenzene; 25,500 µg/L, toluene; 16,500 µg/L total xylenes; and 473 µg/L, naphthalene)
- "shallow" MW-10R (197 µg/L, benzene; 175 µg/L, ethylbenzene; 861 µg/L total xylenes; and 50.9 µg/L, naphthalene)
- "shallow" MW-11 (6.5 µg/L, benzene)
- "shallow" MW-17A (5,520 µg/L, benzene; 2,690 µg/L, ethylbenzene; 24,800 µg/L, toluene; 10,200 µg/L total xylenes; and 432 µg/L, naphthalene)
- "shallow" MW-18 (12,900 µg/L, benzene; 1,800 µg/L, ethylbenzene; 27,100 µg/L, toluene; 11,000 µg/L total xylenes; and 658 µg/L, naphthalene)
- "intermediate" HPFF-8 (10,200 µg/L, benzene; 609 µg/L, ethylbenzene; 1,230 µg/L, toluene; 1,530 µg/L, total xylenes; and 184 µg/L, naphthalene)
- "intermediate" HPFF-9 (727 µg/L, benzene)
- "deep" HPFF-11 (114 µg/L, benzene)
- "deep" 78GW32-2 (325 µg/L, benzene)
- "deep" 78GW32-3 (20.9; µg/L, benzene; and 59.8 µg/L)

Groundwater analytical results of the COCs for the February 2004 sampling event are presented in *Table 4.5.* Groundwater analytical results for all monitoring wells (shallow, intermediate, and deep) are presented on *Figure 4.6.* Historical groundwater analytical results are provided in *Appendix B.* The groundwater sample collection field logs are provided in *Appendix D.* The complete laboratory analytical reports showing all detections are provided in *Appendix E.* Hydrographs compared with analytical results from select monitoring wells that have displayed COCs in excess of NCGQS are provided in *Appendix F.*

In August 2004 a total of eight "shallow" wells (HPFF-1, HPFF-5, HPFF-19, HPFF-20, MW-1, MW-10R, MW-17A, and MW-18), three "intermediate" wells (HPFF-7, HPFF-8 and HPFF-9) and three "deep" wells (HPFF-11, 78GW32-2 and 78GW32-3) were sampled. Thirteen of the 14 monitoring wells sampled in August 2004 displayed at least one of the COCs in excess of NCGQS. Monitoring well HPFF-9 (intermediate) did not display COCs above their NCGQS. Analytical results from the August 2004 groundwater sampling event detected concentrations of COCs above NCGQS in the following monitoring wells:

- "shallow" HPFF-5 (4.1 µg/L, benzene)
- "shallow" HPFF-19 (10,900 µg/L, benzene; 723 µg/L, ethylbenzene; 12,300 µg/L, toluene; 7,660 µg/L total xylenes; and 316 µg/L, naphthalene)
- "shallow" HPFF-20 (3,030 µg/L, benzene; 362 µg/L, ethylbenzene; 2,770 µg/L, toluene; 2,920 µg/L total xylenes; and 68.6 µg/L, naphthalene.)
- "shallow" MW-1 (3,180 µg/L, benzene; 2,620 µg/L, ethylbenzene; 20,700 µg/L, toluene; 12,300 µg/L total xylenes; and 586 µg/L, naphthalene)
- "shallow" MW-10R (480 µg/L, benzene; 602 µg/L, ethylbenzene; 2,210 µg/L, toluene; 2,590 µg/L total xylenes; and 178 µg/L, naphthalene)
- "shallow" MW-17A (4,910 µg/L, benzene; 2,070 µg/L, ethylbenzene; 20,000 µg/L, toluene; 7,990 µg/L total xylenes; and 402 µg/L, naphthalene)
- "shallow" MW-18 (7,040 µg/L, benzene; 1,950 µg/L, ethylbenzene; 17,800 µg/L, toluene; 13,700 µg/L total xylenes; and 700 µg/L, naphthalene)
- "intermediate" HPFF-1 (3.8 µg/L, benzene)
- "intermediate" HPFF-7 (1.5 µg/L, benzene
- "intermediate" HPFF-8 (11,500 µg/L, benzene; 627 µg/L, ethylbenzene; 1,540 µg/L toluene; 2,130 µg/L total xylenes; and 171 µg/L, naphthalene)
- "deep" HPFF-11 (89.6 µg/L, benzene)
- "deep" 78GW32-2 (324 µg/L, benzene; and 37.4 µg/L, ethylbenzene)
- "deep" 78GW32-3 (28.9 µg/L, benzene)

Groundwater analytical results of the contaminants of concern for the August 2004 sampling event are presented in *Table 4.6.* Groundwater analytical results for all monitoring wells (shallow, intermediate, and deep) are presented on *Figure 4.6.* Historical groundwater analytical results are provided in *Appendix B.* The groundwater sample collection field logs are provided in *Appendix D.* The complete laboratory analytical reports showing all detections are provided in *Appendix E.* Hydrographs compared with analytical results from select monitoring wells that have displayed COCs in excess of NCGQS are provided in *Appendix F.*

5.0 CONCLUSIONS

5.1 AFVR EVENTS

During the reporting period from September 2003 through August 2004, a total of 54 AFVR events were completed at the HPFF Fuel Farm area (Southeast Compound), recovering an estimated 870 gallons of free product. This is a substantial increase from the 170 gallons of product recovered during the previous year. The increase was due to the large amount of product observed in monitoring well HPFF-72 during implementation of a bio-pulse pilot test at the site. A total of approximately 755 gallons of product (88% of the total recovered) was recovered from HPFF-72. During this monitoring period, AFVR events were conducted at the following monitoring wells: MW-18 (no events), HPGW32-2 (1 event, 9 gallons of product), MW-2 (1 event, 8 gallons of product), HPFF-15 (nine events, 100 gallons of product), and HPFF-72 (43 events, 755 gallons of product). Monitoring wells MW-12, MW-15, HPFF-28, and HPGW32-3 did not display the presence of product during this monitoring period.

With the exception of HPFF-72, AFVR events have reduced the product thickness to less than 1-foot in wells that have historically displayed free product. The AFVR events continue to be effective in removing free phase product from the subsurface.

5.2 GROUNDWATER ELEVATION MEASUREMENTS

5.2.1 Building 1115 Area (Northwest Compound)

Differences in elevations from the different depth intervals indicate a significant downward vertical hydraulic gradient at the site (*Figures 4.1 and 4.2*). This downward gradient is probably responsible for the dissolved COCs detected in the monitoring wells that are screened at the deeper depth intervals.

Figures 4.5A and *4.6A* present groundwater elevation contour maps for February and August 2004 respectively produced from groundwater elevations from the shallow monitoring wells. During the February groundwater sampling event the groundwater flow direction appears to be to the southwest and northeast from an elevated groundwater ridge (trending west and east) located across the central portion of the site. The groundwater hydraulic gradient was calculated to be approximately 0.006 ft/ft to the northeast and 0.018 ft/ft to the southwest. During the August groundwater sampling event the groundwater flow direction appears to be to the southwest and northeast from a

groundwater mound located from the central and northern portion of the site. The groundwater hydraulic gradient was calculated to be approximately 0.006 ft/ft to the northeast and 0.02 ft/ft to the southwest.

Figures 4.5B and *4.6B* present groundwater elevation contour maps for February and August 2004 respectively produced from groundwater elevations from the intermediate monitoring wells. The groundwater flow direction appears to be to the west with a hydraulic gradient of 0.003 ft/ft.

Figures 4.5C and *4.6C* present groundwater elevation contour maps for February and August 2004 respectively produced from groundwater elevations from the deep monitoring wells. The groundwater flow direction appears to be predominantly to the south-southwest with a hydraulic gradient of 0.01 ft/ft.

Groundwater elevations observed during 2004 were comparable to elevations observed during 2003.

5.2.2 HPFF Fuel Farm Area (Southeast Compound)

As observed at the northwest compound, differences in elevations from the different depth intervals indicate a significant downward vertical hydraulic gradient at the site (*Figures 4.3 and 4.4*). This downward gradient is probably responsible for the dissolved COCs detected in the monitoring wells that are screened at the deeper depth intervals.

Figures 4.5A and *4.6A* present groundwater elevation contour maps for February and August 2004 respectively produced from groundwater elevations from the shallow monitoring wells. The groundwater flow direction appears to be to the west with a hydraulic gradient of 0.002 ft/ft.

Figures 4.5B and *4.6B* present groundwater elevation contour maps for February and August 2004 respectively produced from groundwater elevations from the intermediate monitoring wells. The groundwater flow direction appears to be to the west with a hydraulic gradient of 0.004 ft/ft.

Figures 4.5C and *4.6C* present groundwater elevation contour maps for February and August 2004 respectively produced from groundwater elevations from the deep monitoring wells. Because of the limited number of deep wells that were gauged it is

difficult to determine the direction of groundwater flow, however, it appears to be to the south and west.

Groundwater elevations observed during 2004 were comparable to elevations observed during 2003.

5.3 GROUNDWATER ANALYTICAL RESULTS

5.3.1 Building 1115 Area (Northwest Compound)

5.3.1.1 Shallow Monitoring Wells

Shallow monitoring wells GT-1, 78GW22-2, 1115-01, 1115-02, and 1115-04 have been sampled semiannually since January 1999. To better define the horizontal extent of contamination on the north and east area of the site, monitoring wells GT-7 and GT-9 were added during the August 2002 sampling event. Of the seven monitoring wells sampled, wells MW-GT-7, MW-GT-9 and MW-1115-01 did not detect COCs at concentrations above the NCGQS during the February sampling event. During the August 2004 sampling event all seven monitoring wells displayed benzene above the NCGQS. .

The February 2004 sampling event demonstrated a decrease in benzene concentrations from the August 2003 sampling event in the above mentioned monitoring wells. However, during the August 2004 sampling event benzene concentrations increased to above NCGQS in all monitoring wells. *Figure 4.7* presents groundwater analytical results from the last four monitoring events dating back to February 2003. Groundwater analytical results for this monitoring period are presented in *Tables 4.3* and *4.4*. Historical groundwater analytical results are provided in *Appendix B*.

5.3.1.2 Intermediate Monitoring Wells

Intermediate monitoring wells MW-1115-13, 1115-17, 1115-18, and 1115-21, have been sampled semiannually since January 1999. All four of these monitoring wells have consistently displayed dissolved COC concentrations above NCGQS over this period. Dissolved benzene concentrations continue to persist in all four wells at relatively high concentrations, and naphthalene concentrations continue to persist at relatively high concentrations in monitoring wells 1115-13 and 1115-17, however, these monitoring wells continue to demonstrate a decreasing trend in contaminant concentrations.

As dissolved contaminants in the shallow monitoring wells continue to decrease, a reduction in dissolved contaminant concentrations in the intermediate wells is expected to begin occurring at an accelerated rate. *Figure 4.7* presents groundwater analytical results from the last four monitoring events dating back to February 2003. Groundwater analytical results for this monitoring period are presented in *Tables 4.3* and *4.4*. Historical groundwater analytical results are provided in *Appendix B*.

5.3.1.3 Deep Monitoring Wells

Deep monitoring wells MW1115-22, 1115-23, 1115-24, and 1115-25 have been sampled semiannually since January 1999. These monitoring wells continue to demonstrate relatively high COC concentrations. The concentrations have remained relatively unchanged in monitoring well 1115-24, but wells 1115-22, 1115-23 and 1115-25 have developed an increasing trend over the last two years. *Figure 4.7* presents groundwater analytical results from the last four monitoring events dating back to February 2002. Groundwater analytical results for 2004 are presented in *Tables 4.3* and *4.4*. Historical groundwater analytical results are provided in *Appendix B*.

5.3.1.4 Groundwater Analytical Results Summary

It appears that free-phase product has been removed from the groundwater surface in this area of the site. This is evidenced by the absence of AFVR events dating back to 2000 and the decreasing trend of dissolved COCs in the "shallow" (less than 50 feet bls) surficial aquifer. However, the significant downward vertical hydraulic gradient observed at the site appears to be transporting dissolved COCs into the deeper groundwater zones. The vertical extent of dissolved COC compounds has not been delineated at the site. *Figure 5.1* presents the estimated extent of dissolved benzene in the "shallow" zone in August 2004 at the northwest compound. For comparison purposes, *Figures 5.2, 5.3, 5.4, 5.5* and 5.6 present the estimated extent of dissolved benzene in August 2003, July 2002, July 2001, July 2000, and July 1999 respectively.

The "intermediate" (50 to 70 feet bls) and "deep" zones continue to display the highest dissolved concentrations of COCs. This indicates that natural attenuation and the AS/SVE system are operating as expected to reduce contaminant levels in the shallow aquifer at the site. However, natural attenuation appears to be occurring at a much slower rate at depths greater than 50 feet bls. As concentrations of COCs in the "shallow" zone continue to decrease, the deeper zones should begin to demonstrate a similar trend. Another year of groundwater monitoring should be completed to provide information to determine if a decreasing trend develops.

5.3.2 HPFF Fuel Farm Area (Southeast Compound)

5.3.2.1 Shallow Monitoring Wells

Shallow monitoring wells MW-1, MW-10R, MW-11, MW-17A, MW-18, HPFF-1, HPFF-19, and HPFF-20 have been sampled semiannually since January 1999. Monitoring well HPFF-5 was sampled for the first time in August 2002 to better define the horizontal extent of contamination at the western plume boundary. Analytical results from HPFF-5 were below NCGQS for all compounds during the August 2002 sampling event. However, benzene was detected at concentrations above the NCGQS during both sampling events completed in 2003 (674 µg/L, February 2003; and 44.2 µg/L, August 2003). Benzene concentrations decreased substantially during both sampling events in 2004 (8.4 µg/L, February 2004; and 4.1 µg/L, August 2004) but continued to exceed the NCGQS of 1.0 µg/L.

Concentrations of COCs in most of the monitoring wells continue to fluctuate slightly, but in general, have not decreased significantly since the remedial system was placed in operation. The concentrations remain very high compared to the NCGQS. The benzene concentration in the groundwater sample from monitoring well HPFF-1 (3.8 µg/L) increased to above the NCGQS during the August 2004 sampling event. *Figure 4.8* presents groundwater analytical results from the last four monitoring events dating back to February 2003. Groundwater analytical results for 2004 are presented in *Tables 4.5* and *4.6*. Historical groundwater analytical results are provided in *Appendix B*.

5.3.2.2 Intermediate Monitoring Wells

Intermediate monitoring wells HPFF-7 and HPFF-8 have been sampled semiannually since January 1999. Of these monitoring wells, HPFF-7 continues to display a decreasing trend in concentrations. Benzene concentrations in HPFF-7 decreased from 79 µg/L (January 1999) to <1 µg/L (August 2003 and February 2004)). However, the benzene concentration increased to 1.5 µg/L (slightly above the NCGQS) during thew August 2004 groundwater sampling event. The monitoring well appears to be on the northern fringe of the dissolved contaminant plume. Monitoring well HPFF-8 continues to display BTEX concentrations well above the NCGQS. Monitoring well HPFF-9 was sampled for the first time in August 2002 to evaluate contamination at the intermediate depth on the western portion of the site. Analytical results have consistently detected

BTEX concentrations well above the NCGQS with the exception of the August 2004 groundwater sampling event when the benzene concentration decreased to below 1 µg/L. This monitoring well will continue to be monitored to see if this trend will continue.

Figure 4.8 presents groundwater analytical results from the last four monitoring events dating back to February 2003. Groundwater analytical results for 2004 are presented in *Tables 4.5* and *4.6*. Historical groundwater analytical results are provided in *Appendix B.*

5.3.2.3 Deep Monitoring Wells

Deep monitoring wells 78GW32-2 and 78GW32-3 have been sampled semiannually since January 1999. Monitoring well 78GW32-2 continues to display benzene at concentrations above the NCGQS. The benzene concentration in monitoring well 78GW32-3 decreased from 124 µg/L (August 2002) to <1.0 µg/L (August 2003). However, during 2004 the benzene concentration increased above the NCGQS to 20.9 µg/L (February 2004) and 28.9 (August 2004). These monitoring wells appear to be on the vertical fringe of the dissolved contaminant plume. Monitoring well HPFF-11 was sampled for the first time in August 2002 to evaluate the vertical extent of contamination in the central portion of the site. Analytical results detected benzene (809 µg/L) and ethylbenzene (52.1 µg/L) at concentrations above the NCGQS. During the February 2003 sampling event benzene and ethylbenzene concentrations decreased to below NCGQS, however, the benzene concentration rebounded to 348 µg/L during the August 2003 sampling event and remained above the NCGQS during the February (114 µg/L) and August (89.6 µg/L) 2004 sampling events.

Figure 4.8 presents groundwater analytical results from the last four monitoring events dating back to February 2003. Groundwater analytical results for 2004 are presented in *Tables 4.5* and *4.6*. Historical groundwater analytical results are provided in *Appendix B.*

5.3.2.4 Groundwater Analytical Results Summary

Free-phase product continues to persist on the groundwater surface in isolated areas of the site. Free product continues to be detected in monitoring wells MW-18, HPFF-15 and HPFF-72 and recovery wells RW5 and 16R. When free product is detected in a monitoring well in excess of several inches an AFVR event is performed at that monitoring well. The number of AFVR events performed at a particular well throughout the year is a good indicator of the volume of product remaining in the vicinity of a monitoring well (i.e., fewer numbers of AFVR events means longer product recharge time, indicating less free product in the area of the well). Free product was not observed

in MW-2, MW-12, and MW-15 during this monitoring period. Continued AFVR events and operation of the remedial system may remove measurable product from these wells in the next year.

AFVR events in select wells have reduced free product in the wells from greater than 8 feet (MW-15 in 1999) to less than 1 foot in all wells (with the exception of HPFF-72, which continues to display product thickness in excess of 10 feet since implementation of the bio-pulse pilot test), with a majority of the wells displaying less than 0.5 foot of product. High concentrations of dissolved-phase COCs will continue to persist in the shallow groundwater until the free-phase product has been removed. AFVR events will continue to be performed on monitoring wells displaying the presence of free-phase product. The significant downward vertical hydraulic gradient observed at the site appears to be transporting dissolved COCs into the deeper groundwater zones. *Figure 5.1* presents the estimated extent of dissolved benzene and free product in the "shallow" zone in August 2004 at the HPFF. For comparison purposes, *Figures 5.2, 5.3, 5.4, 5.5* and *5.6* present the estimated extent of dissolved benzene and free product in August 2003, August 2002, July 2001, July 2000 and July 1999, respectively.

The "intermediate" (50 to 70 feet bls) zone continues to display high dissolved concentrations of COCs. While concentrations continue to exceed NCGQS in the "deep" (greater than 70 feet bls) zone, a decreasing trend has developed. As the AS/SVE remedial system continues to reduce contaminant concentrations in the upper portion of the aquifer, natural attenuation is expected to reduce COCs concentrations to below NCGQS in the "deep" zone. Therefore, additional "deep" monitoring wells are not required to delineate the vertical extent of dissolved contaminants at the site at this time.

5.3.3 Monitored Natural Attenuation (MNA) Parameters

Natural attenuation processes may include adsorption, dilution, dispersion, volatilization, and chemical degradation, as well as biodegradation. Direct evidence for natural attenuation is a decrease in BTEX concentrations over time. Indirect evidence for natural attenuation is based on evaluation of the "natural attenuation parameters", which change in response to microbial degradation of fuel hydrocarbons as discussed below.

5.3.3.1 Direct Evidence for Natural Attenuation

The most conclusive evidence for natural attenuation of BTEX compounds in groundwater is the direct observation of an overall decrease in concentrations within the plume over time. If the plume is migrating as it is attenuating, then wells at the advancing edge of the plume may show increases over time, and wells at the trailing edge may show decreases over time, but the average concentrations within the plume should decrease. A decrease in concentration at a single monitoring location may thus be due to either attenuation or plume migration. An overall decrease in concentrations between sampling rounds when averaged across the plume, however, is strong evidence for the occurrence of one or more attenuation processes.

Figure 5.7 provides the median, mean, and maximum total BTEX concentrations observed across all of the wells that were sampled during each of the last eleven rounds. Note that a logarithmic concentration scale is used on the graph so that the full range of concentrations can be seen, and that non-detects were set equal to one-half of the reporting limit. The trends over the 5.6-year monitoring period show an overall decrease in BTEX concentrations during this time. These results are however not definitive proof that natural attenuation is occurring for a number of reasons:

- An unequal number of wells (between 23 and 32) were sampled each round, which may introduce some bias in the apparent trend. For instance, if sampling of some wells that never had detectable concentrations was discontinued at some point, then that would cause an apparent increase in the mean. Likewise, sampling of new wells in areas of known contamination would cause an apparent increase in the mean. Bias introduced by this factor can be minimized by consistently sampling the same set of wells each round.

- The well locations may introduce a bias if most of the wells are near the advancing or trailing edge of the plume.

- The 5.6-year monitoring period may not be long enough to accurately determine a trend.

- Some (or all) of the observed decreases may be due to active remediation rather than natural attenuation.

Despite these limitations, the maximum, mean, and median BTEX concentrations in each of the eleven sampling rounds do indicate a steadily decreasing trend.

Greater resolution of the time-trends can be obtained by evaluating the trends at individual wells. The Mann-Kendall test was used to evaluate the direction and significance of the trends in total BTEX concentrations at 30 wells. This test is a trend estimator that is specifically recommended for environmental data (Gilbert, 1987; U.S. Environmental Protection Agency, 2000). It is a nonparametric test, which means that distributional assumptions are not required. The test compares concentration measurements of a constituent of interest over time, and tests the null hypothesis that the measurements exhibit no temporal trend. The test is performed at a 95 percent confidence level to detect the presence of an upward, downward, or indeterminate trend in concentrations over time.

Twenty-five of the wells were sampled 11 times over a 5.6 year period. The remaining five wells were sampled five times over a two year period. Nondetect results were assigned a concentration equal to one-half of the reporting limit. Results are shown in *Table 5.1*. Columns in the table are defined as:

n =	Number of analyses
Z =	Normal Z-score test statistic
p-level =	Significance of test result
Slope =	Direction of trend with respect to time
Significant? =	Significance of test results at the 95 percent confidence level

The Z-scores in *Table 5.1* indicate the direction of the trend. Negative values indicate a decreasing trend over time, and positive values indicate an increasing trend over time. The p-level indicates the significance of the test result. If the p-level is above 0.05 then no trend is present. If the p-level is below 0.05, then the trend is considered to be statistically significant.

Eleven of the 30 wells show a significant trend, including four in the upward direction and seven in the downward direction, as shown in bold in *Table 5.1*. Somewhat different trends emerge when the shallow, intermediate, and deep wells are considered as groups. Three of the four wells with significant upward trends are completed in the deeper unit, and six of the seven wells with significant downward trends are completed in the

intermediate and shallow units. This observation implies that the plume is migrating downward in response to vertical hydrologic gradients in the aquifer as it is attenuating.

There are a few factors that need to be taken onto account when interpreting these results. A potentially important process that affects the observed BTEX concentrations in groundwater is the adsorption/desorption behavior of these compounds. The BTEX contaminants will adsorb to some extent on sediments. At equilibrium, some fraction of the compounds will be in an adsorbed state, and the remaining fraction will remain dissolved in the groundwater. The equilibrium ratio of the adsorbed mass to the dissolved mass is described by the adsorption coefficient (K_d), which is a function of a number of compound-specific and site-specific parameters.

The BTEX compounds have high organic carbon partition coefficients (K_{oc}) which is a measure of the tendency of the compound to adsorb on naturally occurring organic carbon along the groundwater flow path. For instance, ethylbenzene has a K_{oc} of 95 mL/g which means that in a carbon-ethylbenzene-water system at equilibrium, there will be 95 times more ethylbenzene in an adsorbed state than in a dissolved state (Abdul et al., 1987).

Microbes will preferentially degrade the dissolved fraction. If some of the dissolved ethylbenzene is degraded, then the distribution ratio of adsorbed-to-dissolved ethylbenzene is disturbed from equilibrium. The system will respond by desorbing additional ethylbenzene from the sediments into the groundwater so that the equilibrium ratio is maintained. In such a two-phase (groundwater and sediment) system, the dissolved ethylbenzene concentration is partially replenished by desorption as degradation proceeds. This process will continue until both the adsorbed and dissolved fractions of ethylbenzene are completely degraded. This process might explain the observation of steady-state (or even increasing) concentrations in groundwater even though degradation is actively proceeding.

5.3.3.2 Indirect Evidence for Natural Attenuation

Indirect Evidence for natural attenuation is based on evaluation of the "natural attenuation parameters", which change in response to microbial degradation of fuel hydrocarbons as discussed below. A set of natural attenuation parameters has been obtained from 19 wells during the February 2004 sample round, and 18 wells during the August 2004 sampling round. *Tables 4.4 and 4.6* present natural attenuation parameter

analytical results for the northwest and southeast compounds respectively. A preliminary evaluation of the analytical results for dissolved oxygen; oxidation-reduction potential; and dissolved methane, ethane, and ethene is provided below. Nitrate, nitrite, and sulfate were also analyzed but were not evaluated due to high percentages of non-detect results.

Dissolved Oxygen: When fuel hydrocarbons are initially released to groundwater, aerobic microbes start to oxidize the hydrocarbon compounds to produce carbon dioxide and water, and dissolved oxygen (DO) is consumed in the process. For instance, approximately three milligrams of oxygen is required to completely metabolize one milligram of benzene (AFCEE, 1995). Aerobic activity is identified, in part, by a local depression in dissolved oxygen within the impacted areas. The subsurface environment can become devoid of oxygen quickly, at which point the rate of aerobic degradation will be limited by the rate at which oxygen can be re-supplied. One of the objectives of active air sparging systems besides stripping the contaminants from the aqueous phase into the gas phase, is to increase the DO concentrations so that aerobic degradation can proceed at a maximum rate.

Figure 5.8 shows the correlation between dissolved oxygen and the sum of the BTEX compounds in the February 2004 (diamonds) and August 2004 (squares) sample events. The graph shows a general decrease in DO as total BTEX increases, suggesting that oxygen is being consumed, and anaerobic degradation of the contaminants is occurring.

Oxidation/Reduction Potential: The oxidation/reduction (redox) potential (ORP) of groundwater is a measure of electron activity, and is an indicator of the relative tendency of a solution to accept or transfer electrons. Redox reactions in groundwater contaminated with petroleum hydrocarbons are usually biologically mediated, and therefore, the redox potential of a groundwater system depends upon and influences rates of biodegradation. Once the dissolved oxygen is depleted by aerobic microbes, then anaerobic microbial activity can occur. This evolution is marked by a sequential series of progressively decreasing ORP conditions related to nitrate reduction, iron and manganese reduction, sulfate reduction, and methanogenesis. If anaerobic microbes are actively degrading fuel, then one would expect local ORP depressions in fuel-impacted areas (AFCEE, 1995).

Figure 5.9 shows the correlation between ORP and total BTEX concentrations in the February 2004 and August 2004 sample events. All of the samples with total BTEX concentrations above 1,000 ug/L have negative potentials. The negative slope of the

trend indicates that the fuel, where present, has stimulated microbial activity that is consuming oxygen and lowering the redox potential in impacted locations.

Methane: During methanogenesis (an anaerobic biodegradation process), carbon dioxide (or acetate) is used as an electron acceptor, and methane is produced. Methanogenesis generally occurs after oxygen, nitrate, manganese, bio-available iron (III), and sulfate have been depleted in the impacted zone. The presence of methane in groundwater is indicative of strongly reducing conditions. Because methane is not present in fuel, the presence of methane in groundwater above background concentrations in contact with fuels is evidence of anaerobic microbial degradation of fuel hydrocarbons (AFCEE, 1995).

Figure 5.10 shows the correlation between dissolved methane concentrations and total BTEX in the February and August 2004 sample events. The positive slope of the trend indicates that methane is being generated from the degradation of fuel hydrocarbons within the impacted areas. The concentrations of ethane and ethene parallel those of methane (*Figures 5.11 and 5.12*), and provide independent evidence for microbial degradation of BTEX.

6.0 RECOMMENDATIONS

CATLIN completed additional contamination assessment work as well as a remedial technology evaluation at both the Building 1115 (northwest compound) and Hadnot Point Fuel Farm (southeast compound) during 2002 and 2003. This work involved monitoring well installation and groundwater sample collection to more fully characterize the contaminant plume (both horizontal and vertical) and hydrogeologic conditions at the site. In addition, a Bio-Pulse Sparging pilot test and a long term groundwater pumping test were completed. Results of this additional assessment work were used to develop a Revised CAP designed to remediate the deep contamination observed at the site.

The selected remedial technology presented in the *Revised Corrective Action Plan (CAP) for Hadnot Point Fuel Farm*, prepared by CATLIN (dated June 2003) recommended continued AFVR events to recover free phase product from monitoring wells, continued operation of the AS/SVE system for groundwater treatment (10 to 50 feet bls) and hydrocarbon vapor control, completing a Bio-Pulse Sparge pilot test to treat groundwater to depths of 150 feet bls, and installing one groundwater recovery well (30 gpm design recovery rate) to ensure hydraulic control at the site. To facilitate implementation of the pilot test, the air sparge and bio-sparge wells at the southeast compound were shutdown November 18, 2003 and the bio-sparge wells at the northeast compound were shut down on November 18, 2003. The sparge wells remained off until completion of the Bio-Pulse Sparge pilot test evaluation. The system was restarted March 2004 following results of CATLIN's last data review (data collected the week of February 17, 2004).

In addition, based on discussions between the Navy and the NCDENR, the Navy agreed to install nine pulse air sparge wells at the southeast compound to treat groundwater in an area approximated by the 5,000 ug/l benzene concentration contour shown in *Figure 6.1*. The location of the proposed pulse sparge wells (S-37 through S-45) are also shown in the *Figure 6.1*. This work is anticipated to be completed during the first quarter of 2005.

6.1 BUILDING 1115 AREA (NORTHWEST COMPOUND)

Natural attenuation and the remedial system appear to be operating as expected to reduce contaminant levels in the shallow aquifer at the site. However, natural attenuation appears to be occurring at a much slower rate at depths greater than 50 feet bls. When the air sparge portion of the remedial system was brought back on line in March 2004, select monitoring wells were tested to determine if air sparging does, in fact, increase the dissolved oxygen concentration in groundwater in the shallow, intermediate and deep

zones. Results of this testing demonstrated an increase in dissolved oxygen concentrations in shallow, intermediate and deep monitoring wells following startup of the air sparging system.

As concentrations of COCs in the "shallow" zone continue to decrease, the deeper zones should begin to demonstrate a similar trend. To assist in the evaluation of natural attenuation processes, groundwater samples should be analyzed for the following natural attenuation parameters in select monitoring wells:

- Field Screened: temperature, conductivity, turbidity, pH, dissolved oxygen, and oxidation-reduction parameters (ORP)
- Method RSK-175: ethane, ethene and methane
- Method 354.1: nitrite, nitrogen
- Method 353.2: nitrite-nitrate, nitrogen and nitrate, nitrogen
- Method 375.4: sulfate
- Method 415.1: total organic carbon (TOC)

The following sampling schedule should be implemented during the 2005 semi-annual monitoring events scheduled for February and August 2005:

- Type II monitoring wells: Seven monitoring wells (MW-1115-01, MW-1115-02, MW-1115-04, MW-GT-1, MW-GT-7, MW-GT-9 and 78GW22-2) will be sampled. The samples will be analyzed for VOAs using EPA Method 602 and for PAHs using EPA Method 610. Additionally, samples from monitoring wells MW-1115-02, MW-1115-04 and MW-GT9 will be analyzed for the above-listed natural attenuation parameters.
- Type III "intermediate" monitoring wells: Four monitoring wells (MW-1115-13, MW-1115-17, MW-1115-18, and MW-1115-21) will be sampled. The samples will be analyzed for VOAs using EPA Method 602, for PAHs using EPA Method 610, and for natural attenuation parameters.
- Type III "deep" monitoring wells: Four monitoring wells (MW-1115-22, MW-1115-23, MW-1115-24, MW-1115-25 will be sampled. The samples will be analyzed for VOAs using EPA Method 602 and for PAHs using EPA Method 610. Additionally, samples from MW-1115-22, MW-1115-24 and MW-1115-25 will be analyzed for the natural attenuation parameters.

A depth to groundwater/product survey should be completed at select monitoring wells at the site on a semi-annual schedule. The survey will be completed just prior to each semi-annual sampling event. Results of this survey will provide a comprehensive groundwater elevation contour map of the site, as well as the current extent of free phase product.

Analytical results from the February and August 2005 sampling events will be reviewed and recommendations for future remedial work at the site will be developed as appropriate. *Table 6.1* presents the monitoring wells to be sampled and analytical parameters for each semi-annual sampling event.

6.2 HPFF FUEL FARM AREA (SOUTHEAST COMPOUND)

Continue AFVR events at select monitoring wells that demonstrate the presence of free-phase product as needed. At a minimum, the following monitoring wells will be gauged weekly for the presence of free-phase product: HPFF-15, HPFF-72, MW-12, MW-2, MW-15, and MW-18.

Natural attenuation processes may be equally as effective as observed at the Northwest Compound, however, due to the persistence of free-phase product at the site that will continually contribute to the dissolved phase concentrations, a net reduction in concentration is not occurring. High dissolved BTEX concentrations will continue to persist, particularly in the vicinity of free phase product. Once free product has been removed from the subsurface, a similar trend as that observed in the northwest compound should develop.

To assist in the evaluation of natural attenuation processes, the following natural attenuation parameters should be analyzed for in select monitoring wells:

- Field Screened: temperature, conductivity, turbidity, pH, dissolved oxygen, chloride, ORP and Iron II
- Method RSK-175: ethane, ethene and methane
- Method 354.1: nitrite, nitrogen
- Method 353.2: nitrite-nitrate, nitrogen and nitrate, nitrogen
- Method 375.4: sulfate
- Method 415.1: TOC

To better define the horizontal and vertical extent of the dissolved contaminant plume the same sampling schedule will be followed during the 2005 semi-annual monitoring events scheduled for February and August 2005:

- Type II monitoring wells: Nine monitoring wells (MW-1, MW-10R, MW-11, MW-17A, MW-18, HPFF-1, HPFF-5, HPFF-19, and HPFF-20) will be sampled. The samples will be analyzed for VOAs using EPA Method 602 and for PAHs using EPA Method 610. Additionally, monitoring wells HPFF-1, HPFF-5, and MW-17A will be analyzed for the above listed natural attenuation parameters.
- Type III "intermediate" monitoring wells: Three monitoring wells (HPFF-7, HPFF-8 and HPFF-9) will be sampled. The samples will be analyzed for VOAs using EPA Method 602, for PAHs using EPA Method 610, and for natural attenuation parameters.
- Type III "deep" monitoring wells: Three monitoring wells (78GW32-2, 78GW32-3 and HPFF-11) will be sampled. The samples will be analyzed for VOAs using EPA Method 602, for PAHs using EPA Method 610 and for natural attenuation parameters.

A depth to groundwater/product survey will be completed at select monitoring wells at the site on a semiannual schedule. The survey will be completed just prior to each semiannual sampling event. Results of this survey will provide a comprehensive groundwater elevation contour map of the site, as well as the current extent of free-phase product.

Analytical results from the February and August 2005 sampling events will be reviewed and recommendations for future remedial work at the site will be developed as appropriate. *Table 6.2* presents the monitoring wells to be sampled and analytical parameters for each semi-annual sampling event.

7.0 REFERENCES

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TABLES

TABLE 2.1*
MCB CAMP LEJEUNE
Site Rehabilitation Goals

MEDIUM	COMPONENTS	2003 CONDITIONS	2004 CONDITIONS	TARGET CLEANUP
Free Product	Gasoline/Diesel	Free product up to 1.1' (16R), 1.0' (RW4), 1.5' (HPFF-15) and 2.83' (HPFF-72)	Free product up to 1.16' (16R), 1.61' (RW5), and 16' (HPFF-72)	≤0.01'
Vadose Zone Soil	TPH 3550/5030	TPH soil contamination was measured in November 1992 at levels that range from< 1 mg/kg to 2,700 mg/kg.	TPH soil contamination was measured in November 1992 at levels that range from< 1 mg/kg to 2,700 mg/kg.	≤40 mg/kg ≤10 mg/kg
Groundwater	Benzene Ethylbenzene Toluene Xylenes (Total) Naphthalene	22,600 ug/l 3,950 ug/l 30,000 ug/l 17,200 ug/l 768 ug/l	12,900 ug/l 3,580 ug/l 27,100 ug/l 16,500 ug/l 700 ug/l	1 ug/l 29 ug/l 1,000 ug/l 530 ug/l 20 ug/l

*"Final Corrective Action Plan, Leaking Underground Storage Tank, Hadnot Point Fuel Farm/Building 1115", Camp Lejeune, North Carolina, CATLIN Engineers and Scientists, April 30, 1998, Table 3.1.

Table 3.1
Cumulative Mass of Volatile Hydrocarbons Recovered
Air Sparge / Soil Vapor Extraction System
MCB Camp Lejeune - Hadnot Point Fuel Farm, North West
SVE Stack

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Vapor Velocity (V) (ft/min)	Absolute Temperature (Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
01/03/03	14:02	28670	2	8600	564	709	0.01	0.67	13850.43	
01/08/03	14:20	28790	2	8100	560	672	0.01	0.64	13853.72	
01/15/03	10:50	28955	1	7800	543	667	0.01	0.32	13857.01	
01/22/03	13:49	29126	2	7300	543	624	0.01	0.59	13860.26	
02/05/03	14:31	29399	3	7900	555	661	0.02	0.94	13869.01	
02/12/03	9:00	29562	5	7800	550	660	0.03	1.57	13877.54	
02/21/03	8:20	29746	10	8200	546	698	0.05	3.32	13896.29	
02/24/03	13:10	29803	12	8600	565	706	0.06	4.03	13905.03	
03/04/03	15:00	29961	3	8300	560	688	0.02	0.98	13921.54	
03/12/03	16:00	30050	6	9800	569	799	0.03	2.28	13927.59	
03/18/03	15:30	30107	5	8900	572	723	0.03	1.72	13932.35	
03/27/03	12:40	30189	2	7200	561	596	0.01	0.57	13936.25	
04/02/03	10:55	30286	3	8200	566	673	0.02	0.96	13939.34	
04/16/03	12:00	30453	15	9600	576	774	0.08	5.52	13961.91	
04/23/03	8:25	30556	6	9600	557	801	0.03	2.29	13978.67	
04/29/03	7:40	30666	10	8200	574	663	0.05	3.16	13991.14	
05/07/03	12:15	30816	3	9100	578	731	0.02	1.04	14004.27	
05/14/03	11:30	30983	14	9100	574	736	0.07	4.91	14024.97	
05/25/03	11:06	31196	14	8900	581	711	0.07	4.74	14067.78	
05/31/03	10:30	31268	10	8800	590	692	0.05	3.29	14079.83	
06/03/03	14:40	31338	7	9400	583	748	0.04	2.49	14088.26	
06/12/03	11:45	31557	3	9600	598	746	0.02	1.06	14104.49	
06/20/03	11:30	31678	6	9600	585	762	0.03	2.17	14112.65	
06/25/03	11:00	31733	6	9900	591	778	0.03	2.22	14117.69	
06/30/03	11:30	31866	6	9800	581	783	0.03	2.24	14130.04	
07/08/03	12:00	31950	4	9700	583	773	0.02	1.47	14136.53	
07/18/03	10:00	32162	8	8800	578	707	0.04	2.69	14154.92	
07/26/03	8:10	32297	3	9200	580	737	0.02	1.05	14165.45	
07/29/03	11:00	32349	17	9300	592	729	0.09	5.90	14172.98	
08/07/03	12:30	32495	8	10100	584	802	0.04	3.05	14200.22	
08/12/03	15:05	32504	5	9600	590	755	0.03	1.80	14201.13	
08/21/03	14:00	32506	17	11300	595	882	0.09	7.13	14201.50	
08/29/03	9:00	32573	0	12300	586	975	0.00	0.00	14211.46	

Table 3.1
Cumulative Mass of Volatile Hydrocarbons Recovered
Air Sparge / Soil Vapor Extraction System
MCB Camp Lejeune - Hadnot Point Fuel Farm, North West
SVE Stack

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Vapor Velocity (V) (ft/min)	Absolute Temperature (Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
09/03/03	7:30	32608	3	10300	576	831	0.02	1.19	14212.32	
09/09/03	12:30	32756	8	11500	580	921	0.04	3.51	14226.79	Hurricane Isabel
09/26/03	8:00	32973	2	9300	572	755	0.01	0.72	14245.88	
09/30/03	13:39	33020	7	9500	575	767	0.04	2.56	14249.09	
10/07/03	14:50	33074	7	9600	571	781	0.04	2.60	14254.89	
10/13/03	13:10	33094	4	9500	591	746	0.02	1.42	14256.57	
10/23/03	14:30	33334	11	8900	576	717	0.06	3.75	14282.42	
10/31/03	11:25	33345	15	8800	576	709	0.08	5.06	14284.44	
11/06/03	9:15	33469	7	9500	576	764	0.04	2.55	14304.09	
11/12/03	12:15	33490	5	9200	585	729	0.03	1.73	14305.96	
11/18/03	12:30	33516	11	8600	550	726	0.06	3.80	14308.96	
11/24/03	8:20	33543	2	9400	536	814	0.01	0.78	14311.53	
12/03/03	16:20	33586	3	9400	531	822	0.02	1.17	14313.28	
12/11/03	15:40	33651	1	9100	561	754	0.01	0.36	14315.35	
12/18/03	15:50	33700	3	9500	567	779	0.02	1.11	14316.85	
12/26/03	8:30	33816	6	8100	566	663	0.03	1.89	14324.12	
12/31/03	14:55	33941	2	9200	573	747	0.01	0.71	14330.91	
01/07/04	15:15	33963	0	8800	543	753	0.00	0.00	14331.23	
01/13/04	9:00	34006	3	9100	536	789	0.02	1.13	14332.24	
01/22/04	12:45	34111	6	8700	560	721	0.03	2.06	14339.21	
01/29/04	13:30	34169	4	8500	544	726	0.02	1.38	14343.36	
02/04/04	13:22	34212	2	9500	556	793	0.01	0.76	14345.28	
02/13/04	15:40	34291	4	9500	549	804	0.02	1.53	14349.04	
02/19/04	12:25	34312	7	9600	555	804	0.04	2.68	14350.88	
02/27/04	13:20	34504	1	9800	530	859	0.01	0.41	14363.23	
03/04/04	11:30	34590	5	9500	562	785	0.03	1.87	14367.31	
03/12/04	9:00	34743	14	8600	544	734	0.07	4.89	14388.86	
03/17/04	8:00	34806	22	8800	550	743	0.12	7.77	14405.48	
03/25/04	10:35	34833	14	8800	561	728	0.07	4.85	14412.58	
04/01/04	9:00	34943	15	8800	550	743	0.08	5.30	14435.85	
04/09/04	14:00	35029	9	8900	565	731	0.05	3.13	14450.96	
04/15/04	9:30	35076	11	8500	544	724	0.06	3.79	14457.74	
04/21/04	12:00	35109	12	8700	566	714	0.06	4.08	14463.15	
04/28/04	12:35	35262	6	8700	555	729	0.03	2.08	14482.77	
05/04/04	10:25	35361	12	8800	570	717	0.06	4.10	14495.51	
05/11/04	11:15	35513	4	9200	581	735	0.02	1.40	14512.92	

Table 3.1
Cumulative Mass of Volatile Hydrocarbons Recovered
Air Sparge / Soil Vapor Extraction System
MCB Camp Lejeune - Hadnot Point Fuel Farm, North West
SVE Stack

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Vapor Velocity (V) (ft/min)	Absolute Temperature (Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
05/18/04	14:45	35647	6	8900	585	707	0.03	2.02	14522.46	
05/26/04	9:30	35820	5	8500	575	687	0.03	1.63	14535.62	
06/04/04	12:15	35951	2	8800	571	716	0.01	0.68	14541.94	No data 6/11
06/18/04	11:45	36132	5	8600	588	679	0.03	1.62	14550.60	
06/23/04	9:30	36251	12	8500	581	679	0.06	3.88	14564.23	
07/07/04	13:40	36584	6	8800	602	679	0.03	1.94	14604.60	No data 7/2
07/15/04	9:30	36754	13	8100	581	648	0.07	4.01	14625.66	
07/21/04	10:40	36899	9	8400	589	662	0.05	2.84	14646.33	
07/28/04	15:35	37064	5	8800	586	698	0.03	1.66	14661.79	
08/06/04	11:25	37249	8	8800	579	706	0.04	2.69	14678.55	
08/11/04	7:20	37296	4	8500	572	690	0.02	1.31	14682.47	
08/18/04	9:00	37369	26	8400	596	655	0.14	8.10	14696.79	
08/25/04	10:00	37536	8	8500	581	678	0.04	2.58	14733.95	
08/31/04	10:00	37627	12	8550	582	682	0.06	3.73	14745.87	Extrapolated Data

Notes:

easured) x K x (M_g/K_g) / 1000

C: vapor concentration (mg/l)

$PPM_{measured}$: FID reading (PPM)

K: number of carbon atoms in calibration gas (1 in methane)

TH: total hydrocarbons calculated as gasoline (GRO)

percent water vapor by volume 0.003

SVE Stack pipe diameter 4

$Q = (1-B) \times V \times A \times (P/P_{std}) \times (T_{std}/T)$

Q: vapor flowrate (SCFM)

B: percent water vapor in flowstream

V: vapor velocity (ft/min)

A: cross-sectional area (sq. ft)

P: absolute pressure of flowstream (" Hg)

P_{std}: standard pressure (29.92" Hg)

T: absolute temperature of flowstream (degrees Rankine)

T_{std}: standard temperature (528 degrees Rankine) at 68 degrees F (from Perry's handbook)

* Estimated value due to malfunctioning instrument

$M = Q \times C \times 0.0895$

M: hydrocarbon recovery rate (lb/day)

CM = [delta (blower meter hours)/24] * [(Mprevious + Mcurrent)/2] + CMprevious

Assumptions:

Mg = 128 mg/mg-mole

Kg = 24.07 dsm^3/10^6 gm -mole

B = 0.003 from Perry's Chemical Handbook

A = 0.0873 sq. ft

Table 3.2

Cumulative Mass of Recovered Volatile Hydrocarbons
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Hadnot Point Fuel Farm, South East
AS/SVE Field #1 (Motor Pool)

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Vapor Flowrate (Q) (pitot tube) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Mass of Hydrocarbons Recovered (CM) (lbs)	Comments
03/29/99	0:00	0	0	0	0.00	0.00		System Start-Up
03/30/99	7:30	0	0	0	0.00	0.00		Start-Up, Troubleshoot electrical problems
04/01/99	10:30	213	16138	39	85.82	298.49	1,324.54	0.0
04/02/99	10:00	236	7242	683	38.51	2352.95	2,595.02	0.0
04/09/99	8:00	304	26110	173	138.85	2151.99	8,977.02	0.0
04/16/99	9:30	402	24803	181	131.90	2132.05	17,723.58	0.0
04/23/99	8:30	485	4644	422	24.70	932.87	23,023.34	0.0
05/06/99	10:15	563	11722	952	62.34	5312.16	33,171.52	0.0
05/13/99	8:30	584	7448	751	39.61	2660.56	36,659.59	0.0
05/19/99	8:30	652	1764	613	9.38	514.87	41,158.11	0.0
06/02/99	11:00	937	2601	0	13.83	0.00	44,215.13	Water in line, *Suspect data not used in calcs
06/09/99	11:00	1005	13228	0	70.34	0.00	44,215.13	Water in line, *Suspect data not used in calcs
06/18/99	8:50	1105	13913	500	73.99	3312.51	51,116.19	0.0
06/24/99	12:30	1251	2929	0	15.58	0.00	61,191.73	Water in line
07/07/99	13:00	1505	642	813	3.41	248.28	62,505.53	0.0
07/15/99	11:00	1626	1795	168	9.55	143.31	63,492.65	0.0
07/21/99	9:00	1766	1314	741	6.99	463.17	65,261.54	0.0
08/02/99	9:50	2055	2247	821	11.95	877.49	73,333.45	0.0
08/12/99	9:35	2295	1734	617	9.22	509.46	80,268.24	0.0
08/19/99	10:00	2463	1101	616	5.85	322.63	83,180.57	0.0
08/25/99	7:30	2607	1509	0	8.02	0.00	84,148.47	Water in line
09/01/99	13:45	2849	1642	0	8.73	0.00	84,148.47	Water in line
09/10/99	13:45	3012	1600	559	8.51	425.43	85,593.15	Extrapolated Data
09/13/99	9:30	3043	0	0	0.00	0.00	85,867.91	Water in line
09/23/99	9:30	3283	1600	553	8.51	421.28	87,974.32	Extrapolated Data
10/06/99	12:30	3395	976	0	5.19	0.00	88,957.31	Water in line
10/14/99	9:19	3584	579	0	3.08	0.00	88,957.31	Water in line
10/22/99	8:01	3734	1211	0	6.44	0.00	88,957.31	Water in line
10/28/99	13:11	3877	571	0	3.04	0.00	88,957.31	Water in line
11/04/99	12:00	4045	0	0	0.00	0.00	88,957.31	Water in line
11/12/99	7:52	4237	1374	521	7.31	340.73	90,320.24	Water in line
11/16/99	9:28	4333	2224	0	11.83	0.00	91,001.71	Water in line
11/22/99	10:30	4477	308	483	1.64	70.74	91,213.94	Water in line, Flow velocity data estimated
12/02/99	10:13	4588	121	215	0.64	12.37	91,406.13	0.0
12/08/99	11:33	4730	780	486	4.15	180.30	91,976.09	0.0
12/17/99	9:40	4856	449	198	2.39	42.28	92,560.36	0.0
01/08/00	8:15	5360	1720	171	9.15	140.10	94,475.40	0.0
01/12/00	13:23	5461	1585	227	8.43	171.54	95,131.15	Water in line, flow and temp estimated.
01/21/00	9:35	5664	119	300	0.63	17.01	95,928.56	0.0
01/27/00	10:31	5729	671	246	3.57	78.52	96,057.93	Water in line, flow and temp estimated.
02/01/00	10:01	5826	691	393	3.67	129.18	96,477.67	0.0
02/04/00	10:15	5893	284	517	1.51	69.91	96,755.56	0.0
02/07/00	9:55	5961	207	577	1.10	56.88	96,935.18	0.0
02/11/00	10:23	6051	101	699	0.54	33.61	97,104.84	0.0
02/15/00	13:53	6146	94	832	0.50	37.21	97,245.00	0.0
02/18/00	12:41	6201	367	394	1.95	68.74	97,366.41	0.0
02/25/00	14:39	6352	244	881	1.30	102.31	97,904.53	0.0
03/07/00	12:50	6557	128	607	0.68	36.97	98,499.39	0.0
03/13/00	15:30	6660	1000	428	5.32	203.67	99,015.75	FID estimated
03/22/00	9:00	6864	698	642	3.71	213.34	100,788.02	0.0
03/29/00	9:55	7029	663	282	3.53	89.13	101,827.76	0.0
04/07/00	10:30	7245	620	654	3.30	193.08	103,097.70	0.0
04/12/00	7:30	7362	0	420	0.00	0.00	103,568.33	Header reading taken twice to confirm
04/18/00	10:00	7508	3	785	0.01	1.01	103,571.40	0.0
04/28/00	7:30	7745	350	449	1.86	74.76	103,945.49	Vaccuum Estimated
05/04/00	10:00	7820	0	150	0.00	0.00	104,062.30	0.0
05/11/00	9:00	7988	545	543	2.90	140.89	104,555.43	0.0
05/15/00	8:00	8106	420	166	2.23	33.20	104,983.39	0.0
05/23/00	8:30	8274	404	468	2.15	89.96	105,414.44	0.0
05/31/00	8:15	8466	799	279	4.25	105.99	106,198.26	0.0
06/05/00	10:30	8589	733	427	3.90	148.91	106,851.44	0.0
06/14/00	9:13	8782	212	540	1.13	54.53	107,669.45	0.0
06/23/00	15:37	9004	209	442	1.11	44.00	108,125.14	Water in line, flow and temp estimated.
06/27/00	12:47	9097	650	727	3.46	224.82	108,645.97	0.0
07/03/00	11:16	9165	5100	615	27.12	1493.41	111,080.12	0.0
07/12/00	13:53	9381	3165	542	16.83	816.15	121,473.14	0.0
07/21/00	12:03	9586	761	452	4.05	163.65	125,657.71	0.0
07/26/00	11:16	9660	2461	394	13.09	461.56	126,621.58	0.0
08/10/00	12:24	9946	1705	317	9.07	257.49	130,905.97	0.0
08/16/00	9:15	10087	649	519	3.45	160.37	132,133.45	0.0
08/22/00	10:23	10121	668	647	3.55	205.63	132,392.70	0.0
08/28/00	10:29	10265	544	642	2.89	166.10	133,507.92	0.0
09/07/00	7:45	10446	983	474	5.23	221.98	134,971.32	0.0
09/11/00	11:32	10545	984	432	5.23	202.54	135,846.90	0.0
09/21/00	8:09	10716	1844	408	9.81	358.32	137,844.97	0.0
09/28/00	10:36	10818	3118	543	16.58	806.06	140,319.27	0.0
10/03/00	8:34	10926	2983	412	15.86	585.52	143,450.31	0.0
10/11/00	9:18	11094	1659	578	8.82	456.06	147,095.85	0.0

Table 3.2

Cumulative Mass of Recovered Volatile Hydrocarbons
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Hadnot Point Fuel Farm, South East
AS/SVE Field #1 (Motor Pool)

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Vapor Flowrate (Q) (pitot tube) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Mass of Hydrocarbons Recovered (CM) (lbs)	Comments
10/16/00	11:25	11216	1367	477	7.27	310.46	149,044.09	0.0
10/25/00	9:35	11430	686	502	3.65	164.06	151,159.64	0.0
10/31/00	12:34	11576	471	633	2.50	141.92	152,090.32	0.0
11/06/00	9:04	11716	358	520	1.90	88.60	152,762.67	0.0
11/15/00	9:59	11930	307	379	1.63	55.44	153,404.85	0.0
11/21/00	8:20	12073	443	507	2.36	106.99	153,888.76	0.0
11/28/00	11:23	12199	342	511	1.82	83.25	154,388.15	0.0
12/08/00	11:35	12385	325	460	1.73	71.16	154,986.48	0.0
12/15/00	8:47	12531	281	467	1.49	62.46	155,392.88	0.0
12/22/00	10:10	12661	531	290	2.82	73.41	155,760.84	0.0
12/27/00	11:00	12783	547	293	2.91	76.29	156,141.32	0.0
01/04/01	8:55	13067	179	223	0.95	19.02	156,705.20	0.0
01/10/01	8:20	13211	160	276	0.85	21.04	156,825.38	0.0
01/17/01	8:25	13363	152	445	0.81	32.19	156,993.94	0.0
01/23/01	8:50	13456	226	388	1.20	41.73	157,137.16	0.0
02/02/01	8:25	13502	247	334	1.31	39.32	157,214.84	0.0
02/08/01	10:15	13640	179	625	0.95	53.25	157,480.98	0.0
02/20/01	10:40	13827	264	604	1.40	75.89	157,984.09	0.0
03/01/01	12:45	14035	224	565	1.19	60.27	158,574.14	0.0
03/06/01	10:04	14115	157	607	0.83	45.34	158,750.16	0.0
03/14/01	14:10	14296	274	411	1.46	53.56	159,123.11	0.0
03/19/01	11:04	14414	259	393	1.38	48.43	159,373.83	0.0
03/28/01	14:39	14625	284	523	1.51	70.65	159,897.26	0.0
04/04/01	11:21	14756	296	572	1.57	80.54	160,309.88	0.0
04/11/01	10:20	14922	269	452	1.43	57.85	160,788.48	0.0
04/17/01	11:25	14777	361	233	1.92	40.06	160,492.71	0.0
04/26/01	12:19	14995	441	341	2.35	71.63	160,999.95	0.0
05/01/01	13:12	15115	244	138	1.30	16.05	161,219.14	0.0
05/09/01	9:43	15303	247	170	1.31	20.03	161,360.46	0.0
05/18/01	7:55	15496	372	278	1.98	49.14	161,638.60	0.0
05/25/01	9:19	15665	315	169	1.68	25.40	161,901.06	0.0
05/31/01	12:17	15802	341	118	1.81	19.18	162,028.30	0.0
06/07/01	7:58	15937	354	205	1.88	34.55	162,179.42	0.0
06/12/01	7:36	16058	375	374	1.99	66.79	162,434.87	0.0
06/20/01	10:50	16235	392	205	2.08	38.26	162,822.23	0.0
06/28/01	10:50	16407	366	302	1.95	52.64	163,147.95	0.0
07/06/01	6:59	16575	601	535	3.20	153.06	163,867.92	0.0
07/11/01	8:06	16694	1011	277	5.38	133.09	164,577.34	0.0
07/16/01	10:40	16816	331	201	1.76	31.63	164,996.01	0.0
07/27/01	9:53	16985	356	118	1.89	20.00	165,177.82	0.0
08/02/01	10:50	17131	375	191	1.99	34.08	165,342.32	0.0
08/10/01	7:53	17318	902	141	4.80	60.73	165,711.70	0.0
08/17/01	10:49	17489	316	137	1.68	20.59	166,001.41	0.0
08/25/01	7:41	17677	283	139	1.50	18.68	166,155.22	0.0
08/29/01	9:42	17758	374	193	1.99	34.35	166,244.72	0.0
09/06/01	7:41	17904	295	89	1.57	12.45	166,387.09	0.0
09/13/01	8:36	18065	251	102	1.33	12.23	166,469.86	0.0
09/21/01	8:44	18275	221	106	1.18	11.17	166,572.23	0.0
09/27/01	11:05	18372	277	104	1.47	13.65	166,622.39	0.0
10/04/01	8:11	18538	230	138	1.22	15.13	166,721.91	0.0
10/11/01	8:06	18705	229	125	1.22	13.67	166,822.09	0.0
10/18/01	7:53	18873	173	157	0.92	12.94	166,915.19	0.0
10/26/01	10:10	19067	280	221	1.49	29.50	167,086.71	0.0
10/31/01	8:14	19186	257	242	1.37	29.61	167,233.24	0.0
11/09/01	8:22	19399	304	157	1.62	22.66	167,465.16	0.0
11/13/01	8:04	19493	336	107	1.79	17.08	167,542.99	0.0
11/21/01	12:55	19689	313	140	1.66	20.86	167,697.91	0.0
11/29/01	13:16	19880	471	156	2.50	34.96	167,919.99	0.0
12/04/01	9:45	19990	455	141	2.42	30.48	168,069.94	0.0
12/14/01	14:20	20234	526	141	2.80	35.37	168,404.68	0.0
12/21/01	14:25	20401	373	123	1.98	21.76	168,603.46	0.0
12/29/01	7:58	20589	277	163	1.47	21.52	168,772.99	0.0
01/02/02	11:28	20687	269	130	1.43	16.67	168,850.96	0.0
01/10/02	12:10	20874	349	107	1.86	17.72	168,984.95	0.0
01/25/02	12:05	21236	657	241	3.49	75.28	169,686.31	0.0
01/30/02	13:42	21357	377	157	2.00	28.13	169,946.99	0.0
02/08/02	14:56	21573	484	144	2.57	33.20	170,222.99	0.0
02/22/02	12:10	21811	291	124	1.55	17.15	170,472.64	0.0
02/27/02	13:50	21882	254	163	1.35	19.66	170,527.08	0.0
03/08/02	10:20	22089	328	146	1.74	22.72	170,709.84	0.0
03/11/02	15:10	22164	328	147	1.74	22.91	170,781.13	0.0
03/22/02	13:07	22428	792	183	4.21	68.87	171,285.91	0.0
03/28/02	7:51	22567	876	240	4.66	100.18	171,775.45	0.0
04/02/02	10:10	22688	323	122	1.72	18.80	172,075.36	0.0
04/09/02	13:00	22857	337	137	1.79	21.93	172,218.74	0.0
04/17/02	11:25	23046	306	122	1.63	17.72	172,374.85	0.0
04/23/02	10:10	23189	315	160	1.68	23.92	172,498.91	0.0
05/01/02	10:05	23381	384	104	2.04	19.05	172,670.81	0.0
05/08/02	12:44	23551	333	237	1.77	37.53	172,871.21	0.0
05/15/02	11:21	23718	355	172	1.89	29.08	173,102.97	0.0
05/22/02	9:15	23884	361	106	1.92	18.28	173,266.76	0.0

Table 3.2

Cumulative Mass of Recovered Volatile Hydrocarbons
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Hadnot Point Fuel Farm, South East
AS/SVE Field #1 (Motor Pool)

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Vapor Flowrate (Q) (pitot tube) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Mass of Hydrocarbons Recovered (CM) (lbs)	Comments
05/28/02	13:43	24032	431	189	2.29	38.76	173,442.65	0.0
06/04/02	9:30	24196	589	173	3.13	48.60	173,741.15	
06/14/02	10:10	24436	401	190	2.13	36.32	174,165.74	
06/20/02	10:40	24580	515	123	2.74	30.10	174,365.00	
06/28/02	10:18	24772	428	152	2.28	30.87	174,608.87	
07/03/02	10:50	24892	395	150	2.10	28.23	174,756.61	
07/10/02	9:25	25059	393	138	2.09	25.73	174,944.36	
07/20/02	12:04	25270	280	186	1.49	24.77	175,166.37	
07/28/02	8:10	25448	315	157	1.68	23.48	175,345.30	
07/31/02	9:56	25521	355	121	1.89	20.47	175,412.14	
08/08/02	10:45	25711	288	119	1.53	16.36	175,557.93	
08/13/02	8:50	25828	213	139	1.13	14.07	175,632.11	
08/20/02	14:20	26002	264	137	1.40	17.24	175,745.60	
08/30/02	14:25	26230	277	157	1.47	20.66	175,925.62	
09/06/02	13:10	26400	174	137	0.93	11.35	176,038.99	
09/09/02	8:07	26467	174	175	0.93	14.51	176,075.08	
09/19/02	14:15	26665	229	137	1.22	14.98	176,196.73	
09/25/02	7:30	26802	284	123	1.51	16.68	176,287.09	
10/01/02	13:40	26952	182	138	0.97	11.94	176,376.51	
10/08/02	9:05	27116	196	141	1.04	13.13	176,462.15	
10/17/02	13:10	27329	161	156	0.86	11.96	176,573.49	
10/26/02	10:36	27542	169	124	0.90	10.00	176,670.92	
11/01/02	13:05	27672	121	144	0.64	8.29	176,720.47	
11/08/02	13:38	27840	141	179	0.75	12.02	176,791.57	
11/15/02	14:40	27994	114	160	0.61	8.66	176,857.92	
11/22/02	10:26	28157	110	143	0.58	7.49	176,912.77	
11/25/02	14:56	28233	110	194	0.58	10.16	176,940.72	
12/04/02	13:12	28448	69	129	0.37	4.25	177,005.25	
12/14/02	14:10	28683	95	144	0.51	6.51	177,057.93	
12/19/02	14:10	28792	101	163	0.54	7.83	177,090.51	
12/23/02	8:05	28882	118	168	0.63	9.44	177,122.91	
12/31/02	11:52	29078	127	142	0.68	8.57	177,196.49	
01/09/03	13:05	29275	86	195	0.46	7.99	177,264.48	
01/15/03	13:45	29420	81	108	0.43	4.17	177,301.23	
01/22/03	14:10	29490	96	130	0.51	5.92	177,315.95	Hard calculate for hour meter
02/01/03	13:05	29490	116	146	0.62	8.08	177,336.36	
02/05/03	14:50	29490	113	164	0.60	8.80	177,360.97	
02/14/03	13:10	0.7	122	182	0.65	10.56	177,389.20	
02/21/03	14:30	23	130	126	0.69	7.77	177,397.72	
02/26/03	7:50	132	154	129	0.82	9.47	177,436.86	
03/09/03	10:30	390	126	147	0.67	8.79	177,535.04	System start-up
03/13/03	8:15	485	101	144	0.54	6.93	177,566.16	
03/19/03	11:20	630	133	161	0.71	10.17	177,617.82	
03/28/03	12:10	847	127	145	0.68	8.76	177,703.42	
04/02/03	12:40	954	106	126	0.56	6.34	177,737.08	
04/13/03	12:45	1207	141	154	0.75	10.35	177,825.04	
04/16/03	13:30	1262	164	139	0.87	10.87	177,849.35	
04/23/03	9:00	1420	167	141	0.89	11.22	177,922.06	
05/01/03	14:05	1617	182	142	0.97	12.31	178,018.63	
05/08/03	14:40	1786	159	104	0.85	7.87	178,089.67	
05/14/03	12:40	1927	107	138	0.57	7.02	178,133.41	
05/25/03	9:05	2183	105	139	0.56	6.92	178,207.77	
05/30/03	9:40	2306	162	123	0.86	9.45	178,249.72	
06/03/03	11:30	2348	212	138	1.13	13.97	178,270.21	
06/13/03	10:00	2557	241	139	1.28	15.91	178,400.30	
06/20/03	12:45	2725	211	152	1.12	15.30	178,509.54	
06/27/03	8:15	2819	291	139	1.55	19.20	178,577.10	
07/01/03	8:50	2915	142	171	0.76	11.57	178,638.63	
07/08/03	12:45	2995	144	137	0.77	9.42	178,673.60	
07/18/03	13:55	3219	194	208	1.03	19.22	178,807.25	
07/26/03	10:25	3394	183	138	0.97	11.99	178,921.05	
07/29/03	13:30	3473	260	154	1.38	19.06	178,972.16	unable to sample 8/8/03
08/14/03	14:00	3830	188	190	1.00	16.99	179,240.29	
08/21/03	15:10	3950	210	187	1.12	18.66	179,329.42	
08/29/03	13:30	4138	388	119	2.06	21.94	179,488.48	
09/03/03	8:40	4255	304	121	1.62	17.56	179,584.77	
09/09/03	8:30	4399	302	122	1.61	17.48	179,689.88	Hurricane Isabel
09/25/03	8:00	4689	288	196	1.53	26.84	179,957.67	
10/01/03	9:00	4834	326	219	1.73	33.94	180,141.30	unable to sample 10/10/03
10/17/03	14:45	5212	228	191	1.21	20.68	180,571.47	
10/24/03	14:00	5360	175	157	0.93	13.09	180,675.60	
10/31/03	8:00	5496	160	197	0.85	14.99	180,755.19	
11/06/03	10:30	5607	210	140	1.12	13.96	180,822.14	
11/13/03	9:40	5770	169	125	0.90	10.05	180,903.67	
11/21/03	10:45	5944	147	142	0.78	9.95	180,976.17	
11/25/03	13:45	6046	149	181	0.79	12.82	181,024.55	
12/05/03	7:30	6278	127	170	0.68	10.25	181,136.05	
12/11/03	10:05	6425	122	143	0.65	8.29	181,192.82	
12/18/03	11:15	6589	101	157	0.54	7.55	181,246.95	
12/26/03	9:30	6776	95	163	0.51	7.35	181,304.98	
12/31/03	16:05	6864	117	141	0.62	7.88	181,332.90	

Table 3.2

Cumulative Mass of Recovered Volatile Hydrocarbons
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Hadnot Point Fuel Farm, South East
AS/SVE Field #1 (Motor Pool)

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Vapor Flowrate (Q) (pitot tube) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Mass of Hydrocarbons Recovered (CM) (lbs)	Comments
01/07/04	12:20	7029	127	168	0.68	10.14	181,394.84	
01/14/04	12:30	7196	111	182	0.59	9.59	181,463.49	
01/22/04	14:45	7384	92	235	0.49	10.30	181,541.40	
01/29/04	15:00	7556	113	147	0.60	7.91	181,606.65	
02/04/04	15:50	7697	88	143	0.47	5.97	181,647.42	
02/13/04	11:00	7911	93	146	0.49	6.45	181,702.81	
02/19/04	13:35	8026	101	143	0.54	6.87	181,734.73	
02/27/04	14:40	8218	106	168	0.56	8.47	181,796.09	
03/04/04	13:10	8364	113	187	0.60	10.06	181,852.46	
03/12/04	7:50	8539	139	193	0.74	12.74	181,935.58	
03/17/04	10:15	8660	217	159	1.15	16.46	182,009.18	
03/25/04	9:45	8852	261	194	1.39	24.09	182,171.39	
04/01/04	8:00	9017	280	141	1.49	18.83	182,318.93	
04/09/04	13:30	9072	215	125	1.14	12.79	182,355.16	
04/15/04	8:00	9189	277	208	1.47	27.43	182,453.20	
04/22/04	12:00	9310	218	267	1.16	27.75	182,592.28	
04/28/04	13:00	9454	127	211	0.68	12.76	182,713.80	
05/04/04	9:30	9588	218	159	1.16	16.45	182,795.36	
05/11/04	9:00	9755	193	140	1.03	12.86	182,897.34	
05/20/04	12:00	9969	171	174	0.91	14.19	183,017.94	
05/26/04	8:00	10111	136	211	0.72	13.66	183,100.34	
06/04/04	12:50	10331	177	133	0.94	11.23	183,214.43	No data 6/11
06/18/04	13:45	10667	194	168	1.03	15.54	183,401.80	
06/23/04	11:00	10771	197	190	1.05	17.85	183,474.13	
07/09/04	14:00	11035	236	136	1.26	15.30	183,656.44	No data 7/2
07/16/04	14:25	11199	169	140	0.90	11.30	183,747.30	
07/21/04	11:20	11319	187	138	0.99	12.28	183,806.24	System down 7/30
08/13/04	15:20	11397	147	154	0.78	10.76	183,843.68	
08/18/04	10:30	11469	110	121	0.58	6.36	183,869.35	
08/25/04	12:00	11636	146	157	0.78	10.94	183,929.52	
08/31/04	12:00	11756	134	147	0.71	9.37	183,980.08	Extrapolated Data

Notes:

$C = (PPM_{measured}) \times K \times (M_g/K_g) / 1000$

C: vapor concentration (mg/l)

$PPM_{measured}$: FID reading (PPM)

K: number of carbon atoms in calibration gas

(1 in methane)

TH: total hydrocarbons calculated as gasoline (GRO)

$Q = (1-B) \times V \times A \times (P/P_{std}) \times (T_{std}/T)$

Q: vapor flowrate (SCFM)

B: percent water vapor in flowstream

V: vapor velocity (ft/min)

A: cross-sectional area (sq. ft)

P: gauge pressure of flowstream (" Hg)

P_{std}: standard pressure (29.92" Hg)

T: absolute temperature of flowstream (degrees Rankine)

T_{std}: standard temperature (528 degrees Rankine)

* = Estimated value

M = Q x C x 0.0895

M: hydrocarbon recovery rate (lb/day)

CM = [delta (blower meter hours)/24] * [(Mprevious + Mcurrent)/2] + CMprevious

Assumptions:

Mg = 128 mg/mg-mole

Kg = 24.07 dsm^3/10^6 gm -mole

A = 0.196 sq.ft

Table 3.3

Cumulative Mass of Recovered Volatile Hydrocarbons
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Hadnot Point Fuel Farm, South East
AS/SVE Field #2 (Fuel Farm)

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Calculated Vapor Flowrate (Q) (pitot tube) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
03/29/99	0:00	0	0	0	0.00	0.00		System Start-Up
03/30/99	7:30	0	0	0	0.00	0.00		0.0
04/01/99	10:30	213	21030	629	111.83	6292.71	27,923.88	0.0
04/02/99	10:00	236	6088	183	32.37	530.22	31,193.20	0.0
04/09/99	8:00	304	2887	104	15.35	142.42	32,146.09	0.0
04/16/99	9:30	402	2539	96	13.50	116.59	32,674.89	0.0
04/23/99	8:30	485	2043	947	10.86	920.35	34,467.93	0.0
05/06/99	10:15	563	3364	1052	17.89	1683.64	38,699.43	0.0
05/13/99	8:30	584	4787	1492	25.46	3398.91	40,923.04	0.0
05/19/99	8:30	652	3577	625	19.02	1064.41	47,246.08	0.0
06/02/99	11:00	937	1080	1471	5.74	756.21	58,056.02	0.0
06/09/99	11:00	1005	806	1643	4.29	630.45	60,020.46	0.0
06/18/99	8:50	1105	2325	0	12.36	0.00	61,333.90	Water in line
06/24/99	12:30	1251	1023	0	5.44	0.00	61,333.90	Water in line
07/07/99	13:00	1505	2288	1453	12.17	1582.54	69,708.16	0.0
07/15/99	11:00	1626	782	119	4.16	44.31	73,809.16	0.0
07/21/99	9:00	1766	134	0	0.71	0.00	73,938.39	Water in line
08/02/99	9:50	2055	1141	1578	6.07	856.93	79,097.85	0.0
08/12/99	9:35	2295	1838	920	9.77	804.48	87,404.90	0.0
08/19/99	10:00	2463	6156	0	32.74	0.00	90,220.57	Water in line
08/25/99	7:30	2607	6772	0	36.01	0.00	90,220.57	Water in line
09/01/99	13:45	2849	13842	0	73.61	0.00	90,220.57	Water in line
09/10/99	13:45	3012	1500	914	7.98	652.18	92,435.25	Extrapolated Data
09/13/99	9:30	3043	1133	0	6.03	0.00	92,856.45	Water in line
09/23/99	9:30	3283	1500	922	7.98	658.04	96,146.67	Extrapolated Data
10/06/99	12:30	3395	3820	0	20.31	0.00	97,682.11	Water in line
10/14/99	9:19	3584	1231	0	6.55	0.00	97,682.11	Water in line
10/22/99	8:01	3734	0	0	0.00	0.00	97,682.11	Water in line
10/28/99	13:11	3877	1584	0	8.42	0.00	97,682.11	Water in line
11/04/99	12:00	4045	0	0	0.00	0.00	97,682.11	Water in line
11/12/99	7:52	4237	0	0	0.00	0.00	97,682.11	Water in line
11/16/99	9:28	4333	12789	0	68.01	0.00	97,682.11	Water in line
11/22/99	10:30	4477	308	864	1.64	126.61	98,061.94	Water in line, Flow velocity data estimated.
12/02/99	10:13	4588	332	324	1.77	51.22	98,473.18	0.0
12/08/99	11:33	4730	3087	926	16.42	1360.31	102,648.96	Water in line, Flow velocity data estimated.
12/17/99	9:40	4856	8514	983	45.28	3983.81	116,677.27	Water in line, Flow velocity data estimated.
01/08/00	8:15	5360	6812	820	36.23	2658.85	186,425.15	Water in line, flow and temp estimated.
01/12/00	13:23	5461	11152	780	59.30	4140.03	200,731.13	Water in line, suspect data not included.
01/21/00	9:35	5664	2825	874	15.02	1175.04	223,209.45	Water in line, flow and temp estimated.
01/27/00	10:31	5729	5087	867	27.05	2099.62	227,643.88	Water in line, flow and temp estimated.
02/01/00	10:01	5826	5247	846	27.90	2113.46	236,157.83	Water in line, flow and temp estimated.
02/04/00	10:15	5893	2832	802	15.06	1081.09	240,616.89	0.0
02/07/00	9:55	5961	2243	1119	11.93	1194.22	243,840.25	0.0
02/11/00	10:23	6051	1894	1037	10.07	934.75	247,832.07	0.0
02/15/00	13:53	6146	1363	695	7.25	450.68	250,574.06	Water in line, flow estimated.
02/18/00	12:41	6201	1732	324	9.21	267.07	251,396.48	0.0
02/25/00	14:39	6352	988	688	5.25	323.42	253,254.08	Water in line, flow estimated.
03/07/00	12:50	6557	662	769	3.52	242.43	255,670.73	Water in line, flow, etc.. Estimated
03/13/00	15:30	6660	1000	722	5.32	343.52	256,928.08	FID estimated
03/22/00	9:00	6864	8047	1150	42.79	4404.38	277,106.63	0.0
03/29/00	9:55	7029	50	879	0.27	20.92	292,318.59	FID estimated
04/07/00	10:30	7245	750	1019	3.99	363.80	294,049.83	0.0
04/12/00	7:30	7362	1538	1069	8.18	782.32	296,843.50	0.0
04/18/00	10:00	7508	8887	294	47.26	1244.11	303,007.26	0.0
04/28/00	7:30	7745	540	874	2.87	224.61	310,259.09	0.0
05/04/00	10:00	7820	0	270	0.00	0.00	310,610.05	0.0
05/11/00	9:00	7988	1748	659	9.30	547.91	312,527.73	Water in line, flow and temp estimated.
05/15/00	8:00	8106	910	2048	4.84	887.31	316,055.96	0.0
05/23/00	8:30	8274	1162	1123	6.18	621.22	321,335.82	0.0
05/31/00	8:15	8466	4843	533	25.75	1229.48	328,738.64	0.0
06/05/00	10:30	8589	5303	300	28.20	756.62	333,828.01	0.0
06/14/00	9:13	8782	441	1060	2.35	222.44	337,764.61	0.0
06/23/00	15:37	9004	527	2169	2.80	544.11	341,309.88	0.0
06/27/00	12:47	9097	2077	540	11.05	534.22	343,399.14	0.0
07/03/00	11:16	9165	1000	1080	5.32	513.93	344,884.01	Water in line, flow and temp estimated.
07/12/00	13:53	9381	6048	1310	32.16	3769.75	364,160.54	0.0
07/21/00	12:03	9586	2035	941	10.82	911.76	384,154.49	0.0
07/26/00	11:16	9660	1000	814	5.32	387.56	386,157.62	FID estimated
08/10/00	12:24	9946	3726	836	19.81	1482.39	397,299.44	0.0
08/16/00	9:15	10087	2789	982	14.83	1304.12	405,484.83	0.0
08/22/00	10:23	10121	3447	1274	18.33	2090.55	407,889.39	0.0
08/28/00	10:29	10265	2537	897	13.49	1082.85	417,409.59	0.0
09/07/00	7:45	10446	4538	1099	24.13	2372.72	430,439.96	0.0
09/11/00	11:32	10545	2995	1119	15.93	1595.54	438,624.49	0.0
09/21/00	8:09	10716	9218	1158	49.02	5078.29	462,399.99	0.0
09/28/00	10:36	10818	6014	1218	31.98	3485.58	480,598.19	0.0
10/03/00	8:34	10926	5277	1262	28.06	3168.67	495,570.24	0.0
10/11/00	9:18	11094	4268	1154	22.70	2343.70	514,863.54	0.0

Table 3.3

Cumulative Mass of Recovered Volatile Hydrocarbons
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Hadnot Point Fuel Farm, South East
AS/SVE Field #2 (Fuel Farm)

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Calculated Vapor Flowrate (Q) (pitot tube) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
10/16/00	11:25	11216	3118	1130	16.58	1676.90	525,082.57	0.0
10/25/00	9:35	11430	1492	1270	7.93	901.64	536,578.53	0.0
10/31/00	12:34	11576	947	1069	5.04	481.67	540,786.10	0.0
11/06/00	9:04	11716	904	1121	4.81	482.14	543,597.22	0.0
11/15/00	9:59	11930	891	1103	4.74	467.74	547,832.09	0.0
11/21/00	8:20	12073	1102	1193	5.86	625.59	551,089.32	0.0
11/28/00	11:23	12199	1491	688	7.93	488.03	554,012.58	0.0
12/08/00	11:35	12385	682	1006	3.63	326.59	557,169.24	0.0
12/15/00	8:47	12531	501	384	2.66	91.63	558,441.35	0.0
12/22/00	10:10	12661	501	392	2.66	93.41	558,942.50	0.0
12/27/00	11:00	12783	872	749	4.64	310.79	559,969.82	0.0
01/04/01	8:55	13067	564	825	3.00	221.56	563,119.54	0.0
01/10/01	8:20	13211	584	894	3.11	248.55	564,529.86	0.0
01/17/01	8:25	13363	909	1054	4.83	455.79	566,760.25	0.0
01/23/01	8:50	13456	832	1151	4.42	455.67	568,526.19	0.0
02/02/01	8:25	13502	781	788	4.15	293.01	569,243.67	0.0
02/08/01	10:15	13640	589	997	3.13	279.48	570,889.58	0.0
02/20/01	10:40	13827	827	886	4.40	348.62	573,336.53	0.0
03/01/01	12:45	14035	606	1097	3.22	316.27	576,217.72	0.0
03/06/01	10:04	14115	704	1281	3.74	429.11	577,460.02	0.0
03/14/01	14:10	14296	839	1009	4.46	402.79	580,597.01	0.0
03/19/01	11:04	14414	895	1077	4.76	458.70	582,714.83	0.0
03/28/01	14:39	14625	841	1088	4.47	435.45	586,645.36	0.0
04/04/01	11:21	14756	924	1056	4.91	464.36	589,101.09	0.0
04/11/01	10:20	14922	722	960	3.84	330.04	591,848.37	0.0
04/17/01	11:25	14777	624	602	3.32	178.68	590,311.61	0.0
04/26/01	12:19	14995	619	550	3.29	162.16	591,859.62	0.0
05/01/01	13:12	15115	795	338	4.23	127.93	592,584.84	0.0
05/09/01	9:43	15303	622	307	3.31	90.89	593,441.87	0.0
05/18/01	7:55	15496	819	614	4.36	239.26	594,769.34	0.0
05/25/01	9:19	15665	741	210	3.94	74.09	595,872.60	0.0
05/31/01	12:17	15802	1023	330	5.44	160.87	596,543.20	0.0
06/07/01	7:58	15937	859	489	4.57	199.79	597,557.54	0.0
06/12/01	7:36	16058	731	790	3.89	274.76	598,753.78	0.0
06/20/01	10:50	16235	802	304	4.26	116.05	600,194.89	0.0
06/28/01	10:50	16407	718	713	3.82	243.65	601,483.84	0.0
07/06/01	6:59	16575	807	1048	4.29	402.43	603,745.12	0.0
07/11/01	8:06	16694	1011	737	5.38	354.55	605,621.81	0.0
07/16/01	10:40	16816	632	625	3.36	187.99	607,000.78	0.0
07/27/01	9:53	16985	881	509	4.69	213.51	608,414.41	0.0
08/02/01	10:50	17131	904	581	4.81	250.14	609,824.68	0.0
08/10/01	7:53	17318	902	344	4.80	147.51	611,373.87	0.0
08/17/01	10:49	17489	1509	336	8.02	241.41	612,759.39	0.0
08/25/01	7:41	17677	1264	340	6.72	204.69	614,506.60	0.0
08/29/01	9:42	17758	2048	465	10.89	453.57	615,617.42	0.0
09/06/01	7:41	17904	1532	254	8.15	184.92	617,559.52	0.0
09/13/01	8:36	18065	1840	274	9.78	239.82	618,984.17	0.0
09/21/01	8:44	18275	1072	345	5.70	176.17	620,804.13	0.0
09/27/01	11:05	18372	1354	413	7.20	265.94	621,697.56	0.0
10/04/01	8:11	18538	991	275	5.27	129.74	623,065.95	0.0
10/11/01	8:06	18705	1205	286	6.41	164.10	624,088.27	0.0
10/18/01	7:53	18873	978	310	5.20	144.13	625,167.05	0.0
10/26/01	10:10	19067	1031	392	5.48	192.48	626,527.48	0.0
10/31/01	8:14	19186	995	399	5.29	188.94	627,473.07	0.0
11/09/01	8:22	19399	1006	277	5.35	132.85	628,901.02	0.0
11/13/01	8:04	19493	1006	159	5.35	76.05	629,310.12	0.0
11/21/01	12:55	19689	1061	278	5.64	140.55	630,194.55	0.0
11/29/01	13:16	19880	1484	247	7.89	174.26	631,447.22	0.0
12/04/01	9:45	19990	1402	220	7.46	146.49	632,182.27	0.0
12/14/01	14:20	20234	1941	221	10.32	204.14	633,964.60	0.0
12/21/01	14:25	20401	1339	217	7.12	138.59	635,156.99	0.0
12/29/01	7:58	20589	995	225	5.29	106.47	636,116.80	0.0
01/02/02	11:28	20687	860	198	4.57	81.11	636,499.78	0.0
01/10/02	12:10	20874	1114	222	5.92	117.61	637,273.94	0.0
01/25/02	12:05	21236	1694	396	9.01	319.30	640,568.96	0.0
01/30/02	13:42	21357	1457	248	7.75	171.91	641,807.23	0.0
02/08/02	14:56	21573	1514	255	8.05	183.62	643,407.11	0.0
02/22/02	12:10	21811	841	345	4.47	138.00	645,001.79	0.0
02/27/02	13:50	21882	901	353	4.79	151.45	645,429.93	0.0
03/08/02	10:20	22089	863	290	4.59	119.01	646,596.26	0.0
03/11/02	15:10	22164	863	293	4.59	120.26	646,970.12	0.0
03/22/02	13:07	22428	337	228	1.79	36.57	647,832.74	0.0
03/28/02	7:51	22567	259	362	1.38	44.60	648,067.80	0.0
04/02/02	10:10	22688	810	344	4.31	132.80	648,515.01	0.0
04/09/02	13:00	22857	692	305	3.68	100.37	649,335.98	0.0
04/17/02	11:25	23046	604	247	3.21	71.10	650,011.14	0.0
04/23/02	10:10	23189	622	348	3.31	102.94	650,529.62	0.0
05/01/02	10:05	23381	622	216	3.31	63.88	651,196.91	0.0
05/08/02	12:44	23551	715	419	3.80	142.56	651,928.07	0.0
05/15/02	11:21	23718	587	365	3.12	102.01	652,778.98	0.0
05/22/02	9:15	23884	611	189	3.25	54.90	653,321.63	0.0

Table 3.3

Cumulative Mass of Recovered Volatile Hydrocarbons
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Hadnot Point Fuel Farm, South East
AS/SVE Field #2 (Fuel Farm)

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Calculated Vapor Flowrate (Q) (pitot tube) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
05/28/02	13:43	24032	784	335	4.17	124.86	653,875.89	0.0
06/04/02	9:30	24196	927	307	4.93	135.46	654,765.31	
06/14/02	10:10	24436	637	369	3.39	111.90	656,002.10	
06/20/02	10:40	24580	933	249	4.96	110.49	656,669.27	
06/28/02	10:18	24772	896	332	4.76	141.39	657,676.78	
07/03/02	10:50	24892	812	295	4.32	113.96	658,315.16	
07/10/02	9:25	25059	836	245	4.45	97.37	659,050.39	
07/20/02	12:04	25270	604	389	3.21	111.87	659,970.18	
07/28/02	8:10	25448	662	307	3.52	96.73	660,743.76	
07/31/02	9:56	25521	694	244	3.69	80.68	661,013.58	
08/08/02	10:45	25711	621	242	3.30	71.40	661,615.56	
08/13/02	8:50	25828	455	247	2.42	53.48	661,919.96	
08/20/02	14:20	26002	547	242	2.91	63.13	662,342.67	
08/30/02	14:25	26230	592	340	3.15	95.68	663,097.00	
09/06/02	13:10	26400	453	305	2.41	65.71	663,668.60	
09/09/02	8:07	26467	412	405	2.19	79.45	663,871.21	
09/19/02	14:15	26665	408	335	2.17	65.10	664,467.45	
09/25/02	7:30	26802	477	282	2.54	63.95	664,835.78	
10/01/02	13:40	26952	406	336	2.16	64.97	665,238.66	
10/08/02	9:05	27116	387	250	2.06	46.00	665,617.81	
10/17/02	13:10	27329	322	339	1.71	52.01	666,052.72	
10/26/02	10:36	27542	323	316	1.72	48.57	666,499.02	
11/01/02	13:05	27672	198	352	1.05	33.19	666,720.45	
11/08/02	13:38	27840	245	384	1.30	44.81	666,993.44	
11/15/02	14:40	27994	252	347	1.34	41.68	667,270.91	
11/22/02	10:26	28157	226	285	1.20	30.63	667,516.46	
11/25/02	14:56	28233	197	344	1.05	32.26	667,616.04	
12/04/02	13:12	28448	136	263	0.72	17.06	667,836.92	
12/14/02	14:10	28683	141	352	0.75	23.63	668,036.10	
12/19/02	14:10	28792	162	354	0.86	27.30	668,151.77	
12/23/02	8:05	28882	184	365	0.98	31.92	668,262.82	
12/31/02	11:52	29078	143	284	0.76	19.36	668,472.23	
01/09/03	13:05	29275	127	347	0.68	20.98	668,637.80	
01/15/03	13:45	29420	127	257	0.68	15.55	668,748.14	
01/22/03	14:10	29490	119	296	0.63	16.79	668,795.30	Hard calculate for hour meter
02/01/03	13:05	29490	163	358	0.87	27.79	668,860.32	
02/05/03	14:50	29490	136	388	0.72	25.14	668,937.52	
02/14/03	13:10	0.7	158	389	0.84	29.28	669,016.89	
02/21/03	14:30	23	167	321	0.89	25.55	669,042.36	
02/26/03	7:50	132	166	329	0.88	25.97	669,159.34	
03/09/03	10:30	390	159	326	0.85	24.65	669,431.44	System start-up
03/13/03	8:15	485	152	258	0.81	18.64	669,517.12	
03/19/03	11:20	630	166	350	0.88	27.69	669,657.05	
03/28/03	12:10	847	278	355	1.48	46.94	669,994.45	
04/02/03	12:40	954	174	320	0.93	26.50	670,158.18	
04/13/03	12:45	1207	217	427	1.15	44.15	670,530.56	
04/16/03	13:30	1262	277	373	1.47	49.20	670,637.52	
04/23/03	9:00	1420	212	346	1.13	34.92	670,914.41	
05/01/03	14:05	1617	255	411	1.36	49.85	671,262.31	
05/08/03	14:40	1786	231	340	1.23	37.39	671,569.44	
05/14/03	12:40	1927	182	308	0.97	26.66	671,757.59	
05/25/03	9:05	2183	222	371	1.18	39.17	672,108.69	
05/30/03	9:40	2306	258	223	1.37	27.34	672,279.11	
06/03/03	11:30	2348	374	308	1.99	54.75	672,350.94	
06/13/03	10:00	2557	308	339	1.64	49.69	672,805.69	
06/20/03	12:45	2725	366	272	1.95	47.44	673,145.63	
06/27/03	8:15	2819	518	246	2.75	60.73	673,357.46	
07/01/03	8:50	2915	216	364	1.15	37.43	673,553.78	
07/08/03	12:45	2995	206	246	1.10	24.07	673,656.28	
07/18/03	13:55	3219	360	249	1.91	42.61	673,967.45	
07/26/03	10:25	3394	279	370	1.48	49.19	674,302.15	
07/29/03	13:30	3473	373	333	1.98	59.14	674,480.44	unable to sample 8/8/03
08/14/03	14:00	3830	315	278	1.68	41.73	675,230.68	
08/21/03	15:10	3950	436	332	2.32	68.82	675,507.06	
08/29/03	13:30	4138	501	275	2.66	65.48	676,033.06	
09/03/03	8:40	4255	588	217	3.13	60.79	676,340.82	
09/09/03	8:30	4399	514	155	2.73	37.81	676,636.60	Hurricane Isabel
09/25/03	8:00	4689	510	256	2.71	62.05	677,239.91	
10/01/03	9:00	4834	623	387	3.31	114.78	677,774.08	unable to sample 10/10/03
10/17/03	14:45	5212	644	341	3.42	104.48	679,500.76	
10/24/03	14:00	5360	335	345	1.78	55.04	679,992.64	
10/31/03	8:00	5496	275	350	1.46	45.86	680,278.52	
11/06/03	10:30	5607	417	341	2.22	67.66	680,541.03	
11/13/03	9:40	5770	383	254	2.04	46.28	680,927.94	
11/21/03	10:45	5944	185	252	0.98	22.21	681,176.21	
11/25/03	13:45	6046	201	390	1.07	37.30	681,302.66	
12/05/03	7:30	6278	181	367	0.96	31.66	681,635.96	
12/11/03	10:05	6425	148	351	0.79	24.73	681,808.63	
12/18/03	11:15	6589	154	342	0.82	25.09	681,978.85	
12/26/03	9:30	6776	144	353	0.77	24.20	682,170.88	
12/31/03	16:05	6864	145	284	0.77	19.63	682,251.24	

Table 3.3

Cumulative Mass of Recovered Volatile Hydrocarbons
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Hadnot Point Fuel Farm, South East
AS/SVE Field #2 (Fuel Farm)

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc ($PPM_{measured}$) (PPMv)	Calculated Vapor Flowrate (Q) (pitot tube) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
01/07/04	12:20	7029	162	366	0.86	28.20	682,415.68	
01/14/04	12:30	7196	126	354	0.67	21.23	682,587.67	
01/22/04	14:45	7384	104	257	0.55	12.70	682,720.57	
01/29/04	15:00	7556	169	260	0.90	20.95	682,841.16	
02/04/04	15:50	7697	131	349	0.70	21.74	682,966.55	
02/13/04	11:00	7911	142	423	0.76	28.57	683,190.81	
02/19/04	13:35	8026	162	349	0.86	26.93	683,323.78	
02/27/04	14:40	8218	155	364	0.82	26.85	683,538.90	
03/04/04	13:10	8364	171	426	0.91	34.63	683,725.91	
03/12/04	7:50	8539	281	251	1.49	33.51	683,974.35	
03/17/04	10:15	8660	443	374	2.36	78.95	684,257.83	
03/25/04	9:45	8852	543	285	2.89	73.56	684,867.87	
04/01/04	8:00	9017	360	348	1.91	59.66	685,325.82	
04/09/04	13:30	9072	312	254	1.66	37.71	685,437.39	
04/15/04	8:00	9189	362	436	1.93	75.13	685,712.44	
04/22/04	12:00	9310	402	322	2.14	61.58	686,057.06	
04/28/04	13:00	9454	384	251	2.04	45.88	686,379.42	
05/04/04	9:30	9588	425	346	2.26	69.95	686,702.76	
05/11/04	9:00	9755	388	248	2.06	45.73	687,105.20	
05/20/04	12:00	9969	446	249	2.37	52.88	687,544.83	
05/26/04	8:00	10111	288	250	1.53	34.28	687,802.68	
06/04/04	12:50	10331	343	237	1.82	38.61	688,136.75	No data 6/11
06/18/04	13:45	10667	382	241	2.03	43.74	688,713.17	
06/23/04	11:00	10771	266	341	1.41	43.15	688,901.43	
07/09/04	14:00	11035	341	272	1.81	44.12	689,381.41	No data 7/2
07/16/04	14:25	11199	277	250	1.47	32.93	689,644.65	
07/21/04	11:20	11319	313	339	1.66	50.51	689,853.25	System down 7/30
08/13/04	15:20	11397	269	333	1.43	42.68	690,004.69	
08/18/04	10:30	11469	174	279	0.93	23.11	690,103.38	
08/25/04	12:00	11636	322	216	1.71	33.13	690,299.05	
08/31/04	12:00	11756	255	282	1.36	34.27	690,466.83	Extrapolated Data

Notes:

$C = (PPM_{measured}) \times K \times (M_g/K_g) / 1000$

C: vapor concentration (mg/l)

$PPM_{measured}$: FID reading (PPM)

K: number of carbon atoms in calibration gas (1 in methane)

TH: total hydrocarbons calculated as gasoline (GRO)

$Q = (1\text{-}B) \times V \times A \times (P/P_{std}) \times (T_{std}/T)$

Q: vapor flowrate (SCFM)

B: percent water vapor in flowstream

V: vapor velocity (ft/min)

A: cross-sectional area (sq. ft)

P: gauge pressure of flowstream (" Hg)

P_{std}: standard pressure (29.92" Hg)

T: absolute temperature of flowstream (degrees Rankine)

T_{std}: standard temperature (528 degrees Rankine)

* = Estimated value

M = Q x C x 0.0895

M: hydrocarbon recovery rate (lb/day)

CM = [delta (blower meter hours)/24]

* [(Mprevious + Mcurrent)/2] + CMprevious

Assumptions:

Mg = 128 mg/mg-mole

Kg = 24.07 dsm^3/10^6 gm -mole

A = 0.349 sq.ft

Table 4.1

Groundwater Elevation Table

Hadnot Point Fuel Farm - North West

Camp Lejeune, North Carolina

Well No.	Well Type (depth)	Top of Casing	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)
1115-1	shallow	26.11	Feb-02	9.86	16.25	Aug-02	9.36	16.75	Feb-03	9.05	17.06	Aug-03	6.66	19.45	Feb-04	7.31	18.80	Aug-04	4.17	21.94
1115-2	shallow	25.97	Feb-02	10.03	15.94	Aug-02	9.45	16.52	Feb-03	8.84	17.13	Aug-03	6.25	19.72	Feb-04	8.89	17.08	Aug-04	8.80	17.17
1115-4	shallow	27.31	Feb-02	5.87	21.44	Aug-02	2.50	24.81	Feb-03	2.10	25.21	Aug-03	1.82	25.49	Feb-04	4.71	22.60	Aug-04	3.10	24.21
1115-5	shallow	26.37	Feb-02	8.52	17.85	Aug-02	5.41	20.96	Feb-03	4.83	21.54	Aug-03	3.59	22.78	Feb-04	3.96	22.41	Aug-04	4.17	22.20
1115-7	shallow	26.28	Feb-02	7.98	18.30	Aug-02	7.36	18.92	Feb-03	NM	NM	Aug-03	NM	NM	Feb-04	NM	NM	Aug-04	NM	NM
1115-9	shallow	28.48	Feb-02	11.85	16.63	Aug-02	11.16	17.32	Feb-03	9.19	19.29	Aug-03	8.26	20.22	Feb-04	8.32	20.16	Aug-04	7.10	21.38
1115-10	shallow	25.92	Feb-02	7.49	18.43	Aug-02	6.53	19.39	Feb-03	5.64	20.28	Aug-03	4.08	21.84	Feb-04	5.32	20.60	Aug-04	6.25	19.67
1115-11	shallow	27.89	Feb-02	10.12	17.77	Aug-02	9.26	18.63	Feb-03	8.25	19.64	Aug-03	6.59	21.30	Feb-04	7.41	20.48	Aug-04	NM	NM
1115-12	shallow	26.17	Feb-02	6.71	19.46	Aug-02	5.89	20.28	Feb-03	5.05	21.12	Aug-03	3.68	22.49	Feb-04	4.59	21.58	Aug-04	3.51	22.66
GT-1	shallow	26.75	Feb-02	6.02	20.73	Aug-02	3.79	22.96	Feb-03	5.64	21.11	Aug-03	2.36	24.39	Feb-04	3.96	22.79	Aug-04	3.29	23.46
GT-9	shallow	26.48	Feb-02	6.73	19.75	Aug-02	5.90	20.58	Feb-03	5.22	21.26	Aug-03	4.19	22.29	Feb-04	4.57	21.91	Aug-04	4.20	22.28
78GW22-2	shallow	28.93	Feb-02	9.27	19.66	Aug-02	8.41	20.52	Feb-03	9.78	19.15	Aug-03	6.83	22.10	Feb-04	7.52	21.41	Aug-04	6.92	22.01
1115-13	intermediate	25.90	Feb-02	10.17	15.73	Aug-02	10.09	15.81	Feb-03	9.96	15.94	Aug-03	7.59	18.31	Feb-04	8.00	17.90	Aug-04	8.95	16.95
1115-14	intermediate	27.96	Feb-02	12.40	15.56	Aug-02	12.15	15.81	Feb-03	12.01	15.95	Aug-03	7.49	20.47	Feb-04	9.75	18.21	Aug-04	NM	NM
1115-15	intermediate	25.93	Feb-02	10.02	15.91	Aug-02	10.17	15.76	Feb-03	8.97	16.96	Aug-03	7.44	18.49	Feb-04	7.23	18.70	Aug-04	7.00	18.93
1115-17	intermediate	26.19	Feb-02	11.22	14.97	Aug-02	11.00	15.19	Feb-03	10.59	15.60	Aug-03	8.31	17.88	Feb-04	8.40	17.79	Aug-04	8.22	17.97
1115-18	intermediate	27.61	Feb-02	11.22	16.39	Aug-02	10.97	16.64	Feb-03	10.69	16.92	Aug-03	8.82	18.79	Feb-04	8.18	19.43	Aug-04	Surging	Surging
1115-21	intermediate	25.89	Feb-02	10.56	15.33	Aug-02	10.15	15.74	Feb-03	8.82	17.07	Aug-03	7.42	18.47	Feb-04	7.64	18.25	Aug-04	7.13	18.76
1115-22	deep	27.48	Feb-02	12.97	14.51	Aug-02	12.73	14.75	Feb-03	12.34	15.14	Aug-03	9.96	17.52	Feb-04	9.97	17.51	Aug-04	8.80	18.68
1115-23	deep	27.90	Feb-02	12.19	15.71	Aug-02	12.02	15.88	Feb-03	11.23	16.67	Aug-03	9.25	18.65	Feb-04	9.00	18.90	Aug-04	8.85	19.05
1115-24	deep	26.18	Feb-02	11.82	14.36	Aug-02	11.45	14.73	Feb-03	11.15	15.03	Aug-03	8.81	17.37	Feb-04	6.94	19.24	Aug-04	6.52	19.66
1115-25	deep	26.16	Feb-02	10.65	15.51	Aug-02	10.83	15.33	Feb-03	10.55	15.61	Aug-03	8.07	18.09	Feb-04	8.02	18.14	Aug-04	7.33	18.83
78-GW-19	deep	29.18	Feb-02	10.50	18.68	Aug-02	10.03	19.15	Feb-03	7.78	21.40	Aug-03	6.22	22.96	Feb-03	7.18	22.00	Aug-04	8.42	20.76

NM = Not Measured
All elevations are in feet above National Geodetic Vertical Datum (NGVD)

Table 4.2

Groundwater Elevation Table

Hadnot Point Fuel Farm - South East

Camp Lejeune, North Carolina

Well No.	Well Type (depth)	Top of Casing	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)
HPFF-1	shallow	28.46	Feb-02	6.17	22.29	Aug-02	5.39	23.07	Feb-03	5.33	23.13	Aug-03	2.92	25.54	Feb-04	5.21	23.25	Aug-04	7.60	20.86
HPFF-3	shallow	31.21	Feb-02	11.89	19.32	Aug-02	11.17	20.04	Feb-03	10.71	20.50	Aug-03	8.03	23.18	Feb-04	8.59	22.62	Aug-04	8.39	22.82
HPFF-14	shallow	27.02	Feb-02	6.86	20.16	Aug-02	6.09	20.93	Feb-03	5.20	21.82	Aug-03	3.65	23.37	Feb-04	5.19	21.83	Aug-04	5.37	21.65
HPFF-17	shallow	27.61	Feb-02	11.22	16.39	Aug-02	10.59	17.02	Feb-03	NM	NM	Aug-03	NM	NM	Feb-04	NM	NM	Aug-04	NM	NM
HPFF-19	shallow	26.43	Feb-02	7.19	19.24	Aug-02	6.39	20.04	Feb-03	5.66	20.77	Aug-03	7.87	18.56	Feb-04	4.52	21.91	Aug-04	6.52	19.91
HPFF-20	shallow	28.74	Feb-02	9.68	19.06	Aug-02	8.92	19.82	Feb-03	8.67	20.07	Aug-03	6.29	22.45	Feb-04	6.33	22.41	Aug-04	5.95	22.79
HPFF-22	shallow	26.82	Feb-02	12.81	14.01	Aug-02	12.09	14.73	Feb-03	NM	NM	Aug-03	NM	NM	Feb-04	NM	NM	Aug-04	NM	NM
HPFF-24	shallow	31.37	Feb-02	11.82	19.55	Aug-02	11.16	20.21	Feb-03	11.74	19.63	Aug-03	9.92	21.45	Feb-04	NM	NM	Aug-04	10.98	20.39
HPFF-28	shallow	27.48	Feb-02	8.40	19.08	Aug-02	7.36	20.12	Feb-03	6.75	20.73	Aug-03	5.52	21.96	Feb-04	5.64	21.84	Aug-04	5.27	22.21
HPFF-30	shallow	26.80	Feb-02	6.59	20.21	Aug-02	5.39	21.41	Feb-03	3.94	22.86	Aug-03	3.90	22.90	Feb-04	3.87	22.93	Aug-04	3.31	23.49
HPFF-42	shallow	27.71	Feb-02	7.99	19.72	Aug-02	7.22	20.49	Feb-03	6.56	21.15	Aug-03	4.09	23.62	Feb-04	4.54	23.17	Aug-04	7.32	20.39
MW-1	shallow	30.18	Feb-02	11.00	19.18	Aug-02	10.39	19.79	Feb-03	9.52	20.66	Aug-03	7.39	22.79	Feb-04	7.89	22.29	Aug-04	5.13	25.05
MW-6	shallow	30.10	Feb-02	10.34	19.76	Aug-02	9.60	20.50	Feb-03	8.85	21.25	Aug-03	7.17	22.93	Feb-04	7.58	22.52	Aug-04	NM	NM
MW-10R	shallow	33.96	Feb-02	13.83	20.13	Aug-02	13.80	20.16	Feb-03	13.47	20.49	Aug-03	11.24	22.72	Feb-04	11.34	22.62	Aug-04	11.20	22.76
MW-17	shallow	31.33	Feb-02	12.85	18.48	Aug-02	12.09	19.24	Feb-03	11.78	19.55	Aug-03	9.62	21.71	Feb-04	9.58	21.75	Aug-04	9.15	22.18
MW-18	shallow	31.97	Feb-02	13.20/14.10*	19.37	Aug-02	12.64	19.33	Feb-03	11.93/12.18*	19.79	Aug-03	9.82	22.15	Feb-04	9.83	19.79	Aug-04	9.92	22.05
MW-19	shallow	32.18	Feb-02	13.91	18.27	Aug-02	9.25	22.93	Feb-03	12.43	19.75	Aug-03	9.07	23.11	Feb-04	10.17	22.01	Aug-04	NM	NM
HPFF-7	intermediate	28.28	Feb-02	11.00	17.28	Aug-02	10.79	17.49	Feb-03	9.85	18.43	Aug-03	8.12	20.16	Feb-04	7.80	20.48	Aug-04	7.82	20.46
HPFF-8	intermediate	34.90	Feb-02	17.37	17.53	Aug-02	16.64	18.26	Feb-03	16.11	18.79	Aug-03	13.46	21.44	Feb-04	13.93	20.97	Aug-04	15.10	19.80
HPFF-9	intermediate	27.13	Feb-02	10.49	16.64	Aug-02	9.78	17.35	Feb-03	9.07	18.06	Aug-03	7.56	19.57	Feb-04	7.09	20.04	Aug-04	7.80	19.33
78GW32-2	deep	26.87	Feb-02	10.73	16.14	Aug-02	11.23	15.64	Feb-03	9.78	17.09	Aug-03	6.89	19.98	Feb-04	7.33	19.54	Aug-04	8.85	18.02
78GW32-3	deep	27.20	Feb-02	11.22	15.98	Aug-02	10.70	16.50	Feb-03	10.16	17.04	Aug-03	7.85	19.35	Feb-04	7.76/7.94	19.26	Aug-04	7.26	19.94
HPFF-10	deep	32.50	Feb-02	15.86	16.64	Aug-02	15.70	16.80	Feb-03	14.35	18.15	Aug-03	11.99	20.51	Feb-04	12.28	20.22	Aug-04	13.53	18.97
HPFF-11	deep	32.28	Feb-02	15.55	16.73	Aug-02	15.08	17.20	Feb-03	14.47	17.81	Aug-03	11.81	20.47	Feb-04	12.20	20.08	Aug-04	13.41	18.87
HPFF-12	deep	27.12	Feb-02	10.77	16.35	Aug-02	15.01	12.11	Feb-03	10.05	17.07	Aug-03	7.68	19.44	Feb-04	NM	NM	Aug-04	NM	NM

NM = Not Measured
All elevations are in feet above National Geodetic Vertical Datum (NGVD)

CLJ - Hadnot Point - Bldg. 1115
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Table 4.3
Analytical Data Summary
NW Sampling Event **February 2004 Organics**

Sampling Event:		2004-A	2004-A	2004-A	2004-A	2004-A	2004-A	2004-A	2004-A
Well ID:		MW-1115-23	MW-1115-18	78GW22-2	MW-1115-24	MW-1115-02	MW-1115-22	MW-1115-17	MW-1115-21
Well Depth:		Deep	Intermediate	Shallow	Deep	Shallow	Deep	Intermediate	Intermediate
Laboratory Sample ID:		F22335-1	F22505-1	F22335-2	F22387-4	F22387-6	F22387-1	F22387-2	F22387-5
Date Sampled:		02/21/04	03/02/04	02/21/04	02/25/04	02/25/04	02/25/04	02/25/04	02/25/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602									
Benzene	1	**703**	**2630**	**6.6**	**4100**	**10.9**	**2230**	**36.9**	**607**
Ethylbenzene	29	**14.8 J**	**76.8**	<1.0	<50	<1.0	<50	**3.5**	<5.0
Toluene	1000	**98.7**	**5.6**	<1.0	<50	<1.0	<50	**2.5**	<5.0
Xylenes (total)	530	**35.9 J**	**15.7**	<3.0	<150	<3.0	<150	<6.0	<15
Total BTEX		**852.4**	**2728.1**	**6.6**	**4100**	**10.9**	**2230**	**42.9**	**607**
PAH EPA 610									
Naphthalene	21	<5.3	**19.8**	<5.4	**4.2 J**	<5.3	**3.2 J**	**89.8**	**3.9 J**
		Bold type indicates detectable concentrations.							
		Shaded area indicates detectable concentrations above the groundwater quality standards.							

J= estimated
B= detected in blank

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Table 4.3
Analytical Data Summary
NW Sampling Event **February 2004 Organics**

Sampling Event:		2004-A	2004-A	2004-A	2004-A	2004-A	2004-A	2004-A
Well ID:		MW-1115-04	MW-1115-13	MW-1115-25	MW-GT-1	MW-1115-01	MW-GT-7	MW-GT-9
Well Depth:		Shallow	Intermediate	Deep	Shallow	Shallow	Shallow	Shallow
Laboratory Sample ID:		F22387-3	F22365-2	F22365-1	F22335-6	F22335-4	F22335-5	F22365-3
Date Sampled:		02/25/04	02/24/04	02/24/04	02/21/04	02/21/04	02/21/04	02/24/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602								
Benzene	1	**16.8**	**228**	**3580**	**29.7**	<1.0	**0.74 J**	<1.0
Ethylbenzene	29	<1.0	**53**	<50	**10.5**	<1.0	<1.0	<1.0
Toluene	1000	<1.0	<5.0	**362**	**2.7**	**1.0**	**0.78 J**	<1.0
Xylenes (total)	530	<3.0	**11.7 J**	**63.2 J**	**8.3**	<3.0	<3.0	<3.0
Total BTEX		**16.8**	**292.7**	**4005.2**	**51.2**	**1**	**1.52**	
PAH EPA 610								
Naphthalene	21	<5.4	**151**	<5.0	<5.4	<5.1	<5.3	<5.6
		Bold type indicates detectable concentrations.						
		Shaded area indicates detectable concentrations above the groundwater quality standards.						

J= estimated
B= detected in blank

Printed: 1/13/2005
Samples analyzed by Accutest

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Table 4.4
Analytical Data Summary
NW Sampling Event **August 2004 Organics**

Sampling Event:		2004-C	2004-C	2004-C	2004-C	2004-C	2004-C	2004-C	2004-C
Well ID:		MW-1115-23	MW-1115-18	78GW22-2	MW-1115-24	MW-1115-02	MW-1115-22	MW-1115-17	MW-1115-21
Well Depth:		Deep	Intermediate	Shallow	Deep	Shallow	Deep	Intermediate	Intermediate
Laboratory Sample ID:		F26145-3	NS	F26145-1	F26185-2	F26185-3	F26185-4	F26185-5	F26185-1
Date Sampled:		08/18/04	08/19/04	08/18/04	08/19/04	08/19/04	08/19/04	08/19/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602									
Benzene	1	**2720**	NS	**6.4**	**3630**	**24.3**	**3270**	**34.1**	**521**
Ethylbenzene	29	**38.6**	NS	<1.0	<50	<1.0	<50	<2.0	<10
Toluene	1000	**267**	NS	<1.0	<50	**0.52 J**	<50	**1.4 J**	<10
Xylenes (total)	530	**112**	NS	<3.0	<150	<3.0	<150	**2.9 J**	<30
Total BTEX		**3137.6**		**6.4**	**3630**	**24.82**	**3270**	**38.4**	**521**
PAH EPA 610									
Naphthalene	21	<4.8	NS	<4.8	**3.0 J**	<4.8	**5.7**	**10.5**	**5.3**
		Bold type indicates detectable concentrations.							
		Shaded area indicates detectable concentrations above the groundwater quality standards.							

J= estimated
B= detected in blank
NS = not sampled, 1115-18 was surging

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Samples analyzed by Accutest

Table 4.4
Analytical Data Summary
NW Sampling Event **August 2004 Organics**

Sampling Event:		2004-C	2004-C	2004-C	2004-C	2004-C	2004-C	2004-C
Well ID:		MW-1115-04	MW-1115-13	MW-1115-25	MW-GT-1	MW-1115-01	MW-GT-7	MW-GT-9
Well Depth:		Shallow	Intermediate	Deep	Shallow	Shallow	Shallow	Shallow
Laboratory Sample ID:		F26185-6	F26319-2	F26319-1	F26319-3	F26145-4	F26145-5	F26395-1
Date Sampled:		08/19/04	08/25/04	08/25/04	08/25/04	08/18/04	08/18/04	08/27/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602								
Benzene	1	**31.5**	**202**	**5960**	**44.7**	**17.7**	**37.9**	**3.20**
Ethylbenzene	29	<1.0	**47.6**	**40.4 J**	**5.5**	**0.92 J**	**1.5**	<1.0
Toluene	1000	**1.1**	**11.8**	**650**	**8.6**	**4.6**	**8.2**	**0.76 J**
Xylenes (total)	530	<3.0	**16.3**	**120 J**	**4.4**	**2.9 J**	**4.4**	<3.0
Total BTEX		**32.6**	**277.7**	**6770.4**	**63.2**	**26.12**	**52**	**3.96**
PAH EPA 610								
Naphthalene	21	<4.8	**173**	<4.8	**10.7**	<4.8	<4.8	<4.8
		Bold type indicates detectable concentrations.						
		Shaded area indicates detectable concentrations above the groundwater quality standards.						

J= estimated
B= detected in blank
NS = not sampled, 1115-18 was surging

Printed: 1/13/2005
Samples analyzed by Accutest

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Table 4.5
Analytical Data Summary
SE Sampling Event **February 2004 Organics**

Sampling Event:		2004-A	2004-A	2004-A	2004-A	2004-A	2004-A	2004-A	2004-A
Well ID:		HPFF-20	MW-11	HPFF-7	HPFF-1	MW-1	MW-18	GW-32-2	GW-32-3
Well Depth:		Shallow	Shallow	Intermediate	Shallow	Shallow	Shallow	Deep	Deep
Laboratory Sample ID:		F22316-2	F22199-1	F22174-3	F22174-1	F22199-2	F22199-4	F22336-1	F22336-2
Date Sampled:		02/20/04	02/14/04	02/13/04	02/13/04	02/14/04	02/14/04	02/23/04	02/23/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602									
Benzene	1	**6430**	**6.5**	<1.0	<1.0	**4970**	**12900**	**325**	**20.9**
Ethylbenzene	29	**444**	**1.1**	<1.0	<1.0	**3580**	**1800**	**16**	**59.8**
Toluene	1000	**9790**	<1.0	<1.0	<1.0	**25500**	**27100**	**43.9**	**183**
Xylenes (total)	530	**6140**	**1.2 J**	<3.0	<3.0	**16500**	**11000**	**55.7**	**255**
Total BTEX		**22804**	**8.8**			**50550**	**52800**	**440.6**	**518.7**
PAH EPA 610									
Naphthalene	21	**98.9**	<5.7	<5.1	<5.3	**473**	**658**	**2.1 J**	**8.7**
		Bold type indicates detectable concentrations.							
		Shaded area indicates detectable concentrations above the groundwater quality standards.							

J= estimated
B= detected in blank

Printed: 1/13/2005
Samples analyzed by Accutest

Table 4.5
Analytical Data Summary
SE Sampling Event **February 2004 Organics**

Sampling Event:		2004-A	2004-A	2004-A	2004-A	2004-A	2004-A	2004-A
Well ID:		HPFF-19	MW-17A	HPFF-8	MW-10R	HPFF-5	HPFF-9	HPFF-11
Well Depth:		Shallow	Shallow	Intermediate	Shallow	Shallow	Intermediate	Deep
Laboratory Sample ID:		F22199-6	F22316-1	F22316-4	F22199-5	F22174-2	F22174-4	F22316-3
Date Sampled:		02/14/04	02/20/04	02/20/04	02/14/04	02/13/04	02/13/04	02/20/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602								
Benzene	1	**11300**	**5520**	**10200**	**197**	**8.4**	**727**	**114**
Ethylbenzene	29	**847**	**2690**	**609**	**175**	<1.0	**23.2**	<2.0
Toluene	1000	**13800**	**24800**	**1230**	**650**	<1.0	<10	<2.0
Xylenes (total)	530	**10300**	**10200**	**1530**	**861**	<3.0	<30	<6.0
Total BTEX		**36247**	**43210**	**13569**	**1883**	**8.4**	**750.2**	**114**
PAH EPA 610								
Naphthalene	21	**216**	**432**	**184**	**50.9**	<5.3	<5.5	<5.3
		Bold type indicates detectable concentrations.						
		Shaded area indicates detectable concentrations above the groundwater quality standards.						

J= estimated
B= detected in blank

Printed: 1/13/2005
Samples analyzed by Accutest

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Table 4.6
Analytical Data Summary
SE Sampling Event **August 2004 Organics**

Sampling Event:		2004-C	2004-C	2004-C	2004-C	2004-C	2004-C	2004-C	2004-C
Well ID:		HPFF-20	MW-11	HPFF-7	HPFF-1	MW-1	MW-18	GW-32-2	GW-32-3
Well Depth:		Shallow	Shallow	Intermediate	Shallow	Shallow	Shallow	Deep	Deep
Laboratory Sample ID:		F26623-3	NS	F26394-2	F26394-1	F26222-2	F26222-1	F26681-1	F26623-4
Date Sampled:		09/08/04	NS	08/27/04	08/27/04	08/20/04	08/20/04	09/13/04	09/09/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602									
Benzene	1	**3030**	NS	**1.5**	**3.8**	**3180**	**7040**	**321**	**28.9**
Ethylbenzene	29	**362**	NS	**0.9 J**	<1.0	**2620**	**1950**	**37.4**	**8.7**
Toluene	1000	**2770**	NS	<1.0	**0.88 J**	**20700**	**17800**	**149**	**60.6**
Xylenes (total)	530	**2920**	NS	<3.0	<3.0	**12300**	**13700**	**178**	**64.0**
Total BTEX		**9082**		**2.4**	**4.68**	**38800**	**40490**	**685.4**	**162.2**
PAH EPA 610									
Naphthalene	21	**68.6**	NS	<4.8	<4.8	**586**	**700**	**6.7**	**2.4**
		Bold type indicates detectable concentrations.							
		Shaded area indicates detectable concentrations above the groundwater quality standards.							

J= estimated
B= detected in blank
MW-11 silty/sandy, unable to purge/sample

Printed: 1/13/2005
Samples analyzed by Accutest

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Table 4.6
Analytical Data Summary
SE Sampling Event **August 2004 Organics**

Sampling Event:		2004-C	2004-C	2004-C	2004-C	2004-C	2004-C	2004-C
Well ID:		HPFF-19	MW-17A	HPFF-8	MW-10R	HPFF-5	HPFF-9	HPFF-11
Well Depth:		Shallow	Shallow	Intermediate	Shallow	Shallow	Intermediate	Deep
Laboratory Sample ID:		F26623-2	F26681-2	F26453-1	F26623-1	F26394-3	F26394-4	F26453-2
Date Sampled:		09/08/04	09/13/04	08/31/04	09/08/04	08/27/04	08/27/04	08/31/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602								
Benzene	1	**10900**	**4910**	**11500**	**480**	**4.1**	**0.88 J**	**89.6**
Ethylbenzene	29	**723**	**2070**	**627**	**602**	<1.0	<1.0	**2.6**
Toluene	1000	**12300**	**20000**	**1540**	**2210**	**0.92 J**	<1.0	**0.56 J**
Xylenes (total)	530	**7660**	**7990**	**2130**	**2590**	<3.0	<3.0	<3.0
Total BTEX		**31583**	**34970**	**15797**	**5882**	**5.02**	**0.88**	**92.76**
PAH EPA 610								
Naphthalene	21	**316**	**402**	**171**	**178**	<4.8	<4.9	<4.8
		Bold type indicates detectable concentrations.						
		Shaded area indicates detectable concentrations above the groundwater quality standards.						

J= estimated
B= detected in blank
MW-11 silty/sandy, unable to purge/sample

Printed: 1/13/2005
Samples analyzed by Accutest

Table 5.1.

Mann-Kendall Time-Trend Test Results

Well	Depth	Area	Valid	Z	p-level	Slope	Significant?
1115-22	Deep	NW	11	2.569	0.010	**Up**	**Yes**
1115-23	Deep	NW	11	-0.234	0.815	Down	No
1115-24	Deep	NW	11	2.569	0.010	**Up**	**Yes**
1115-25	Deep	NW	11	2.880	0.004	**Up**	**Yes**
78GW22-2	Deep	NW	11	-2.569	0.010	**Down**	**Yes**
GW-32-2	Deep	SE	11	1.635	0.102	Up	No
GW-32-3	Deep	SE	11	0.078	0.938	Up	No
HPFF-11	Deep	SE	5	-1.960	0.050	Down	No
1115-13	Intermediate	NW	11	-2.413	0.016	**Down**	**Yes**
1115-17	Intermediate	NW	11	-3.503	0.000	**Down**	**Yes**
1115-18	Intermediate	NW	9	-0.834	0.404	Down	No
1115-21	Intermediate	NW	11	-3.036	0.002	**Down**	**Yes**
HPFF-7	Intermediate	SE	11	-3.192	0.001	**Down**	**Yes**
HPFF-8	Intermediate	SE	11	2.102	0.036	**Up**	**Yes**
HPFF-9	Intermediate	SE	5	-1.960	0.050	Down	No
1115-01	Shallow	NW	10	-1.057	0.291	Down	No
1115-02	Shallow	NW	11	-1.012	0.312	Down	No
1115-04	Shallow	NW	11	-1.100	0.271	Down	No
GT-1	Shallow	NW	11	-1.323	0.186	Down	No
GT-7	Shallow	NW	5	0.000	1.000	Up	No
GT-9	Shallow	NW	5	0.775	0.439	Up	No
HPFF-1	Shallow	SE	9	-0.685	0.493	Down	No
HPFF-19	Shallow	SE	11	-3.036	0.002	**Down**	**Yes**
HPFF-20	Shallow	SE	11	0.389	0.697	Up	No
HPFF-5	Shallow	SE	5	-0.980	0.327	Down	No
MW-1	Shallow	SE	11	-1.168	0.243	Down	No
MW-10R	Shallow	SE	11	-2.569	0.010	**Down**	**Yes**
MW-11	Shallow	SE	9	0.000	1.000	Up	No
MW-17A	Shallow	SE	11	-0.234	0.815	Down	No
MW-18	Shallow	SE	11	-1.479	0.139	Down	No

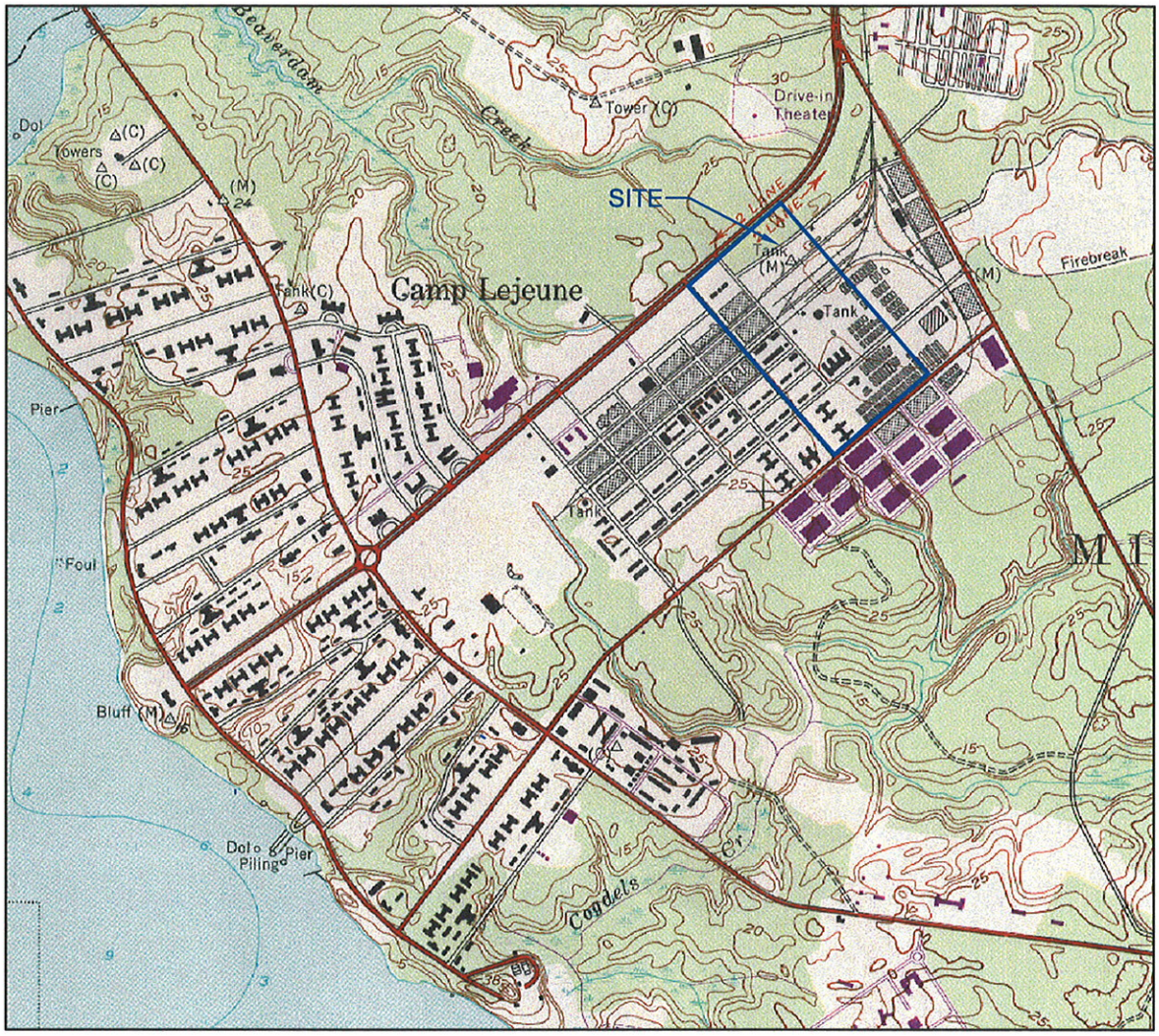
Table 6.1
Hadnot Point Fuel Farm, Northwest Compound
Groundwater Sample Collection and Analysis Table

Analysis	Type II Shallow Monitoring Wells						Type III Intermediate Monitoring Wells				Type III Deep Monitoring Wells			
	MW-1111-01	MW-1115-02	MW-1115-04	MW-GT-1	MW-GT-7	78GW22-2	MW-1115-13	MW-1115-17	MW-1115-18	MW-1115-21	MW-1115-22	MW-1115-23	MW-1115-24	MW-1115-25
Field Screening														
Temperature	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Conductivity	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Turbidity	X	X	X	X	X	X	X	X	X	X	X	X	X	X
pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ORP	X	X	X	X	X	X	X	X	X	X	X	X	X	X
VOAs Method 602	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PAHs Method 610	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Natural Attenuation														
Ethane RSK-175		X	X			X	X	X	X	X	X		X	X
Ethene RSK-175		X	X			X	X	X	X	X	X		X	X
Methane RSK-175		X	X			X	X	X	X	X	X		X	X
Nitrite 354.1		X	X			X	X	X	X	X	X		X	X
Nitrate 353.2		X	X			X	X	X	X	X	X		X	X
Nitrite-Nitrate 353.2		X	X			X	X	X	X	X	X		X	X
Sulfate 375.4		X	X			X	X	X	X	X	X		X	X
Total Organic Carbon 415.1		X	X			X	X	X	X	X	X		X	X

Table 6.2
Hadnot Point Fuel Farm, Southeast Compound
Groundwater Sample Collection and Analysis Table

Analysis	Type II Shallow Monitoring Wells									Type III Intermediate Wells			Type III Deep Wells		
	MW-1	MW-10R	MW-11	MW-17A	MW-18	HPFF-1	HPFF-5	HPFF-19	HPFF-20	HPFF-7	HPFF-8	HPFF-9	78GW32-2	78GW32-3	HPFF-11
Field Screening															
Temperature	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Conductivity	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Turbidity	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
pH	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dissolved Oxygen	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ORP	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
VOAs Method 602	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PAHs Method 610	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Natural Attenuation															
Ethane RSK-175				X		X	X			X	X	X	X	X	X
Ethene RSK-175				X		X	X			X	X	X	X	X	X
Methane RSK-175				X		X	X			X	X	X	X	X	X
Nitrite 354.1				X		X	X			X	X	X	X	X	X
Nitrate 353.2				X		X	X			X	X	X	X	X	X
Nitrite-Nitrate 353.2				X		X	X			X	X	X	X	X	X
Sulfate 375.4				X		X	X			X	X	X	X	X	X
Total Organic Carbon 415.1				X		X	X			X	X	X	X	X	X

FIGURES



SCALE: 1" = 2000'



SOURCE:
U.S.G.S 7 1/2 MINUTE QUADRANGLE
MAP CAMP LEJEUNE, N.C.

Shaw
Shaw Environmental, Inc.

DRAWN BY	J. LANGE	9/22/00
CHECKED BY	T. McCRORY	9/22/00
APPROVED BY	J. DUNN	9/22/00

REV.	SHEET #	PROJECT NO.
0	–	

FIGURE 1.2
LOCATION MAP
HADNOT POINT FUEL FARM
MARINE CORPS BASE
CAMP LEJEUNE

Figure 5.7 Statistical Distributions of Total BTEX Concentrations by Sample Round

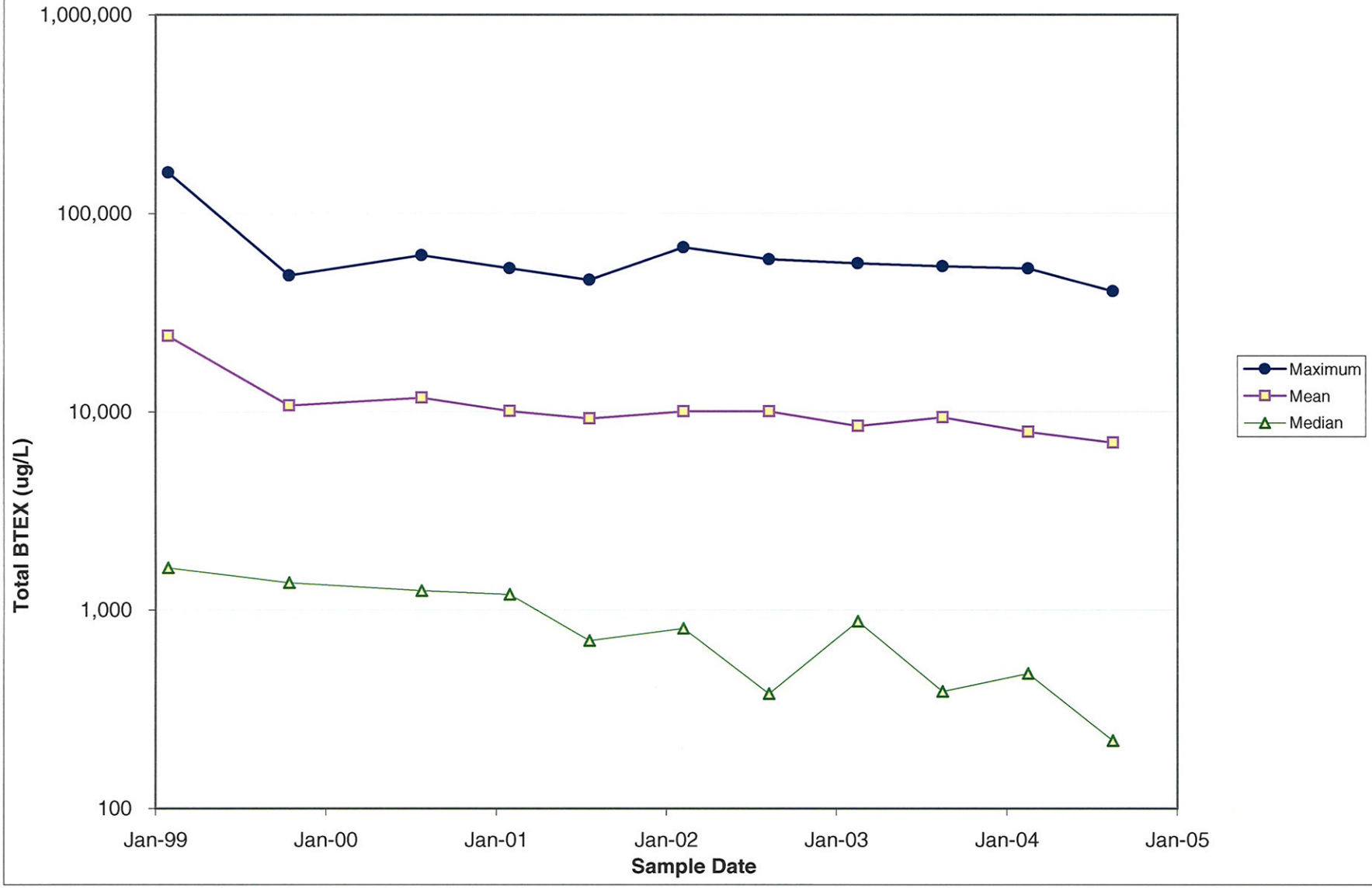


Figure 5.8 Dissolved Oxygen vs. Total BTEX

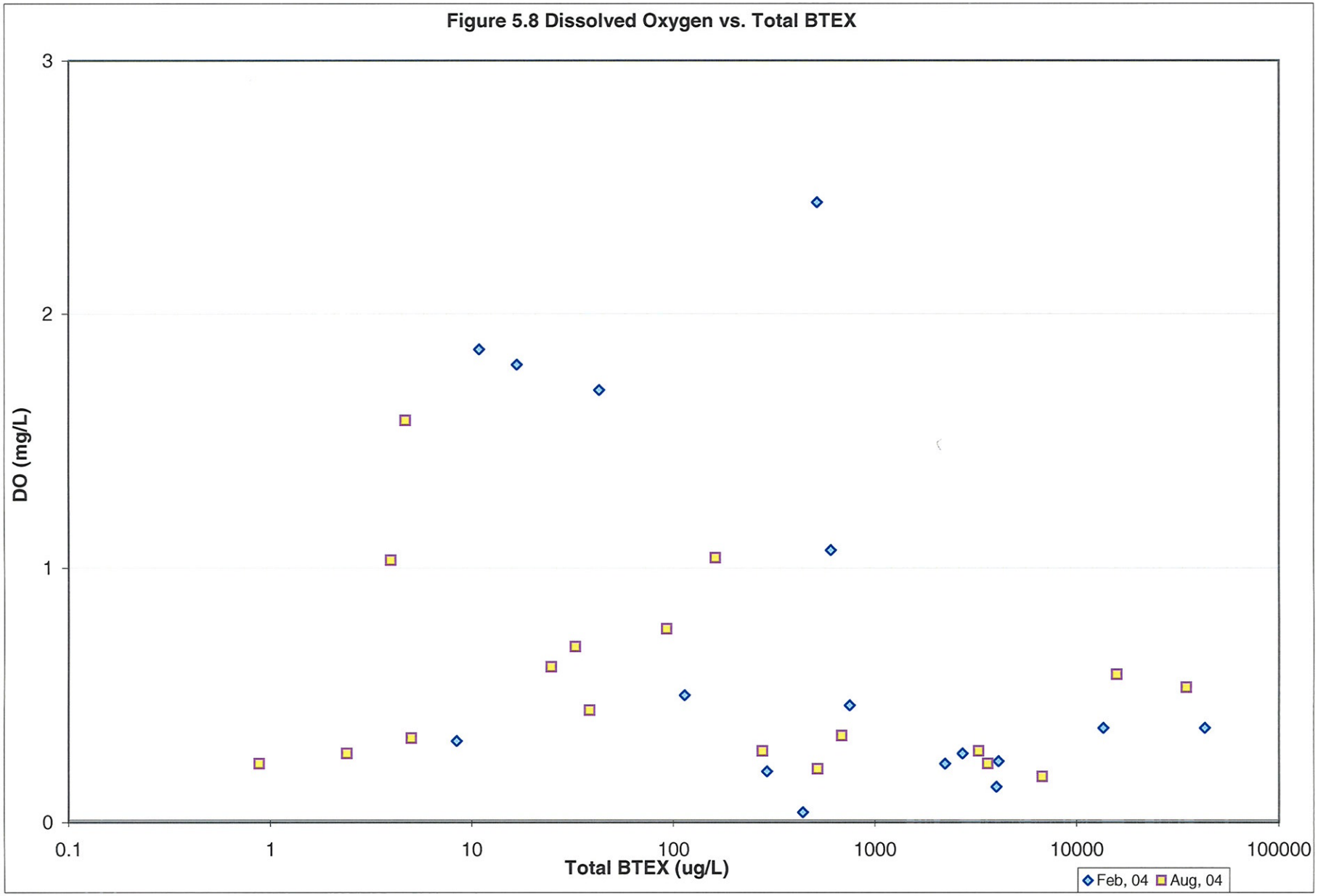


Figure 5.9 ORP versus Total BTEX

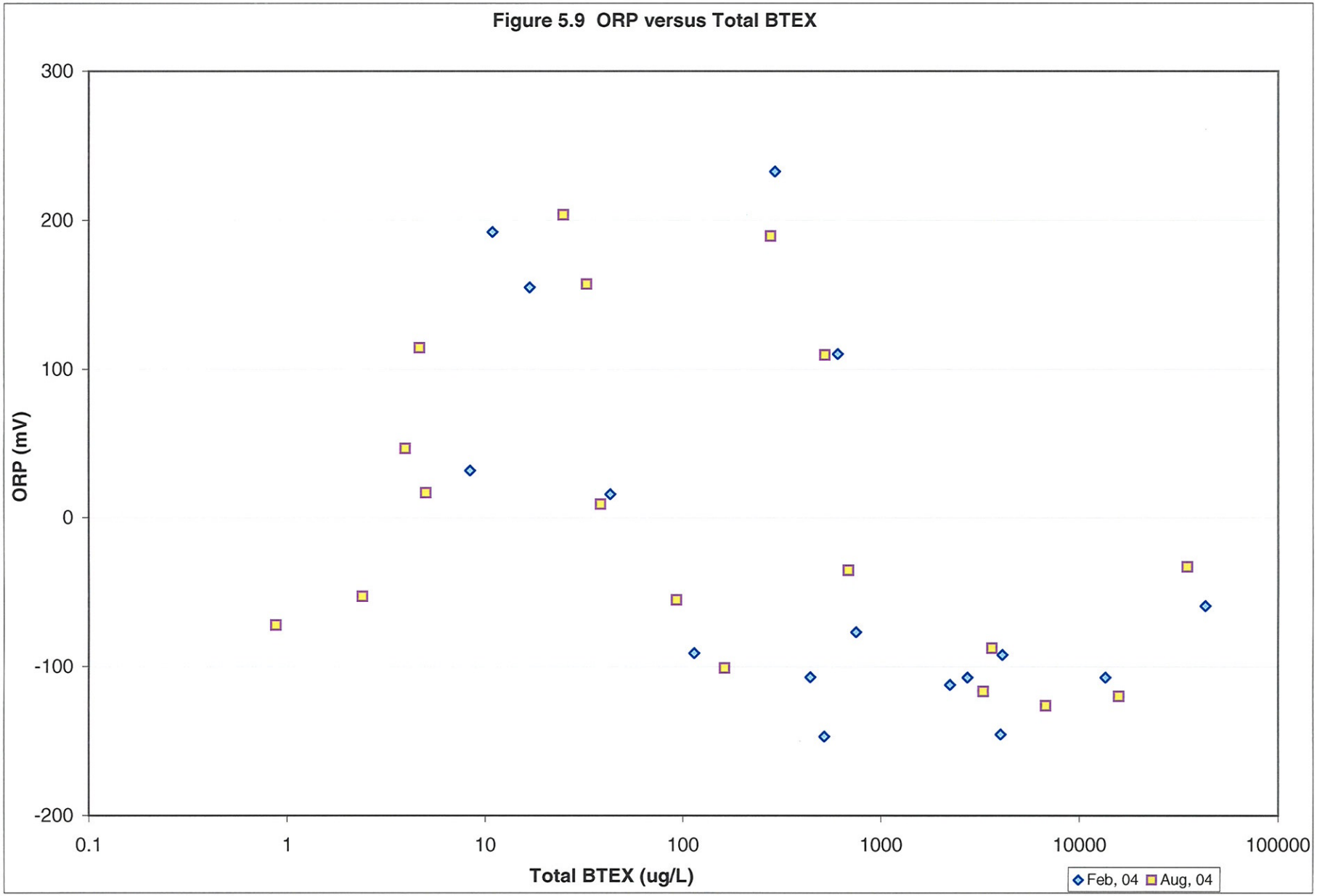


Figure 5.10 Methane versus Total BTEX

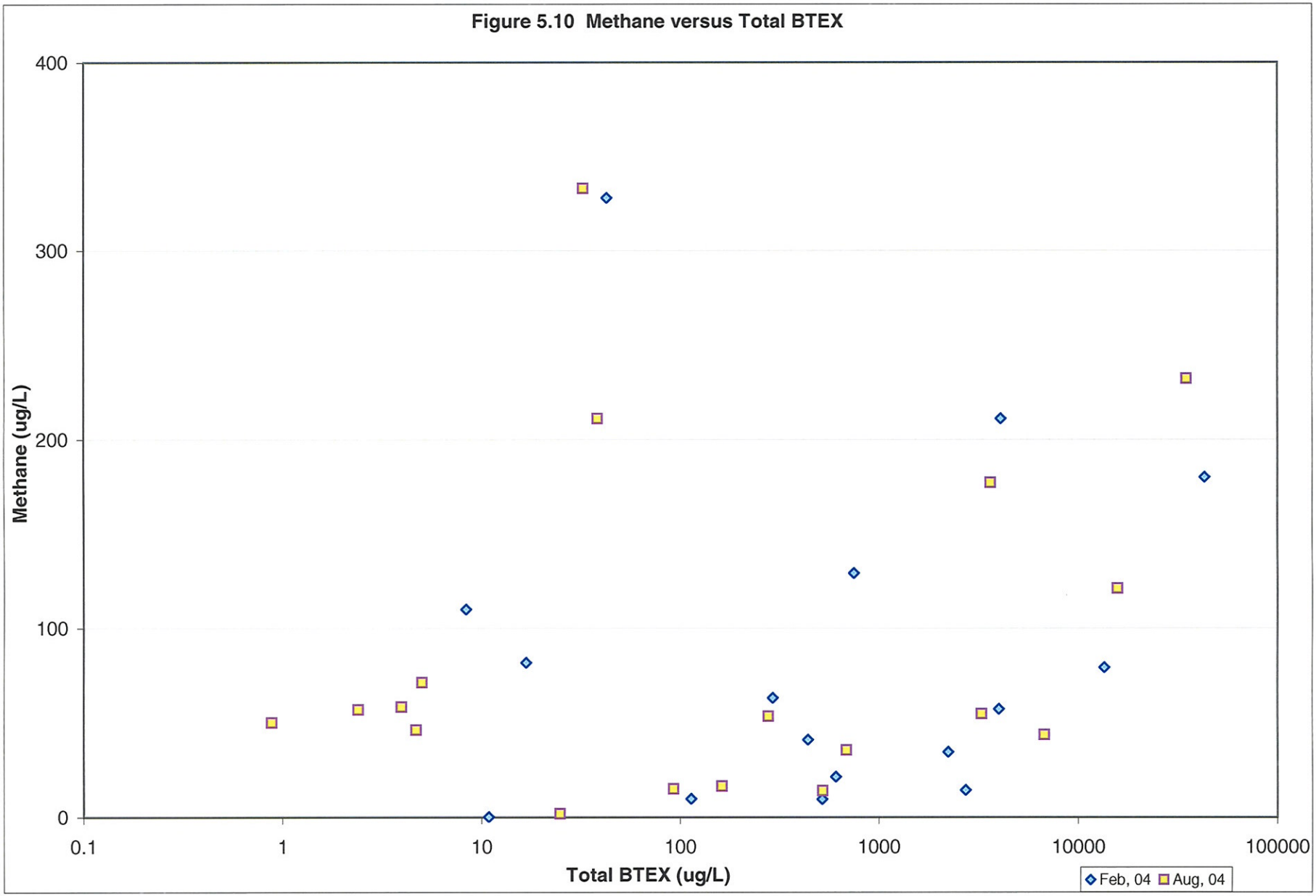


Figure 5.11 Ethane versus Total BTEX

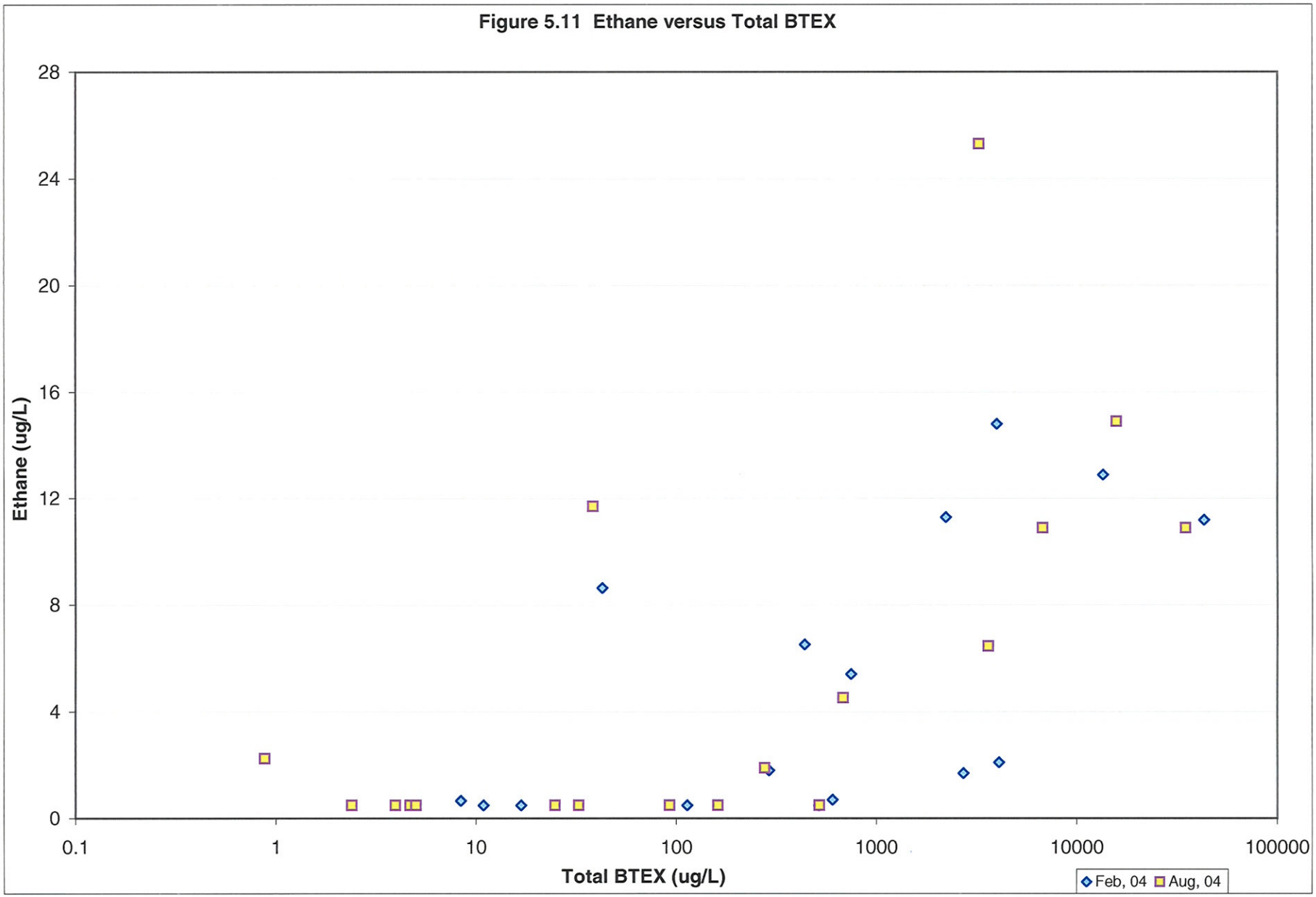
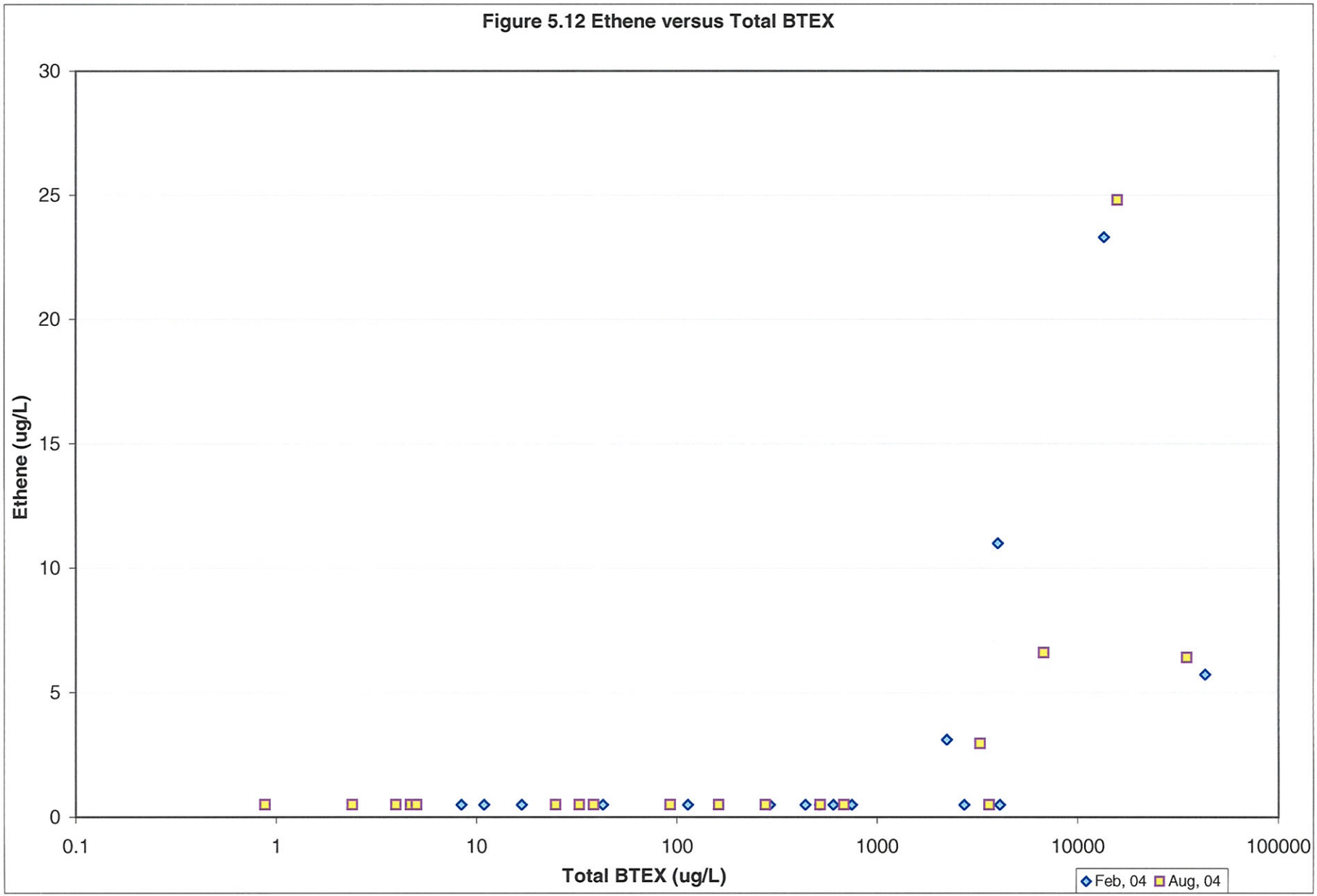


Figure 5.12 Ethene versus Total BTEX



JACKSONVILLE

53

17

24

H

WESTERN BLVD.

CAMP JOHNSON

CAMP GEIGER (TENT CAMP)

TARAWA TERRACE

MIDWAY PARK

NORTHEAST CREEK

MONTFORD POINT

PARADISE POINT

BREWSTER DRIVE

MCAS NEW RIVER STATION

HICKS RUN

VERONA CREEK

VERONA

VERONA LOOP ROAD

MILL RUN

CAMP LEJEUNE

NEW TOWN CREEK

RIVER

STONE ROAD

SNEEDS

WALLACE CREEK

HADNOT POINT

SITE

CAMP LEJEUNE MILITARY BASE

BOULEVARD

DRIVE

Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 2"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: J. LANGE
DESIGNED: –
CHECKED: J. DUNN
CHECKED: _____

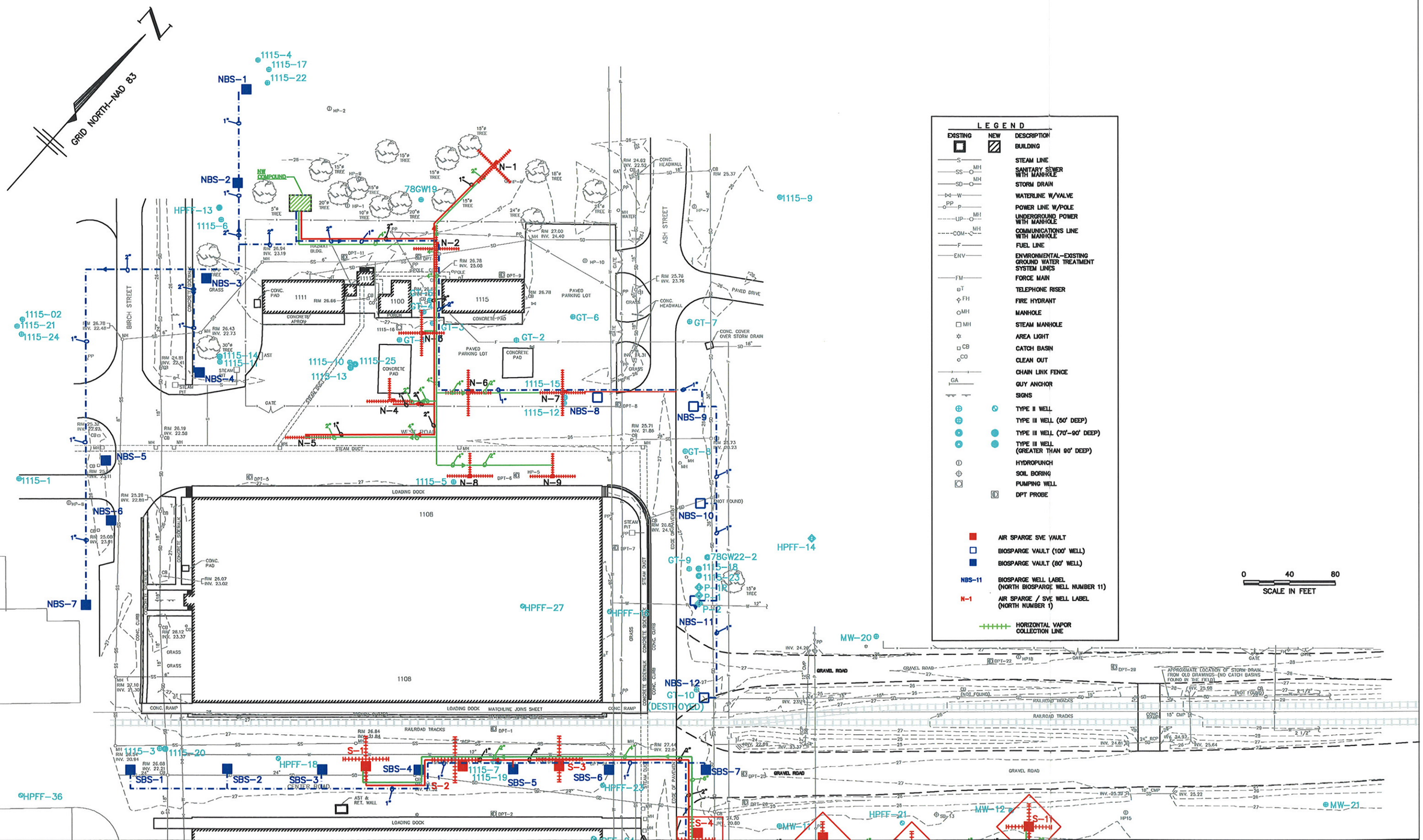
REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1		–	7/25/97	

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
CONTRACT No. N62470-027-D-3260 DELIVERY ORDER NO. 002
OHM PROJECT 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 1.1
VICINITY MAP
HADNOT POINT FUEL FARM

DRAWING NUMBER: –
SHEET NUMBER: of
DATE: 2/5/01



LEGEND

EXISTING	NEW	DESCRIPTION
		BUILDING
		STEAM LINE
		SANITARY SEWER WITH MANHOLE
		STORM DRAIN
		WATERLINE W/VALVE
		POWER LINE W/POLE
		UNDERGROUND POWER WITH MANHOLE
		COMMUNICATIONS LINE WITH MANHOLE
		FUEL LINE
		ENVIRONMENTAL–EXISTING GROUND WATER TREATMENT SYSTEM LINES
		FORCE MAIN
		TELEPHONE RISER
		FIRE HYDRANT
		MANHOLE
		STEAM MANHOLE
		AREA LIGHT
		CATCH BASIN
		CLEAN OUT
		CHAIN LINK FENCE
		GUY ANCHOR
		SIGNS
		TYPE II WELL
		TYPE III WELL (50' DEEP)
		TYPE III WELL (70'–90' DEEP)
		TYPE III WELL (GREATER THAN 90' DEEP)
		HYDROPUNCH
		SOIL BORING
		PUMPING WELL
		DPT PROBE

AIR SPARGE SVE VAULT

BIOSPARGE VAULT (100' WELL)

BIOSPARGE VAULT (80' WELL)

NBS-11 BIOSPARGE WELL LABEL (NORTH BIOSPARGE WELL NUMBER 11)

N-1 AIR SPARGE / SVE WELL LABEL (NORTH NUMBER 1)

HORIZONTAL VAPOR COLLECTION LINE

0 40 80
SCALE IN FEET

Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER: _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"–SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: L. SHULMAN
DESIGNED: BOB BROWN
CHECKED: RON KENYON
CHECKED: JIM DUNN

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

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ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3260 TASK ORDER NO. 002

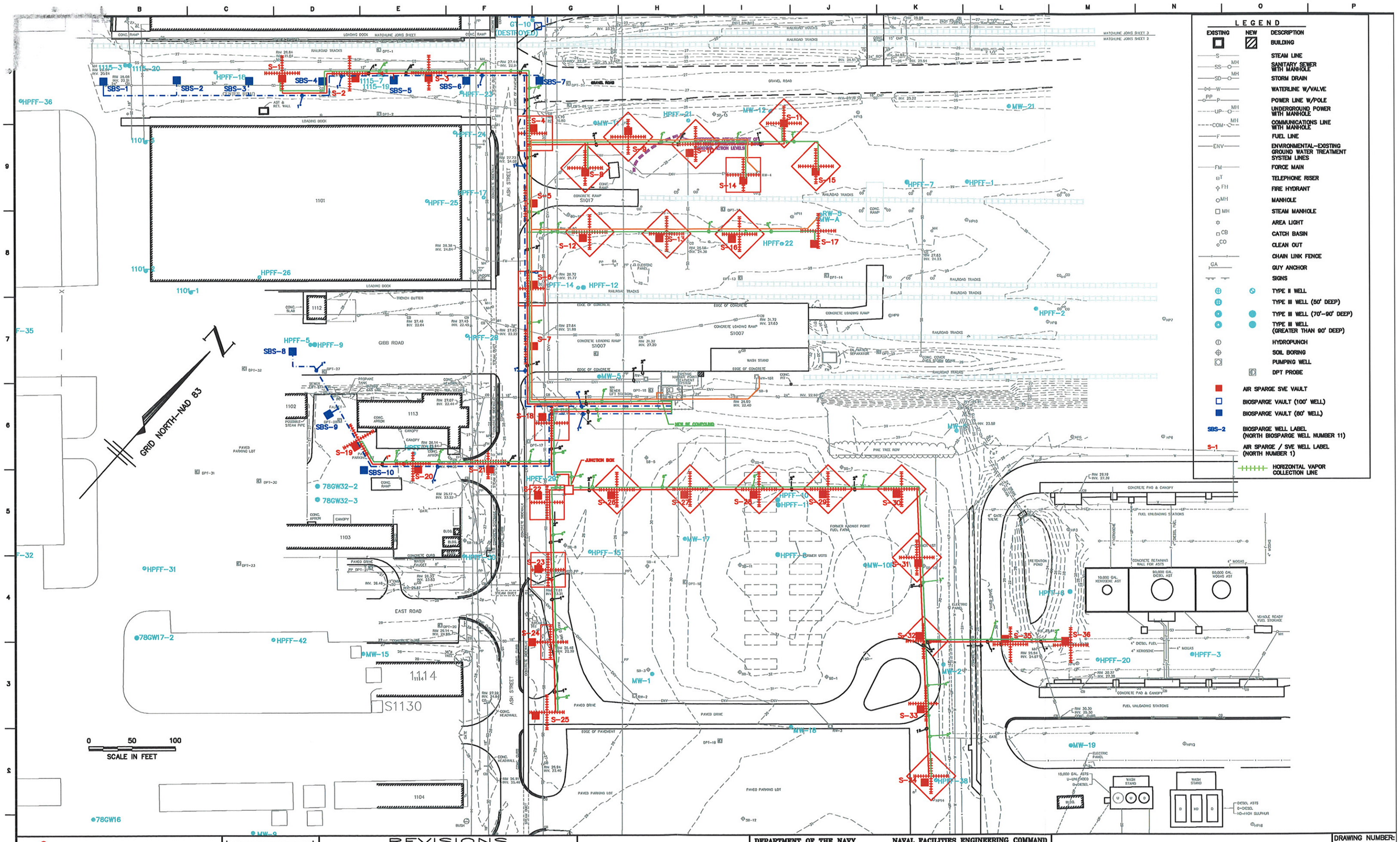
OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 3.1
EXISTING AS/SVE REMEDIAL SYSTEM
NW COMPOUND
HADNOT POINT FUEL FARM

DRAWING NUMBER:

SHEET NUMBER: of

DATE: 10/10/03



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APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: L. SHULMAN
DESIGNED: BOB BROWN
CHECKED: RON KENYON
CHECKED: JIM DUNN

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

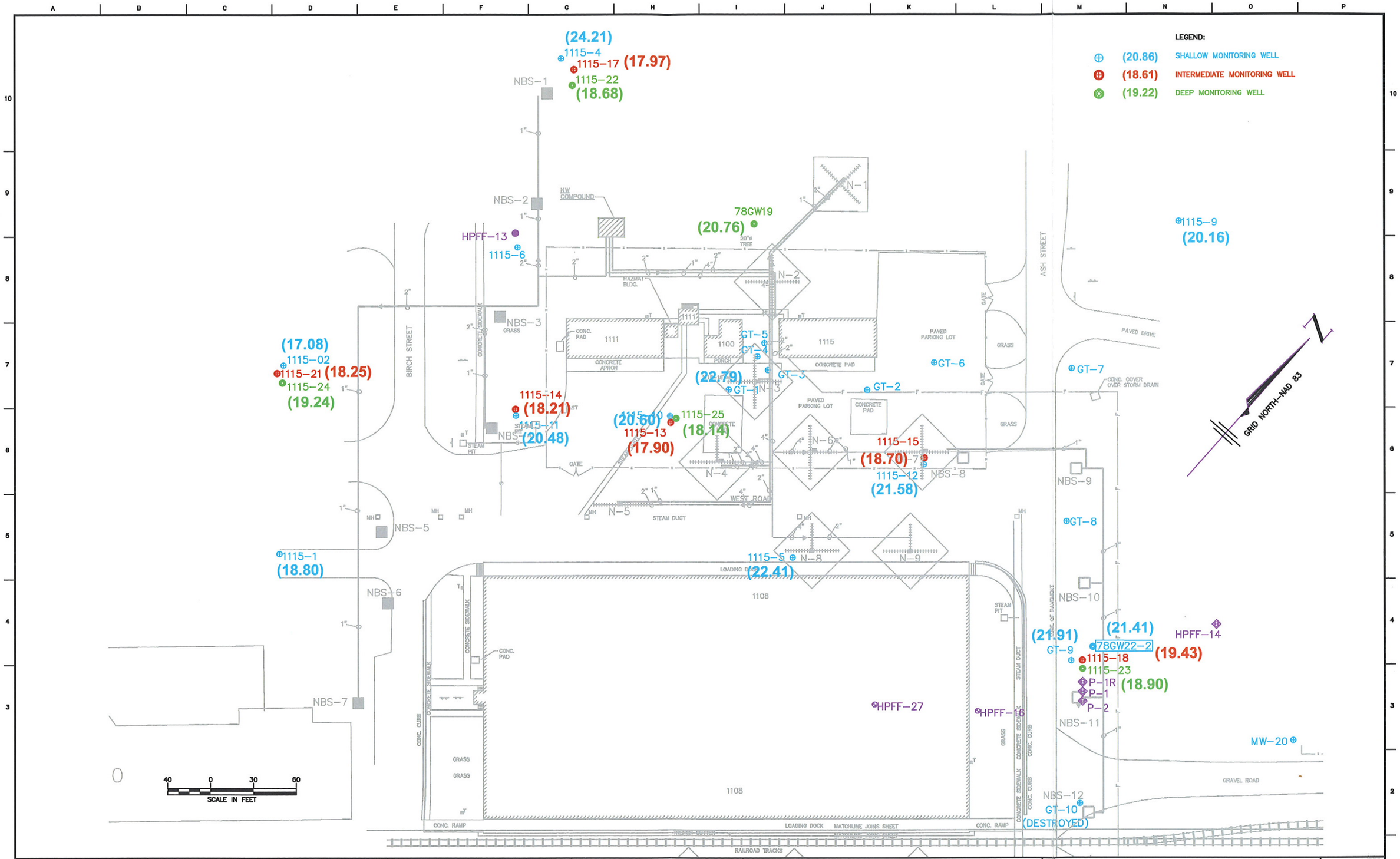
NAVAL STATION — NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3260 — TASK ORDER NO. 002

OHM PROJECT No. 844098 — MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 3.2
EXISTING AS/SVE REMEDIAL SYSTEM
SE COMPOUND
HADNOT POINT FUEL FARM

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 10/10/03



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	

Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER: _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"–SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: _____
DESIGNED: _____
CHECKED: _____
CHECKED: _____

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

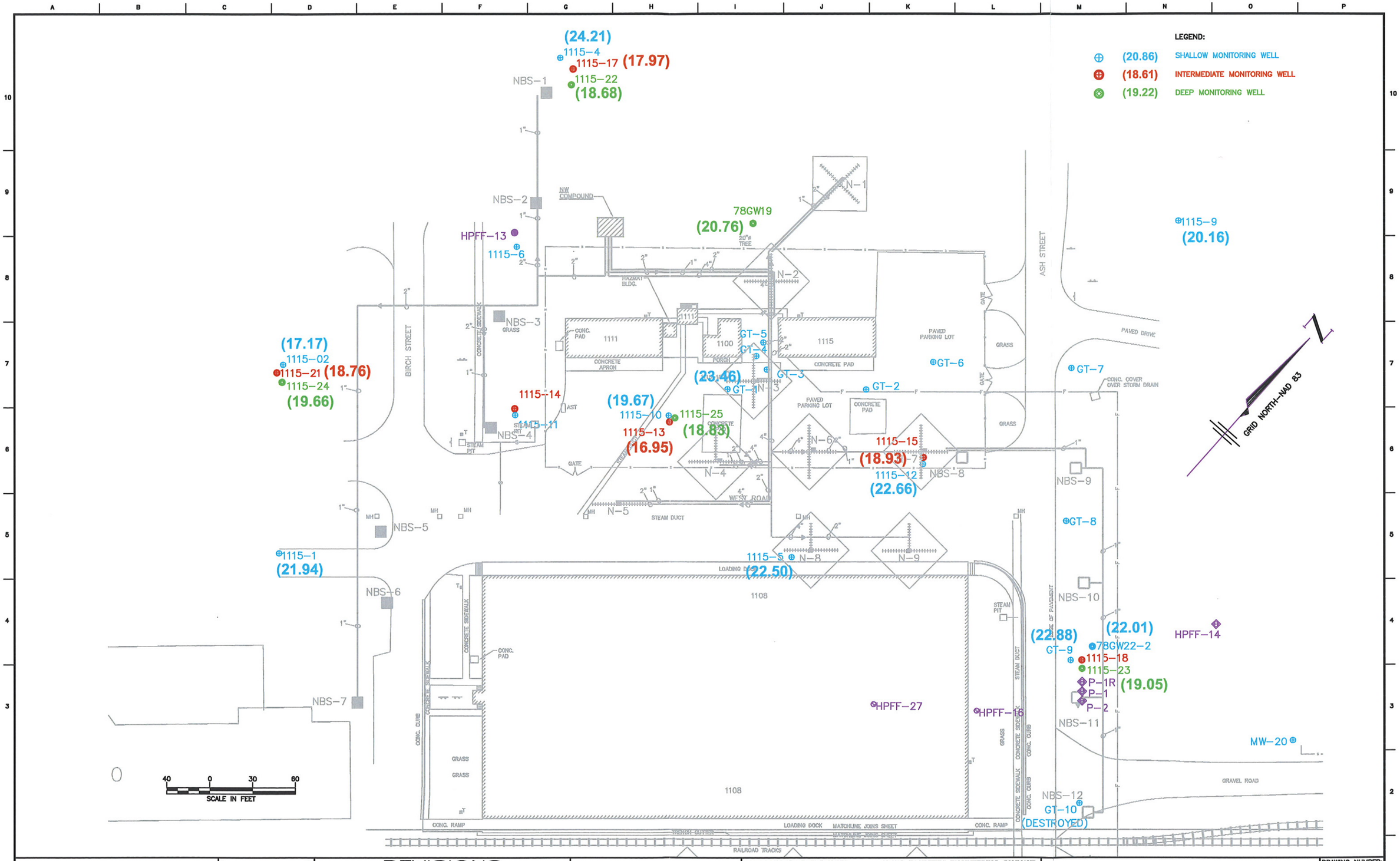
NAVAL STATION — NORFOLK, VIRGINIA

CONTRACT N62470–02–D–3260 — TASK ORDER NO. 002

OHM PROJECT No. 844096 — MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4.1
GROUNDWATER ELEVATIONS
FEBRUARY, 2004
HPFF NORTH WEST

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 10/10/03



A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	

Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER: _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER: _____ DATE: _____
APPROVED: _____ DEPT. MANAGER: _____ DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: _____
DESIGNED: _____
CHECKED: _____
CHECKED: _____

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION — NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3260 — TASK ORDER NO. 002

OHM PROJECT No. 844096 — MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4.2
GROUNDWATER ELEVATIONS
AUGUST, 2004
HPFF NORTH WEST

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 10/10/03

LEGEND:

(20.86) SHALLOW MONITORING WELL

(18.61) INTERMEDIATE MONITORING WELL

(19.22) DEEP MONITORING WELL

SCALE IN FEET: 40 0 40 80

GRID NORTH-NAD 83

| | | |

LEGEND:

(20.86) SHALLOW MONITORING WELL

(18.61) INTERMEDIATE MONITORING WELL

(19.22) DEEP MONITORING WELL

GRID NORTH-NAD 83

SCALE IN FEET: 40 0 40 80

FIGURE 4.4
GROUNDWATER ELEVATIONS
AUGUST, 2004
HPFF SOUTH EAST

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APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)

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DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION — NORFOLK, VIRGINIA

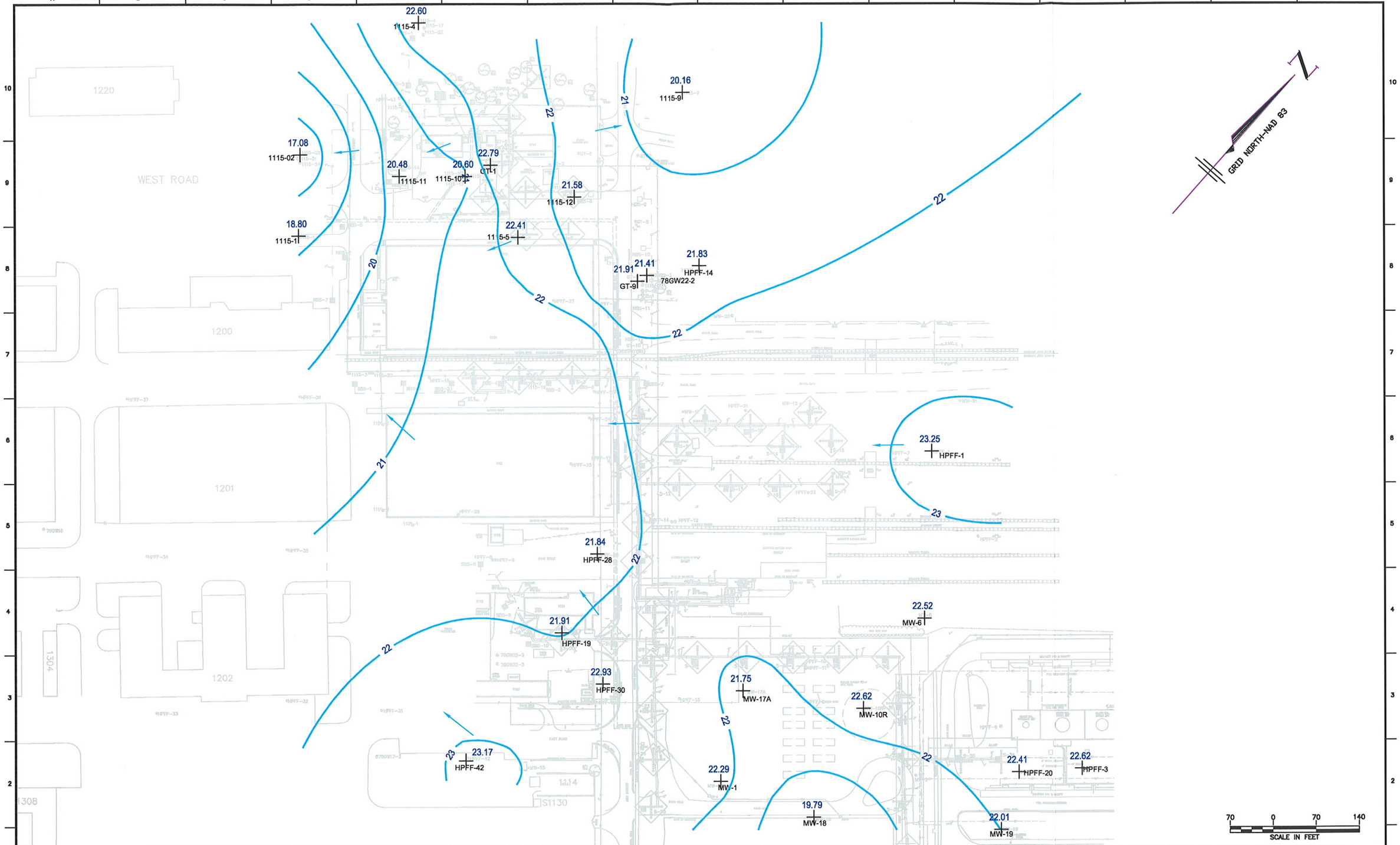
CONTRACT N62470-02-D-3260 — TASK ORDER NO. 002

OHM PROJECT No. 844098 — MARINE CORPS, CAMP LEJEUNE, N.C.

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CONTRACT N62470-02-D-3260 TASK ORDER NO. 002

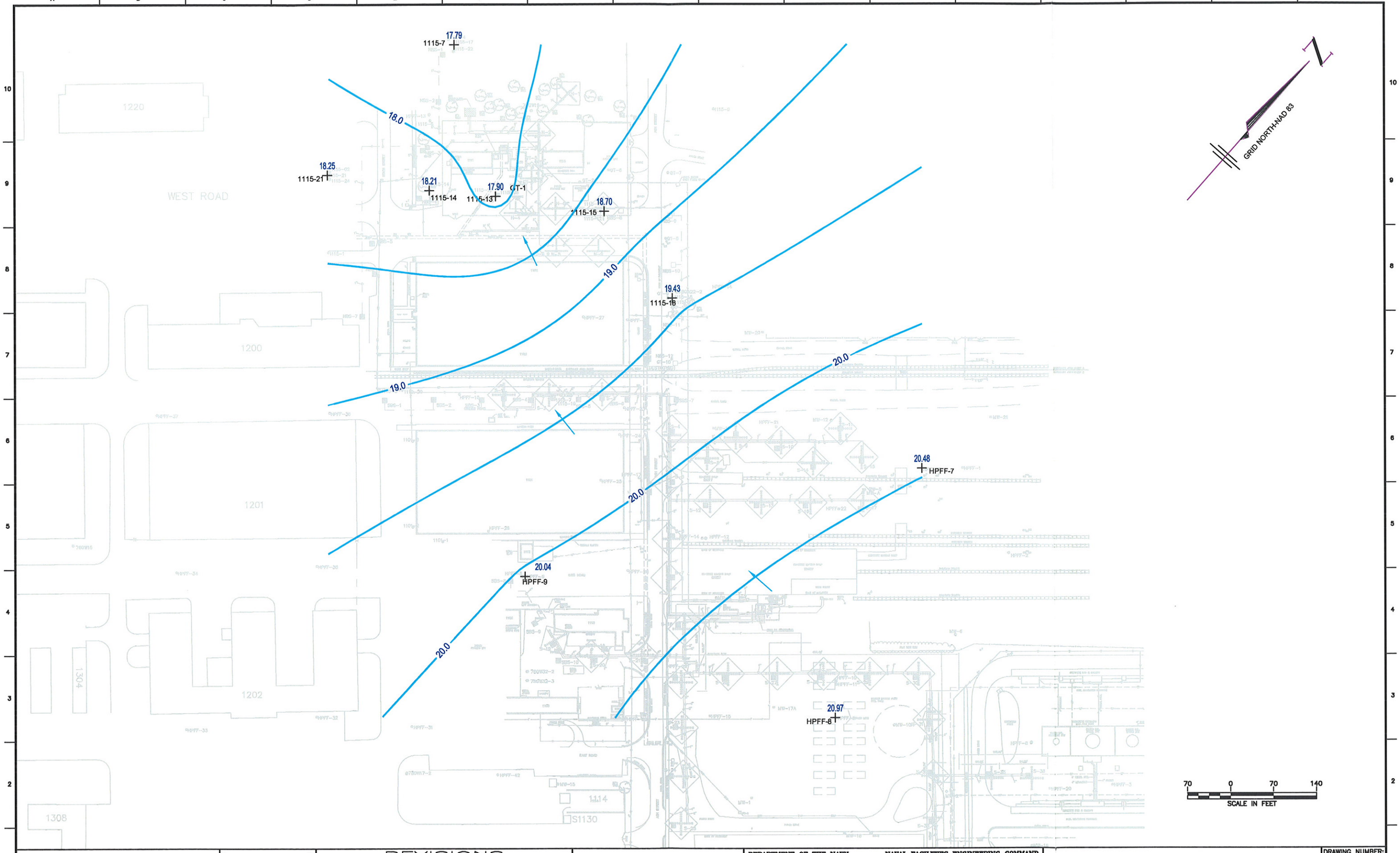
OHM PROJECT No. 844096 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4.5A
SHALLOW GROUNDWATER ELEVATION MAP
FEBRUARY 2004
HADNOT POINT FUEL FARM

DRAWING NUMBER:

SHEET NUMBER: of

DATE: 10/10/03



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ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINA

CONTRACT N62470-02-D-3260 TASK ORDER NO. 002

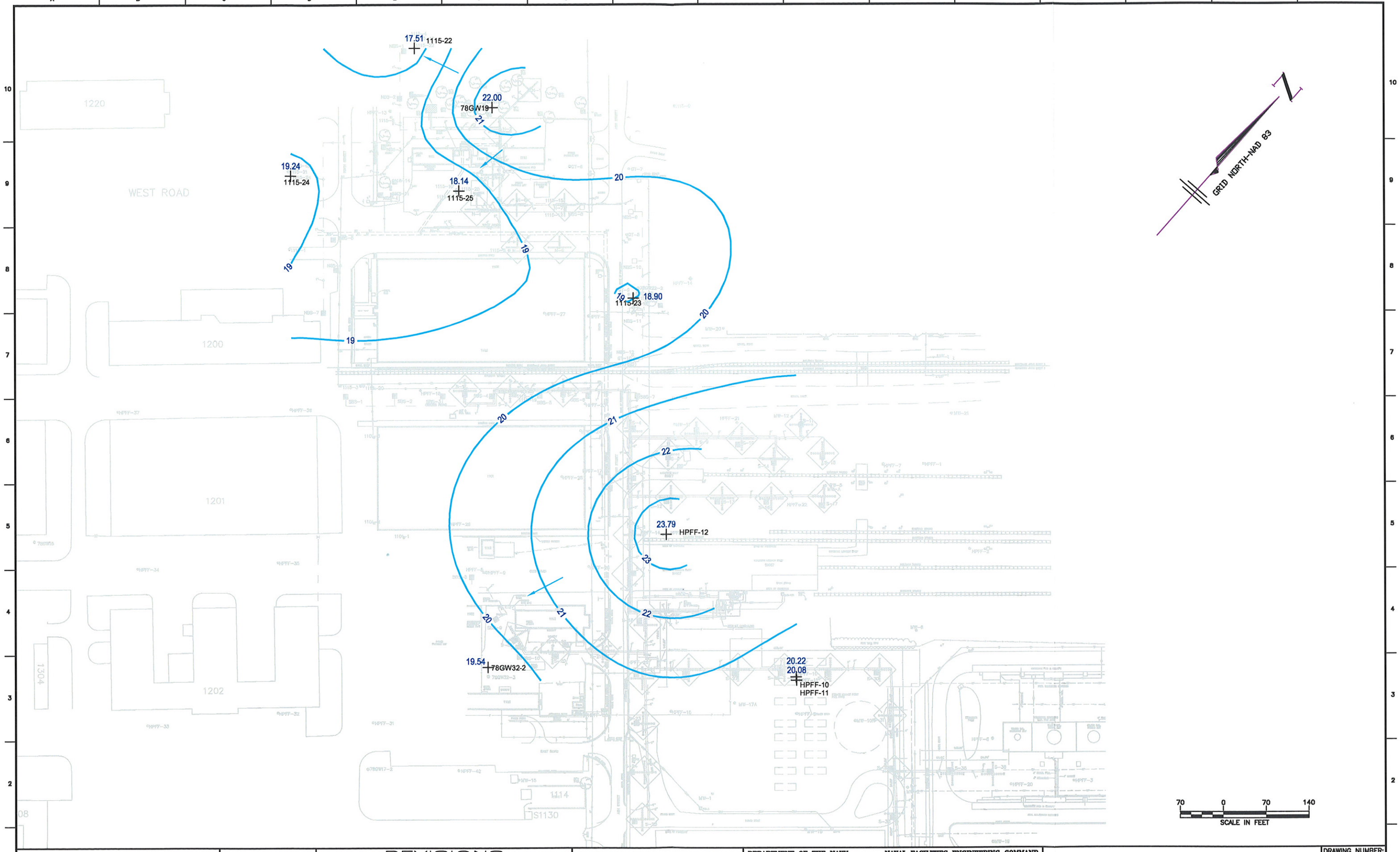
OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4.5B
INTERMEDIATE GROUNDWATER ELEVATION MAP
FEBRUARY 2004
HADNOT POINT FUEL FARM

DRAWING NUMBER:

SHEET NUMBER: of

DATE: 10/10/03



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APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"--SCALE ACCORDINGLY)
CADD FILE: _____
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DESIGNED: _____
CHECKED: _____
CHECKED: _____

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ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3260 TASK ORDER NO. 002

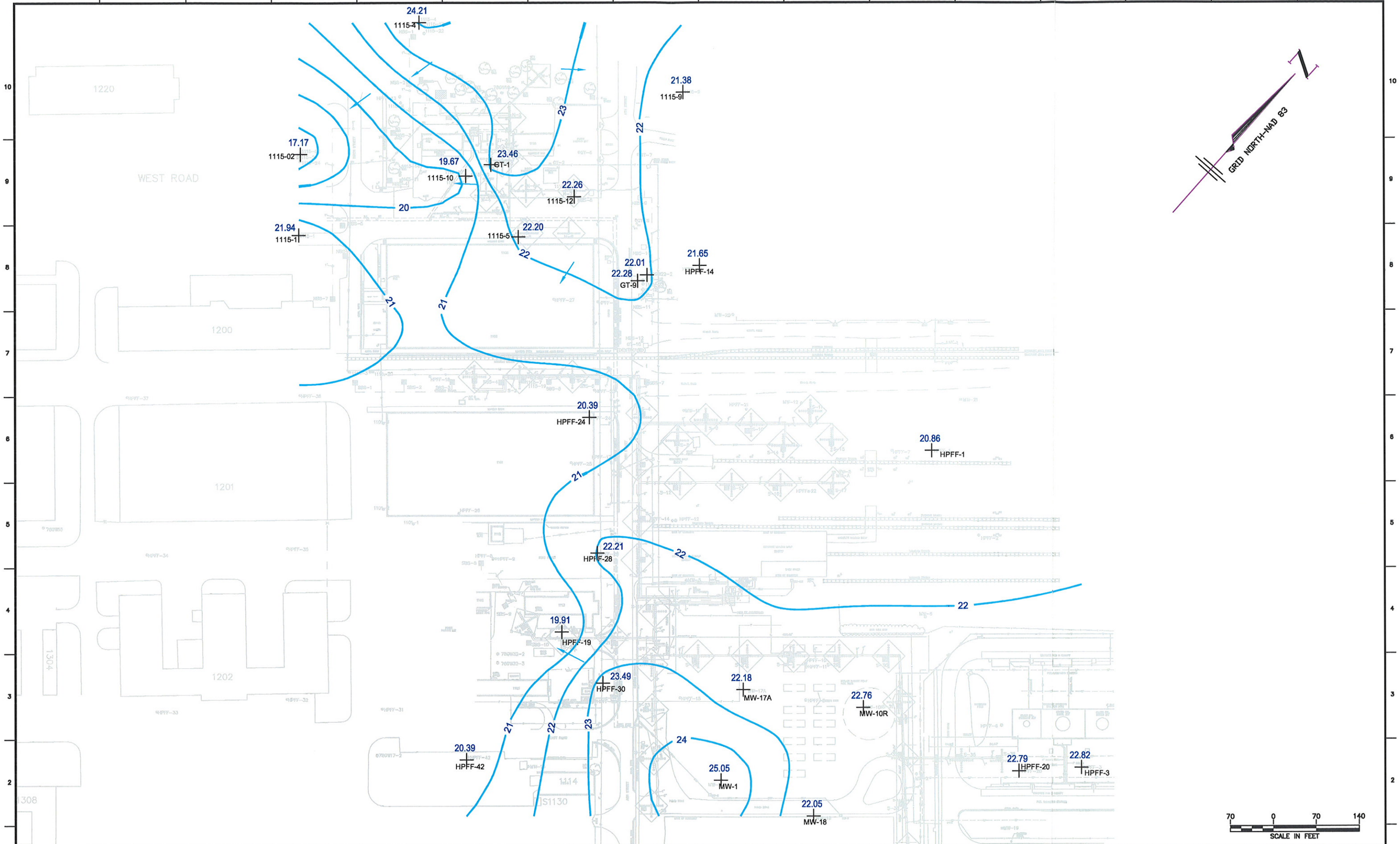
OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4.5C
DEEP GROUNDWATER ELEVATION MAP
FEBRUARY 2004
HADNOT POINT FUEL FARM

DRAWING NUMBER:

SHEET NUMBER: of

DATE: 10/10/03



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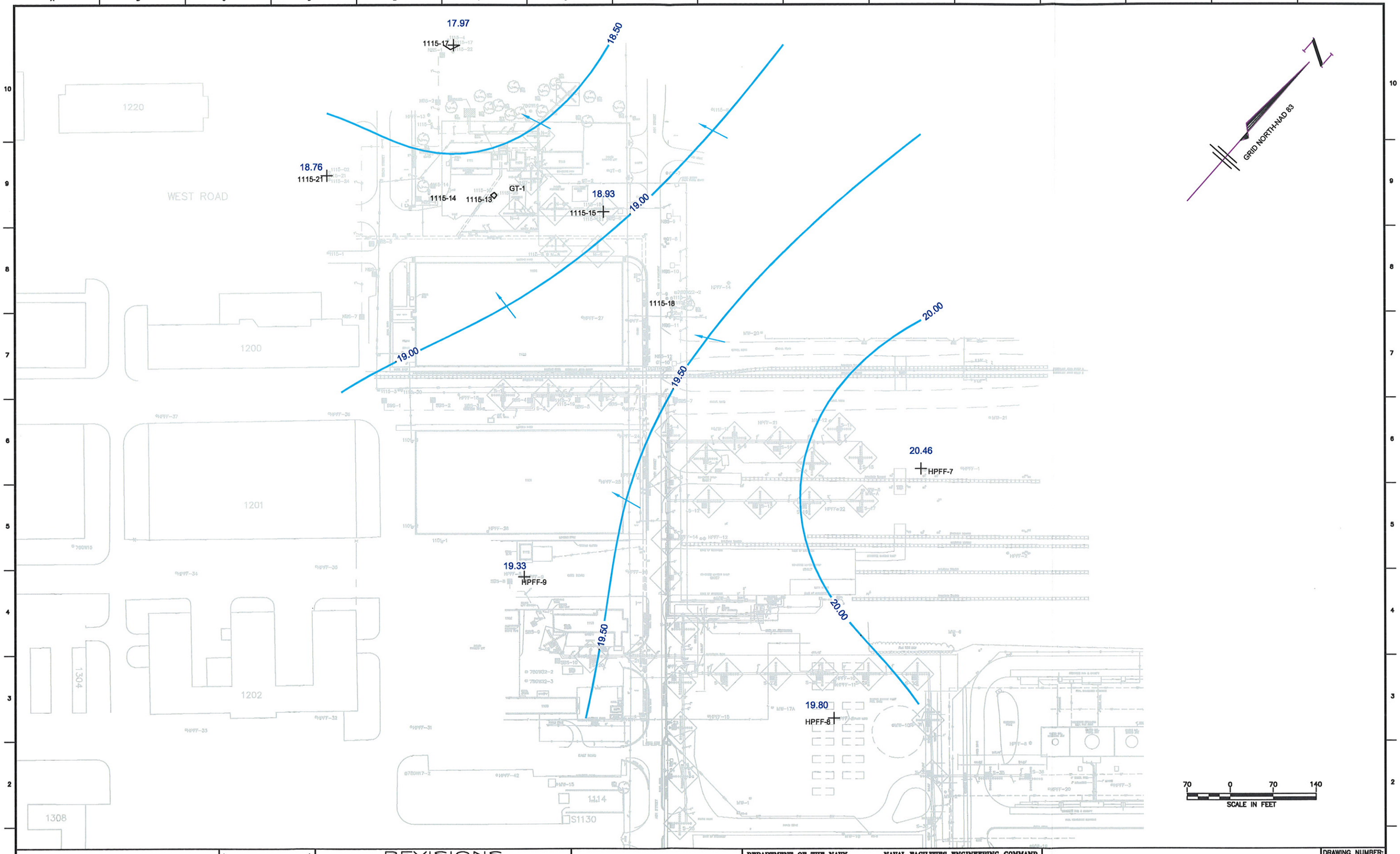
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ATLANTIC DIVISION
NAVAL STATION — NORFOLK, VIRGINIA
CONTRACT N62470-02-D-3260 — TASK ORDER NO. 002
OHM PROJECT No. 844096 — MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4.6A
SHALLOW GROUNDWATER ELEVATION MAP
AUGUST 2004
HADNOT POINT FUEL FARM

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 10/10/03



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APPROVED: _____ DATE: _____ (DEPT. MANAGER)

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DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

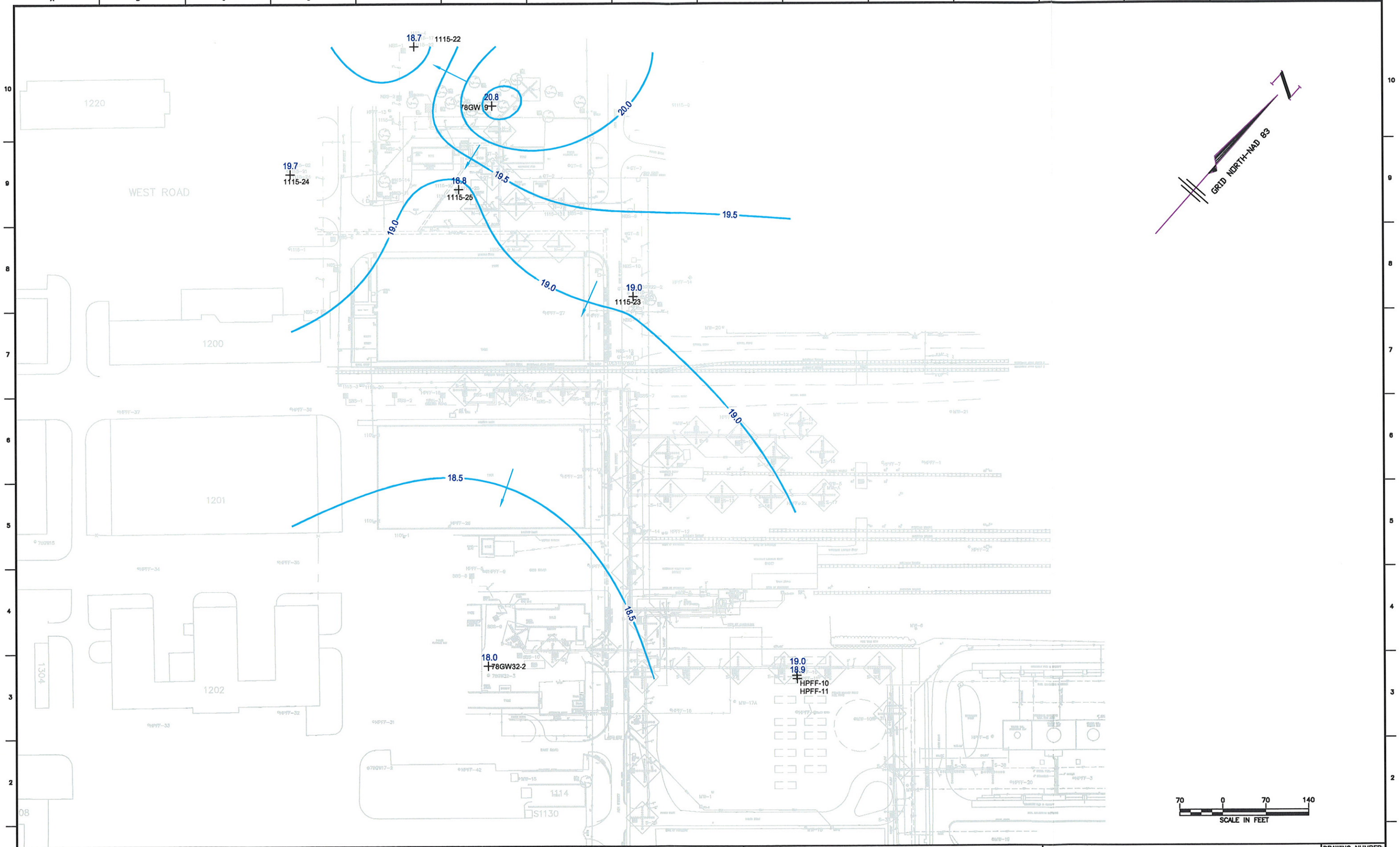
NAVAL STATION NORFOLK, VIRGINIA

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OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4.6B
INTERMEDIATE GROUNDWATER ELEVATION MAP
AUGUST 2004
HADNOT POINT FUEL FARM

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 10/10/03



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APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

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ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3260 TASK ORDER NO. 002

OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4.6C
DEEP GROUNDWATER ELEVATION MAP
AUGUST 2004
HADNOT POINT FUEL FARM

DRAWING NUMBER:

SHEET NUMBER: of

DATE: 10/10/03

1115-04	2/19/03	8/19/03	2/25/04	8/19/04
BENZENE	128	<1.0	16.8	31.5
ETHYLBENZENE	13.7	<1.0	<1.0	<1.0
TOLUENE	3.8	<1.0	<1.0	1.1
XYLENES	<6	<3	<3.0	<3.0
NAPHTHALENE	21.2	<5.5	<5.4	<4.8

1115-17	2/19/03	8/19/03	2/25/04	8/19/04
BENZENE	3490	84.3	36.9	34.1
ETHYLBENZENE	196	63.4	3.5	<2.0
TOLUENE	<5.0	<2	2.5	1.4J
XYLENES	<150	<5	<6.0	2.9J
NAPHTHALENE	270	332	89.8	10.5

1115-02	2/19/03	8/19/03	2/25/04	8/19/04
BENZENE	125	3.1	10.9	24.3
ETHYLBENZENE	6.6	<1.0	<1.0	<1.0
TOLUENE	6.4	<1.0	<1.0	0.52J
XYLENES	3.7J	<3.0	<3.0	<3.0
NAPHTHALENE	11.2	<5.3	<5.3	<4.8

1115-22	2/19/03	8/19/03	2/25/04	8/19/04
BENZENE	1320	1930	2230	3270
ETHYLBENZENE	<20	4.4	<50	<50
TOLUENE	21	<10	<50	<50
XYLENES	<60	1.0J	<150	<150
NAPHTHALENE	<5.1	4.8J	3.2J	5.7

GT-1	2/18/03	8/22/03	2/21/04	8/25/04
BENZENE	80	<1.0	29.7	44.7
ETHYLBENZENE	41	<1.0	10.5	5.5
TOLUENE	557	<1.0	2.7	8.6
XYLENES	201	<3.0	8.3	4.4
NAPHTHALENE	6.6	<5.4	<5.4	10.7

1115-21	2/19/03	8/19/03	2/25/04	8/19/04
BENZENE	727	485	607	521
ETHYLBENZENE	11.7	<1.0	<5.0	<10
TOLUENE	7.8J	<1.0	<5.0	<10
XYLENES	<30	<3.0	<15.0	<30
NAPHTHALENE	19.9	7.0	3.9J	5.3

GT-7	2/17/03	8/20/03	2/21/04	8/19/04
BENZENE	205	235	0.74J	37.9
ETHYLBENZENE	<1.0	<1.0	<1.0	1.5
TOLUENE	<1.0	<1.0	0.78J	8.20
XYLENES	<3.0	<3.0	<3.0	4.4
NAPHTHALENE	<5.4	<5.0	<5.3	<4.8

1115-24	2/19/03	8/19/03	2/25/04	8/19/04
BENZENE	4120	3990	4100	3630
ETHYLBENZENE	<50	<50	<50	<50
TOLUENE	<50	<50	<50	<50
XYLENES	<150	<150	<150	<150
NAPHTHALENE	23.6	6.7	4.2J	3.0J

GT-9	2/21/03	8/20/03	2/24/04	8/27/04
BENZENE	21.1	<1.0	<1.0	3.2
ETHYLBENZENE	2	<1.0	<1.0	<1.0
TOLUENE	2.5	<1.0	<1.0	0.76J
XYLENES	1.3J	<3.0	<3.0	<3.0
NAPHTHALENE	4.5J	<5.3	<5.6	<4.8

78GW22-2	2/17/03	8/20/03	2/21/04	8/19/04
BENZENE	41.1	17.2	6.6	6.4
ETHYLBENZENE	<1.0	<1.0	<1.0	<1.0
TOLUENE	<1.0	<1.0	<1.0	<1.0
XYLENES	<3.0	<3.0	<3.0	<3.0
NAPHTHALENE	<5.1	<5.2	<5.4	<4.8

1115-01	2/17/03	8/20/03	2/21/04	8/19/04
BENZENE	187	<1.0	<1.0	17.7
ETHYLBENZENE	<1.0	<1.0	<1.0	0.92J
TOLUENE	1.0	<1.0	1.0	4.6
XYLENES	1.6J	<3.0	<3.0	2.9J
NAPHTHALENE	<5.1	<5.3	<5.1	<4.8

1115-13	2/19/03	8/20/03	2/24/04	8/25/04
BENZENE	872	340	228	202
ETHYLBENZENE	62.2	72.4	53.0	47.6
TOLUENE	28.3	<2.0	<5.0	11.8
XYLENES	21.5J	16.6	11.7J	16.3
NAPHTHALENE	152	155	151	173

1115-25	2/19/03	8/22/03	2/24/04	8/25/04
BENZENE	2840	3300	3580	5960
ETHYLBENZENE	<50	8.2	<50	40.4J
TOLUENE	150	292	362	650
XYLENES	<150	15.3	63.2J	120J
NAPHTHALENE	10	<5.2	<5.0	<4.8

1115-23	2/18/03	8/20/03	2/21/04	8/19/04
BENZENE	<1	260	703	2720
ETHYLBENZENE	<5	5.2	14.8J	38.6
TOLUENE	<1	2.2	98.7	267
XYLENES	<15	7.6	35.9J	112
NAPHTHALENE	<5.1	<5.4	<5.3	<4.8

1115-18	2/20/03	8/20/03	3/02/04	8/19/04
BENZENE	NA	215	2630	NS
ETHYLBENZENE	NA	4.1	76.8	NS
TOLUENE	NA	1.4J	5.6	NS
XYLENES	NA08	4.6J	15.7	NS
NAPHTHALENE	NA	2.7J	19.8	NS

LEGEND:

- SHALLOW WELL ANALYTICAL RESULTS
- INTERMEDIATE WELL ANALYTICAL RESULTS
- DEEP WELL ANALYTICAL RESULTS

BOLD INDICATES NCQS EXCEEDENCE

ALL RESULTS IN UG/L

GRID NORTH-NAD 83

1115-4, 1115-17, 1115-22, 1115-02, 1115-21, 1115-24, 1115-1, 1115-9, GT-7, GT-9, 78GW22-2, 1115-18, 1115-23, GT-10 (DESTROYED), 1115-10, 1115-25, 1115-13, 1115-14, 1115-11, 1115-15, 1115-12, 1115-5, 1115-6, GT-1, GT-2, GT-3, GT-4, GT-5, GT-6, GT-8, MW-20, HPFF-13, HPFF-14, HPFF-16, HPFF-27, NBS-1, NBS-2, NBS-3, NBS-4, NBS-5, NBS-6, NBS-7, NBS-8, NBS-9, NBS-10, NBS-11, NBS-12, N-1, N-2, N-3, N-4, N-5, N-6, N-7, N-8, N-9, P-1R, P-1, P-2, BIRCH STREET, ASH STREET, PAVED PARKING LOT, CONCRETE PAD, CONCRETE APRON, PAVED DRIVE, GRASS, GATE, WEST ROAD, STEAM DUCT, STEAM PIT, LOADING DOCK, CONCRETE SIDEWALK, CONC. CURB, CONC. RAMP, CONC. COVER OVER STORM DRAIN, EDGE OF PAVEMENT, GRAVEL ROAD, MATCHLINE JOINS SHEET

30 0 30 60
SCALE IN FEET

1200

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DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION — NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3260 — DELIVERY ORDER NO. 002

OHM PROJECT No. 844098 — MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4-7
GROUNDWATER ANALYTICAL RESULTS
BUILDING 1115
HADNOT POINT NORTH WEST

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 01/14/05

MW-11	2/18/03	8/22/03	2/14/04	8/27/04
BENZENE	274	957	6.5	NS
ETHYLBENZENE	98.3	19.5	1.1	NS
TOLUENE	1160	319	<1.0	NS
XYLENES	501	378	1.2J	NS
NAPHTHALENE	7.5	<5.4	<5.7	NS

HPFF-7	2/21/03	8/22/03	2/13/04	8/27/04
BENZENE	9.5	<1.0	<1.0	1.5
ETHYLBENZENE	5.4	1.1	<1.0	0.9J
TOLUENE	1.8	<1.0	<1.0	<1.0
XYLENES	1.2J	<3.0	<3.0	<3.0
NAPHTHALENE	3.2J	<5.8	<5.1	<4.8

LEGEND:

SHALLOW WELL ANALYTICAL RESULTS

INTERMEDIATE WELL ANALYTICAL RESULTS

DEEP WELL ANALYTICAL RESULTS

BOLD INDICATES NCQS EXCEEDENCE

ALL RESULTS IN UG/L

HPFF-19	2/18/03	8/27/03	2/14/04	9/08/04
BENZENE	16300	7760	11300	10900
ETHYLBENZENE	1420	481	847	723
TOLUENE	17800	10600	13800	12300
XYLENES	6630	12800	10300	7660
NAPHTHALENE	220	266	216	316

MW-17A	2/21/03	8/25/03	2/20/04	9/13/04
BENZENE	5720	6830	5520	4910
ETHYLBENZENE	3260	3860	2690	2070
TOLUENE	22800	27200	24800	20000
XYLENES	11300	13900	10200	7990
NAPHTHALENE	415	415	432	402

HPFF-1	2/21/03	8/22/03	2/13/04	8/27/04
BENZENE	32.3	<1.0	<1.0	3.8
ETHYLBENZENE	2.4	<1.0	<1.0	<1.0
TOLUENE	4.5	<1.0	<1.0	0.88J
XYLENES	2.4J	<3.0	<3.0	<3.0
NAPHTHALENE	61	<5.2	<5.3	<4.8

HPFF-5	2/21/03	8/25/03	2/13/04	8/27/04
BENZENE	674	44.2	8.4	4.1
ETHYLBENZENE	33.6	5.2	<1.0	<1.0
TOLUENE	4.6	13.4	<1.0	0.92J
XYLENES	9.9	7.4	<3.0	<3.0
NAPHTHALENE	6.4	<5.3	<5.3	<4.8

HPFF-11	2/28/03	8/25/03	2/20/04	8/31/04
BENZENE	<1	348	344	89.6
ETHYLBENZENE	<1	<5	<2.0	2.6
TOLUENE	<1	<5	<2.0	0.56J
XYLENES	<3	<15	<6.0	<3.0
NAPHTHALENE	<5.1I	<5.2	<5.3	<4.8

HPFF-8	2/21/03	8/25/03	2/20/04	8/31/04
BENZENE	10900	7420	10200	11500
ETHYLBENZENE	878	740	609	627
TOLUENE	2150	1690	1230	1540
XYLENES	2610	2130	1530	2130
NAPHTHALENE	173	184	184	171

MW-10R	2/17/03	8/27/03	2/14/04	9/08/04
BENZENE	2340	2830	197	480
ETHYLBENZENE	352	843	175	602
TOLUENE	2380	5070	650	2210
XYLENES	2260	4830	861	2590
NAPHTHALENE	55.5	212	50.9	178

HPFF-9	2/21/03	8/22/03	2/13/04	8/27/04
BENZENE	22600	4090	727	0.88J
ETHYLBENZENE	363	96.4	23.2	<1.0
TOLUENE	62.4	<5	<10	<1.0
XYLENES	137J	9.2J	<30	<3.0
NAPHTHALENE	70.1	13.6	<5.3	<4.9

78GW32-2	2/21/03	8/19/03	2/23/04	9/13/04
BENZENE	109	176	325	321
ETHYLBENZENE	1.9	<5	16	37.4
TOLUENE	1.7	3.5J	43.9	149
XYLENES	1.7J	<15	55.7	178
NAPHTHALENE	<51	<5.1	2.1J	6.7

78GW32-3	2/21/03	8/26/03	2/23/04	9/09/04
BENZENE	7.1	<1.0	20.9	28.9
ETHYLBENZENE	1.3	1.4	59.8	8.7
TOLUENE	1.3	2.4	183	60.6
XYLENES	<3	10.5	255	64
NAPHTHALENE	2.7J	<5.5	8.7	2.4

MW-1	2/17/03	8/27/03	2/14/04	8/20/04
BENZENE	5380	6670	4970	3180
ETHYLBENZENE	2280	3950	3580	2620
TOLUENE	22000	26200	25500	20700
XYLENES	11600	17200	16500	12300
NAPHTHALENE	415	417	473	586

MW-18	2/18/03	8/27/03	2/14/04	8/20/04
BENZENE	16900	5440	12900	7040
ETHYLBENZENE	1370	1930	1800	1950
TOLUENE	30000	15100	27100	17800
XYLENES	7670	11700	11000	13700
NAPHTHALENE	464	768	658	700

HPFF-20	2/18/03	8/27/03	2/20/04	9/08/04
BENZENE	3280	6020	6430	3030
ETHYLBENZENE	551	112	444	362
TOLUENE	7630	8790	9790	2770
XYLENES	2330	6770	6140	2920
NAPHTHALENE	104	<5.1	98.9	68.6

40 0 40 80

SCALE IN FEET

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APPROVED: _____ DEPT. MANAGER DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)

CADD FILE: _____

DRAWN: _____

DESIGNED: _____

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DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3620 DELIVERY ORDER NO. 002

OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 4-8

GROUNDWATER ANALYTICAL RESULTS

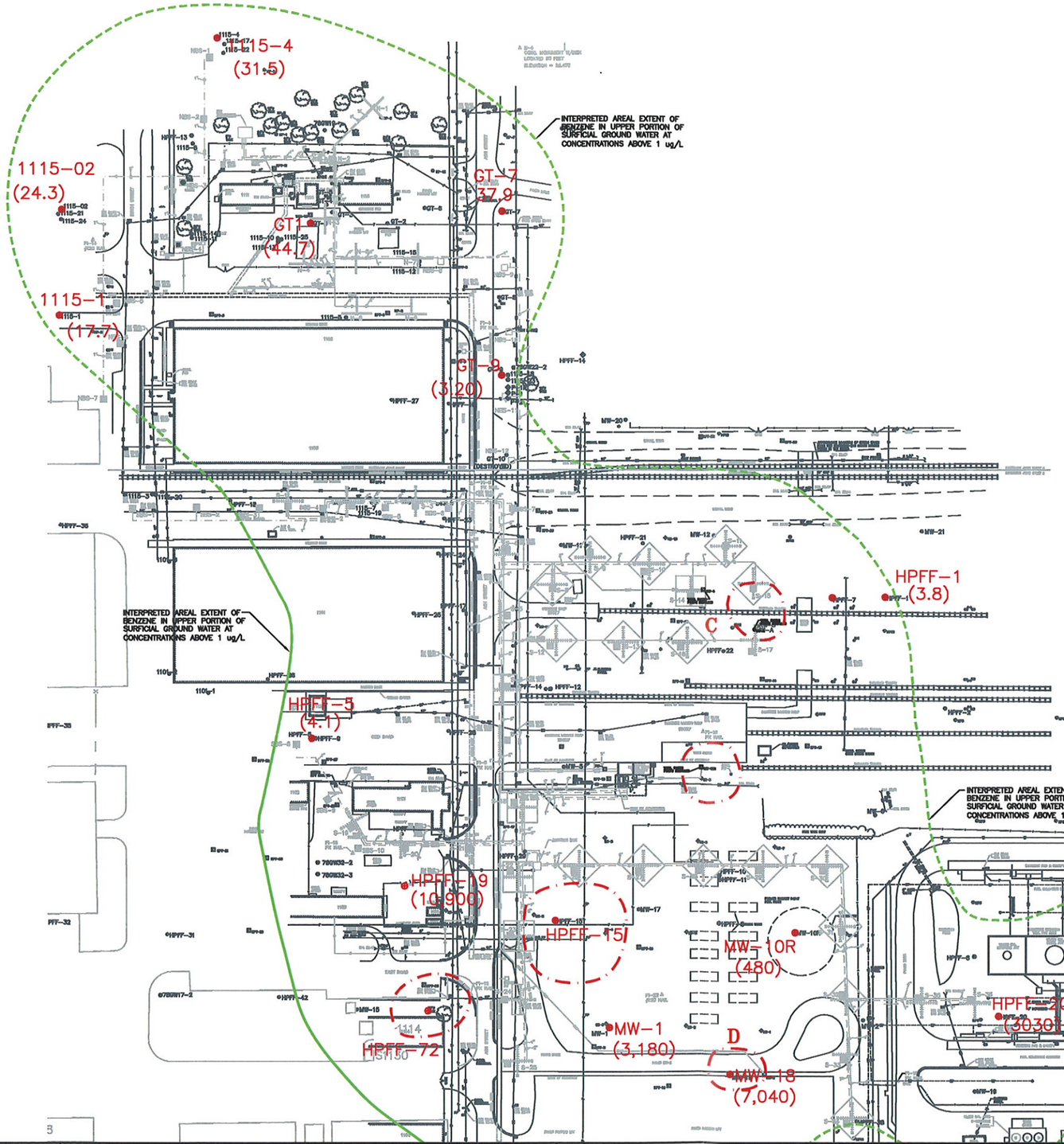
FUEL FARM

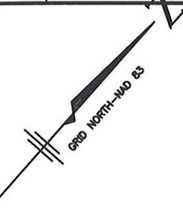
HADNOT POINT SOUTH EAST

DRAWING NUMBER:

SHEET NUMBER: of

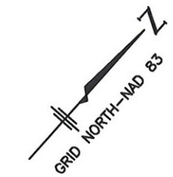
DATE: 4/13/04





LEGEND

- HORIZONTAL VAPOR COLLECTION LINE
- ESTIMATED EXTENT OF FREE PRODUCT PLUME BASED ON LATEST WELL INFORMATION
- INTERPRETED AREAL EXTENT OF BENZENE IN UPPER PORTION OF SURFICAL GROUND WATER AT CONCENTRATION ABOVE 1 ug/L
- MW-1 (7,700) BENZENE ug/l (August 2004)



Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER: _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: L. SHULMAN
DESIGNED: BOB BROWN
CHECKED: RON KENYON
CHECKED: JIM DUNN

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

NAVAL STATION — NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3260 — TASK ORDER NO. 002

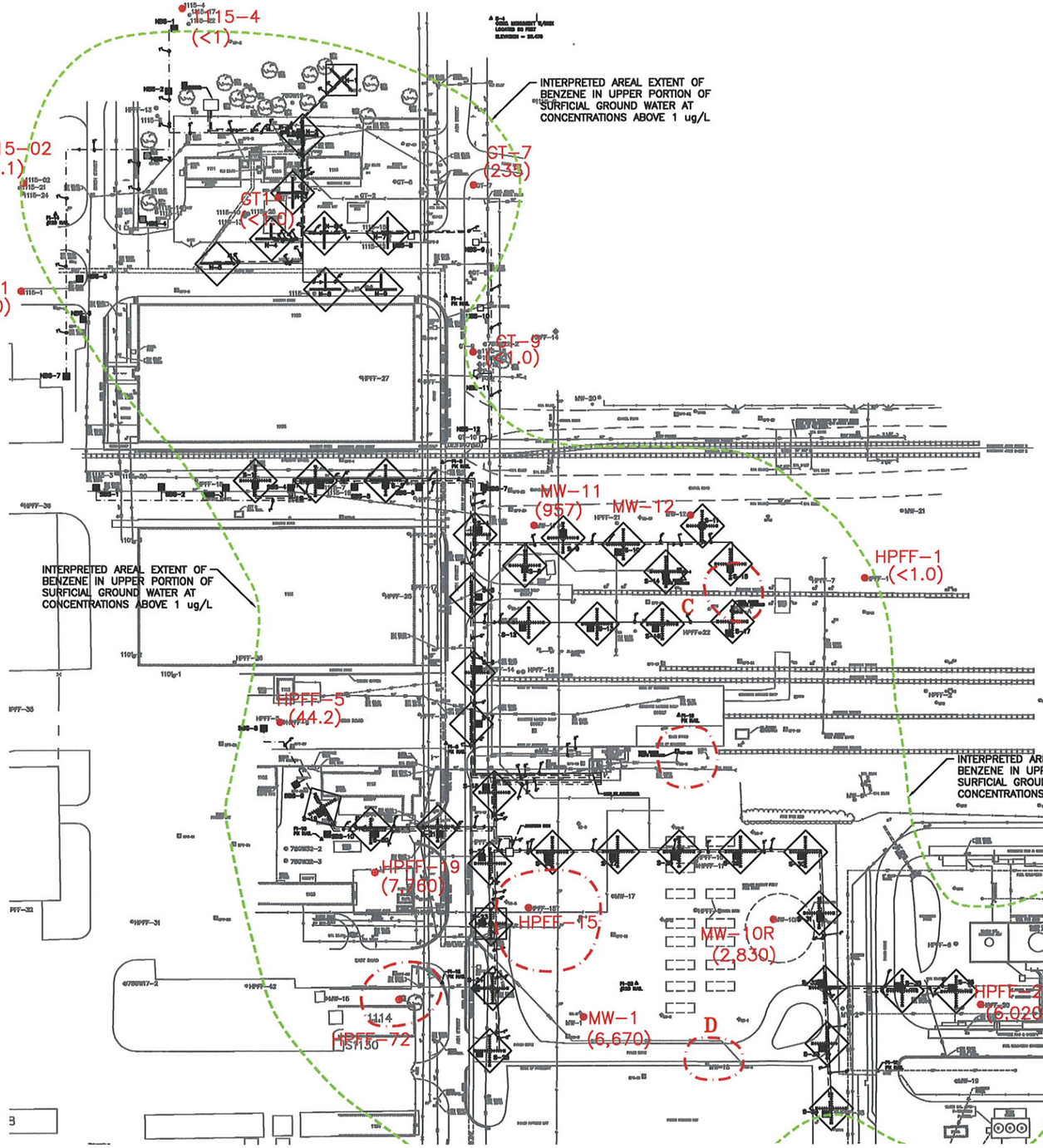
OHM PROJECT No. 844098 — MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 5.1
BUILDING 1115 (NW COMPOUND) & HPFF (SE COMPOUND) AREAL EXTENT OF SHALLOW GROUNDWATER & FREE PRODUCT CONTAMINATION AUGUST 2004
HADNOT POINT FUEL FARM / BUILDING 1115

DRAWING NUMBER:

SHEET NUMBER: of

DATE: 10/10/03



LEGEND

EXISTING	NEW	DESCRIPTION
		STEAM LINE
		SANITARY SEWER WITH MANHOLE
		STORM DRAIN
		WATERLINE W/VALVE
		POWER LINE W/POLE
		UNDERGROUND POWER WITH MANHOLE
		COMMUNICATIONS LINE WITH MANHOLE
		FUEL LINE
		ENVIRONMENTAL-EXISTING GROUND WATER TREATMENT SYSTEM LINES
		FORCE MAIN
		TELEPHONE RISER
		FIRE HYDRANT
		MANHOLE
		STEAM MANHOLE
		AREA LIGHT
		CATCH BASIN
		CLEAN OUT
		CHAIN LINK FENCE
		GUY ANCHOR
		SIGNS
		TYPE II WELL
		TYPE III WELL (50' DEEP)
		TYPE III WELL (70'-90' DEEP)
		TYPE III WELL (GREATER THAN 90' DEEP)
		HYDROPUNCH
		SOIL BORING
		PUMPING WELL
		DPT PROBE
		JUNCTION BOX
		SHALLOW AIR SPARGE WELL
		DEEP BIOSPARGE WELL (80' DEEP)
		DEEP BIOSPARGE WELL (100' DEEP)
		HORIZONTAL VAPOR COLLECTION LINE
D		FREE PRODUCT PLUME AREA
		ESTIMATED EXTENT OF FREE PRODUCT PLUME BASED ON LATEST WELL INFORMATION
		INTERPERATED AREAL EXTENT OF BENZENE IN UPPER PORTION OF SURFICAL GROUND WATER AT CONCENTRATION ABOVE 1 ug/L
MW-1 (7,700)		BENZENE ug/l

Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER: _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER: _____ DATE: _____
APPROVED: _____ DEPT. MANAGER: _____ DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: L. SHULMAN
DESIGNED: BOB BROWN
CHECKED: RON KENYON
CHECKED: JIM DUNN

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
CONTRACT N62470-02-D-3260 TASK ORDER NO. 002
OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 5.2
BUILDING 1115 (NW COMPOUND) & HPFF (SE COMPOUND)
AREAL EXTENT OF SHALLOW GROUNDWATER & FREE PRODUCT CONTAMINATION
AUGUST 2003
HADNOT POINT FUEL FARM / BUILDING 1115

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 10/10/03

1115-4 (660)

1115-02 (9.3)

1115-1 (<1.0)

GT-7 (2.9)

GT-8 (<1.0)

GT-9 (<1.0)

MW-11 (26.2)

MW-12R

HPFF-1 (<1.0)

HPFF-5 (<1.0)

HPFF-28

HPFF-12

HPFF-19 (16,800)

HPFF-15

MW-10R (3,780)

MW-15

MW-1 (5,710)

MW-2

HPFF-20 (1,250)

D

C

INTERPRETED AREAL EXTENT OF BENZENE IN UPPER PORTION OF SURFICIAL GROUND WATER AT CONCENTRATIONS ABOVE 1 ug/L

S1130

LEGEND

EXISTING	NEW	DESCRIPTION
		STEAM LINE
		SANITARY SEWER WITH MANHOLE
		STORM DRAIN
		WATERLINE W/VALVE
		POWER LINE W/POLE
		UNDERGROUND POWER WITH MANHOLE
		COMMUNICATIONS LINE WITH MANHOLE
		FUEL LINE
		ENVIRONMENTAL-EXISTING GROUND WATER TREATMENT SYSTEM LINES
		FORCE MAIN
		TELEPHONE RISER
		FIRE HYDRANT
		MANHOLE
		STEAM MANHOLE
		AREA LIGHT
		CATCH BASIN
		CLEAN OUT
		CHAIN LINK FENCE
		GUY ANCHOR
		SIGNS
		TYPE II WELL
		TYPE III WELL (50' DEEP)
		TYPE III WELL (70'-90' DEEP)
		TYPE III WELL (GREATER THAN 90' DEEP)
		HYDROPUNCH
		SOIL BORING
		PUMPING WELL
		DPT PROBE
		JUNCTION BOX
		SHALLOW AIR SPARGE WELL
		DEEP BIOSPARGE WELL (80' DEEP)
		DEEP BIOSPARGE WELL (100' DEEP)
		HORIZONTAL VAPOR COLLECTION LINE
	D	FREE PRODUCT PLUME AREA
		ESTIMATED EXTENT OF FREE PRODUCT PLUME BASED ON LATEST WELL INFORMATION
		INTERPERATED AREAL EXTENT OF BENZENE IN UPPER PORTION OF SURFICAL GROUND WATER AT CONCENTRATION ABOVE 1 ug/L
	MW-1 (7,700)	BENZENE ug/l

GRID NORTH-NAD 83

0 80 160
SCALE IN FEET

Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER: _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: L. SHULMAN
DESIGNED: BOB BROWN
CHECKED: RON KENYON
CHECKED: JIM DUNN

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

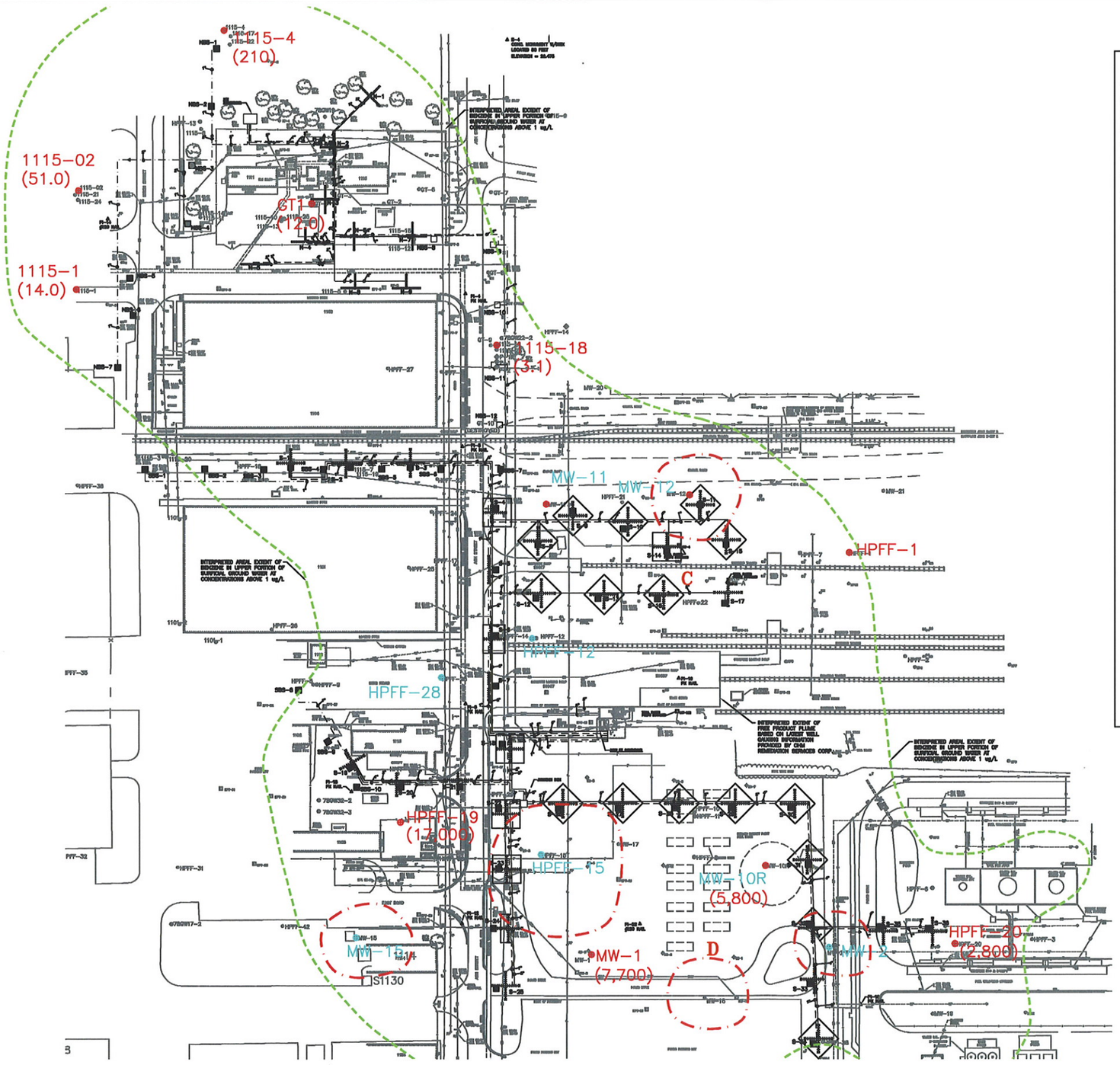
NAVAL STATION NORFOLK, VIRGINA

CONTRACT N62470-02-D-3260 TASK ORDER NO. 002

OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 5.3
BUILDING 1115 (NW COMPOUND) & HPFF (SE COMPOUND)
AREAL EXTENT OF SHALLOW GROUNDWATER & FREE PRODUCT CONTAMINATION
AUGUST 2002
HADNOT POINT FUEL FARM / BUILDING 1115

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 3/20/02



LEGEND

EXISTING	NEW	DESCRIPTION
—S—		STEAM LINE
—SS—○MH		SANITARY SEWER WITH MANHOLE
—SD—○MH		STORM DRAIN
—W—⋈—		WATERLINE W/VALVE
○PP—P—		POWER LINE W/POLE
----UP--○MH		UNDERGROUND POWER WITH MANHOLE
----COM--○MH		COMMUNICATIONS LINE WITH MANHOLE
—F—		FUEL LINE
—ENV—		ENVIRONMENTAL--EXISTING GROUND WATER TREATMENT SYSTEM LINES
—FM—		FORCE MAIN
⊠T		TELEPHONE RISER
✧FH		FIRE HYDRANT
○MH		MANHOLE
□MH		STEAM MANHOLE
✲		AREA LIGHT
□CB		CATCH BASIN
○CO		CLEAN OUT
—○—○—		CHAIN LINK FENCE
○GA		GUY ANCHOR
⌐⌐⌐		SIGNS
⊕	⊗	TYPE II WELL
⊕		TYPE III WELL (50' DEEP)
⊙	●	TYPE III WELL (70'-90' DEEP)
⊙	●	TYPE III WELL (GREATER THAN 90' DEEP)
◐		HYDROPUNCH
◈		SOIL BORING
⊡		PUMPING WELL
	◧	DPT PROBE
	■	JUNCTION BOX
	◉	SHALLOW AIR SPARGE WELL
	◉	DEEP BIOSPARGE WELL (80' DEEP)
	○	DEEP BIOSPARGE WELL (100' DEEP)
	++++++	HORIZONTAL VAPOR COLLECTION LINE
D		FREE PRODUCT PLUME AREA
- - - -		ESTIMATED EXTENT OF FREE PRODUCT PLUME BASED ON LATEST WELL INFORMATION
- - - -		INTERPERATED AREAL EXTENT OF BENZENE IN UPPER PORTION OF SURFICIAL GROUND WATER AT CONCENTRATION ABOVE 1 ug/L
MW-1 (7,700)		BENZENE ug/l

Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER: _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: L. SHULMAN
DESIGNED: PAUL MATZ
CHECKED: K. MAK
CHECKED: JIM DUNN

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

ATLANTIC DIVISION

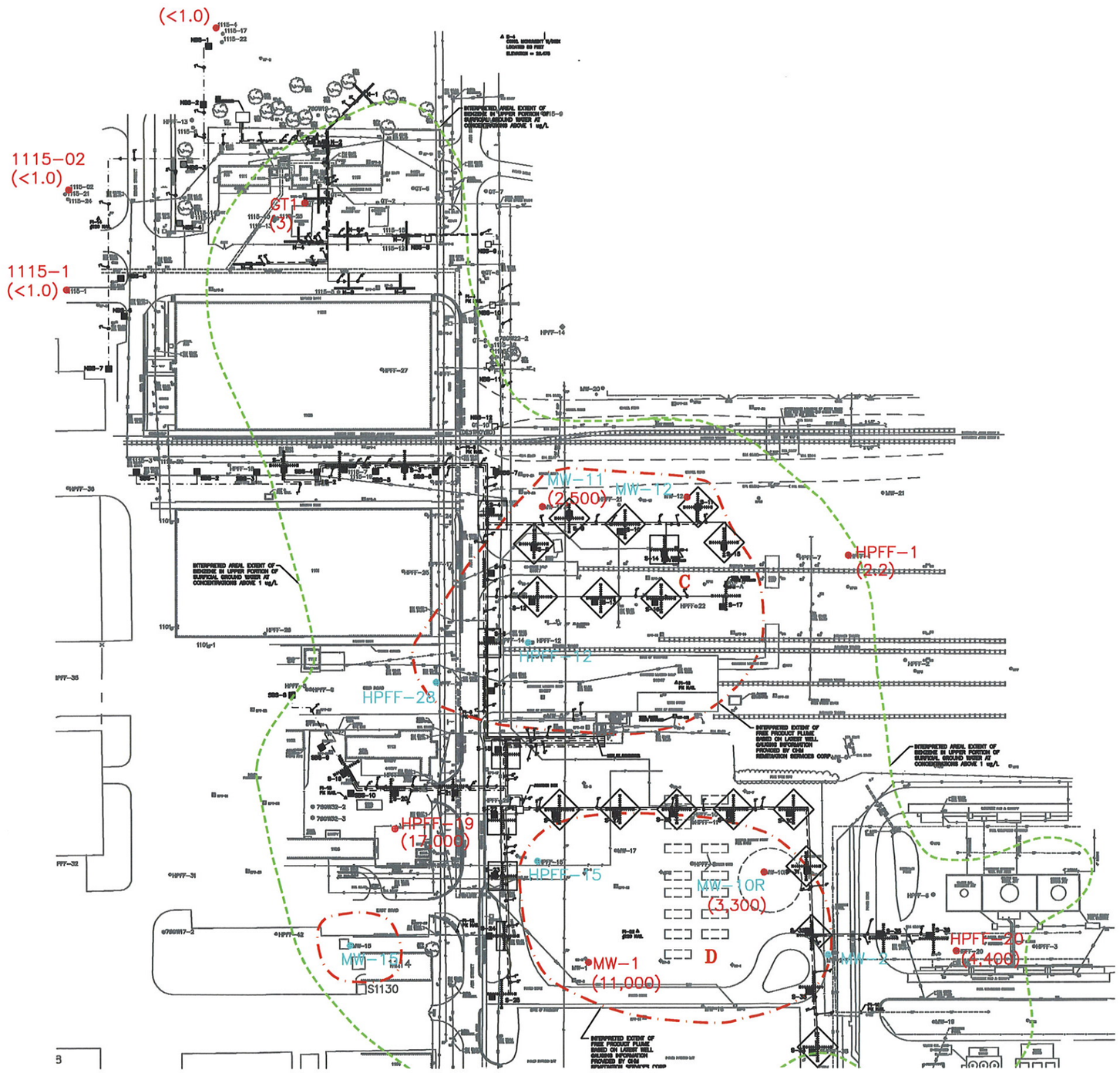
NAVAL STATION — NORFOLK, VIRGINIA

CONTRACT N62470-02-D-3260 — DELIVERY ORDER NO. 002

OHM PROJECT No. 844098 — MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 5.4
BUILDING 1115 (NW COMPOUND)
& HPFF (SE COMPOUND)
AREAL EXTENT OF SHALLOW GROUNDWATER
& FREE PRODUCT CONTAMINATION
JULY 2001
HADNOT POINT FUEL FARM / BUILDING 1115

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 3/20/02



LEGEND

EXISTING	NEW	DESCRIPTION
—S—		STEAM LINE
—SS—○MH		SANITARY SEWER WITH MANHOLE
—SD—○MH		STORM DRAIN
—W—		WATERLINE W/VALVE
—PP—P—		POWER LINE W/POLE
—UP—○MH		UNDERGROUND POWER WITH MANHOLE
—COM—○MH		COMMUNICATIONS LINE WITH MANHOLE
—F—		FUEL LINE
—ENV—		ENVIRONMENTAL–EXISTING GROUND WATER TREATMENT SYSTEM LINES
—FM—		FORCE MAIN
T		TELEPHONE RISER
FH		FIRE HYDRANT
MH		MANHOLE
MH		STEAM MANHOLE
		AREA LIGHT
CB		CATCH BASIN
CO		CLEAN OUT
		CHAIN LINK FENCE
GA		GUY ANCHOR
		SIGNS
		TYPE II WELL
		TYPE III WELL (50' DEEP)
		TYPE III WELL (70'–90' DEEP)
		TYPE III WELL (GREATER THAN 90' DEEP)
		HYDROPUNCH
		SOIL BORING
		PUMPING WELL
		DPT PROBE
		JUNCTION BOX
		SHALLOW AIR SPARGE WELL
		DEEP BIOSPARGE WELL (80' DEEP)
		DEEP BIOSPARGE WELL (100' DEEP)
		HORIZONTAL VAPOR COLLECTION LINE
D		FREE PRODUCT PLUME AREA
		ESTIMATED EXTENT OF FREE PRODUCT PLUME BASED ON LATEST WELL INFORMATION
		INTERPERATED AREAL EXTENT OF BENZENE IN UPPER PORTION OF SURFICAL GROUND WATER AT CONCENTRATION ABOVE 1 ug/L.
HPFF-1 (2.2)		BENZENE (ug/l)

GRID NORTH–NAD 83

0 80 160
SCALE IN FEET

Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER: _____ DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER _____ DATE: _____
APPROVED: _____ DEPT. MANAGER _____ DATE: _____

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: L. SHULMAN
DESIGNED: BOB BROWN
CHECKED: RON KENYON
CHECKED: JIM DUNN

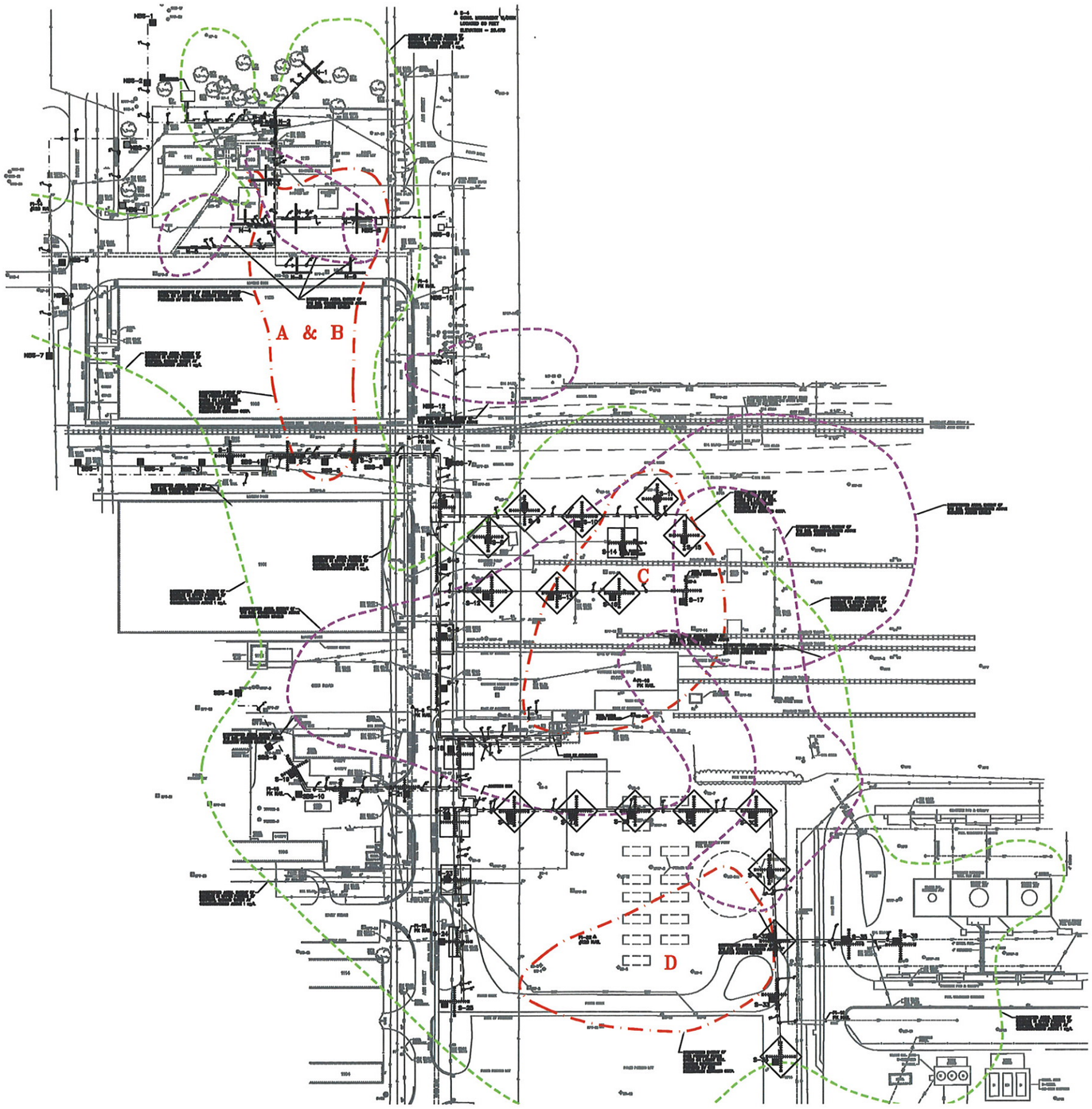
REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
CONTRACT N62470-02-D-3260 DELIVERY ORDER NO. 002
OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 5.5
BUILDING 1115 (NW COMPOUND) & HPFF (SE COMPOUND) AREAL EXTENT OF SHALLOW GROUNDWATER & FREE PRODUCT CONTAMINATION JULY 2000
HADNOT POINT FUEL FARM / BUILDING 1115

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 3/20/02



LEGEND

EXISTING	NEW	DESCRIPTION
—S—		STEAM LINE
—SS—○	NH	SANITARY SEWER WITH MANHOLE
—SD—○	NH	STORM DRAIN
—W—		WATERLINE W/VALVE
—PP—○	P	POWER LINE W/POLE
—UP—○	NH	UNDERGROUND POWER WITH MANHOLE
—COM—○	NH	COMMUNICATIONS LINE WITH MANHOLE
—F—		FUEL LINE
—ENV—		ENVIRONMENTAL-EXISTING GROUND WATER TREATMENT SYSTEM LINES
—FM—		FORCE MAIN
	T	TELEPHONE RISER
	FH	FIRE HYDRANT
	MH	MANHOLE
	NH	STEAM MANHOLE
		AREA LIGHT
	CB	CATCH BASIN
	CO	CLEAN OUT
—○—○—		CHAIN LINK FENCE
GA		GUY ANCHOR
		SIGNS
		TYPE II WELL
		TYPE III WELL (50' DEEP)
		TYPE III WELL (70'-90' DEEP)
		TYPE III WELL (GREATER THAN 90' DEEP)
		HYDROPUNCH
		SOIL BORING
		PUMPING WELL
		DPT PROBE
		JUNCTION BOX
		SHALLOW AIR SPARGE WELL
		DEEP BIOSPARGE WELL (80' DEEP)
		DEEP BIOSPARGE WELL (100' DEEP)
		HORIZONTAL VAPOR COLLECTION LINE
D		FREE PRODUCT PLUME AREA
		ESTIMATED EXTENT OF FREE PRODUCT PLUME BASED ON LATEST WELL INFORMATION
		INTERPRETED AREAL EXTENT OF TPH SOIL CONCENTRATIONS ABOVE NCDENR ACTION LEVELS
		INTERPERATED AREAL EXTENT OF BENZENE IN UPPER PORTION OF SURFICAL GROUND WATER AT CONCENTRATION ABOVE 1 ug/L

GRID NORTH-NAD 83

0 80 160
SCALE IN FEET

Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ DATE: _____ (PROJECT MANAGER)
APPROVED: _____ DATE: _____ (SR. PROJECT ENGINEER)
APPROVED: _____ DATE: _____ (DEPT. MANAGER)

AT FULL SCALE (IF NOT 1"-SCALE ACCORDINGLY)
CADD FILE: _____
DRAWN: L. SHULMAN
DESIGNED: BOB BROWN
CHECKED: RON KENYON
CHECKED: JIM DUNN

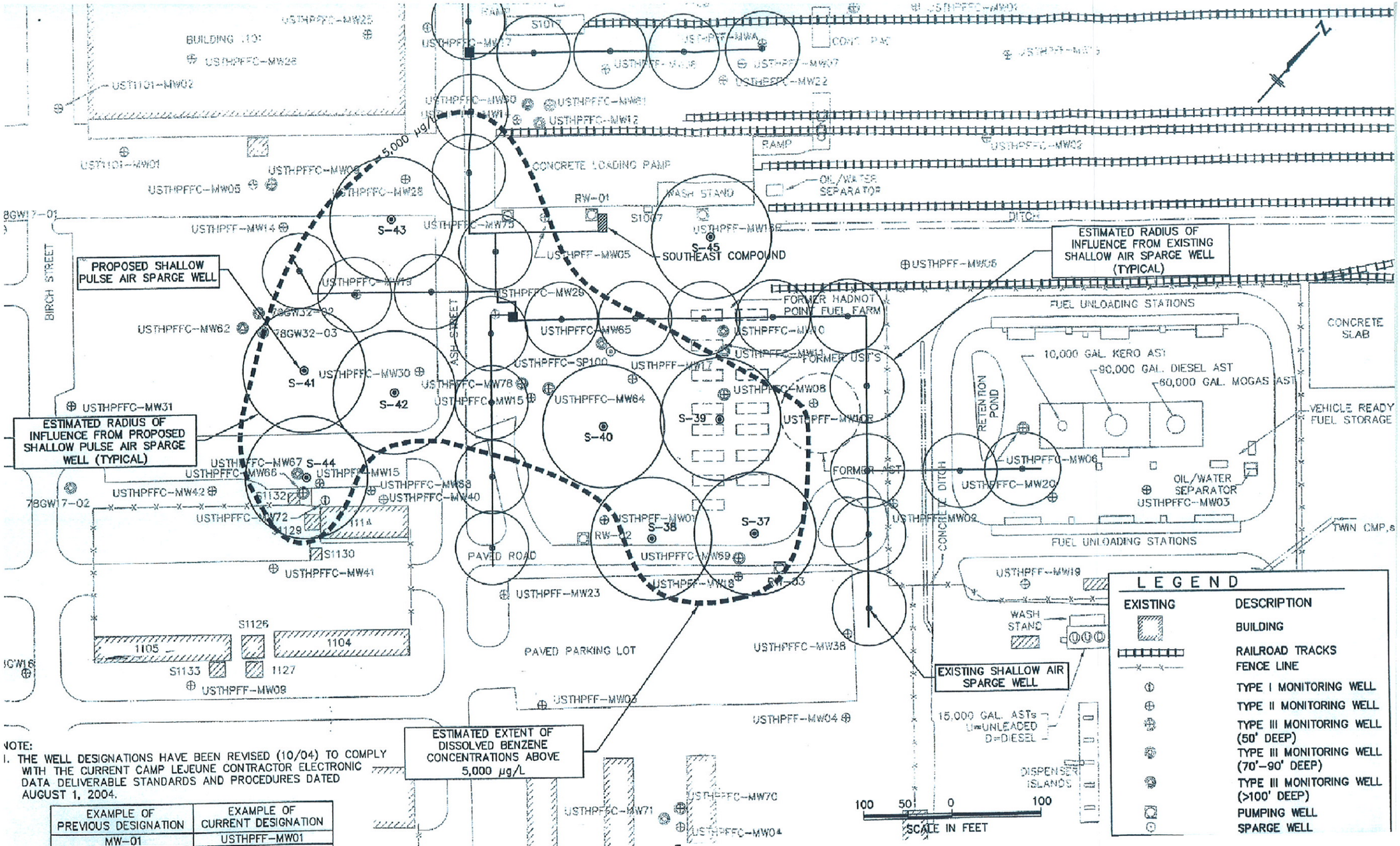
REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
CONTRACT N62470-02-D-3260 DELIVERY ORDER NO. 002
OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 5.6
BUILDING 1115 (NW COMPOUND)
& HPFF (SE COMPOUND)
AREAL EXTENT OF SHALLOW GROUNDWATER, SOIL
& FREE PRODUCT CONTAMINATION
JULY 1999
HADNOT POINT FUEL FARM / BUILDING 1115

DRAWING NUMBER:
SHEET NUMBER: of
DATE: 3/20/02



NOTE:
1. THE WELL DESIGNATIONS HAVE BEEN REVISED (10/04) TO COMPLY WITH THE CURRENT CAMP LEJEUNE CONTRACTOR ELECTRONIC DATA DELIVERABLE STANDARDS AND PROCEDURES DATED AUGUST 1, 2004.

EXAMPLE OF PREVIOUS DESIGNATION	EXAMPLE OF CURRENT DESIGNATION
MW-01	USTHPFF-MW01
HPFF-01	USTHPFFC-MW01
1101-01	UST1101-MW01
1115-01	UST1115-MW01
GT-01	UST1115GT-MW01
78GW12	IR78-GW12
RW-01	USTHPFF-RW01

REFERENCE:
THIS MAP WAS SCANNED FROM PLAN PRODUCED BY CATLIN ENGINEERS TITLED "PROPOSED PULSE SPARGE SYSTEM LAYOUT" FIGURE 2, DATED OCTOBER 2004,

Shaw
Shaw Environmental, Inc.

SUBMITTED: _____ PROJECT MANAGER DATE: _____
APPROVED: _____ SR. PROJECT ENGINEER DATE: _____
APPROVED: _____ DEPT. MANAGER DATE: _____

AT FULL SCALE (IF NOT 1"–SCALE ACCORDINGLY)
CADD FILE:
DRAWN:
DESIGNED:
CHECKED:
CHECKED:

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND
ATLANTIC DIVISION
NAVAL STATION NORFOLK, VIRGINIA
CONTRACT N62470-02-D-3260 TASK ORDER NO. 002
OHM PROJECT No. 844098 MARINE CORPS, CAMP LEJEUNE, N.C.

FIGURE 6.1
PROPOSED PULSE SPARGE WELL LOCATION MAP
HADNOT POINT FUEL FARM

DRAWING NUMBER:
SHEET NUMBER: of
DATE:

APPENDIX A

AGGRESSIVE FLUID/VAPOR RECOVERY (AFVR) SUMMARY TABLE

Aggressive Fluid Vapor Recovery (AFVR)
Petroleum Recovery Data
Hadnot Point Fuel Farm, Southeast Compound

Month	Number of Events		Petroleum Recovery	
	Area C	Area D	Pounds	Gallons
Sep-03	0	2	164.1	26.1
Oct-03	0	1	79.2	12.6
Nov-03	0	1	93.4	14.9
Dec-03	0	1	111.3	17.7
Jan-04	0	6	433.7	68.9
Feb-04	0	4	373.0	59.4
Mar-04	0	4	345.7	54.9
Apr-04	0	6	504.2	80.1
May-04	0	5	490.4	78.0
Jun-04	0	4	364.9	58.0
Jul-04	0	12	1210.2	192.7
Aug-04	0	8	806.8	128.3
Total	**0**	**54**	**4976.9**	**791.6**

APPENDIX B

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Analytical Data Summary

NW Shallow Well **MW-GT-1**

Sample ID:		UST1115T199C4	UST1115T199C3	UST1115T100C2	UST1115T101C1	UST1115T101C	UST1115-T1-02A	UST1115-T1-02C	UST1115-T1-03A	MW-GT-1-03C	UST1115-T1-04A	UST1115-T1-04C
Date Sampled:		01/07/99	08/12/99	05/26/00	01/24/01	07/29/01	02/02/02	08/05/02	02/18/03	08/22/03	02/21/04	08/25/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**310 B**	**8300**	**13**	**25**	**12**	**4.0**	**0.88 J**	**80**	<1.0	**29.7**	**44.7**
Ethylbenzene	29	**56**	**730**	**8.7**	**7**	**10**	**3.0**	**1.9**	**41**	<1.0	**10.5**	**5.5**
Toluene	1000	**19 B**	**130**	**7.5**	**1.3**	**1.3**	<1.0	<1.0	**557**	<1.0	**2.7**	**8.6**
Xylenes (total)	530	**86 B**	**1400**	**32**	**7.8**	**14**	**1.4 J**	<3.0	**201**	<3.0	**8.3**	**4.4**
Total BTEX		**471**	**10560**	**61.2**	**41.1**	**37.3**	**8.4**	**2.78**	**879**		**51.2**	**63.2**
PAH EPA 610												
Naphthalene	21	**30**	**13**	<2.0	<2.0	**2.3**	<5.0	<5.2	**6.6**	<5.4	<5.4	**10.7**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

NW Shallow Well **MW-GT-7**

Sample ID:		UST1115-T7-02C	UST1115-T7-03A	MW-GT-7-03C	MW-GT-7-04A	MW-GT-7-04C
Date Sampled:		08/12/02	02/17/03	08/20/03	02/21/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602						
Benzene	1	**2.9**	**205**	**235**	**0.74 J**	**37.9**
Ethylbenzene	29	**1.6**	<1.0	**0.63 J**	<1.0	**1.5**
Toluene	1000	<1.0	<1.0	**0.65 J**	**0.78 J**	**8.20**
Xylenes (total)	530	<3.0	<3.0	<3.0	<3.0	**4.4**
Total BTEX		**4.5**	**205**	**236.28**	**1.52**	**52**
PAH EPA 610						
Naphthalene	21	**8.9**	<5.4	<5.0	<5.3	<4.8
Bold type indicates detectable concentrations.						
Shaded area indicates detectable concentrations above the groundwater quality standards.						

J= estimated
B= detected in blank
NS= not sampled

Analytical Data Summary

NW Shallow Well **MW-GT-9**

Sample ID:		UST1115-T9-02C	UST1115-T9-03A	MW-GT-9-03C	MW-GT-9-04A	MW-GT-9-04C
Date Sampled:		08/07/02	02/21/03	08/20/03	02/24/04	08/27/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602						
Benzene	1	**0.92 J**	**21.1**	<1.0	<1.0	**3.2**
Ethylbenzene	29	<1.0	**2.0**	<1.0	<1.0	<1.0
Toluene	1000	<1.0	**2.5**	<1.0	<1.0	**0.76 J**
Xylenes (total)	530	<3.0	**1.3 J**	<3.0	<3.0	<3.0
Total BTEX		**0.92**	**26.9**			**3.96**
PAH EPA 610						
Naphthalene	21	<5.0	**4.5 J**	<5.3	<5.6	<4.8
Bold type indicates detectable concentrations.						
Shaded area indicates detectable concentrations above the groundwater quality standards.						

J= estimated
B= detected in blank
NS= not sampled

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Analytical Data Summary
NW Shallow Well **78GW22-2**

Sample ID:		UST111522-299C4	UST111522-299C3	UST111522-200C2	UST111522-201C1	UST111522-201C	UST1115-22-2-02A	UST1115-22-2-02C	UST1115-22-2-03A	78GW22-2-03C	78GW22-2-04A	78GW22-2-04C
Date Sampled:		01/06/99 & 01/19/99	08/12/99	05/26/00	01/22/01	07/27/01	02/02/02	08/05/02	02/17/03	08/20/03	02/21/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**320**	**69**	**28**	**50**	**3.2**	**22.8**	**28.3**	**41.1**	**17.2**	**6.6**	**6.4**
Ethylbenzene	29	**44**	**3.5**	<1.0	**2.4**	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	1000	**160**	**3.6**	**1.4**	**0.37 J**	<1.0	<1.0	<1.0	**0.65 J**	<1.0	<1.0	<1.0
Xylenes (total)	530	**130**	**9.3**	**1.1**	**0.82 J**	<1.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Total BTEX		**654**	**85.4**	**30.5**	**53.59**	**3.2**	**22.8**	**28.3**	**41.75**	**17.2**	**6.6**	**6.4**
PAH EPA 610												
Naphthalene	21	**11**	NS	<2.0	<2.0	<2.0	<5.0	<5.2	<5.1	<5.2	<5.4	<4.8
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

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Samples analyzed by STL or Accutest

Analytical Data Summary

NW Shallow Well **MW-1115-01**

Sample ID:		UST11150199C4	UST11150100C2	UST11150101C1	UST11150101C	UST1115-01-02A	UST1115-01-02C	UST1115-01-03A	MW-1115-01-03C	MW-1115-01-04A	MW-1115-01-04C
Date Sampled:		01/07/99 & 01/12/99	05/30/00	01/24/01	07/29/01	02/02/02	08/05/02	02/17/03	08/20/03	02/21/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602											
Benzene	1	**310 B**	<1.0	**32**	**14**	**6.0**	<1.0	**187**	<1.0	<1.0	**17.7**
Ethylbenzene	29	**56**	<1.0	**5.3**	**0.27 J**	<1.0	<1.0	<1.0	<1.0	<1.0	**0.92**
Toluene	1000	**29 B**	<1.0	**0.39 J**	**1.1**	<1.0	<1.0	**1.0**	<1.0	**1.0**	**4.6**
Xylenes (total)	530	**100 B**	<1.0	**1.4**	<1.0	<3.0	<3.0	**1.6 J**	<3.0	<3.0	**2.9**
Total BTEX		**495**		**39.09**	**15.37**	**6**		**189.6**		**1**	**26.12**
PAH EPA 610											
Naphthalene	21	<2.0	<2.0	**3.9**	<2.0	<5.0	<5.1	<5.1	<5.3	<5.1	<4.8
		Bold type indicates detectable concentrations.									
		Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated
B= detected in blank
NS= not sampled

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

NW Shallow Well **MW-1115-02**

Sample ID:		UST11150299C4	UST11150299C3	UST11150200C2	UST11150201C1	UST11150201C	UST1115-02-02A	UST1115-02-02C	UST1115-02-03A	MW-1115-02-03C	MW-1115-02-04A	MW-1115-02-04C
Date Sampled:		01/06/99	08/12/99 & 08/26/99	05/26/00	01/24/01	07/29/01	02/02/02	08/06/02	02/19/03	08/19/03	02/25/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**29**	**53**	<1.0	**150**	**51**	**11.9**	**9.3**	**125**	**3.1**	**10.9**	**24.3**
Ethylbenzene	29	**7.2**	**3.5**	<1.0	**16**	**0.24 J**	**0.6**	<1.0	**6.6**	<1.0	<1.0	<1.0
Toluene	1000	**20**	**1.9**	<1.0	**1.2 J**	**0.87 J**	<1.0	<1.0	**6.4**	<1.0	<1.0	**0.52 J**
Xylenes (total)	530	**22**	**9.6**	<1.0	**4.5**	<1.0	<3.0	<3.0	**3.7 J**	<3.0	<3.0	<3.0
Total BTEX		**78.2**	**68**		**171.7**	**52.11**	**12.5**	**9.3**	**141.7**	**3.1**	**10.9**	**24.82**
PAH EPA 610												
Naphthalene	21	**2.4**	<2.0	<2.0	**27**	<2.0	<5.0	<5.1	**11.2**	<5.3	<5.3	<4.8
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

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Analytical Data Summary

NW Shallow Well **MW-1115-04**

Sample ID:		UST11150499C4	UST11150499C3	UST11150400C2	UST11150401C1	UST11150401C	UST1115-04-02A	UST1115-04-02C	UST1115-04-03A	MW-1115-04-03C	MW-1115-04-04A	MW-1115-04-04C
Date Sampled:		01/07/99	08/12/99	05/26/00	01/23/01	07/27/01	02/02/02	08/07/02	02/19/03	08/19/03	02/25/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**190 B**	**28**	<1.0	**660**	**210**	**22.6**	**31.5**	**128**	<1.0	**16.8**	**31.5**
Ethylbenzene	29	**43**	**1.9**	<1.0	**140**	**76**	**2.1**	**2.7**	**13.7**	<1.0	<1.0	<1.0
Toluene	1000	**24 B**	**1**	<1.0	**7.6 J**	<10	<1.0	<1.0	**3.8**	<1.0	<1.0	**1.1**
Xylenes (total)	530	**91 B**	**5.5**	<1.0	**66**	**65**	**1.7 J**	**3.1**	<6.0	<3.0	<3.0	<3.0
Total BTEX		**348**	**36.5**		**873.6**	**351**	**26.4**	**37.3**	**145.5**		**16.8**	**32.6**
PAH EPA 610												
Naphthalene	21	**23**	<2.1	<2.0	**32**	**54**	<5.5	**7.3**	**21.2**	<5.5	<5.4	<4.8
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

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CLJ - Hadnot Point - Bldg. 1115
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Analytical Data Summary

NW Intermediate Well **MW-1115-13**

Sample ID:		UST11151399C4	UST11151399C3	UST11151300C2	UST11151301C1	UST11151301C	UST1115-13-02A	UST1115-13-02C	UST1115-13-03A	MW-1115-13-03C	MW-1115-13-04A	MW-1115-13-04C
Date Sampled:		01/07/99	08/12/99	05/26/00	01/24/01	07/29/01	02/02/02	08/12/02	02/19/03	08/20/03	02/24/04	08/25/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**15000 B**	**230**	**13000**	**6400**	**2300**	**298**	**95.5**	**872**	**340**	**228**	**202**
Ethylbenzene	29	**930**	**30**	**770**	**460**	**230**	**40.9**	**40.1**	**62.2**	**72.4**	**53**	**47.6**
Toluene	1000	**220 JB**	**5.0**	<200	**39 J**	**8.7 J**	**2.7**	<5.0	**28.3**	<2.0	<5.0	**11.8**
Xylenes (total)	530	**1500 B**	**56**	**910**	**210**	**56**	**16.5**	**16.8**	**21.5 J**	**16.6**	**11.7 J**	**16.3**
Total BTEX		**17650**	**321**	**14680**	**7109**	**2594.7**	**358.1**	**152.4**	**984**	**429**	**292.7**	**277.7**
PAH EPA 610												
Naphthalene	21	**660**	**18**	**420**	**330**	**230**	**79.4**	**197**	**152**	**155**	**151**	**173**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

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Analytical Data Summary

NW Intermediate Well **MW-1115-17**

Sample ID:		UST11151799C4	UST11151799C3	UST11151700C2	UST11151701C1	UST11151701C	UST1115-17-02A	UST1115-17-02C	UST1115-17-03A	MW-1115-17-03C	MW-1115-17-04A	MW-1115-17-04C
Date Sampled:		01/07/99	08/12/99	05/26/00	01/23/01	07/27/01	02/02/02	08/07/02	02/19/03	08/19/03	02/25/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**9200**	**9200**	**8900**	**7900**	**7400**	**8670**	**7770**	**3490**	**84.3**	**36.9**	**34.1**
Ethylbenzene	29	**830**	**100**	**780**	**750**	**840**	**973**	**76.3**	**196**	**63.4**	**3.5**	<2.0
Toluene	1000	**140**	**100**	<150	**56 J**	<400	<100	**10**	<50	<2.0	**2.5**	**1.4 J**
Xylenes (total)	530	**1700**	**100**	**880**	**400**	**670**	**1050**	**99.4**	<150	<5.0	<6.0	**2.9 J**
Total BTEX		**11870**	**9500**	**10560**	**9106**	**8910**	**10693**	**7955.7**	**3686**	**147.7**	**42.9**	**38.4**
PAH EPA 610												
Naphthalene	21	**530**	**340**	**360**	**340**	**570**	**31.2**	**250**	**270**	**332**	**89.8**	**10.5**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

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CLJ - Hadnot Point - Bldg. 1115
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Analytical Data Summary

NW Intermediate Well **MW-1115-18**

Sample ID:		UST11151899C4	UST11151899C3	UST11151800C2	UST11151801C1	UST11151801C	UST1115-18-02A	UST1115-18-02C	UST1115-18-03A	MW-1115-18-03C	MW-1115-18-04A	MW-1115-18-04A
Date Sampled:		01/06/99	08/12/99	05/26/00	01/22/01	07/29/01	02/02/02	08/07/02	02/20/03	08/20/03	03/02/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**16000**	**990**	**1200**	**420**	**3.1**	**30.2**	**33.8**	NS	**215**	**2630**	NS
Ethylbenzene	29	**850**	**63**	**53**	**21**	**0.51 J**	**1.3**	**2.1**	NS	**4.1**	**76.8**	NS
Toluene	1000	**2100**	**17**	<20	**2.3 J**	**2.1**	**1.2**	**1.5**	NS	**1.4 J**	**5.6**	NS
Xylenes (total)	530	**1800**	**70**	<20	**6.9**	**1.4**	<3.0	**5.1**	NS	**4.6 J**	**15.7**	NS
Total BTEX		**20750**	**1140**	**1253**	**450.2**	**7.11**	**32.7**	**42.5**		**225.1**	**2728.1**	
PAH EPA 610												
Naphthalene	21	**190**	<2.3	**6.7**	<2.0	<2.0	<5.0	<5.0	NS	**2.7 J**	**19.8**	NS
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

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Analytical Data Summary

NW Intermediate Well **MW-1115-21**

Sample ID:		UST11152199C4	UST11152199C3	UST11152100C2	UST11152101C1	UST11152101C	UST1115-21-02A	UST1115-21-02C	UST1115-21-03A	MW-1115-21-03C	MW-1115-21-04A	MW-1115-21-04C
Date Sampled:		01/06/99	08/12/99 & 08/26/99	05/26/00	01/24/01	07/29/01	02/02/02	08/06/02	02/19/03	08/19/03	02/25/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**2000**	**1600**	**2200**	**1200**	**960**	**1920**	**620**	**727**	**485**	**607**	**521**
Ethylbenzene	29	<50	<20	<25	**55**	**5.2 J**	<5.0	<1.0	**11.7**	<1.0	<5.0	<10
Toluene	1000	**21 J**	<20	<25	**4.4 J**	<20	<5.0	<1.0	**7.8 J**	<1.0	<5.0	<10
Xylenes (total)	530	**27 J**	<20	<25	**21**	<20	<15	<3.0	<3.0	<3.0	<15	<30
Total BTEX		**2048**	**1600**	**2200**	**1280.4**	**965.2**	**1920**	**620**	**746.5**	**485**	**607**	**521**
PAH EPA 610												
Naphthalene	21	**15**	**10**	**8.6**	**18**	<2.0	**8.1**	**4.0 J**	**19.9**	**7.0**	**3.9 J**	**5.3**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

NW Deep Well **MW-1115-22**

Sample ID:		UST11152299C4	UST11152299C3	UST11152200C2	UST11152201C1	UST11152201C	UST1115-22-02A	UST1115-22-02C	UST1115-22-02C (Resample)	UST1115-22-03A	MW-1115-22-03C	MW-1115-22-04A	MW-1115-22-04C
Date Sampled:		01/07/99	08/12/99 & 08/26/99	05/26/00	01/23/01	07/27/01	02/02/02	08/07/02	09/04/02	02/19/03	08/19/03	02/25/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602													
Benzene	1	**460**	**1100**	**900**	**940**	**700**	**1250**	<1.0	**251**	**1320**	**1930**	**2230**	**3270**
Ethylbenzene	29	<5.0	<20	<10	**5.6 J**	<40	**3.4**	<1.0	<5.0	<20	**4.4**	<50	<50
Toluene	1000	**1.4 J**	<20	<10	**4.2 J**	<40	**3.5**	<1.0	<5.0	**21**	<10	<50	<50
Xylenes (total)	530	<5.0	**29**	<10	<10	<40	<3.0	<3.0	<15	<60	**1.0 J**	<150	<150
Total BTEX		**461.4**	**1129**	**900**	**949.8**	**700**	**1256.9**		**251**	**1341**	**1935.4**	**2230**	**3270**
PAH EPA 610													
Naphthalene	21	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.1	NA	<5.1	**4.8 J**	**3.2 J**	**5.7**
		Bold type indicates detectable concentrations.											
		Shaded area indicates detectable concentrations above the groundwater quality standards.											

J= estimated
B= detected in blank
NS= not sampled

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Analytical Data Summary
NW Deep Well **MW-1115-23**

Sample ID:		UST11152399C4	UST11152399C3	UST11152300C2	UST11152301C1	UST11152301C	UST1115-23-02A	UST1115-23-02C	UST1115-23-03A	MW-1115-23-03C	MW-1115-23-04A	MW-1115-23-04C
Date Sampled:		01/06/99 & 01/19/99	08/12/99	05/26/00	01/22/01	07/29/01	02/02/02	08/05/02	02/18/03	08/20/03	02/21/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**15000**	**5000**	**270**	**4.7 J**	**13**	**22**	**17.8**	**0.98 J**	**260**	**703**	**2720**
Ethylbenzene	29	**500**	**140**	**34**	**4.9 J**	**1.1**	<5.0	**1.7**	<5.0	**5.2**	**14.8 J**	**38.6**
Toluene	1000	**5700**	**180**	<25	**1.1 J**	**2.8**	<5.0	**1.3**	<1.0	**2.2**	**98.7**	**267**
Xylenes (total)	530	**1900**	**420**	**40**	**5.6**	**2.2**	<15	**7.3**	<15	**7.6**	**35.9 J**	**112**
Total BTEX		**23100**	**5740**	**344**	**16.3**	**19.1**	**22**	**28.1**	**0.98**	**275**	**852.4**	**3137.6**
PAH EPA 610												
Naphthalene	21	**11**	<2.1	<2.0	<2.0	<2.0	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

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Analytical Data Summary
NW Deep Well **MW-1115-24**

Sample ID:		UST11152499C4	UST11152499C3	UST11152400C2	UST11152401C1	UST11152401C	UST1115-24-02A	UST1115-24-02C	UST1115-24-03A	MW-1115-24-03C	MW-1115-24-04A	MW-1115-24-04C
Date Sampled:		01/06/99	08/12/99	05/26/00	01/24/01	07/29/01	02/02/02	08/06/02	02/19/03	08/19/03	02/25/04	08/19/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**1800**	**2400**	**3200**	**2700**	**2900**	**2480**	**3060**	**4120**	**3990**	**4100**	**3630**
Ethylbenzene	29	**22 J**	<40	<40	**49**	**13 J**	**5.2**	**1.5**	<50	<50	<50	<50
Toluene	1000	**55**	<40	<40	**32 J**	<50	<5.0	**0.76 J**	<50	<50	<50	<50
Xylenes (total)	530	**64**	<40	<40	**89**	<50	<15	**1.0 J**	<150	<150	<150	<150
Total BTEX		**1941**	**2400**	**3200**	**2870**	**2913**	**2485.2**	**3063.26**	**4120**	**3990**	**4100**	**3630**
PAH EPA 610												
Naphthalene	21	**9.7**	<2.0	**6.1**	**30**	<2.0	<5.0	<5.0	**23.6**	**6.7**	**4.2 J**	**3.0 J**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank
NS= not sampled

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

NW Intermediate Well **MW-1115-25**

Sample ID:		UST11152599C4	UST11152599C3	UST11152500C2	UST11152501C1	UST11152501C	UST1115-25-02A	UST1115-25-02C	UST1115-25-02C (Resample)	UST1115-25-03A	MW-1115-25-03C	MW-1115-25-04A	MW-1115-25-04C
Date Sampled:		01/07/99	08/12/99	05/26/00	01/24/01	07/29/01	02/02/02	08/12/02	09/04/02	02/19/03	08/22/03	02/24/04	08/25/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602													
Benzene	1	**63 B**	**240**	**650**	**1100**	**29**	**3.1**	**1850**	**1660**	**2840**	**3300**	**3580**	**5960**
Ethylbenzene	29	**20**	**39**	**29**	**53**	**15**	**0.57 J**	<20	<20	<50	**8.2**	<50	**40.4 J**
Toluene	1000	**13 B**	**6.4**	<10	**15**	**3.1**	<1.0	**37.1**	**47.9**	**150**	**292**	**362**	**650**
Xylenes (total)	530	**44 B**	**73**	**32**	**33**	**7.9**	<3.0	<60	<60	<150	**15.3**	**63.2 J**	**120 J**
Total BTEX		**140**	**358.4**	**711**	**1201**	**55**	**3.67**	**1887.1**	**1707.9**	**2990**	**3615.5**	**4005.2**	**6770.4**
PAH EPA 610													
Naphthalene	21	**16**	<2.1	**10**	**39**	**11**	<5.0	<5.2	NA	**10**	<5.2	<5.0	<4.8
		Bold type indicates detectable concentrations.											
		Shaded area indicates detectable concentrations above the groundwater quality standards.											

J= estimated
B= detected in blank
NS= not sampled

Printed: 1/12/2005
Samples analyzed by STL or Accutest

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Analytical Data Summary

SE Shallow Well **MW-1**

Sample ID:		CLJ-0011-005-MW-1	CLJ-0011-022-MW-1	CLJ-0011-039-MW-1	CLJ-0011-60	HPFF-MW01-01C	HPFF-MW01-02A	HPFF-MW01-02C	HPFF-MW01-03A	MW-1-03C	MW-1-04A	MW-1-04C
Date Sampled:		01/27/99	10/18/99	07/26/00	01/31/01	07/22/01	02/09/02	08/13/02	02/17/03	08/27/03	02/14/04	08/20/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**16000**	**9400**	**11000**	**8300**	**7700**	**3280**	**5710**	**5380**	**6670**	**4970**	**3180**
Ethylbenzene	29	**6100**	**2400**	**4500**	**2700**	**2600**	**1460**	**4720**	**2280**	**3950**	**3580**	**2620**
Toluene	1000	**41000**	**24000**	**29000**	**25000**	**25000**	**14100**	**22200**	**22000**	**26200**	**25500**	**20700**
Xylenes (total)	530	**26000**	**10000**	**17000**	**12000**	**11000**	**7370**	**19700**	**11600**	**17200**	**16500**	**12300**
Total BTEX		**89100**	**45800**	**61500**	**48000**	**46300**	**26210**	**52330**	**41260**	**54020**	**50550**	**38800**
PAH EPA 610												
Naphthalene	21	**760**	**410**	**280**	**450**	**330**	**584**	**358**	**415**	**417**	**473**	**586**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Analytical Data Summary

SE Shallow Well **MW-10R**

Sample ID:		CLJ-0011-012-MW-10	LJ-0011-029-MW-10	LJ-0011-046-MW-10	CLJ-0011-68	HPFF-MW10R-01C	HPFF-MW10R-02A	HPFF-MW10R-02C	HPFF-MW10R-03A	MW-10R-03C	MW-10R-04A	MW-10R-04C
Date Sampled:		01/28/99	10/18/99	07/24/00	01/31/01	07/22/01	02/09/02	08/13/02	02/17/03	08/27/03	02/14/04	09/08/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**5200**	**2200**	**3300**	**5200**	**5800**	**4410**	**3780**	**2340**	**2830**	**197**	**480**
Ethylbenzene	29	**1900**	**610**	**770**	**1100**	**1200**	**1120**	**946**	**352**	**843**	**175**	**602**
Toluene	1000	**15000**	**7500**	**7900**	**5900**	**5800**	**5530**	**5790**	**2380**	**5070**	**650**	**2210**
Xylenes (total)	530	**8300**	**5000**	**3300**	**5300**	**6100**	**6040**	**6190**	**2260**	**4830**	**861**	**2590**
Total BTEX		**30400**	**15310**	**15270**	**17500**	**18900**	**17100**	**16706**	**7332**	**13573**	**1883**	**5882**
PAH EPA 610												
Naphthalene	21	**880**	**400**	**150**	**210**	**180**	**286**	**229**	**55.5**	**212**	**50.9**	**178**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Analytical Data Summary

SE Shallow Well **MW-11**

Sample ID:		CLJ-0011-002-MW-1	CLJ-0011-019-MW-1	CLJ-0011-036-MW-1	CLJ-0011-59	HPFF-MW11-02A	HPFF-MW11-02C	HPFF-MW11-03A	MW-11-03C	MW-11-04A	MW-11-04C
Date Sampled:		01/27/99	10/18/99	07/26/00	02/01/01	02/09/02	08/13/02	02/18/03	08/22/03	02/14/04	08/27/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602											
Benzene	1	**1.2**	**40**	**2500**	**480**	**64.4**	**26.2**	**274**	**957**	**6.5**	NS
Ethylbenzene	29	<1.0	**16**	**430**	**140**	**11**	**9.5**	**98.3**	**19.5**	**1.1**	NS
Toluene	1000	<1.0	**140**	**4300**	**450**	**71**	**87.1**	**1160**	**319**	<1.0	NS
Xylenes (total)	530	<1.0	**94**	**3000**	**580**	**31**	**28**	**501**	**378**	**1.2 J**	NS
Total BTEX		**1.2**	**290**	**10230**	**1650**	**177.4**	**150.8**	**2033.3**	**1673.5**	**8.8**	
PAH EPA 610											
Naphthalene	21	<2.0	**2.4**	<2.0	<2.0	<5.0	<5.2	**7.5**	<5.4	<5.7	NS
		Bold type indicates detectable concentrations.									
		Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated
B= detected in blank
2004C event - too silty to sample

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

SE Shallow Well **MW-17A**

Sample ID:		CLJ-0011-010-MW-17	CLJ-0011-027-MW-17A	CLJ-0011-044-MW-17A	CLJ-0011-66	HPFF-MW17-01C	HPFF-MW17-02A	HPFF-MW17-02C	HPFF-MW17-03A	MW-17A-03C	MW-17A-04A	MW-17A-04C
Date Sampled:		01/28/99	10/18/99	07/24/00	01/31/01	07/22/01	02/09/02	08/13/02	02/21/03	08/25/03	02/20/04	09/13/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**7700**	**5400**	**6700**	**16000**	**12000**	**12200**	**6140**	**5720**	**6830**	**5520**	**4910**
Ethylbenzene	29	**23000**	**2400**	**2500**	**620**	<1000	**675**	**2910**	**3260**	**3860**	**2690**	**2070**
Toluene	1000	**46000**	**25000**	**25000**	**13000**	**7500**	**14000**	**27200**	**22800**	**27200**	**24800**	**20000**
Xylenes (total)	530	**84000**	**9800**	**10000**	**4200**	**2600**	**4100**	**9950**	**11300**	**13900**	**10200**	**7990**
Total BTEX		**160700**	**42600**	**44200**	**33820**	**22100**	**30975**	**46200**	**43080**	**51790**	**43210**	**34970**
PAH EPA 610												
Naphthalene	21	**1300**	**420**	**420**	**230**	**130**	**258**	**364**	**415**	**415**	**432**	**402**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Analytical Data Summary

SE Shallow Well **MW-18**

Sample ID:		CLJ-0011-006-MW-1	CLJ-0011-023-MW-1	CLJ-0011-040-MW-1	CLJ-0011-62	HPFF-MW18-01C	HPFF-MW18-02A	HPFF-MW18-02C	HPFF-MW18-03A	MW-18-03C	MW-18-04A	MW-18-04C
Date Sampled:		01/28/99	10/18/99	07/26/00	01/31/01	07/22/01	02/09/02	08/14/02	02/18/03	08/27/03	02/14/04	08/20/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**28000**	**15000**	**16000**	**12000**	**11000**	**18900**	**18200**	**16900**	**5440**	**12900**	**7040**
Ethylbenzene	29	**12000**	**1400**	**1400**	**1300**	**1100**	**1830**	**1520**	**1370**	**1930**	**1800**	**1950**
Toluene	1000	**65000**	**25000**	**29000**	**24000**	**22000**	**36100**	**30300**	**30000**	**15100**	**27100**	**17800**
Xylenes (total)	530	**46000**	**7300**	**8000**	**8000**	**7400**	**10700**	**8790**	**7670**	**11700**	**11000**	**13700**
Total BTEX		**151000**	**48700**	**54400**	**45300**	**41500**	**67530**	**58810**	**55940**	**34170**	**52800**	**40490**
PAH EPA 610												
Naphthalene	21	**1300**	**460**	**330**	**550**	**410**	**685**	**519**	**464**	**768**	**658**	**700**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

SE Shallow Well **HPFF-1**

Sample ID:		CLJ-0011-004-HPFF-1	CLJ-0011-021-HPFF-1	CLJ-0011-038-HPFF-1	CLJ-0011-56	HPFF-HPFF01-02C	HPFF-HPFF01-03A	HPFF-1-03C	HPFF-1-04A	HPFF-1-04C
Date Sampled:		01/27/99	10/18/99	07/20/00	02/01/01	08/13/02	02/21/03	08/22/03	02/13/04	08/27/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602										
Benzene	1	<1.0	**5.4**	**2.2**	**42**	<1.0	**32.3**	<1.0	<1.0	**3.8**
Ethylbenzene	29	<1.0	**13**	**3.5**	**16**	<1.0	**2.4**	<1.0	<1.0	<1.0
Toluene	1000	<1.0	**42**	**13**	**120**	<1.0	**4.5**	<1.0	<1.0	**0.88 J**
Xylenes (total)	530	<1.0	**40**	**14**	**81**	<3.0	**2.4 J**	<3.0	<3.0	<3.0
Total BTEX			**100.4**	**32.7**	**259**		**41.6**			**4.68**
PAH EPA 610										
Naphthalene	21	<2.0	<2.0	<2.0	**2.3**	<5.2	**6.1**	<5.2	<5.3	<4.8
		Bold type indicates detectable concentrations.								
		Shaded area indicates detectable concentrations above the groundwater quality standards.								

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

SE Shallow Well **HPFF-5**

Sample ID:		HPFF-HPFF05-02C	HPFF-HPFF05-03A	HPFF-5-03C	HPFF-5-04A	HPFF-5-04C
Date Sampled:		08/14/02	02/21/03	08/25/03	02/13/04	08/27/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602						
Benzene	1	**0.7 J**	**674**	**44.2**	**8.4**	**4.1**
Ethylbenzene	29	**0.53 J**	**33.6**	**5.2**	<1.0	<1.0
Toluene	1000	<1.0	**4.6**	**13.4**	<1.0	**0.92 J**
Xylenes (total)	530	**4.6**	**9.9**	**7.4**	<3.0	<3.0
Total BTEX		**5.83**	**722.1**	**70.2**	**8.4**	**5.02**
PAH EPA 610						
Naphthalene	21	<5.1	**6.4**	<5.3	<5.3	<4.8
		Bold type indicates detectable concentrations.				
		Shaded area indicates detectable concentrations above the groundwater quality standards.				

J= estimated
B= detected in blank

Analytical Data Summary

SE Intermediate Well **HPFF-7**

Sample ID:		CLJ-0011-003-HPFF-7	CLJ-0011-020-HPFF-7	CLJ-0011-037-HPFF-7	CLJ-0011-55	HPFF-HPFF07-01C	HPFF-HPFF07-02A	HPFF-HPFF07-02C	HPFF-HPFF07-03A	HPFF-7-03C	HPFF-7-04A	HPFF-7-04C
Date Sampled:		01/27/99	10/18/99	07/20/00	02/01/01	07/22/01	02/09/02	08/12/02	02/21/03	08/22/03	02/13/04	08/27/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**79**	**63**	**23**	**13**	**4.2**	**24.9**	**1.6**	**9.5**	**0.79 J**	<1.0	**1.5**
Ethylbenzene	29	**100**	**91**	**58**	**28**	**27**	**15.5**	**7.4**	**5.4**	**1.1**	<1.0	**0.9 J**
Toluene	1000	**10**	**41**	**2.7**	**26**	<1.0	**36.4**	<1.0	**1.8**	<1.0	<1.0	<1.0
Xylenes (total)	530	**36**	**41**	**4.4**	**28**	<1.0	**15**	<3.0	**1.2 J**	<3.0	<3.0	<3.0
Total BTEX		**225**	**236**	**88.1**	**95**	**31.2**	**91.8**	**9**	**17.9**	**1.89**		**2.4**
PAH EPA 610												
Naphthalene	21	**3.5**	**6.6**	<2.0	**1.5 J**	<2.0	<5.0	**11**	**3.2 J**	<5.8	<5.1	<4.8
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

SE Intermediate Well **HPFF-8**

Sample ID:		CLJ-0011-011-HPFF-8	CLJ-0011-028-HPFF-8	CLJ-0011-045-HPFF-8	CLJ-0011-67	HPFF-HPFF8-01C	HPFF-HPFF8-02A	HPFF-HPFF8-02C	HPFF-HPFF8-03A	HPFF-8-03C	HPFF-8-04A	HPFF-8-04C
Date Sampled:		01/28/99	10/18/99	07/24/00	01/31/01	07/22/01	02/09/02	08/13/02	02/21/03	08/25/03	02/20/04	08/31/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**1300**	**8000**	**7100**	**7700**	**10000**	**12300**	**14600**	**10900**	**7420**	**10200**	**11500**
Ethylbenzene	29	<50	**730**	**480**	**540**	**590**	**714**	**903**	**878**	**740**	**609**	**627**
Toluene	1000	**170**	**1900**	**720**	**1100**	**1900**	**725**	**1190**	**2150**	**1690**	**1230**	**1540**
Xylenes (total)	530	**160**	**1800**	**980**	**1100**	**1700**	**882**	**2020**	**2610**	**2130**	**1530**	**2130**
Total BTEX		**1630**	**12430**	**9280**	**10440**	**14190**	**14621**	**18713**	**16538**	**11980**	**13569**	**15797**
PAH EPA 610												
Naphthalene	21	<2.0	**140**	**110**	**130**	**130**	**10**	**161**	**173**	**184**	**184**	**171**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

SE Intermediate Well **HPFF-9**

Sample ID:		HPFF-HPFF09-02C	HPFF-HPFF09-03A	HPFF-9-03C	HPFF-9-04A	HPFF-9-04C
Date Sampled:		08/14/02	02/21/03	08/22/03	02/13/04	08/27/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602						
Benzene	1	**10800**	**22600**	**4090**	**727**	**0.88 J**
Ethylbenzene	29	**621**	**363**	**96.4**	**23.2**	<1.0
Toluene	1000	<250	**62.4**	<5.0	<10	<1.0
Xylenes (total)	530	**1160**	**137 J**	**9.2 J**	<30	<3.0
Total BTEX		**12581**	**23162.4**	**4195.6**	**750.2**	**0.88**
PAH EPA 610						
Naphthalene	21	**112**	**70.1**	**13.6**	<5.5	<4.9
		Bold type indicates detectable concentrations.				
		Shaded area indicates detectable concentrations above the groundwater quality standards.				

J= estimated
B= detected in blank

Analytical Data Summary

SE Deep Well **HPFF-11**

Sample ID:		HPFF-HPFF11-02C	HPFF-HPFF11-03A	HPFF-11-03C	HPFF-11-04A	HPFF-11-04C
Date Sampled:		08/13/02	02/21/03	08/25/03	02/20/04	08/31/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602						
Benzene	1	**809**	**489**	**348**	**114**	**89.6**
Ethylbenzene	29	**52.1**	**63.6**	<5.0	<2.0	**2.6**
Toluene	1000	**84.5**	**580**	<5.0	<2.0	**0.56 J**
Xylenes (total)	530	**110**	**187**	<15	<6.0	<3.0
Total BTEX		**1055.6**	**1319.6**	**348**	**114**	**92.76**
PAH EPA 610						
Naphthalene	21	**2.3 J**	**8.0**	<5.2	<5.3	<4.8
		Bold type indicates detectable concentrations.				
		Shaded area indicates detectable concentrations above the groundwater quality standards.				

J= estimated
B= detected in blank

Analytical Data Summary

SE Shallow Well **HPFF-19**

Sample ID:		CLJ-0011-009-HPFF-1	LJ-0011-026-HPFF-1	LJ-0011-043-HPFF-1	CLJ-0011-65	HPFF-HPFF19-01C	HPFF-HPFF19-02A	HPFF-HPFF19-02C	HPFF-HPFF19-03A	HPFF-19-03C	HPFF-19-04A	HPFF-19-04C
Date Sampled:		01/28/99	10/15/99	07/26/00	01/31/01	07/22/01	02/09/02	08/13/02	02/18/03	08/27/03	02/14/04	09/08/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**28000**	**12000**	**17000**	**19000**	**13000**	**15000**	**16800**	**16300**	**7760**	**11300**	**10900**
Ethylbenzene	29	**3100**	**2000**	**2100**	**2000**	**1600**	**1780**	**1580**	**1420**	**481**	**847**	**723**
Toluene	1000	**32000**	**23000**	**26000**	**23000**	**19000**	**20300**	**20600**	**17800**	**10600**	**13800**	**12300**
Xylenes (total)	530	**12000**	**7900**	**9600**	**9000**	**8100**	**9300**	**7360**	**6630**	**12800**	**10300**	**7660**
Total BTEX		**75100**	**44900**	**54700**	**53000**	**41700**	**46380**	**46340**	**42150**	**31641**	**36247**	**31583**
PAH EPA 610												
Naphthalene	21	**370**	**260**	**280**	**390**	**290**	**326**	**261**	**220**	**266**	**216**	**316**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Analytical Data Summary
SE Shallow Well **HPFF-20**

Sample ID:		CLJ-0011-001-HPFF-2	LJ-0011-018-HPFF-2	LJ-0011-035-HPFF-2	CLJ-0011-54	HPFF-HPFF20-01C	HPFF-HPFF20-02A	HPFF-HPFF20-02C	HPFF-HPFF20-03A	HPFF-20-03C	HPFF-HPFF20-04A	HPFF-HPFF20-04C
Date Sampled:		01/27/99	10/15/99	07/20/00	02/01/01	07/22/01	02/09/02	08/14/02	02/18/03	08/27/03	02/20/04	09/08/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**2600**	**3400**	**4400**	**4700**	**2800**	**3070**	**1250**	**3280**	**6020**	**6430**	**3030**
Ethylbenzene	29	**1000**	**500**	**770**	**430**	<400	**656**	**247**	**551**	**112**	**444**	**362**
Toluene	1000	**10000**	**8600**	**1100**	**9200**	**6400**	**11400**	**2090**	**7630**	**8790**	**9790**	**2770**
Xylenes (total)	530	**3300**	**2200**	**3600**	**2900**	**2500**	**4570**	**813**	**2330**	**6770**	**6140**	**2920**
Total BTEX		**16900**	**14700**	**9870**	**17230**	**11700**	**19696**	**4400**	**13791**	**21692**	**22804**	**9082**
PAH EPA 610												
Naphthalene	21	**180**	**50**	**130**	**62**	**56**	**207**	**45.5**	**104**	<5.1	**98.9**	**68.6**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

Analytical Data Summary

SE Deep Well **GW-32-2**

Sample ID:		CLJ-0011-007-GW-32-2	CLJ-0011-024-GW-32-2	CLJ-0011-041-GW-32-2	CLJ-0011-57	HPFF-78GW322-01C	HPFF-78GW322-02A	HPFF-78GW322-02C	HPFF-78GW322-03A	GW-32-2-03C	GW-32-2-04A	GW-32-2-04C
Date Sampled:		01/28/99	10/15/99	07/20/00	01/31/01	07/22/01	02/09/02	08/14/02	02/21/03	08/25/03	02/23/04	09/13/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**170**	<1.0	**8.9**	**39**	**1.9**	**228**	**13.1**	**109**	**176**	**325**	**321**
Ethylbenzene	29	**18**	<1.0	<1.0	**30**	**2.9**	<10	**1.4**	**1.9**	<5.0	**16**	**37.4**
Toluene	1000	**190**	<1.0	**1.1**	**86**	**8**	**95.2**	**15.5**	**1.7**	**3.5 J**	**43.9**	**149**
Xylenes (total)	530	**94**	<1.0	**1.2**	**120**	**9.2**	**984**	**8.6**	**1.7 J**	<15	**55.7**	**178**
Total BTEX		**472**		**11.2**	**275**	**22**	**1307.2**	**38.6**	**114.3**	**179.5**	**440.6**	**685.4**
PAH EPA 610												
Naphthalene	21	**5.2**	<2.0	<2.0	**2.4**	<2.0	**16**	<5.2	<5.1	<5.1	**2.1 J**	**6.7**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

CLJ - Hadnot Point - Bldg. 1115
Project #844098

Analytical Data Summary

SE Deep Well **GW-32-3**

Sample ID:		CLJ-0011-008-GW-32-3	CLJ-0011-025-GW-32-3	CLJ-0011-042-GW-32-3	CLJ-0011-58	HPFF-78GW323-01C	HPFF-78GW323-02A	HPFF-78GW323-02C	HPFF-78GW323-03A	GW-32-3-03C	GW-32-3-04A	GW-32-3-04C
Date Sampled:		01/28/99	10/15/99	07/19/00	01/31/01	07/22/01	02/09/02	08/14/02	02/21/03	08/26/03	02/23/04	09/09/04
Analyte (ug/l)	**Action Level**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
VOA EPA 602												
Benzene	1	**84**	<1.0	**25**	**7.3**	**98**	**2.7**	**124**	**7.1**	**0.64 J**	**20.9**	**28.9**
Ethylbenzene	29	**5.6**	<1.0	**110**	**31**	<10	<1.0	**14**	**1.3**	**1.4**	**59.8**	**8.7**
Toluene	1000	**120**	<1.0	**310**	**82**	<10	**2.2**	**88.7**	**1.2**	**2.4**	**183**	**60.6**
Xylenes (total)	530	**35**	<1.0	**420**	**120**	<10	**4.1**	**153**	<3.0	**10.5**	**255**	**64**
Total BTEX		**244.6**		**865**	**240.3**	**98**	**9**	**379.7**	**9.6**	**14.94**	**518.7**	**162.2**
PAH EPA 610												
Naphthalene	21	**2.7**	<2.0	**12**	**3.4**	<2.0	<5.0	**3.3 J**	**2.7 J**	<5.5	**8.7**	**2.4**
		Bold type indicates detectable concentrations.										
		Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
B= detected in blank

Printed: 1/12/2005
Samples analyzed by STL or Accutest

APPENDIX C

LABORATORY GROUNDWATER ANALYTICAL REPORTS, NORTHWEST COMPOUND

Southeast
ACCUTEST.
Laboratories

03/16/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-NW

844098

Accutest Job Number: F22505

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **36**

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F22505

Camp Lejeune-NW
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F22505-1	03/02/04	11:15	MM	03/03/04	AQ	Ground Water	UST1115-MW111518
F22505-2	03/02/04	00:00	MM	03/03/04	AQ	Trip Blank Water	TRIP BLANK

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111518		
Lab Sample ID:	F22505-1	Date Sampled:	03/02/04
Matrix:	AQ - Ground Water	Date Received:	03/03/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021210.D	5	03/10/04	RA	n/a	n/a	GQR901
Run #2	QR021246.D	50	03/11/04	RA	n/a	n/a	GQR903

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2630 [a]	50	25	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
74-83-9	Bromomethane	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	2.5	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	5.0	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
74-87-3	Chloromethane	ND	5.0	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	2.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.5	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	176	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	4.0	5.0	2.5	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
100-41-4	Ethylbenzene	76.8	5.0	2.5	ug/l	
75-09-2	Methylene chloride	ND	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	107	5.0	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	2.5	ug/l	
108-88-3	Toluene	5.6	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.5	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:	UST1115-MW111518		
Lab Sample ID:	F22505-1	Date Sampled:	03/02/04
Matrix:	AQ - Ground Water	Date Received:	03/03/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	5.0	2.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.5	ug/l	
1330-20-7	Xylenes (total)	15.7	15	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%	93%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	104%	103%	70-123%
563-58-6	1,1-Dichloropropene	90%	97%	86-112%
563-58-6	1,1-Dichloropropene	107%	108%	86-112%

(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:	UST1115-MW111518		
Lab Sample ID:	F22505-1	Date Sampled:	03/02/04
Matrix:	AQ - Ground Water	Date Received:	03/03/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012977.D	1	03/10/04	CV	n/a	n/a	GXY387
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	14.3	0.50	0.30	ug/l	
74-84-0	Ethane	1.7	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111518		
Lab Sample ID:	F22505-1	Date Sampled:	03/02/04
Matrix:	AQ - Ground Water	Date Received:	03/03/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19524.D	1	03/10/04	SM	03/09/04	OP9926	GIJ948
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	19.8	5.3	2.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	94%		42-123%
84-15-1	o-Terphenyl	98%		51-123%

(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:	UST1115-MW111518		
Lab Sample ID:	F22505-1	Date Sampled:	03/02/04
Matrix:	AQ - Ground Water	Date Received:	03/03/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	03/04/04 11:41	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	03/04/04 11:41	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	03/04/04 11:41	MP	EPA 300/SW846 9056
Sulfate	173	20	mg/l	1	03/04/04 11:41	MP	EPA 300/SW846 9056
Total Organic Carbon	32.4	1.0	mg/l	1	03/12/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F22505-2	Date Sampled:	03/02/04
Matrix:	AQ - Trip Blank Water	Date Received:	03/03/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021209.D	1	03/10/04	RA	n/a	n/a	GQR901
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	F22505-2	Date Sampled:	03/02/04
Matrix:	AQ - Trip Blank Water	Date Received:	03/03/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F22505

COC Number: 844098-NW-030204

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390 | Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - NW	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gases RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1
1	UST1115-MW111518	3/2/2004	11:15		X	UST1115-MW111518	10	X	X	X	X	X	X
2	Trip Blank- 082003	3/2/2004	----		X	Trip Blank	2	X					
3													
4													
5													
6													
7													
8													
9													
10													
11													

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 – 2		Fed EX 8434 9077 5034	3/2/04	18:00	Please E-mail results to Mark.Martin@Shawgrp.com
2				03/3/04	0950	21 Day TAT

1.2°

3.1 3

F22505: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories

Southeast ACCUTEST. Laboratories

03/10/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-NW

844098

Accutest Job Number: F22387

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **71**

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F22387

Camp Lejeune-NW
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F22387-1	02/25/04	09:30	MM	02/26/04	AQ	Ground Water	UST1115-MW111522
F22387-2	02/25/04	11:00	MM	02/26/04	AQ	Ground Water	UST1115-MW111517
F22387-3	02/25/04	11:45	MM	02/26/04	AQ	Ground Water	UST1115-MW111504
F22387-4	02/25/04	14:00	MM	02/26/04	AQ	Ground Water	UST1115-MW111524
F22387-5	02/25/04	15:15	MM	02/26/04	AQ	Ground Water	UST1115-MW111521
F22387-6	02/25/04	15:45	MM	02/26/04	AQ	Ground Water	UST1115-MW111502
F22387-7	02/25/04	00:00	MM	02/26/04	AQ	Trip Blank Water	TRIP BLANK-022504

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111522		
Lab Sample ID:	F22387-1	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021072.D	50	03/05/04	RA	n/a	n/a	GQR895
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2230	50	25	ug/l	
75-27-4	Bromodichloromethane	ND	50	25	ug/l	
75-25-2	Bromoform	ND	50	25	ug/l	
74-83-9	Bromomethane	ND	50	25	ug/l	
56-23-5	Carbon tetrachloride	ND	50	25	ug/l	
108-90-7	Chlorobenzene	ND	50	25	ug/l	
124-48-1	Dibromochloromethane	ND	50	20	ug/l	
75-00-3	Chloroethane	ND	50	25	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	50	25	ug/l	
67-66-3	Chloroform	ND	50	25	ug/l	
74-87-3	Chloromethane	ND	50	25	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	25	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	25	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	25	ug/l	
75-71-8	Dichlorodifluoromethane	ND	50	25	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	25	ug/l	
107-06-2	1,2-Dichloroethane	113	50	25	ug/l	
75-35-4	1,1-Dichloroethene	ND	50	25	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	50	25	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	50	25	ug/l	
78-87-5	1,2-Dichloropropane	ND	50	25	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	15	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	15	ug/l	
100-41-4	Ethylbenzene	ND	50	25	ug/l	
75-09-2	Methylene chloride	ND	250	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	50	25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	10	ug/l	
127-18-4	Tetrachloroethene	ND	50	25	ug/l	
108-88-3	Toluene	ND	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	25	ug/l	
79-01-6	Trichloroethene	ND	50	25	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:	UST1115-MW111522		
Lab Sample ID:	F22387-1	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	50	25	ug/l	
75-01-4	Vinyl chloride	ND	50	25	ug/l	
1330-20-7	Xylenes (total)	ND	150	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	103%		70-123%
563-58-6	1,1-Dichloropropene	94%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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:	UST1115-MW111522		
Lab Sample ID:	F22387-1	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012961.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	34.4	0.50	0.30	ug/l	
74-84-0	Ethane	11.3	1.0	0.60	ug/l	
74-85-1	Ethene	3.11	1.0	0.80	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:	UST1115-MW111522		
Lab Sample ID:	F22387-1	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19465.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.4	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.4	2.2	ug/l	
120-12-7	Anthracene	ND	5.4	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.4	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.4	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.4	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.4	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.4	2.2	ug/l	
218-01-9	Chrysene	ND	5.4	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.4	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.4	2.2	ug/l	
86-73-7	Fluorene	ND	5.4	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.4	2.2	ug/l	
91-20-3	Naphthalene	3.2	5.4	2.2	ug/l	J
90-12-0	1-Methylnaphthalene	ND	5.4	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.4	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.4	2.2	ug/l	
129-00-0	Pyrene	ND	5.4	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	75%		42-123%
84-15-1	o-Terphenyl	84%		51-123%

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:	UST1115-MW111522		
Lab Sample ID:	F22387-1	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/27/04 10:00	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/27/04 10:00	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/27/04 10:00	MP	EPA 300/SW846 9056
Sulfate	<20	20	mg/l	1	02/27/04 10:00	MP	EPA 300/SW846 9056
Total Organic Carbon	4.7	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111517		
Lab Sample ID:	F22387-2	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QR021123.D	2	03/08/04	RA	n/a	n/a	GQR897
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	36.9	2.0	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.80	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	2.0	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	63.8	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	1.9	2.0	1.0	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.60	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.60	ug/l	
100-41-4	Ethylbenzene	3.5	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	9.8	2.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.40	ug/l	
127-18-4	Tetrachloroethene	ND	2.0	1.0	ug/l	
108-88-3	Toluene	2.5	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethene	ND	2.0	1.0	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:	UST1115-MW111517		
Lab Sample ID:	F22387-2	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	6.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	93%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	101%		70-123%
563-58-6	1,1-Dichloropropene	96%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

(a) Dilution required due to matrix interference (non-target compounds above calibration range).

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:	UST1115-MW111517		
Lab Sample ID:	F22387-2	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012958.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	328	0.50	0.30	ug/l	
74-84-0	Ethane	8.65	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111517		
Lab Sample ID:	F22387-2	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19466.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2	IJ19475.D	4	03/02/04	SM	02/27/04	OP9847	GIJ944

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2	900 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	16.1	5.6	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.6	2.2	ug/l	
120-12-7	Anthracene	ND	5.6	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.6	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.6	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.6	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.6	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.6	2.2	ug/l	
218-01-9	Chrysene	ND	5.6	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.6	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.6	2.2	ug/l	
86-73-7	Fluorene	8.8	5.6	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.6	2.2	ug/l	
91-20-3	Naphthalene	89.8 [b]	22	8.9	ug/l	
90-12-0	1-Methylnaphthalene	15.3	5.6	2.2	ug/l	
91-57-6	2-Methylnaphthalene	4.8	5.6	2.2	ug/l	J
85-01-8	Phenanthrene	ND	5.6	2.2	ug/l	
129-00-0	Pyrene	ND	5.6	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	88%	76%	42-123%
84-15-1	o-Terphenyl	90%	90%	51-123%

(a) All hits confirmed by dual column analysis.
(b) 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:	UST1115-MW111517		
Lab Sample ID:	F22387-2	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/27/04 10:16	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/27/04 10:16	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/27/04 10:16	MP	EPA 300/SW846 9056
Sulfate	2380	1000	mg/l	50	03/05/04 18:07	MP	EPA 300/SW846 9056
Total Organic Carbon	16.3	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111504		
Lab Sample ID:	F22387-3	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021069.D	1	03/05/04	RA	n/a	n/a	GQR895
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	16.8	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.82	1.0	0.50	ug/l	J
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW111504		
Lab Sample ID:	F22387-3	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	104%		70-123%
563-58-6	1,1-Dichloropropene	96%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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:	UST1115-MW111504		
Lab Sample ID:	F22387-3	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012959.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	81.7	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111504		
Lab Sample ID:	F22387-3	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19467.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.4	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.4	2.2	ug/l	
120-12-7	Anthracene	ND	5.4	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.4	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.4	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.4	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.4	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.4	2.2	ug/l	
218-01-9	Chrysene	ND	5.4	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.4	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.4	2.2	ug/l	
86-73-7	Fluorene	ND	5.4	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.4	2.2	ug/l	
91-20-3	Naphthalene	ND	5.4	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.4	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.4	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.4	2.2	ug/l	
129-00-0	Pyrene	ND	5.4	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	72%		42-123%
84-15-1	o-Terphenyl	82%		51-123%

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:	UST1115-MW111504		
Lab Sample ID:	F22387-3	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/27/04 10:32	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/27/04 10:32	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/27/04 10:32	MP	EPA 300/SW846 9056
Sulfate	33.6	20	mg/l	1	02/27/04 10:32	MP	EPA 300/SW846 9056
Total Organic Carbon	1.7	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111524		
Lab Sample ID:	F22387-4	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021032.D	50	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4100	50	25	ug/l	
75-27-4	Bromodichloromethane	ND	50	25	ug/l	
75-25-2	Bromoform	ND	50	25	ug/l	
74-83-9	Bromomethane	ND	50	25	ug/l	
56-23-5	Carbon tetrachloride	ND	50	25	ug/l	
108-90-7	Chlorobenzene	ND	50	25	ug/l	
124-48-1	Dibromochloromethane	ND	50	20	ug/l	
75-00-3	Chloroethane	ND	50	25	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	50	25	ug/l	
67-66-3	Chloroform	ND	50	25	ug/l	
74-87-3	Chloromethane	ND	50	25	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	25	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	25	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	25	ug/l	
75-71-8	Dichlorodifluoromethane	ND	50	25	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	25	ug/l	
107-06-2	1,2-Dichloroethane	37.9	50	25	ug/l	J
75-35-4	1,1-Dichloroethene	ND	50	25	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	50	25	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	50	25	ug/l	
78-87-5	1,2-Dichloropropane	ND	50	25	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	15	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	15	ug/l	
100-41-4	Ethylbenzene	ND	50	25	ug/l	
75-09-2	Methylene chloride	ND	250	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	50	25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	10	ug/l	
127-18-4	Tetrachloroethene	ND	50	25	ug/l	
108-88-3	Toluene	ND	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	25	ug/l	
79-01-6	Trichloroethene	ND	50	25	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:	UST1115-MW111524		
Lab Sample ID:	F22387-4	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	50	25	ug/l	
75-01-4	Vinyl chloride	ND	50	25	ug/l	
1330-20-7	Xylenes (total)	ND	150	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
563-58-6	1,1-Dichloropropene	95%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	UST1115-MW111524		
Lab Sample ID:	F22387-4	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012957.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	211	0.50	0.30	ug/l	
74-84-0	Ethane	2.1	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111524		
Lab Sample ID:	F22387-4	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19468.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	4.2	5.3	2.1	ug/l	J
90-12-0	1-Methylnaphthalene	ND	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	78%		42-123%
84-15-1	o-Terphenyl	87%		51-123%

(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:	UST1115-MW111524		
Lab Sample ID:	F22387-4	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/27/04 10:48	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/27/04 10:48	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/27/04 10:48	MP	EPA 300/SW846 9056
Sulfate	<20	20	mg/l	1	02/27/04 10:48	MP	EPA 300/SW846 9056
Total Organic Carbon	5.9	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111521		
Lab Sample ID:	F22387-5	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021075.D	5	03/05/04	RA	n/a	n/a	GQR895
Run #2	QR021124.D	10	03/08/04	RA	n/a	n/a	GQR897

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	607 [a]	10	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
74-83-9	Bromomethane	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	2.5	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	5.0	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
74-87-3	Chloromethane	ND	5.0	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	2.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.5	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	20.0	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	2.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
100-41-4	Ethylbenzene	ND	5.0	2.5	ug/l	
75-09-2	Methylene chloride	ND	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	2.5	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.5	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:	UST1115-MW111521		
Lab Sample ID:	F22387-5	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	5.0	2.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.5	ug/l	
1330-20-7	Xylenes (total)	ND	15	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	93%	91%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	104%	98%	70-123%
563-58-6	1,1-Dichloropropene	92%	98%	86-112%
563-58-6	1,1-Dichloropropene	105%	107%	86-112%

(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:	UST1115-MW111521		
Lab Sample ID:	F22387-5	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012962.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	21.4	0.50	0.30	ug/l	
74-84-0	Ethane	0.70	1.0	0.60	ug/l	J
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111521		
Lab Sample ID:	F22387-5	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19469.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	850 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.9	2.4	ug/l	
208-96-8	Acenaphthylene	ND	5.9	2.4	ug/l	
120-12-7	Anthracene	ND	5.9	2.4	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.9	2.4	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.9	2.4	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.9	2.4	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.9	2.4	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.9	2.4	ug/l	
218-01-9	Chrysene	ND	5.9	2.4	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.9	2.4	ug/l	
206-44-0	Fluoranthene	ND	5.9	2.4	ug/l	
86-73-7	Fluorene	ND	5.9	2.4	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.9	2.4	ug/l	
91-20-3	Naphthalene	3.9	5.9	2.4	ug/l	J
90-12-0	1-Methylnaphthalene	ND	5.9	2.4	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.9	2.4	ug/l	
85-01-8	Phenanthrene	ND	5.9	2.4	ug/l	
129-00-0	Pyrene	ND	5.9	2.4	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	75%		42-123%
84-15-1	o-Terphenyl	81%		51-123%

(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:	UST1115-MW111521		
Lab Sample ID:	F22387-5	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/27/04 11:04	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/27/04 11:04	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/27/04 11:04	MP	EPA 300/SW846 9056
Sulfate	30.4	20	mg/l	1	02/27/04 11:04	MP	EPA 300/SW846 9056
Total Organic Carbon	1.6	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111502		
Lab Sample ID:	F22387-6	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021070.D	1	03/05/04	RA	n/a	n/a	GQR895
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	10.9	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW111502		
Lab Sample ID:	F22387-6	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	104%		70-123%
563-58-6	1,1-Dichloropropene	96%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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:	UST1115-MW111502		
Lab Sample ID:	F22387-6	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012964.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111502		
Lab Sample ID:	F22387-6	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19470.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	ND	5.3	2.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	75%		42-123%
84-15-1	o-Terphenyl	85%		51-123%

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:	UST1115-MW111502		
Lab Sample ID:	F22387-6	Date Sampled:	02/25/04
Matrix:	AQ - Ground Water	Date Received:	02/26/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	0.55	0.10	mg/l	1	02/27/04 11:20	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	0.55	0.20	mg/l	1	02/27/04 11:20	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/27/04 11:20	MP	EPA 300/SW846 9056
Sulfate	37.2	20	mg/l	1	02/27/04 11:20	MP	EPA 300/SW846 9056
Total Organic Carbon	1.1	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-022504		
Lab Sample ID:	F22387-7	Date Sampled:	02/25/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021071.D	1	03/05/04	RA	n/a	n/a	GQR895
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-022504		
Lab Sample ID:	F22387-7	Date Sampled:	02/25/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	102%		70-123%
563-58-6	1,1-Dichloropropene	96%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

COC Number:
844098-NW-022504

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD F22387

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - NW	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	Analysis Desired: VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1
1	UST1115-MW111522	2/25/04	9:30		X	UST1115-MW111522	10	X	X	X	X	X	X
2	UST1115-MW111517	2/25/04	11:00		X	UST1115-MW111517	10	X	X	X	X	X	X
3	UST1115-MW111504	2/25/04	11:45		X	UST1115-MW111504	10	X	X	X	X	X	X
4	UST1115-MW111524	2/25/04	14:00		X	UST1115-MW111524	10	X	X	X	X	X	X
5	UST1115-MW111521	2/25/04	15:15		X	UST1115-MW111521	10	X	X	X	X	X	X
6	UST1115-MW111502	2/25/04	15:45		X	UST1115-MW111502	10	X	X	X	X	X	X
7	Trip Blank- 022504	2/25/04	-----		X	Trip Blank	2	X					
8													
9													
10													

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1-7		Fed Ex8434 9077 4656	2/25/04	18:00	Please E-mail results to mamartin@theitgroup.com
2	1-7	FED EX		2/26/04	09:00	21 Day TAT

2.2
2.4

F22387: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories

Southeast
ACCUTEST.
Laboratories

03/10/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-NW

844098

Accutest Job Number: F22365

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **49**

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

Shaw E & I, Inc.

Job No: F22365

Camp Lejeune-NW
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F22365-1	02/24/04	12:00	MM	02/25/04	AQ	Ground Water	UST1115-MW111525
F22365-2	02/24/04	14:00	MM	02/25/04	AQ	Ground Water	UST1115-MW111513
F22365-3	02/24/04	15:30	MM	02/25/04	AQ	Ground Water	UST1115-GT09
F22365-4	02/24/04	15:35	MM	02/25/04	AQ	Ground Water	UST1115-GT09D
F22365-5	02/24/04	00:00	MM	02/25/04	AQ	Trip Blank Water	TRIP BLANK

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111525		
Lab Sample ID:	F22365-1	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021029.D	50	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3580	50	25	ug/l	
75-27-4	Bromodichloromethane	ND	50	25	ug/l	
75-25-2	Bromoform	ND	50	25	ug/l	
74-83-9	Bromomethane	ND	50	25	ug/l	
56-23-5	Carbon tetrachloride	ND	50	25	ug/l	
108-90-7	Chlorobenzene	ND	50	25	ug/l	
124-48-1	Dibromochloromethane	ND	50	20	ug/l	
75-00-3	Chloroethane	ND	50	25	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	50	25	ug/l	
67-66-3	Chloroform	ND	50	25	ug/l	
74-87-3	Chloromethane	ND	50	25	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	25	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	25	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	25	ug/l	
75-71-8	Dichlorodifluoromethane	ND	50	25	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	25	ug/l	
107-06-2	1,2-Dichloroethane	182	50	25	ug/l	
75-35-4	1,1-Dichloroethene	ND	50	25	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	50	25	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	50	25	ug/l	
78-87-5	1,2-Dichloropropane	ND	50	25	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	15	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	15	ug/l	
100-41-4	Ethylbenzene	ND	50	25	ug/l	
75-09-2	Methylene chloride	ND	250	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	50	25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	10	ug/l	
127-18-4	Tetrachloroethene	ND	50	25	ug/l	
108-88-3	Toluene	362	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	25	ug/l	
79-01-6	Trichloroethene	ND	50	25	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:	UST1115-MW111525		
Lab Sample ID:	F22365-1	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	50	25	ug/l	
75-01-4	Vinyl chloride	ND	50	25	ug/l	
1330-20-7	Xylenes (total)	63.2	150	50	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
563-58-6	1,1-Dichloropropene	95%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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:	UST1115-MW111525		
Lab Sample ID:	F22365-1	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012952.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	57.2	0.50	0.30	ug/l	
74-84-0	Ethane	14.8	1.0	0.60	ug/l	
74-85-1	Ethene	11.0	1.0	0.80	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:	UST1115-MW111525		
Lab Sample ID:	F22365-1	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19458.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	2.0	ug/l	
120-12-7	Anthracene	ND	5.0	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	2.0	ug/l	
218-01-9	Chrysene	ND	5.0	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	2.0	ug/l	
86-73-7	Fluorene	ND	5.0	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	2.0	ug/l	
91-20-3	Naphthalene	ND	5.0	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l	
129-00-0	Pyrene	ND	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	70%		42-123%
84-15-1	o-Terphenyl	83%		51-123%

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:	UST1115-MW111525		
Lab Sample ID:	F22365-1	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/26/04 11:47	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/26/04 11:47	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/26/04 11:47	MP	EPA 300/SW846 9056
Sulfate	<20	20	mg/l	1	02/26/04 11:47	MP	EPA 300/SW846 9056
Total Organic Carbon	6.7	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111513		
Lab Sample ID:	F22365-2	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021014.D	5	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	228	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
74-83-9	Bromomethane	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	2.5	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	5.0	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
74-87-3	Chloromethane	ND	5.0	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	2.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.5	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	97.7	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	2.7	5.0	2.5	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
100-41-4	Ethylbenzene	53.0	5.0	2.5	ug/l	
75-09-2	Methylene chloride	ND	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	2.5	ug/l	
108-88-3	Toluene	ND	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.5	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:	UST1115-MW111513		
Lab Sample ID:	F22365-2	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	5.0	2.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.5	ug/l	
1330-20-7	Xylenes (total)	11.7	15	5.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	95%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	108%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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:	UST1115-MW111513		
Lab Sample ID:	F22365-2	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012953.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	63.1	0.50	0.30	ug/l	
74-84-0	Ethane	1.8	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111513		
Lab Sample ID:	F22365-2	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19461.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2 [a]	IJ19474.D	4	03/02/04	SM	02/27/04	OP9847	GIJ944

	Initial Volume	Final Volume
Run #1	900 ml	1.0 ml
Run #2	900 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	12.1	5.6	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.6	2.2	ug/l	
120-12-7	Anthracene	ND	5.6	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.6	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.6	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.6	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.6	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.6	2.2	ug/l	
218-01-9	Chrysene	ND	5.6	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.6	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.6	2.2	ug/l	
86-73-7	Fluorene	2.5	5.6	2.2	ug/l	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.6	2.2	ug/l	
91-20-3	Naphthalene	151 [b]	22	8.9	ug/l	
90-12-0	1-Methylnaphthalene	13.5	5.6	2.2	ug/l	
91-57-6	2-Methylnaphthalene	22.2	5.6	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.6	2.2	ug/l	
129-00-0	Pyrene	ND	5.6	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	59%	79%	42-123%
84-15-1	o-Terphenyl	58%	89%	51-123%

(a) All hits confirmed by dual column analysis.
(b) 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:	UST1115-MW111513		
Lab Sample ID:	F22365-2	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/26/04 12:03	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	1.2	0.20	mg/l	1	02/26/04 12:03	MP	SM18 4500NO3E
Nitrogen, Nitrite	1.2	0.10	mg/l	1	02/26/04 12:03	MP	EPA 300/SW846 9056
Sulfate	3770	500	mg/l	25	03/05/04 17:49	MP	EPA 300/SW846 9056
Total Organic Carbon	19.5	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-GT09		
Lab Sample ID:	F22365-3	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021017.D	1	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	1.2	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.78	1.0	0.50	ug/l	J

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:	UST1115-GT09		
Lab Sample ID:	F22365-3	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	93%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	102%		70-123%
563-58-6	1,1-Dichloropropene	98%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	UST1115-GT09		
Lab Sample ID:	F22365-3	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012954.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	97.6	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-GT09		
Lab Sample ID:	F22365-3	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19462.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.6	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.6	2.2	ug/l	
120-12-7	Anthracene	ND	5.6	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.6	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.6	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.6	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.6	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.6	2.2	ug/l	
218-01-9	Chrysene	ND	5.6	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.6	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.6	2.2	ug/l	
86-73-7	Fluorene	ND	5.6	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.6	2.2	ug/l	
91-20-3	Naphthalene	ND	5.6	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.6	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.6	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.6	2.2	ug/l	
129-00-0	Pyrene	ND	5.6	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	77%		42-123%
84-15-1	o-Terphenyl	84%		51-123%

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:	UST1115-GT09		
Lab Sample ID:	F22365-3	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/26/04 12:51	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/26/04 12:51	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/26/04 12:51	MP	EPA 300/SW846 9056
Sulfate	78.9	20	mg/l	1	02/26/04 12:51	MP	EPA 300/SW846 9056
Total Organic Carbon	3.3	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-GT09D		
Lab Sample ID:	F22365-4	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021022.D	1	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	1.1	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.50	1.0	0.50	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.83	1.0	0.50	ug/l	J

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:	UST1115-GT09D		
Lab Sample ID:	F22365-4	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	101%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	104%		86-112%

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:	UST1115-GT09D		
Lab Sample ID:	F22365-4	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012955.D	1	03/02/04	CV	n/a	n/a	GXY386
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	92.7	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-GT09D		
Lab Sample ID:	F22365-4	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19463.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.4	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.4	2.2	ug/l	
120-12-7	Anthracene	ND	5.4	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.4	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.4	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.4	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.4	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.4	2.2	ug/l	
218-01-9	Chrysene	ND	5.4	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.4	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.4	2.2	ug/l	
86-73-7	Fluorene	ND	5.4	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.4	2.2	ug/l	
91-20-3	Naphthalene	ND	5.4	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.4	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.4	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.4	2.2	ug/l	
129-00-0	Pyrene	ND	5.4	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	89%		42-123%
84-15-1	o-Terphenyl	91%		51-123%

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:	UST1115-GT09D		
Lab Sample ID:	F22365-4	Date Sampled:	02/24/04
Matrix:	AQ - Ground Water	Date Received:	02/25/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/26/04 13:07	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/26/04 13:07	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/26/04 13:07	MP	EPA 300/SW846 9056
Sulfate	79.1	20	mg/l	1	02/26/04 13:07	MP	EPA 300/SW846 9056
Total Organic Carbon	3.3	1.0	mg/l	1	03/03/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F22365-5	Date Sampled:	02/24/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QR021023.D	1	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.57	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	F22365-5	Date Sampled:	02/24/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/25/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	98%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

(a) Confirmed by GC/MS

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

COC Number:
844098-NW-022404

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390 | Receiving Lab: ACCUTEST

CAMP LEJEUNE - NW | CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-364.1	SO4 BY 375.4	TOC BY 415.1								
(1) 1	UST1115-MW111525	02/24/04	12:00		X	UST1115-MW111525	10	X	X	X	X	X	X								
(2) 2	UST1115-MW111513	02/24/04	14:00		X	UST1115-MW111513	10	X	X	X	X	X	X								
(3) 3	UST1115-GT09	02/24/04	15:30		X	UST1115-GT09	10	X	X	X	X	X	X								
(4) 4	UST1115-GT09D	02/24/04	15:35		X	UST1115-GT09D	10	X	X	X	X	X	X								
(5) 5	Trip Blank- 022404	02/24/04	-----		X	Trip Blank	2	X													
6																					
7																					
8																					
9																					
10																					

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 5		Fed EX 8434 9077 5023	2/24/04	18:00	Please E-mail results to Mark.Martin@Shawgrp.com
2		Carlos R		2/25/04	9:30	21 Day TAT

F22365 4.8c

F22365: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories

Southeast
ACCUTEST.
Laboratories

03/09/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-NW

844098

Accutest Job Number: F22335

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **48**

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F22335

Camp Lejeune-NW
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F22335-1	02/21/04	13:40	RK	02/24/04	AQ	Ground Water	UST1115-MW111523
F22335-2	02/21/04	15:00	RK	02/24/04	AQ	Ground Water	UST1115-MW78GW2202
F22335-3	02/21/04	15:05	RK	02/24/04	AQ	Ground Water	UST1115-MW78GW2202D
F22335-4	02/21/04	08:25	RK	02/24/04	AQ	Ground Water	UST1115-MW111501
F22335-5	02/21/04	09:45	RK	02/24/04	AQ	Ground Water	UST1115-GT07
F22335-6	02/21/04	11:20	RK	02/24/04	AQ	Ground Water	UST1115-GT01

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111523		
Lab Sample ID:	F22335-1	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QR021068.D	20	03/05/04	RA	n/a	n/a	GQR895
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	703	20	10	ug/l	
75-27-4	Bromodichloromethane	ND	20	10	ug/l	
75-25-2	Bromoform	ND	20	10	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
56-23-5	Carbon tetrachloride	ND	20	10	ug/l	
108-90-7	Chlorobenzene	ND	20	10	ug/l	
124-48-1	Dibromochloromethane	ND	20	8.0	ug/l	
75-00-3	Chloroethane	ND	20	10	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	20	10	ug/l	
67-66-3	Chloroform	ND	20	10	ug/l	
74-87-3	Chloromethane	ND	20	10	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	20	10	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	20	10	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	10	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	10	ug/l	
75-34-3	1,1-Dichloroethane	ND	20	10	ug/l	
107-06-2	1,2-Dichloroethane	1390	20	10	ug/l	E
75-35-4	1,1-Dichloroethene	ND	20	10	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	20	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	20	10	ug/l	
78-87-5	1,2-Dichloropropane	10.9	20	10	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	20	6.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	20	6.0	ug/l	
100-41-4	Ethylbenzene	14.8	20	10	ug/l	J
75-09-2	Methylene chloride	ND	100	20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	20	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	4.0	ug/l	
127-18-4	Tetrachloroethene	ND	20	10	ug/l	
108-88-3	Toluene	98.7	20	10	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	10	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	20	10	ug/l	
79-01-6	Trichloroethene	ND	20	10	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:	UST1115-MW111523		
Lab Sample ID:	F22335-1	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	20	10	ug/l	
75-01-4	Vinyl chloride	ND	20	10	ug/l	
1330-20-7	Xylenes (total)	35.9	60	20	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	95%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	110%		70-123%
563-58-6	1,1-Dichloropropene	95%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

(a) Results from different vials are not consistent; higher results were reported.

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:	UST1115-MW111523		
Lab Sample ID:	F22335-1	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19437.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	ND	5.3	2.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	86%		42-123%
84-15-1	o-Terphenyl	92%		51-123%

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:	UST1115-MW78GW2202		
Lab Sample ID:	F22335-2	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020976.D	1	03/02/04	RA	n/a	n/a	GQR891
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6.6	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	2.6	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:	UST1115-MW78GW2202		
Lab Sample ID:	F22335-2	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	99%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	UST1115-MW78GW2202		
Lab Sample ID:	F22335-2	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19438.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2							

	Initial Volume	Final Volume
Run #1	920 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.4	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.4	2.2	ug/l	
120-12-7	Anthracene	ND	5.4	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.4	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.4	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.4	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.4	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.4	2.2	ug/l	
218-01-9	Chrysene	ND	5.4	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.4	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.4	2.2	ug/l	
86-73-7	Fluorene	ND	5.4	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.4	2.2	ug/l	
91-20-3	Naphthalene	ND	5.4	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.4	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.4	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.4	2.2	ug/l	
129-00-0	Pyrene	ND	5.4	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	85%		42-123%
84-15-1	o-Terphenyl	91%		51-123%

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:	UST1115-MW78GW2202D		
Lab Sample ID:	F22335-3	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020977.D	1	03/02/04	RA	n/a	n/a	GQR891
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6.4	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.50	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	2.7	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:	UST1115-MW78GW2202D		
Lab Sample ID:	F22335-3	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	109%		86-112%

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:	UST1115-MW78GW2202D		
Lab Sample ID:	F22335-3	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19439.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.5	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.5	2.2	ug/l	
120-12-7	Anthracene	ND	5.5	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.5	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.5	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.5	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.5	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.5	2.2	ug/l	
218-01-9	Chrysene	ND	5.5	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.5	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.5	2.2	ug/l	
86-73-7	Fluorene	ND	5.5	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.5	2.2	ug/l	
91-20-3	Naphthalene	ND	5.5	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.5	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.5	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.5	2.2	ug/l	
129-00-0	Pyrene	ND	5.5	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	81%		42-123%
84-15-1	o-Terphenyl	88%		51-123%

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:	UST1115-MW111501		
Lab Sample ID:	F22335-4	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020978.D	1	03/02/04	RA	n/a	n/a	GQR891
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	1.4	1.0	0.50	ug/l	
108-88-3	Toluene	1.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW111501		
Lab Sample ID:	F22335-4	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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:	UST1115-MW111501		
Lab Sample ID:	F22335-4	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19440.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.1	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.1	2.0	ug/l	
120-12-7	Anthracene	ND	5.1	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	2.0	ug/l	
218-01-9	Chrysene	ND	5.1	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.1	2.0	ug/l	
86-73-7	Fluorene	ND	5.1	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	2.0	ug/l	
91-20-3	Naphthalene	ND	5.1	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.1	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.1	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.1	2.0	ug/l	
129-00-0	Pyrene	ND	5.1	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	95%		42-123%
84-15-1	o-Terphenyl	93%		51-123%

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:	UST1115-GT07		
Lab Sample ID:	F22335-5	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021010.D	1	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.74	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	2.3	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.78	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-GT07		
Lab Sample ID:	F22335-5	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	93%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	101%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	UST1115-GT07		
Lab Sample ID:	F22335-5	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19441.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	ND	5.3	2.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	73%		42-123%
84-15-1	o-Terphenyl	74%		51-123%

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:	UST1115-GT01		
Lab Sample ID:	F22335-6	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020979.D	1	03/02/04	RA	n/a	n/a	GQR891
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	29.7	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.0	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	10.5	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	2.1	1.0	0.50	ug/l	
108-88-3	Toluene	2.7	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	2.1	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:	UST1115-GT01		
Lab Sample ID:	F22335-6	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	8.3	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	101%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	105%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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:	UST1115-GT01		
Lab Sample ID:	F22335-6	Date Sampled:	02/21/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19442.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2							

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.4	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.4	2.2	ug/l	
120-12-7	Anthracene	ND	5.4	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.4	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.4	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.4	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.4	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.4	2.2	ug/l	
218-01-9	Chrysene	ND	5.4	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.4	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.4	2.2	ug/l	
86-73-7	Fluorene	ND	5.4	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.4	2.2	ug/l	
91-20-3	Naphthalene	ND	5.4	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.4	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.4	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.4	2.2	ug/l	
129-00-0	Pyrene	ND	5.4	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	88%		42-123%
84-15-1	o-Terphenyl	89%		51-123%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F22335

COC Number:
824603-NW-022304

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - NW	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
824603	Mark Martin	209378

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2/354.1	SO4 BY 375.4	TOC BY 415.1	Analysis Desired
1	UST1115-MW111523	2/21/04	13:40		X	UST1115-MW111523	5	X	X					
2	UST1115-MW78GW2202	2/21/04	15:00		X	UST1115-MW78GW2202	5	X	X					
3	UST1115-MW78GW2202D	2/21/04	15:05		X	UST1115-MW78GW2202D	5	X	X					
4	UST1115-MW111501	2/21/04	8:25		X	UST1115-MW111501	5	X	X					
5	UST1115-GT07	2/21/04	9:45		X	UST1115-GT07	5	X	X					
6	UST1115-GT01	2/21/04	11:20		X	UST1115-GT01	5	X	X					
7														
8														
9														
10														

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1-6		Fed Ex8434 9077 4634	2/23/04	18:00	Please E-mail results to mamartin@theltgroup.com
2	1-6	FED EX		2/24/04	09:00	21 Day TAT

F22335: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories

Southeast
ACCUTEST.
Laboratories

09/24/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-NW

844098

Accutest Job Number: F26395

Sampling Date: 08/27/04

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 44

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

Shaw E & I, Inc.

Job No: F26395

Camp Lejeune-NW
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F26395-1	08/27/04	09:00	MM	08/28/04	AQ	Ground Water	UST1115-GT09
F26395-2	08/27/04	09:05	MM	08/28/04	AQ	Ground Water	UST1115-GT09D
F26395-3	08/27/04	00:00	MM	08/28/04	AQ	Trip Blank Water	TRIP BLANK

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-GT09		
Lab Sample ID:	F26395-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024419.D	1	09/10/04	RA	n/a	n/a	GQR1075
Run #2 [a]	QR024373.D	10	09/09/04	RA	n/a	n/a	GQR1073

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3.2	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	2.6	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.76	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.53	1.0	0.50	ug/l	J

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:	UST1115-GT09		
Lab Sample ID:	F26395-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	87%	96%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	92%	113%	70-123%
563-58-6	1,1-Dichloropropene	100%	92%	86-112%
563-58-6	1,1-Dichloropropene	102%	106%	86-112%

(a) Confirmation run.

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:	UST1115-GT09		
Lab Sample ID:	F26395-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014842.D	1	08/30/04	CV	n/a	n/a	GXY479
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	58.3	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-GT09		
Lab Sample ID:	F26395-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20810.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	72%		42-123%
84-15-1	o-Terphenyl	86%		51-123%

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:	UST1115-GT09		
Lab Sample ID:	F26395-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/29/04 14:48	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/29/04 14:48	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/29/04 14:48	SJL	EPA 300/SW846 9056
Sulfate [b]	121	2.0	mg/l	1	08/29/04 14:48	SJL	EPA 300/SW846 9056
Total Organic Carbon	4.7	1.0	mg/l	1	09/21/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)
(b) Estimated value, above calibration range.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-GT09D		
Lab Sample ID:	F26395-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024420.D	1	09/10/04	RA	n/a	n/a	GQR1075
Run #2 [a]	QR024374.D	1	09/09/04	RA	n/a	n/a	GQR1073

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3.4	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	2.5	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.79	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-GT09D		
Lab Sample ID:	F26395-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	87%	94%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	94%	110%	70-123%
563-58-6	1,1-Dichloropropene	100%	91%	86-112%
563-58-6	1,1-Dichloropropene	104%	106%	86-112%

(a) Confirmation run.

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:	UST1115-GT09D		
Lab Sample ID:	F26395-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014843.D	1	08/30/04	CV	n/a	n/a	GXY479
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	57.5	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-GT09D		
Lab Sample ID:	F26395-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20812.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	94%		42-123%
84-15-1	o-Terphenyl	101%		51-123%

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:	UST1115-GT09D		
Lab Sample ID:	F26395-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/29/04 15:32	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/29/04 15:32	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/29/04 15:32	SJL	EPA 300/SW846 9056
Sulfate [b]	124	2.0	mg/l	1	08/29/04 15:32	SJL	EPA 300/SW846 9056
Total Organic Carbon	4.5	1.0	mg/l	1	09/23/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)
(b) Estimated value, above calibration range.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	F26395-3	Date Sampled:	08/27/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QR024372.D	1	09/09/04	RA	n/a	n/a	GQR1073
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	2.1	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	0.52	1.0	0.50	ug/l	J

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:	F26395-3	Date Sampled:	08/27/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	1.5	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	114%		70-123%
563-58-6	1,1-Dichloropropene	91%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

(a) All hits confirmed by GC/MS.

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F26395

COC Number:
844098-NW-082704

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc.

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - NW	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1
1	UST1115-GT09	8/27/04	9:00		X	UST1115-GT09	10	X	X	X	X	X	X
2	UST1115-GT09D	8/27/04	9:05		X	UST1115-GT09D	10	X	X	X	X	X	X
3	Trip Blank- 082704	8/27/04			X	Trip Blank	2	X					
4													
5													
6													
7													
8													
9													
10													
11													

Analysis Desired

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 – 3		Fed EX 8481 5070 2862	8/27/04	16:00	Please E-mail results to Mark.Martin@Shawgrp.com
2				8-28-04	09:00	21 Day TAT

2,6, 3-4

F26395: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories
F26395

Southeast
ACCUTEST.
Laboratories

09/21/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-NW

844098

Accutest Job Number: F26319

Sampling Date: 08/25/04

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 86

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F26319

Camp Lejeune-NW
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F26319-1	08/25/04	10:00	MM	08/26/04	AQ	Ground Water	UST1115-MW111525
F26319-2	08/25/04	11:00	MM	08/26/04	AQ	Ground Water	UST1115-MW111513
F26319-3	08/25/04	12:00	MM	08/26/04	AQ	Ground Water	UST1115-GT01
F26319-4	08/25/04	00:00	MM	08/26/04	AQ	Trip Blank Water	TRIP BLANK-082504

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111525		
Lab Sample ID:	F26319-1	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024335.D	50	09/08/04	RA	n/a	n/a	GQR1071
Run #2 [a]	QR024445.D	100	09/11/04	RA	n/a	n/a	GQR1075

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5960 [b]	100	50	ug/l	
75-27-4	Bromodichloromethane	ND	50	25	ug/l	
75-25-2	Bromoform	ND	50	25	ug/l	
74-83-9	Bromomethane	ND	50	25	ug/l	
56-23-5	Carbon tetrachloride	ND	50	25	ug/l	
108-90-7	Chlorobenzene	ND	50	25	ug/l	
124-48-1	Dibromochloromethane	ND	50	20	ug/l	
75-00-3	Chloroethane	ND	50	25	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	50	25	ug/l	
67-66-3	Chloroform	ND	50	25	ug/l	
74-87-3	Chloromethane	ND	50	25	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	25	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	25	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	25	ug/l	
75-71-8	Dichlorodifluoromethane	ND	50	25	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	25	ug/l	
107-06-2	1,2-Dichloroethane	273	50	25	ug/l	
75-35-4	1,1-Dichloroethene	ND	50	25	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	50	25	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	50	25	ug/l	
78-87-5	1,2-Dichloropropane	ND	50	25	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	15	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	15	ug/l	
100-41-4	Ethylbenzene	40.4	50	25	ug/l	J
75-09-2	Methylene chloride	ND	250	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	50	25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	10	ug/l	
127-18-4	Tetrachloroethene	ND	50	25	ug/l	
108-88-3	Toluene	650	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	25	ug/l	
79-01-6	Trichloroethene	ND	50	25	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:	UST1115-MW111525		
Lab Sample ID:	F26319-1	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	50	25	ug/l	
75-01-4	Vinyl chloride	ND	50	25	ug/l	
1330-20-7	Xylenes (total)	120	150	50	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	93%	86%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	109%	94%	70-123%
563-58-6	1,1-Dichloropropene	88%	98%	86-112%
563-58-6	1,1-Dichloropropene	105%	103%	86-112%

(a) Sample re-analyzed beyond hold time; reported results are considered minimum values.
(b) 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:	UST1115-MW111525		
Lab Sample ID:	F26319-1	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014838.D	1	08/30/04	CV	n/a	n/a	GXY479
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	43.6	0.50	0.30	ug/l	
74-84-0	Ethane	10.9	1.0	0.60	ug/l	
74-85-1	Ethene	6.60	1.0	0.80	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:	UST1115-MW111525		
Lab Sample ID:	F26319-1	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20803.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	91%		42-123%
84-15-1	o-Terphenyl	97%		51-123%

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:	UST1115-MW111525		
Lab Sample ID:	F26319-1	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/27/04 22:14	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/27/04 22:14	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/27/04 22:14	SJL	EPA 300/SW846 9056
Sulfate	< 2.0	2.0	mg/l	1	08/27/04 22:14	SJL	EPA 300/SW846 9056
Total Organic Carbon	8.3	1.0	mg/l	1	09/20/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111513		
Lab Sample ID:	F26319-2	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024337.D	5	09/08/04	RA	n/a	n/a	GQR1071
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	202	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
74-83-9	Bromomethane	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	2.5	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	5.0	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
74-87-3	Chloromethane	ND	5.0	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	2.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.5	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	77.4	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	2.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
100-41-4	Ethylbenzene	47.6	5.0	2.5	ug/l	
75-09-2	Methylene chloride	ND	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	2.9	5.0	2.5	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	2.5	ug/l	
108-88-3	Toluene	11.8	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.5	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:	UST1115-MW111513		
Lab Sample ID:	F26319-2	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	5.0	2.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.5	ug/l	
1330-20-7	Xylenes (total)	16.3	15	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	104%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	123%		70-123%
563-58-6	1,1-Dichloropropene	93%		86-112%
563-58-6	1,1-Dichloropropene	103%		86-112%

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:	UST1115-MW111513		
Lab Sample ID:	F26319-2	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014839.D	1	08/30/04	CV	n/a	n/a	GXY479
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	53.3	0.50	0.30	ug/l	
74-84-0	Ethane	1.9	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111513		
Lab Sample ID:	F26319-2	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20804.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2	IJ20815.D	5	09/13/04	AA	09/01/04	OP11232	GIJ1020

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2	1050 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	12.5	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	2.7	4.8	1.9	ug/l	J
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	173 [a]	24	9.5	ug/l	
90-12-0	1-Methylnaphthalene	16.1	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	28.6	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	97%	83%	42-123%
84-15-1	o-Terphenyl	103%	103%	51-123%

(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:	UST1115-MW111513		
Lab Sample ID:	F26319-2	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	08/27/04 22:29	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	0.98	0.20	mg/l	1	08/27/04 22:29	SJL	SM18 4500NO3E
Nitrogen, Nitrite	0.98	0.10	mg/l	1	08/27/04 22:29	SJL	EPA 300/SW846 9056
Sulfate [b]	4330	2.0	mg/l	1	08/27/04 22:29	SJL	EPA 300/SW846 9056
Total Organic Carbon	22.6	1.0	mg/l	1	09/20/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)
(b) Estimated value, above calibration range.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-GT01		
Lab Sample ID:	F26319-3	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024333.D	1	09/08/04	RA	n/a	n/a	GQR1071
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	44.7	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	1.3	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	1.0	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	5.5	1.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.98	1.0	0.50	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	1.6	1.0	0.50	ug/l	
108-88-3	Toluene	8.6	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	1.9	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:	UST1115-GT01		
Lab Sample ID:	F26319-3	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	4.4	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	108%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	118%		70-123%
563-58-6	1,1-Dichloropropene	91%		86-112%
563-58-6	1,1-Dichloropropene	103%		86-112%

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:	UST1115-GT01		
Lab Sample ID:	F26319-3	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014841.D	1	08/30/04	CV	n/a	n/a	GXY479
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	19.8	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-GT01		
Lab Sample ID:	F26319-3	Date Sampled:	08/25/04
Matrix:	AQ - Ground Water	Date Received:	08/26/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20805.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	10.7	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	2.3	4.8	1.9	ug/l	J
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	90%		42-123%
84-15-1	o-Terphenyl	95%		51-123%

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-082504		
Lab Sample ID:	F26319-4	Date Sampled:	08/25/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024334.D	1	09/08/04	RA	n/a	n/a	GQR1071
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-082504		
Lab Sample ID:	F26319-4	Date Sampled:	08/25/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/26/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	109%		70-123%
563-58-6	1,1-Dichloropropene	93%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F26319

COC Number:
844098-NW-082504

CHAIN-OF-CUSTODY RECORD

Shaw™
Shaw Environmental & Infrastructure, Inc.

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - NW	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1
1	UST1115-MW111525	8/25/04	10:00		X	UST1115-MW111525	10	X	X	X	X	X	X
2	UST1115-MW111513	8/25/04	11:00		X	UST1115-MW111513	10	X	X	X	X	X	X
3	UST1115-GT01	8/25/04	12:00		X	UST1115-GT01	5	X	X				
4	Trip Blank- 082504	8/25/04			X	Trip Blank	2	X					
5													
6													
7													
8													
9													
10													
11													

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 4		Fed EX 8481 5070 7317	8/25/04	18:00	Please E-mail results to Mark.Martin@Shawgrp.com
2				8/26/04	0910	21 Day TAT

2.8

F26319: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories
F26319

Southeast
ACCUTEST.
Laboratories

09/21/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-NW

844098

Accutest Job Number: F26185

Sampling Date: 08/19/04

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 105

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

Shaw E & I, Inc.

Job No: F26185

Camp Lejeune-NW
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F26185-1	08/19/04	11:00	MM	08/20/04	AQ	Ground Water	UST1115-MW111521
F26185-2	08/19/04	10:00	MM	08/20/04	AQ	Ground Water	UST1115-MW111524
F26185-3	08/19/04	11:30	MM	08/20/04	AQ	Ground Water	UST1115-MW111502
F26185-4	08/19/04	13:00	MM	08/20/04	AQ	Ground Water	UST1115-MW111522
F26185-5	08/19/04	14:00	MM	08/20/04	AQ	Ground Water	UST1115-MW111517
F26185-6	08/19/04	14:45	MM	08/20/04	AQ	Ground Water	UST1115-MW111504
F26185-7	08/19/04	00:00	MM	08/20/04	AQ	Trip Blank Water	TRIP BLANK-081904

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111521		
Lab Sample ID:	F26185-1	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024276.D	10	09/02/04	RA	n/a	n/a	GQR1067
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	521	10	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.0	ug/l	
75-25-2	Bromoform	ND	10	5.0	ug/l	
74-83-9	Bromomethane	ND	10	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	10	5.0	ug/l	
108-90-7	Chlorobenzene	ND	10	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	10	4.0	ug/l	
75-00-3	Chloroethane	ND	10	5.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	10	5.0	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	10	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	5.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	5.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	5.0	ug/l	
107-06-2	1,2-Dichloroethane	14.7	10	5.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	5.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	3.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.0	ug/l	
100-41-4	Ethylbenzene	ND	10	5.0	ug/l	
75-09-2	Methylene chloride	ND	50	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	2.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	5.0	ug/l	
108-88-3	Toluene	ND	10	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	5.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	5.0	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:	UST1115-MW111521		
Lab Sample ID:	F26185-1	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	10	5.0	ug/l	
1330-20-7	Xylenes (total)	ND	30	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	88%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	93%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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:	UST1115-MW111521		
Lab Sample ID:	F26185-1	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014783.D	1	08/25/04	CV	n/a	n/a	GXY477
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	14.1	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111521		
Lab Sample ID:	F26185-1	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20753.D	1	08/27/04	AA	08/26/04	OP11190	GIJ1016
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	5.3	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	98%		42-123%
84-15-1	o-Terphenyl	103%		51-123%

(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:	UST1115-MW111521		
Lab Sample ID:	F26185-1	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/20/04 16:23	SM	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/20/04 16:23	SM	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/20/04 16:23	SM	EPA 300/SW846 9056
Sulfate	32.1	2.0	mg/l	1	08/20/04 16:23	SM	EPA 300/SW846 9056
Total Organic Carbon	1.5	1.0	mg/l	1	09/20/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111524		
Lab Sample ID:	F26185-2	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024277.D	50	09/02/04	RA	n/a	n/a	GQR1067
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3630	50	25	ug/l	
75-27-4	Bromodichloromethane	ND	50	25	ug/l	
75-25-2	Bromoform	ND	50	25	ug/l	
74-83-9	Bromomethane	ND	50	25	ug/l	
56-23-5	Carbon tetrachloride	ND	50	25	ug/l	
108-90-7	Chlorobenzene	ND	50	25	ug/l	
124-48-1	Dibromochloromethane	ND	50	20	ug/l	
75-00-3	Chloroethane	ND	50	25	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	50	25	ug/l	
67-66-3	Chloroform	ND	50	25	ug/l	
74-87-3	Chloromethane	ND	50	25	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	25	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	25	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	25	ug/l	
75-71-8	Dichlorodifluoromethane	ND	50	25	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	25	ug/l	
107-06-2	1,2-Dichloroethane	39.0	50	25	ug/l	J
75-35-4	1,1-Dichloroethene	ND	50	25	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	50	25	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	50	25	ug/l	
78-87-5	1,2-Dichloropropane	ND	50	25	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	15	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	15	ug/l	
100-41-4	Ethylbenzene	ND	50	25	ug/l	
75-09-2	Methylene chloride	ND	250	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	50	25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	10	ug/l	
127-18-4	Tetrachloroethene	ND	50	25	ug/l	
108-88-3	Toluene	ND	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	25	ug/l	
79-01-6	Trichloroethene	ND	50	25	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:	UST1115-MW111524		
Lab Sample ID:	F26185-2	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	50	25	ug/l	
75-01-4	Vinyl chloride	ND	50	25	ug/l	
1330-20-7	Xylenes (total)	ND	150	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	85%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
563-58-6	1,1-Dichloropropene	96%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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:	UST1115-MW111524		
Lab Sample ID:	F26185-2	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014784.D	1	08/25/04	CV	n/a	n/a	GXY477
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	177	0.50	0.30	ug/l	
74-84-0	Ethane	6.46	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111524		
Lab Sample ID:	F26185-2	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20756.D	1	08/27/04	AA	08/26/04	OP11190	GIJ1016
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	3.0	4.8	1.9	ug/l	J
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	95%		42-123%
84-15-1	o-Terphenyl	98%		51-123%

(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:	UST1115-MW111524		
Lab Sample ID:	F26185-2	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/20/04 16:40	SM	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/20/04 16:40	SM	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/20/04 16:40	SM	EPA 300/SW846 9056
Sulfate	46.0	2.0	mg/l	1	08/20/04 16:40	SM	EPA 300/SW846 9056
Total Organic Carbon	6.3	1.0	mg/l	1	09/20/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111502		
Lab Sample ID:	F26185-3	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024280.D	1	09/02/04	RA	n/a	n/a	GQR1067
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	24.3	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.52	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW111502		
Lab Sample ID:	F26185-3	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	87%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	99%		70-123%
563-58-6	1,1-Dichloropropene	98%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	UST1115-MW111502		
Lab Sample ID:	F26185-3	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014785.D	1	08/25/04	CV	n/a	n/a	GXY477
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1.82	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111502		
Lab Sample ID:	F26185-3	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20757.D	1	08/27/04	AA	08/26/04	OP11190	GIJ1016
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	97%		42-123%
84-15-1	o-Terphenyl	99%		51-123%

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:	UST1115-MW111502		
Lab Sample ID:	F26185-3	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	0.26	0.10	mg/l	1	08/20/04 16:56	SM	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	0.26	0.20	mg/l	1	08/20/04 16:56	SM	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/20/04 16:56	SM	EPA 300/SW846 9056
Sulfate	32.2	2.0	mg/l	1	08/20/04 16:56	SM	EPA 300/SW846 9056
Total Organic Carbon	1.5	1.0	mg/l	1	09/20/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111522		
Lab Sample ID:	F26185-4	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024278.D	50	09/02/04	RA	n/a	n/a	GQR1067
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3270	50	25	ug/l	
75-27-4	Bromodichloromethane	ND	50	25	ug/l	
75-25-2	Bromoform	ND	50	25	ug/l	
74-83-9	Bromomethane	ND	50	25	ug/l	
56-23-5	Carbon tetrachloride	ND	50	25	ug/l	
108-90-7	Chlorobenzene	ND	50	25	ug/l	
124-48-1	Dibromochloromethane	ND	50	20	ug/l	
75-00-3	Chloroethane	ND	50	25	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	50	25	ug/l	
67-66-3	Chloroform	ND	50	25	ug/l	
74-87-3	Chloromethane	ND	50	25	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	50	25	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	50	25	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	50	25	ug/l	
75-71-8	Dichlorodifluoromethane	ND	50	25	ug/l	
75-34-3	1,1-Dichloroethane	ND	50	25	ug/l	
107-06-2	1,2-Dichloroethane	72.2	50	25	ug/l	
75-35-4	1,1-Dichloroethene	ND	50	25	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	50	25	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	50	25	ug/l	
78-87-5	1,2-Dichloropropane	ND	50	25	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	50	15	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	50	15	ug/l	
100-41-4	Ethylbenzene	ND	50	25	ug/l	
75-09-2	Methylene chloride	ND	250	50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	50	25	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	50	10	ug/l	
127-18-4	Tetrachloroethene	ND	50	25	ug/l	
108-88-3	Toluene	ND	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	50	25	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	50	25	ug/l	
79-01-6	Trichloroethene	ND	50	25	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:	UST1115-MW111522		
Lab Sample ID:	F26185-4	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	50	25	ug/l	
75-01-4	Vinyl chloride	ND	50	25	ug/l	
1330-20-7	Xylenes (total)	ND	150	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	87%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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:	UST1115-MW111522		
Lab Sample ID:	F26185-4	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014786.D	1	08/25/04	CV	n/a	n/a	GXY477
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	54.5	0.50	0.30	ug/l	
74-84-0	Ethane	25.3	1.0	0.60	ug/l	
74-85-1	Ethene	2.96	1.0	0.80	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:	UST1115-MW111522		
Lab Sample ID:	F26185-4	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20758.D	1	08/27/04	AA	08/26/04	OP11190	GIJ1016
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	5.7	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	98%		42-123%
84-15-1	o-Terphenyl	103%		51-123%

(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:	UST1115-MW111522		
Lab Sample ID:	F26185-4	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/20/04 17:13	SM	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/20/04 17:13	SM	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/20/04 17:13	SM	EPA 300/SW846 9056
Sulfate	< 2.0	2.0	mg/l	1	08/20/04 17:13	SM	EPA 300/SW846 9056
Total Organic Carbon	8.7	1.0	mg/l	1	09/20/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111517		
Lab Sample ID:	F26185-5	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024279.D	2	09/02/04	RA	n/a	n/a	GQR1067
Run #2 [a]	QR024307.D	10	09/03/04	RA	n/a	n/a	GQR1069

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	34.1	2.0	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.80	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	2.0	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	78.9	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	1.9	2.0	1.0	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.60	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.60	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.40	ug/l	
127-18-4	Tetrachloroethene	ND	2.0	1.0	ug/l	
108-88-3	Toluene	1.4	2.0	1.0	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethene	ND	2.0	1.0	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:	UST1115-MW111517		
Lab Sample ID:	F26185-5	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	2.9	6.0	2.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	98%	99%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	94%	101%	70-123%
563-58-6	1,1-Dichloropropene	102%	101%	86-112%
563-58-6	1,1-Dichloropropene	102%	109%	86-112%

(a) Sample re-analyzed beyond hold time; 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:	UST1115-MW111517		
Lab Sample ID:	F26185-5	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014787.D	1	08/25/04	CV	n/a	n/a	GXY477
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	211	0.50	0.30	ug/l	
74-84-0	Ethane	11.7	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111517		
Lab Sample ID:	F26185-5	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20759.D	1	08/27/04	AA	08/26/04	OP11190	GIJ1016
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	12.4	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	6.6	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	10.5	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	9.0	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	101%		42-123%
84-15-1	o-Terphenyl	104%		51-123%

(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:	UST1115-MW111517		
Lab Sample ID:	F26185-5	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/20/04 17:30	SM	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/20/04 17:30	SM	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/20/04 17:30	SM	EPA 300/SW846 9056
Sulfate [b]	3170	40	mg/l	20	09/08/04 14:01	SJL	EPA 300/SW846 9056
Total Organic Carbon	17.4	1.0	mg/l	1	09/20/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)
(b) Estimated value, above calibration range.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW111504		
Lab Sample ID:	F26185-6	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024282.D	1	09/02/04	RA	n/a	n/a	GQR1067
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	31.5	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	1.7	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	1.1	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW111504		
Lab Sample ID:	F26185-6	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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:	UST1115-MW111504		
Lab Sample ID:	F26185-6	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014788.D	1	08/25/04	CV	n/a	n/a	GXY477
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	333	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW111504		
Lab Sample ID:	F26185-6	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20760.D	1	08/27/04	AA	08/26/04	OP11190	GIJ1016
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	92%		42-123%
84-15-1	o-Terphenyl	91%		51-123%

(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:	UST1115-MW111504		
Lab Sample ID:	F26185-6	Date Sampled:	08/19/04
Matrix:	AQ - Ground Water	Date Received:	08/20/04
		Percent Solids:	n/a
Project:	Camp Lejeune-NW		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/20/04 17:47	SM	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/20/04 17:47	SM	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/20/04 17:47	SM	EPA 300/SW846 9056
Sulfate	26.2	2.0	mg/l	1	08/20/04 17:47	SM	EPA 300/SW846 9056
Total Organic Carbon	5.6	1.0	mg/l	1	09/20/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-081904		
Lab Sample ID:	F26185-7	Date Sampled:	08/19/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024283.D	1	09/02/04	RA	n/a	n/a	GQR1067
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-081904		
Lab Sample ID:	F26185-7	Date Sampled:	08/19/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/20/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	87%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F26185

COC Number:
844098-NW-081904

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390 | Receiving Lab: ACCUTEST

Project Name	Project Location	
CAMP LEJEUNE - NW	CAMP LEJEUNE, NC	
Project Number	**Contact**	**PO Number**
844098	Mark Martin	3600
Client Rep	**Project Manager**	
US NAVY - LANTDIV	Ron Kenyon	

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1								
1	UST1115-MW111521	8/19/04	11:00		X	UST1115-MW111521	10	X	X	X	X	X	X								
2	UST1115-MW111524	8/19/04	10:00		X	UST1115-MW111524	10	X	X	X	X	X	X								
3	UST1115-MW111502	8/19/04	11:30		X	UST1115-MW111502	10	X	X	X	X	X	X								
4	UST1115-MW111522	8/19/04	13:00		X	UST1115-MW111522	10	X	X	X	X	X	X								
5	UST1115-MW111517	8/19/04	14:00		X	UST1115-MW111517	10	X	X	X	X	X	X								
6	UST1115-MW111504	8/19/04	14:45		X	UST1115-MW111504	9 10	X	X	X	X	X	X								
7	Trip Blank- 081904	8/19/04			X	Trip Blank	2	X													
8																					
9																					
10																					
11																					

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 – 7		Fed EX 8481 5070 3193	8/19/04	18:00	Please E-mail results to Mark.Martin@Shawgrp.com
2				8/20/04	0950	21 Day TAT

24

F26185: Chain of Custody
Page 1 of 2

Southeast
ACCUTEST.
Laboratories

09/09/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-NW

844098

Accutest Job Number: F26145

Sampling Date: 08/18/04

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 38

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F26145

Camp Lejeune-NW
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F26145-1	08/18/04	10:00	MM	08/19/04	AQ	Ground Water	UST1115-MW78GW2202
F26145-2	08/18/04	10:05	MM	08/19/04	AQ	Ground Water	UST1115-MW78GW2202D
F26145-3	08/18/04	11:00	MM	08/19/04	AQ	Ground Water	UST1115-MW111523
F26145-4	08/18/04	12:15	MM	08/19/04	AQ	Ground Water	UST1115-MW111501
F26145-5	08/18/04	11:45	MM	08/19/04	AQ	Ground Water	UST1115-GT07
F26145-6	08/18/04	00:00	MM	08/19/04	AQ	Trip Blank Water	TRIP BLANK-081804

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW78GW2202		
Lab Sample ID:	F26145-1	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024250.D	1	08/31/04	RA	n/a	n/a	GQR1065
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6.4	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	2.2	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:	UST1115-MW78GW2202		
Lab Sample ID:	F26145-1	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	89%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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:	UST1115-MW78GW2202		
Lab Sample ID:	F26145-1	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20605.D	1	08/20/04	AA	08/20/04	OP11130	GIJ1012
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	78%		42-123%
84-15-1	o-Terphenyl	97%		51-123%

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:	UST1115-MW78GW2202D		
Lab Sample ID:	F26145-2	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024251.D	1	08/31/04	RA	n/a	n/a	GQR1065
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6.2	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	2.3	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:	UST1115-MW78GW2202D		
Lab Sample ID:	F26145-2	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	88%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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:	UST1115-MW78GW2202D		
Lab Sample ID:	F26145-2	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20606.D	1	08/20/04	AA	08/20/04	OP11130	GIJ1012
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	59%		42-123%
84-15-1	o-Terphenyl	82%		51-123%

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:	UST1115-MW111523		
Lab Sample ID:	F26145-3	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024254.D	20	09/01/04	RA	n/a	n/a	GQR1065
Run #2 [a]	QR024274.D	200	09/02/04	RA	n/a	n/a	GQR1067

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2720 [b]	200	100	ug/l	
75-27-4	Bromodichloromethane	ND	20	10	ug/l	
75-25-2	Bromoform	ND	20	10	ug/l	
74-83-9	Bromomethane	ND	20	10	ug/l	
56-23-5	Carbon tetrachloride	ND	20	10	ug/l	
108-90-7	Chlorobenzene	ND	20	10	ug/l	
124-48-1	Dibromochloromethane	ND	20	8.0	ug/l	
75-00-3	Chloroethane	ND	20	10	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	20	10	ug/l	
67-66-3	Chloroform	ND	20	10	ug/l	
74-87-3	Chloromethane	ND	20	10	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	20	10	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	20	10	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	10	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	10	ug/l	
75-34-3	1,1-Dichloroethane	ND	20	10	ug/l	
107-06-2	1,2-Dichloroethane	657 [b]	200	100	ug/l	
75-35-4	1,1-Dichloroethene	ND	20	10	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	20	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	20	10	ug/l	
78-87-5	1,2-Dichloropropane	ND	20	10	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	20	6.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	20	6.0	ug/l	
100-41-4	Ethylbenzene	38.6	20	10	ug/l	
75-09-2	Methylene chloride	ND	100	20	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	20	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	4.0	ug/l	
127-18-4	Tetrachloroethene	ND	20	10	ug/l	
108-88-3	Toluene	267	20	10	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	10	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	20	10	ug/l	
79-01-6	Trichloroethene	ND	20	10	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:	UST1115-MW111523		
Lab Sample ID:	F26145-3	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	20	10	ug/l	
75-01-4	Vinyl chloride	ND	20	10	ug/l	
1330-20-7	Xylenes (total)	112	60	20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%	88%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	95%	98%	70-123%
563-58-6	1,1-Dichloropropene	96%	99%	86-112%
563-58-6	1,1-Dichloropropene	105%	107%	86-112%

(a) Sample re-analyzed beyond hold time; reported results are considered minimum values.
(b) 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:	UST1115-MW111523		
Lab Sample ID:	F26145-3	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20607.D	1	08/20/04	AA	08/20/04	OP11130	GIJ1012
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	72%		42-123%
84-15-1	o-Terphenyl	91%		51-123%

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:	UST1115-MW111501		
Lab Sample ID:	F26145-4	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024255.D	1	09/01/04	RA	n/a	n/a	GQR1065
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	17.7	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	1.7	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.92	1.0	0.50	ug/l	J
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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	1.1	1.0	0.50	ug/l	
108-88-3	Toluene	4.6	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW111501		
Lab Sample ID:	F26145-4	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	2.9	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	89%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	109%		86-112%

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:	UST1115-MW111501		
Lab Sample ID:	F26145-4	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20608.D	1	08/20/04	AA	08/20/04	OP11130	GIJ1012
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	67%		42-123%
84-15-1	o-Terphenyl	83%		51-123%

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:	UST1115-GT07		
Lab Sample ID:	F26145-5	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024256.D	1	09/01/04	RA	n/a	n/a	GQR1065
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	37.9	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	16.9	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	1.5	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	8.2	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-GT07		
Lab Sample ID:	F26145-5	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	4.4	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	99%		70-123%
563-58-6	1,1-Dichloropropene	98%		86-112%
563-58-6	1,1-Dichloropropene	109%		86-112%

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:	UST1115-GT07		
Lab Sample ID:	F26145-5	Date Sampled:	08/18/04
Matrix:	AQ - Ground Water	Date Received:	08/19/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20609.D	1	08/20/04	AA	08/20/04	OP11130	GIJ1012
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	66%		42-123%
84-15-1	o-Terphenyl	51%		51-123%

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-081804		
Lab Sample ID:	F26145-6	Date Sampled:	08/18/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024257.D	1	09/01/04	RA	n/a	n/a	GQR1065
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-081804		
Lab Sample ID:	F26145-6	Date Sampled:	08/18/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/19/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-NW		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	86%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	95%		70-123%
563-58-6	1,1-Dichloropropene	101%		86-112%
563-58-6	1,1-Dichloropropene	109%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F26145

COC Number:
824603-NW-081804

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - NW	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
824603	Mark Martin	209378

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1	Analysis Desired
1	UST1115-MW78GW2202	8/18/04	10:00		X	UST1115-MW78GW2202	5	X	X					
2	UST1115-MW78GW2202D	8/18/04	10:05		X	UST1115-MW78GW2202D	5	X	X					
3	UST1115-MW111523	8/18/04	11:00		X	UST1115-MW111523	5	X	X					
4	UST1115-MW111501	8/18/04	12;15		X	UST1115-MW111501	5	X	X					
5	UST1115-GT07	8/18/04	11:45		X	UST1115-GT07	5	X	X					
6	Trip Blank- 081804	8/18/04			X	Trip Blank	2	X						
7														
8														
9														
10														

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 6		Fed Ex 8481 5070 7328	8/18/04	18:00	Please E-mail results to Mark.Martin@shawgrp.com
2		FX		8/19/04	09:00	21 Day TAT

2-6

F26145: Chain of Custody
Page 1 of 3

ACCUTEST Laboratories
F26145

APPENDIX D

GROUNDWATER SAMPLE COLLECTION LOGS

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MWHPFF7	
SAMPLE NO.UST HPFF - MWHPFF7	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Partly Cloudy 46°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2-13-04
TIME 1:45
No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.60	6.53	6.57	6.56			(STD)
Specific Conductivity	.457	.827	.861	.857			(m S/m)
Turbidity (Turb)	54.4	8.0	-1.0	-1.7			(NTU)
Dissolved Oxygen (DO)	4.43	6.53	6.56	6.56			(g/l)
Temperature (Temp)	18.41	19.88	19.79	19.80			(°C)
ORP	6.1	-67.6	-74.7	-75.9			

Depth to Bottom	547.32	(In) (Minus)	Depth to Water	93.60	(In)	=	453.72	HT (in)
Depth to Bottom	45.61	(Ft) (Minus)	Depth to Water	7.80	(Ft)	=	37.81	HT (ft)

d = 2
r = 1
d/2 = 1

MEASUREMENTS (IN INCHES)
Multiply Together

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			453.72	1	3.14	1425	.0043	6.1		18.5	20
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. HPFF1
		SAMPLE NO.UST HPFF MWHPFF01

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2-13-04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 1040
PHONE: 910-451-2390	WEATHER: cloudy 38°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	4.36	4.48	4.40	4.50			(STD)
Specific Conductivity	.192	.189	.186	.183			(m S/m)
Turbidity (Turb)	1166.3	284.6	22.3	9.8			(NTU)
Dissolved Oxygen (DO)	49.47	1.96	.65	.50			(g/l)
Temperature (Temp)	14.47	14.21	14.92	15.38			(°C)
ORP	208.3	237.8	248.2	217.7			

Depth to Bottom	179.02	(In) (Minus)	Depth to Water	51.84	(In)	=	127.26	HT (in)
Depth to Bottom	14.92	(Ft) (Minus)	Depth to Water	4.32	(Ft)	=	10.6	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			127.20	1	3.14	399	.0043	1.7		5.18	6
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603
PROJECT NAME: HPFF
WELL NO. 78GW-32-2
SAMPLE NO.UST 1115. MW 78GW3202

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.23.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 0945
PHONE: 910-451-2390	WEATHER: Sunny 40°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.15	6.85	6.85	6.85			(STD)
Specific Conductivity	.419	.657	.654	.652			(m S/cm)
Turbidity (Turb)	41.4	.7	-1.4	-1.2			(NTU)
Dissolved Oxygen (DO)	1.14	.13	.02	.04			(mg/l)
Temperature (Temp)	22.00	22.25	22.24	22.27			(°C)
ORP	-64.5	-93.9	-104.5	-107.0			

Depth to Bottom	~~948.00~~	(In) (Minus)	Depth to Water	~~87.96~~	(In)	=	~~860.04~~	HT (in)
Depth to Bottom	79'	(Ft) (Minus)	Depth to Water	7.33	(Ft)	=	71.67	HT (ft)

d = 4 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			~~860.04~~ 860.04	1	3.14	~~1085.2~~ 2701	.0043	46.4		140.4	150
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]

OTHER:

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. 78GW3203	
SAMPLE NO.UST1115-MW78GW3203	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: sunny 45°
LEL:	
PID:	Sampling Device: Bailer

DATE 2-23-04
TIME 1430
Well Locked: [X] Yes
No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.32	7.07	7.03	7.22			(STD)
Specific Conductivity	.314	.314	.315	.314			(m S/m)
Turbidity (Turb)	14.1	-2.1	-2.3	-2.2			(NTU)
Dissolved Oxygen (DO)	2.37	1.78	1.63	2.44			mg/l)
Temperature (Temp)	21.08	21.14	21.13	21.13			(°C)
ORP	-153.2	-126.9	-123.0	-146.8			

Depth to Bottom	1822.80	(In) (Minus)	Depth to Water	95.28	(In)	=	1727.52	HT (in)
Depth to Bottom	>100	(Ft) (Minus)	Depth to Water	7.94	(Ft)	=	144	HT (ft)

151.9

d = 84 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			1727.52	1	3.14	21698	.0043	93.3		279.9	225
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	6X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS: 1 x 500ml Amber glass H_2SO_4
1 x 1L poly 4 deg C.

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW17A	
SAMPLE NO.UST HPFF - MW17A	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Sunny 65°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2-20-04
TIME 1520
No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.23	6.24	6.19	6.22			(STD)
Specific Conductivity	.297	.334	.312	.306			(m S/cm)
Turbidity (Turb)	14.8	8.2	3.3	9.1			(NTU)
Dissolved Oxygen (DO)	~~0.03~~ -55	.05	.27	.37			(mg/l)
Temperature (Temp)	18.22	17.48	17.68	18.33			(°C)
ORP	-41.3	-58.6	-55.1	-59.3			

Depth to Bottom	419.52	(In) (Minus)	Depth to Water	114.96	(In)	=	304.56	HT (in)
Depth to Bottom	34.96	(Ft) (Minus)	Depth to Water	9.58	(Ft)	=	25.38	HT (ft)

d = 4 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			304.56	1	3.14	3825	.0043	16.4		49.7	50
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. HPFF8
		SAMPLE NO. UST HPFF-MW HPFF08

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.20.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 1320
PHONE: 910-451-2390	WEATHER: sunny 60°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.74	6.53	6.53	6.55			(STD)
Specific Conductivity	.403	.489	.499	.500			(m S/cm)
Turbidity (Turb)	38.1	.8	-1.5	-1.8			(NTU)
Dissolved Oxygen (DO)	1.61	.37	.29	.37			(mg/l)
Temperature (Temp)	20.18	21.81	21.93	22.06			(°C)
ORP	-107.4	-115.8	-121.3	-107.2			

Depth to Bottom	613.32	(In) (Minus)	Depth to Water	167.16	(In)	=	446.16	HT (in)
Depth to Bottom	51.11	(Ft) (Minus)	Depth to Water	13.93	(Ft)	=	37.18	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			446.16	1	3.14	1401	.0043	6.0		18.2	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. HPFF 5	
SAMPLE NO.UST HPFF-MW24PFF5	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Partly Cloudy 48°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2-13-04

TIME 1250

No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.10	5.82	5.78	5.81			(STD)
Specific Conductivity	.293	.277	.275	.282			(m S/m)
Turbidity (Turb)	61.4	8.8	2.3	1.2			(NTU)
Dissolved Oxygen (DO)	3.54	.52	.38	.32			(g/l)
Temperature (Temp)	17.35	19.02	19.87	19.58			(°C)
ORP	-1.6	35.9	35.9	31.9			

Depth to Bottom	180.00	(In) (Minus)	Depth to Water	69.12	(In)	=	110.88	HT (in)
Depth to Bottom	15.0	(Ft) (Minus)	Depth to Water	5.76	(Ft)	=	9.24	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			110.88	1	3.14	348	.0043	1.5		5	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. HPFF 9	
SAMPLE NO.UST HPFF-MW/HPFF9	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Partly Cloudy 48°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2.13.04
TIME 1345
No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.47	6.68	6.69	6.79			(STD)
Specific Conductivity	.495	1.072	1.074	1.067			(m S/m)
Turbidity (Turb)	219.0	20.6	29.3	24.3			(NTU)
Dissolved Oxygen (DO)	6.03	.36	.27	.46			(g/l)
Temperature (Temp)	21.34	22.48	22.58	22.42			(°C)
ORP	-27.1	-78.0	-84.8	-76.8			

Depth to Bottom	580.80	(In) (Minus)	Depth to Water	85.08	(In)	=	495.72	HT (in)
Depth to Bottom	48.4	(Ft) (Minus)	Depth to Water	7.09	(Ft)	=	41.31	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together
d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			495.72	1	3.14	1557	.0043	6.7	20.2	21
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. HPFF 11
		SAMPLE NO.UST14 PFF-MWHPFF11

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2·20·04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 1145
PHONE: 910-451-2390	WEATHER: SUNNY 55°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.76	8.17	7.29	7.22			(STD)
Specific Conductivity	.109	.206	.394	.434			(m S/cm)
Turbidity (Turb)	19.6	39.5	9.7	3.9			(NTU)
Dissolved Oxygen (DO)	39.68	2.74	.80	.50			(mg/l)
Temperature (Temp)	19.15	20.24	20.25	20.28			(°C)
ORP	-52.9	-79.7	-89.0	-90.8			

Depth to Bottom	973.20	(In) (Minus)	Depth to Water	145.32	(In)	=	827.88	HT (in)
Depth to Bottom	81.1	(Ft) (Minus)	Depth to Water	12.11	(Ft)	=	68.99	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			827.88	1	3.14	2600	.0043	11.2		33.7	35
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. MW-11
		SAMPLE NO.USTHPFF-MW11

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.14.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 0815
PHONE: 910-451-2390	WEATHER: RAIN 40°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	4.86	4.71	4.92	4.88			(STD)
Specific Conductivity	.550	.542	.501	.497			(m S/cm)
Turbidity (Turb)	262.4	225.2	105.9	20.7			(NTU)
Dissolved Oxygen (DO)	48.12	.47	1.72	2.19			(mg/l)
Temperature (Temp)	13.87	15.67	15.37	15.79			(°C)
ORP	181.0	169.3	142.8	142.6			

Depth to Bottom	288.00	(In) (Minus)	Depth to Water	81.72	(In)	=	206.28	HT (in)
Depth to Bottom	24.0	(Ft) (Minus)	Depth to Water	6.81	(Ft)	=	17.19	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			206.28	1	3.14	648	.0043	2.8		8.5	9
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]

OTHER:

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. HPFF19	
SAMPLE NO.UST HPFF-MW(PFFF	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: RAIN 46°
LEL:	
PID:	Sampling Device: Bailer

DATE 2-14-04
TIME 1445
Well Locked: [X] Yes
No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.45	5.99	5.94	5.75			(STD)
Specific Conductivity	.232	.223	.210	.196			(m S/cm)
Turbidity (Turb)	289.3	145.4	75.0	29.6			(NTU)
Dissolved Oxygen (DO)	.97	.32	.67	.90			(mg/l)
Temperature (Temp)	17.28	16.59	17.66	19.49			(°C)
ORP	-43.1	-43.3	-32.3	32.8			

Depth to Bottom	175.20	(In) (Minus)	Depth to Water	54.48	(In)	=	120.72	HT (in)
Depth to Bottom	14.6	(Ft) (Minus)	Depth to Water	4.54	(Ft)	=	10.06	HT (ft)

d = 2
r = 1
d/2 = 1

MEASUREMENTS (IN INCHES)
Multiply Together

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			120.72	1	3.14	379	.0043	1.6		4.9	6
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. HPFF 20
		SAMPLE NO.UST HPFF-MW HPFF20

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.20.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 0945
PHONE: 910-451-2390	WEATHER: Sunny 50°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.28	6.14	6.20	6.16			(STD)
Specific Conductivity	.230	.230	.231	.232			(m S/cm)
Turbidity (Turb)	82.0	57.6	26.3	13.2			(NTU)
Dissolved Oxygen (DO)	37.67	32.11	33.23	36.73			(mg/l)
Temperature (Temp)	14.81	16.03	16.30	16.26			(°C)
ORP	-49.6	-73.3	-60.0	-67.7			

Depth to Bottom	171.36	(In) (Minus)	Depth to Water	75.96	(In)	=	95.40	HT (in)
Depth to Bottom	14.29	(Ft) (Minus)	Depth to Water	6.33	(Ft)	=	7.95	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			95.40	1	3.14	300	.0043	1.3		3.9	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603
PROJECT NAME: HPFF
WELL NO. MW01
SAMPLE NO.UST HPFF - MW01 ← UST HPFF-MW01

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.14.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 0945 / 0950
PHONE: 910-451-2390	WEATHER: Rain 40°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.52	5.54	5.54	5.54			(STD)
Specific Conductivity	.140	.129	.127	.126			(m S/cm)
Turbidity (Turb)	434.7	68.2	28.5	17.6			(NTU)
Dissolved Oxygen (DO)	5.49	1.32	.71	.48			(mg/l)
Temperature (Temp)	16.03	15.87	16.36	16.36			(°C)
ORP	78.2	69.0	66.9	65.1			

Depth to Bottom	227.64	(In) (Minus)	Depth to Water	94.68	(In)	=	132.96	HT (in)
Depth to Bottom	18.97	(Ft) (Minus)	Depth to Water	7.89	(Ft)	=	11.08	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			132.96	1	3.14	417	.0043	1.8		5.4	7
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: DUPLICATE SAMPLE

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW10R	
SAMPLE NO.UST1115-MW10R	

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.14.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 1330
PHONE: 910-451-2390	WEATHER: RAIN 42°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.44	6.50	6.53	6.64			(STD)
Specific Conductivity	.978	.956	.966	.974			(m S/cm)
Turbidity (Turb)	35.1	16.7	8.7	3.7			(NTU)
Dissolved Oxygen (DO)	.97	.35	.27	.15			(mg/l)
Temperature (Temp)	15.94	16.65	16.81	18.35			(°C)
ORP	-89.5	-94.3	-97.0	-105.1			

Depth to Bottom	206.40	(In) (Minus)	Depth to Water	136.08	(In)	=	70.32	HT (in)
Depth to Bottom	17.2	(Ft) (Minus)	Depth to Water	11.34	(Ft)	=	5.86	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			70.32	1	3.14	221	.0043	.9		2.9	4
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. MW 18
		SAMPLE NO.USTHPFF - MW18

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.14.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 1215
PHONE: 910-451-2390	WEATHER: 42° RAIN	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.78	5.79	5.78	5.75			(STD)
Specific Conductivity	.272	.278	.273	.259			(m S/cm)
Turbidity (Turb)	27.6	17.8	18.6	8.2			(NTU)
Dissolved Oxygen (DO)	2.17	.26	.19	.07			(mg/l)
Temperature (Temp)	19.59	19.65	19.52	19.48			(°C)
ORP	41.1	24.2	13.2	-9.1			

Depth to Bottom	274.80	(In) (Minus)	Depth to Water	117.96	(In)	=	156.84	HT (in)
Depth to Bottom	22.9	(Ft) (Minus)	Depth to Water	9.83	(Ft)	=	13.07	HT (ft)

d = 4 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			156.84	1	3.14	1970	.0043	8.5		25.6	27
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW 1115-18	
SAMPLE NO.UST1115-MW111518	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Sunny 65°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 3.2.04

TIME 1115

No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.57	6.58	6.53	6.50			(STD)
Specific Conductivity	1.325	1.200	1.152	1.177			(m S/m)
Turbidity (Turb)	39.2	9.4	15.2	8.7			(NTU)
Dissolved Oxygen (DO)	22.90	21.14	-.33	-.27			(g/l)
Temperature (Temp)	20.68	21.11	21.42	21.31			(°C)
ORP	-126.3	-124.1	-112.9	-107.3			

Depth to Bottom	~~600.00~~	(In) (Minus)	Depth to Water	98.16	(In)	=	501.84	HT (in)
Depth to Bottom	~~50.0~~ ~~70.69~~	(Ft) (Minus)	Depth to Water	8.18	(Ft)	=	~~2.51~~ 41.82	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			501.84	1	3.14	1576	.0043	6.8		~~20.5~~ 17.2	22
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]

OTHER:

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW111524	
SAMPLE NO.UST1115 · MW111524	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: PARTLY CLOUDY 48°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer — No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.19	6.79	6.80	6.80			(STD)
Specific Conductivity	.614	.616	.618	.618			(m S/m)
Turbidity (Turb)	4.0	-1.8	-1.9	-2.0			(NTU)
Dissolved Oxygen (DO)	2.19	.30	.25	.24			mg/l
Temperature (Temp)	21.94	22.59	22.62	22.73			(°C)
ORP	-22.1	-88.3	-90.1	-92.1			

Depth to Bottom	954.24	(In) (Minus)	Depth to Water	83.28	(In)	=	870.96	HT (in)
Depth to Bottom	79.52	(Ft) (Minus)	Depth to Water	6.94	(Ft)	=	72.58	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			870.96	1	3.14	2735	.0043	11.8		35.5	36
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]

OTHER:

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. SMW111502	
SAMPLE NO.UST1115-MW111502	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Partly Cloudy 78°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2.25.04

TIME 1545

No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.04	4.86	4.86	4.91			(STD)
Specific Conductivity	.126	.115	.113	.119			(m S/m)
Turbidity (Turb)	17.3	22.9	14.2	9.7			(NTU)
Dissolved Oxygen (DO)	2.94	1.80	1.55	1.86			mg/l
Temperature (Temp)	19.15	20.46	21.33	19.36			(°C)
ORP	119.0	166.2	185.4	192.2			

Depth to Bottom	166.80	(In) (Minus)	Depth to Water	106.68	(In)	=	60.12	HT (in)
Depth to Bottom	13.9	(Ft) (Minus)	Depth to Water	8.89	(Ft)	=	5.01	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			60.12	1	3.14	189	.0043	.8		2.45	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. 1115-22	
SAMPLE NO.UST 1115-MW1115 22	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Cloudy 40°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2-25-04

TIME 0930

No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.75	7.12	7.13	7.14			(STD)
Specific Conductivity	.435	.459	.457	.457			(m S/m)
Turbidity (Turb)	89.0	71.5	71.1	71.7			(NTU)
Dissolved Oxygen (DO)	1.29	.75	.37	.23			mg/l)
Temperature (Temp)	19.49	20.27	20.41	20.52			(°C)
ORP	4.5	-112.1	-111.7	-112.2			

Depth to Bottom	958.44	(In) (Minus)	Depth to Water	119.64	(In)	=	838.80	HT (in)
Depth to Bottom	79.87	(Ft) (Minus)	Depth to Water	9.97	(Ft)	=	69.9	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			838.80	1	3.14	2634	.0043	11.3	34.2	36
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

		PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. MW111517
		SAMPLE NO.UST1115-MW111517
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.25.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 1100
PHONE: 910-451-2390	WEATHER: cloudy 45°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.45	5.65	5.64	5.63			(STD)
Specific Conductivity	2.537	3.124	3.112	3.136			(m S/m)
Turbidity (Turb)	78.8	97.6	61.8	4.7			(NTU)
Dissolved Oxygen (DO)	7.81	4.10	3.53	1.70			mg/l
Temperature (Temp)	19.28	19.90	19.90	20.10			(°C)
ORP	1.7	19.7	18.8	16.0			

Depth to Bottom	605.40	(In) (Minus)	Depth to Water	100.80	(In)	=	504.60	HT (in)
Depth to Bottom	50.45	(Ft) (Minus)	Depth to Water	8.40	(Ft)	=	42.05	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			504.60	1	3.14	1584	.0043	6.8		20.6	21
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]

OTHER:

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW111521	
SAMPLE NO. UST1115-MW111521	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Partly Cloudy 48°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2-25-09

TIME 1515

No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.29	5.05	4.99	4.99			(STD)
Specific Conductivity	.177	.131	.127	.127			(m S/m)
Turbidity (Turb)	114.2	1.6	1.5	-1.3			(NTU)
Dissolved Oxygen (DO)	4.34	.96	1.32	1.07			mg/l)
Temperature (Temp)	22.72	24.09	24.38	24.38			(°C)
ORP	55.9	104.8	111.3	110.1			

Depth to Bottom	602.40	(In) (Minus)	Depth to Water	91.68	(In)	=	510.72	HT (in)
Depth to Bottom	50.2	(Ft) (Minus)	Depth to Water	7.64	(Ft)	=	42.56	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			510.72	1	3.14	1604	.0043	6.9		20.8	21
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW111504	
SAMPLE NO.UST1115 - MW111504	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: cloudy 45°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2-25-04
TIME 1145
No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.68	5.53	5.14	4.92			(STD)
Specific Conductivity	1.582	.808	.332	.159			(m S/m)
Turbidity (Turb)	291.0	51.5	16.9	8.5			(NTU)
Dissolved Oxygen (DO)	3.33	3.19	2.71	1.80			mg/l)
Temperature (Temp)	15.20	14.32	13.49	13.92			(°C)
ORP	37.6	62.8	124.1	155.0			

Depth to Bottom	210.36	(In) (Minus)	Depth to Water	56.52	(In)	=	153.84	HT (in)
Depth to Bottom	17.53	(Ft) (Minus)	Depth to Water	4.71	(Ft)	=	12.82	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			153.84	1	3.14	483	.0043	2.1		6.3	7
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]

OTHER:

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW111513	
SAMPLE NO.UST 1115-MW111513	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt — DATE 2-24-04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt — TIME 1400
PHONE: 910-451-2390	WEATHER: cloudy 42°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer — No

FIELD MEASUREMENTS

	1	2	3	4			
PH	3.95	3.94	3.94	3.95			(STD)
Specific Conductivity	3.521	3.634	3.754	3.831			(m S/m)
Turbidity (Turb)	29.9	27.4	3.1	1.0			(NTU)
Dissolved Oxygen (DO)	.34	.24	.22	.20			mg/l)
Temperature (Temp)	26.02	26.23	26.23	26.28			(°C)
ORP	236.3	237.7	235.1	232.8			

Depth to Bottom	615.60	(In) (Minus)	Depth to Water	96.00	(In)	=	519.60	HT (in)
Depth to Bottom	51.3	(Ft) (Minus)	Depth to Water	8.00	(Ft)	=	43.3	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			519.60	1	3.14	1632	.0043	7.0		21.2	23
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER:	824603
PROJECT NAME:	HPFF
WELL NO.	MW1115.25
SAMPLE NO.	UST1115 - MW111525
PROJECT LOCATION:	Camp Lejeune, NC
LOGGER:	Debra Hoyt
DATE	2-24-04
PROJECT CONTACT:	Mark Martin
SAMPLER:	Debra Hoyt
TIME	1200
PHONE:	910-451-2390
WEATHER:	cloudy 40°
LEL:	
Well Locked:	[X] Yes
PID:	
Sampling Device:	Bailer
	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.18	7.16	7.17	7.16			(STD)
Specific Conductivity	.494	.501	.496	.495			(m S/m)
Turbidity (Turb)	58.9	2.1	1.3	-1.0			(NTU)
Dissolved Oxygen (DO)	28.89	.27	.18	.14			mg/l)
Temperature (Temp)	22.75	24.42	24.41	24.31			(°C)
ORP	-115.9	-142.0	-146.2	-145.4			

Depth to Bottom	961.20	(In) (Minus)	Depth to Water	96.24	(In)	=	864.96	HT (in)
Depth to Bottom	80.1	(Ft) (Minus)	Depth to Water	8.02	(Ft)	=	72.08	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			864.96	1	3.14	2716	.0043	11.7		35.2	36
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603
PROJECT NAME: HPFF
WELL NO. GT-9
SAMPLE NO.UST1115 - GT09 + GT09D

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.24.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 1530 / 1535
PHONE: 910-451-2390	WEATHER: Cloudy 50°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.31	5.69	5.72	5.72			(STD)
Specific Conductivity	.510	.402	.384	.381			(m S/m)
Turbidity (Turb)	1207.9	218.3	22.5	9.2			(NTU)
Dissolved Oxygen (DO)	3.77	.39	.34	.31			mg/l)
Temperature (Temp)	17.63	18.41	19.05	19.24			(°C)
ORP	80.0	64.3	46.4	43.9			

Depth to Bottom	228.24	(In) (Minus)	Depth to Water	58.80	(In)	=	169.44	HT (in)
Depth to Bottom	19.02	(Ft) (Minus)	Depth to Water	4.90	(Ft)	=	14.12	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			169.44	1	3.14	532	.0043	2.3		6.9	8
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above	3 X 40 ml	HCL
PAH 610	See Sample Number Above	2 X 1 L Amber	4 deg. C.

COMMENTS: DUPLICATE SAMPLE

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. MW111501
		SAMPLE NO. UST1115-MW111501

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.21.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 0825
PHONE: 910-451-2390	WEATHER: PARTLY CLOUDY 50°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.23	4.90	4.77	4.62			(STD)
Specific Conductivity	.192	.190	.186	.185			(m S/cm)
Turbidity (Turb)	157.5	119.8	75.1	21.4			(NTU)
Dissolved Oxygen (DO)	34.21	1.47	1.39	1.48			(mg/l)
Temperature (Temp)	18.21	18.90	19.77	19.29			(°C)
ORP	167.3	245.9	267.8	299.2			

Depth to Bottom	174.36	(In) (Minus)	Depth to Water	87.72	(In)	=	86.64	HT (in)
Depth to Bottom	14.53	(Ft) (Minus)	Depth to Water	7.31	(Ft)	=	7.22	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in:	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			86.64	1	3.14	272	.0043	1.2		3.5	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]

OTHER:

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. GT01	
SAMPLE NO.UST1115 - GT01	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: Partly Sunny 50°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2-21-04

TIME 1120

No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.41	5.24	5.23	5.29			(STD)
Specific Conductivity	.190	.191	.215	.227			(m S/cm)
Turbidity (Turb)	526.6	76.0	20.8	20.4			(NTU)
Dissolved Oxygen (DO)	2.31	.40	.29	.29			(mg/l)
Temperature (Temp)	19.40	18.37	18.60	18.70			(°C)
ORP	124.0	136.0	140.4	134.1			

Depth to Bottom	211.20	(In) (Minus)	Depth to Water	47.52	(In)	=	163.68	HT (in)
Depth to Bottom	17.6	(Ft) (Minus)	Depth to Water	3.96	(Ft)	=	13.64	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			163.68	1	3.14	514	.0043	2.2		6.7	7
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW111523	
SAMPLE NO. UST1115 - MW111523	

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.21.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 1340
PHONE: 910-451-2390	WEATHER: PARTLY SUNNY 55°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.61	6.17	6.20	6.22			(STD)
Specific Conductivity	2.421	2.312	2.437	2.438			(m S/cm)
Turbidity (Turb)	242.9	97.3	59.2	7.6			(NTU)
Dissolved Oxygen (DO)	41.66	.28	.24	.17			(mg/l)
Temperature (Temp)	20.41	20.77	20.81	20.92			(°C)
ORP	-19.1	-44.3	-48.0	-52.6			

Depth to Bottom	981.00	(In) (Minus)	Depth to Water	108.00	(In)	=	873.00	HT (in)
Depth to Bottom	81.75	(Ft) (Minus)	Depth to Water	9.00	(Ft)	=	72.75	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			873.00	1	3.14	2741	.0043	11.8		35.5	40
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Lot of air bubbles in purge water

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 824603	
PROJECT NAME: HPFF	
WELL NO. MW78GW2202	
SAMPLE NO.UST115 .MW78GW2202 + MW78GW2202D	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt
PHONE: 910-451-2390	WEATHER: PARTLY SUNNY 60°
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 2.21.04
TIME 1500 + 1505
No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.33	4.90	4.85	4.84			(STD)
Specific Conductivity	.385	.298	.294	.294			(m S/cm)
Turbidity (Turb)	12.0	23.0	17.1	2.8			(NTU)
Dissolved Oxygen (DO)	4.45	.76	.56	.45			(mg/l)
Temperature (Temp)	17.30	16.62	17.16	17.17			(°C)
ORP	61.8	105.9	104.8	104.3			

Depth to Bottom	276.00	(In) (Minus)	Depth to Water	90.24	(In)	=	185.76	HT (in)
Depth to Bottom	23	(Ft) (Minus)	Depth to Water	7.52	(Ft)	=	15.48	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together
d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			185.76	1	3.14	583	.0043	2.5	7.6	8
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: DUPLICATE SAMPLE

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 824603
		PROJECT NAME: HPFF
		WELL NO. GT07
		SAMPLE NO.UST1115-GT07

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Debra Hoyt	DATE 2.21.04
PROJECT CONTACT: Mark Martin	SAMPLER: Debra Hoyt	TIME 0945
PHONE: 910-451-2390	WEATHER: PARTLY SUNNY 50°	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.60	5.66	5.62	5.55			(STD)
Specific Conductivity	.275	.269	.261	.247			(m S/cm)
Turbidity (Turb)	458.6	1210.9	1214.9	1214.1			(NTU)
Dissolved Oxygen (DO)	2.72	.24	.93	.75			(mg/l)
Temperature (Temp)	16.17	18.40	19.43	19.16			(°C)
ORP	86.1	63.9	72.8	77.2			

Depth to Bottom	156.96	(In) (Minus)	Depth to Water	54.84	(In)	=	102.12	HT (in)
Depth to Bottom	13.08	(Ft) (Minus)	Depth to Water	4.57	(Ft)	=	8.51	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			102.12	1	3.14	321	.0043	1.4		4.16	8
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: water never cleared up

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. HPFF-07	
SAMPLE NO.UST HPFF-HPFF07	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	
PID:	Sampling Device: Bailer

DATE 8/27/04

TIME 1030

Well Locked: [X] Yes ☐ No

FIELD MEASUREMENTS

	1	2	3	4		
PH	5.61	6.33	6.40	6.43		(STD)
Specific Conductivity	0.423	0.821	0.836	0.833		(m S/cm)
Turbidity (Turb)	49.8	2.2	0.0	0.0		(NTU)
Dissolved Oxygen (DO)	5.01	0.35	0.33	0.27		(mg/l)
Temperature (Temp)	21.97	20.48	20.55	20.51		(°C)
ORP	25.7	-40.6	-47.8	-52.8		

Depth to Bottom	547.32	(In) (Minus)	Depth to Water	93.84	(In)	=	453.48	HT (in)
Depth to Bottom	45.61	(Ft) (Minus)	Depth to Water	7.82	(Ft)	=	37.79	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			453.48	1	3.14	1424	.0043	6.1	18.4	20
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. HPFF-01	
SAMPLE NO.UST HPFF-HPFF01	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	
PID:	Sampling Device: Bailer

DATE 8/27/09
TIME 0945
Well Locked: [X] Yes ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.58	4.74	4.75	4.92			(STD)
Specific Conductivity	0.281	0.183	0.191	0.197			(m S/cm)
Turbidity (Turb)	300.8	58.3	12.1	13.7			(NTU)
Dissolved Oxygen (DO)	3.37	0.70	0.27	1.58			(mg/l)
Temperature (Temp)	23.59	24.76	25.06	24.46			(°C)
ORP	100.5	162.7	138.1	114.4			

Depth to Bottom	288.0	(In) (Minus)	Depth to Water	91.2	(In)	=	196.80	HT (in)
Depth to Bottom	24.0	(Ft) (Minus)	Depth to Water	7.60	(Ft)	=	16.4	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together
d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			196.80	1	3.14	618	.0043	2.7		8	10
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 786032-2	
SAMPLE NO.UST1115-786032-2	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Cloudy 70-80's
LEL:	
PID:	Sampling Device: Bailer

DATE 9/13/07
TIME 1400
Well Locked: [X] Yes
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.83	7.11		7.45			(STD)
Specific Conductivity	0.396	0.632		0.366			(m S/cm)
Turbidity (Turb)	32.1	17.1		1.3			(NTU)
Dissolved Oxygen (DO)	4.39	1.86		0.54			(mg/l)
Temperature (Temp)	22.27	22.34		22.58			(°C)
ORP	26.0	-53.9		-35.4			

Depth to Bottom	748.0	(In) (Minus)	Depth to Water	149.04	(In)	=	598.96	HT (in)
Depth to Bottom	79.00	(Ft) (Minus)	Depth to Water	12.42	(Ft)	=	66.58	HT (ft)

d = 4
r = 2
d/2 = 2

MEASUREMENTS (IN INCHES)
Multiply Together

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			598.96	1	3.14	10035	.0043	43.2	129.5	150
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Sheen on top of water.

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 78GW32-3	
SAMPLE NO.UST1115-78GW323	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Cloudy 80s
LEL:	
PID:	Sampling Device: Bailer

DATE 9/9/04

TIME 1100

Well Locked: [X] Yes ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.57	7.07	7.37	7.39			(STD)
Specific Conductivity	0.312	0.308	0.311	0.311			(m S/cm)
Turbidity (Turb)	60.1	8.2	8.8	8.4			(NTU)
Dissolved Oxygen (DO)	2.92	1.17	1.22	1.04			(mg/l)
Temperature (Temp)	21.85	21.08	21.08	21.04			(°C)
ORP	-6.5	-79.9	-91.6	-100.9			

Depth to Bottom	1822.8	(In) (Minus)	Depth to Water	207.12	(In)	=	1615.68	HT (in)
Depth to Bottom	151.9	(Ft) (Minus)	Depth to Water	17.26	(Ft)	=	134.6	HT (ft)

d = 24

r = 12

d/2 = 2

MEASUREMENTS (IN INCHES)

Multiply Together

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			1615.68	1	3.14	20293	.0043	87.3	2618	250
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. MW17A	
SAMPLE NO.UST HPFF-MW17A	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: cloudy 80's
LEL:	
PID:	Sampling Device: Bailer

DATE 8/13/04
TIME 1500
Well Locked: [X] Yes ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.90	6.26	6.14	6.10			(STD)
Specific Conductivity	0.312	0.297	0.292	0.289			(m S/cm)
Turbidity (Turb)	28.3	28.7	16.9	13.5			(NTU)
Dissolved Oxygen (DO)	3.46	1.57	0.86	0.53			(mg/l)
Temperature (Temp)	21.71	22.53	22.93	23.21			(°C)
ORP	-72.0	-34.4	-31.7	-32.9			

Depth to Bottom	419.52	(In) (Minus)	Depth to Water	109.80	(In)	=	309.72	HT (in)
Depth to Bottom	34.96	(Ft) (Minus)	Depth to Water	9.15	(Ft)	=	25.81	HT (ft)

d = 4
r = 2
d/2 = 2

MEASUREMENTS (IN INCHES)
Multiply Together

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			309.72	1	3.14	3890	.0043	16.7		50.2	55
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Shown on top of well

PURGE DISCHARGED: DRUM: ☐ DRUM# SITE TREATMENT: [X]
OTHER: ☐

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098
PROJECT NAME: HPFF
WELL NO. HPFF-08
SAMPLE NO. UST HPFF-HPFF08

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin	DATE 8/31/07
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin	TIME 1130
PHONE: 910-451-2390	WEATHER: Sunny 80's	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.68	6.46	6.48	6.49			(STD)
Specific Conductivity	0.403	0.489	0.494	0.498			(m S/cm)
Turbidity (Turb)	46.3	5.5	0.1	0.1			(NTU)
Dissolved Oxygen (DO)	1.42	0.73	0.55	0.58			(mg/l)
Temperature (Temp)	21.49	21.40	21.67	21.69			(°C)
ORP	-95.1	-107.3	-115.0	-119.8			

Depth to Bottom	613.32	(In) (Minus)	Depth to Water	122.4	(In)	=	490.92	HT (in)
Depth to Bottom	~~451.11~~	(Ft) (Minus)	Depth to Water	10.20	(Ft)	=	40.91	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1
d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Multiply Together Cubic in.	Vol. Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			490.92	1	3.14	1541	.0043	6.6		19.9	25
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098
PROJECT NAME: HPFF
WELL NO. HPFF-05
SAMPLE NO.UST HPFF-HPFF05

PROJECT LOCATION: Camp Lejeune, NC | LOGGER: Mark Martin | DATE 8/27/04
PROJECT CONTACT: Mark Martin | SAMPLER: Mark Martin | TIME 1130
PHONE: 910-451-2390 | WEATHER: Sunny 80's
LEL:
PID: | Sampling Device: Bailer | Well Locked: [X] Yes ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.76	5.80	5.79	5.79			(STD)
Specific Conductivity	0.424	0.339	0.321	0.307			(m S/cm)
Turbidity (Turb)	100.2	25.4	10.1	7.8			(NTU)
Dissolved Oxygen (DO)	2.52	0.49	0.37	0.33			(mg/l)
Temperature (Temp)	26.68	29.36	29.34	29.29			(°C)
ORP	-17.4	29.6	24.6	16.9			

Depth to Bottom	180	(In) (Minus)	Depth to Water	63.6	(In)	=	116.4	HT (in)
Depth to Bottom	15.0	(Ft) (Minus)	Depth to Water	5.30	(Ft)	=	9.7	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together
d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			116.4	1	3.14	365	.0043	1.6		4.7	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED: | DRUM: ☐ | DRUM# | SITE TREATMENT: [X]
OTHER: ☐

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. HPFF-09	
SAMPLE NO.UST HPFF-HPFF09	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	
PID:	Sampling Device: Bailer

DATE 8/27/04

TIME 1230

Well Locked: [X] Yes ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.70	6.28	6.50	6.54			(STD)
Specific Conductivity	0.396	1.067	1.227	1.234			(m S/cm)
Turbidity (Turb)	60.4	133.7	79.6	44.3			(NTU)
Dissolved Oxygen (DO)	3.99	0.56	0.25	0.23			(mg/l)
Temperature (Temp)	25.14	22.97	23.11	23.11			(°C)
ORP	6.6	-35.4	-65.1	-72.0			

Depth to Bottom	580.8	(In) (Minus)	Depth to Water	93.6	(In)	=	487.20	HT (in)
Depth to Bottom	48.4	(Ft) (Minus)	Depth to Water	7.80	(Ft)	=	40.6	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			487.2	1	3.14	1530	.0043	6.6		19.7	25
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

IRGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
HER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. HPFF-11	
SAMPLE NO.UST HPFF-HPFF11	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 8/31/04
TIME 0930
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.64	7.09	6.94	6.93			(STD)
Specific Conductivity	0.273	0.376	0.517	0.494			(m S/cm)
Turbidity (Turb)	72.8	67.8	43.3	27.7			(NTU)
Dissolved Oxygen (DO)	2.82	0.69	0.71	0.76			(mg/l)
Temperature (Temp)	21.62	20.79	20.84	20.79			(°C)
ORP	125.5	0.1	-51.5	-55.3			

Depth to Bottom	179.04	(In) (Minus)	Depth to Water	93.00	(In)	=	86.04	HT (in)
Depth to Bottom	14.92	(Ft) (Minus)	Depth to Water	7.75	(Ft)	=	7.17	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			86.04	1	3.14	270	.0043	1.2		3.5	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 844098
		PROJECT NAME: HPFF
		WELL NO. MW-11
		SAMPLE NO.UST HPFF-MW11
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin	DATE 8/20/04
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin	TIME 0900
PHONE: 910-451-2390	WEATHER: SUNNY 80'S.	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	4.30						(STD)
Specific Conductivity	0.426						(m S/cm)
Turbidity (Turb)	1560						(NTU)
Dissolved Oxygen (DO)	8.28						(mg/l)
Temperature (Temp)	23.77						(°C)
ORP	327.9						

Depth to Bottom	2580	(In) (Minus)	Depth to Water	46.36	(In)	=	221.64	HT (in)
Depth to Bottom	21.0	(Ft) (Minus)	Depth to Water	5.53	(Ft)	=	18.47	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			221.64	1	3.14	696	.0043	3.0		9	~~3~~
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Extremly Silty Biosmas in well. Well is extreamly SANDY. UNABLE to purge & Sample Turbins Fills with SAND AND CLOSS

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. ~~UST~~ HPFF-19	
SAMPLE NO. UST HPFF-HPFF19	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 9/8/04
TIME 1400
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.90	6.46	6.04	5.81			(STD)
Specific Conductivity	0.364	0.294	0.333	0.388			(m S/cm)
Turbidity (Turb)	144.8	149.7	97.0	64.0			(NTU)
Dissolved Oxygen (DO)	1.19	0.81	0.94	1.58			(mg/l)
Temperature (Temp)	25.83	25.98	25.95	25.95			(°C)
ORP	-178.5	-145.7	-119.1	-101.3			

Depth to Bottom	175.20	(In) (Minus)	Depth to Water	78.24	(In)	=	96.96	HT (in)
Depth to Bottom	14.60	(Ft) (Minus)	Depth to Water	6.52	(Ft)	=	8.08	HT (ft)

d = 2
r = 1
d/2 = 1

MEASUREMENTS (IN INCHES)
Multiply Together

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			96.96	1	3.14	304	.0043	1.3		3.9	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Water is black at start then turns clear

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 844098
		PROJECT NAME: HPFF
		WELL NO. HPFF-20
		SAMPLE NO.UST HPFF20

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin	DATE 9/8/04
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin	TIME 1500
PHONE: 910-451-2390	WEATHER: Sunny 80's	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.94	5.99	6.00	6.00			(STD)
Specific Conductivity	0.396	0.384	0.380	0.377			(m S/cm)
Turbidity (Turb)	48.8	56.8	36.1	23.6			(NTU)
Dissolved Oxygen (DO)	1.82	1.13	1.10	1.36			(mg/l)
Temperature (Temp)	24.59	24.30	24.10	24.08			(°C)
ORP	-36.3	-51.2	-56.3	-60.0			

Depth to Bottom	171.36	(In) (Minus)	Depth to Water	71.40	(In)	=	99.96	HT (in)
Depth to Bottom	14.28	(Ft) (Minus)	Depth to Water	5.95	(Ft)	=	8.33	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			99.96	1	3.14	314	.0043	1.3		4.0	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

		PROJECT NUMBER: 844098
		PROJECT NAME: HPFF
		WELL NO. MW1
		SAMPLE NO.UST HPFF-MW01
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin	DATE 8/20/07
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin	TIME 1030
PHONE: 910-451-2390	WEATHER: Sunny 80's	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.08	5.27	4.95	5.17			(STD)
Specific Conductivity	0.123	0.114	0.113	0.115			(m S/cm)
Turbidity (Turb)	455.6	185.1	13.8	1.3			(NTU)
Dissolved Oxygen (DO)	3.81	1.86	0.46	0.33			(mg/l)
Temperature (Temp)	23.78	23.77	23.90	23.85			(°C)
ORP	74.7	56.4	65.1	46.3			

Depth to Bottom	227.64	(In) (Minus)	Depth to Water	90.12	(In)	=	137.52	HT (in)
Depth to Bottom	18.97	(Ft) (Minus)	Depth to Water	7.51	(Ft)	=	11.46	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP	~~7.51~~		137.52	1	3.14	432	.0043	1.9		5.6	6
Middle	~~7.56~~				3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Duplicate SAMPLE Taken, Product in well (.35') SAND IN WELL

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. MW10R	
SAMPLE NO.UST HPFF-MW10R	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 9/8/04
TIME 1300
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.87	6.57	6.56	6.57			(STD)
Specific Conductivity	1.137	1.149	1.121	1.126			(m S/cm)
Turbidity (Turb)	75.3	64.8	6.7	9.4			(NTU)
Dissolved Oxygen (DO)	6.65	5.49	4.41	4.47			(mg/l)
Temperature (Temp)	29.65	25.53	24.81	24.83			(°C)
ORP	-87.0	-95.1	-92.8	-93.4			

Depth to Bottom	206.4	(In) (Minus)	Depth to Water	134.4	(In)	=	72.00	HT (in)
Depth to Bottom	17.20	(Ft) (Minus)	Depth to Water	11.20	(Ft)	=	6.00	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			72	1	3.14	226	.0043	1.0		2.9	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Bubbles in purge water.

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098
PROJECT NAME: HPFF
WELL NO. MW-18
SAMPLE NO.UST/HPFF-MW18

PROJECT LOCATION: Camp Lejeune, NC | LOGGER: Mark Martin | DATE 5/20/04
PROJECT CONTACT: Mark Martin | SAMPLER: Mark Martin | TIME 1130
PHONE: 910-451-2390 | WEATHER: Sunny 80's
LEL: | Well Locked: [X] Yes
PID: | Sampling Device: Bailer | ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.68	5.96	5.85				(STD)
Specific Conductivity	0.168	0.371	0.372				(m S/cm)
Turbidity (Turb)	1304	276.0	48.5				(NTU)
Dissolved Oxygen (DO)	4.93	2.38	1.16				(mg/l)
Temperature (Temp)	27.65	25.10	24.74				(°C)
ORP	9.5	-23.6	-21.8				

Depth to Bottom	274.8	(In) (Minus)	Depth to Water	117.48	(In)	=	157.32	HT (in)
Depth to Bottom	22.9	(Ft) (Minus)	Depth to Water	9.79	(Ft)	=	13.11	HT (ft)

d = 4
r = 2
d/2 = 4

MEASUREMENTS (IN INCHES)
Multiply Together

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP	~~274.8~~		157.32	1	3.14	1976	.0043	8.5		25.5	30
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Well is Sandy

PURGE DISCHARGED: | DRUM: ☐ | DRUM# | SITE TREATMENT: [X]
OTHER: ☐

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 1115-18	
SAMPLE NO.UST 1115-111518	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80°
LEL:	
PID:	Sampling Device: Bailer

DATE 8/27/04

TIME 0800

Well Locked: [X] Yes ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH							(STD)
Specific Conductivity							(m S/cm)
Turbidity (Turb)							(NTU)
Dissolved Oxygen (DO)							(mg/l)
Temperature (Temp)							(°C)
ORP							

Depth to Bottom		(In) (Minus)	Depth to Water		(In)	=		HT (in)
Depth to Bottom		(Ft) (Minus)	Depth to Water		(Ft)	=		HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP				1	3.14		.0043				
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: No Sample Taken well Surging

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098
PROJECT NAME: HPFF
WELL NO. 1115-24
SAMPLE NO.UST 1115-MW111524

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin	DATE 8/19/04
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin	TIME 1000
PHONE: 910-451-2390	WEATHER: Sunny 80's	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.85	6.78	6.76	6.75			(STD)
Specific Conductivity	0.589	0.785	0.776	0.730			(m S/cm)
Turbidity (Turb)	23.5	6.1	11.2	0.1			(NTU)
Dissolved Oxygen (DO)	4.43	0.01	0.21	0.23			(mg/l)
Temperature (Temp)	24.15	22.98	22.92	22.84			(°C)
ORP	-24.2	-102.1	-93.5	-87.5			

Depth to Bottom	959.24	(In) (Minus)	Depth to Water	97.32	(In)	=	856.92	HT (in)
Depth to Bottom	79.52	(Ft) (Minus)	Depth to Water	8.11	(Ft)	=	71.41	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			856.92	1	3.14	2691	.0043	11.6		34.7	40
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 1115-02	
SAMPLE NO.UST1115-MW111502	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 8/19/04
TIME 1130
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.04	4.96	4.83	4.80			(STD)
Specific Conductivity	0.121	0.111	0.109	0.110			(m S/cm)
Turbidity (Turb)	310.5	163.4	53.7	42.9			(NTU)
Dissolved Oxygen (DO)	4.03	1.85	0.98	0.61			(mg/l)
Temperature (Temp)	27.16	26.65	26.31	26.27			(°C)
ORP	159.7	173.5	196.5	203.6			

Depth to Bottom	166.8	(In) (Minus)	Depth to Water	70.56	(In)	=	96.24	HT (in)
Depth to Bottom	13.9	(Ft) (Minus)	Depth to Water	5.88	(Ft)	=	8.02	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			96.24	1	3.14	302	.0043	1.3		3.9	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 1115-22	
SAMPLE NO.UST 1115-MW111522	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 8/19/04
TIME 1300
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.09	6.88	6.90	6.94			(STD)
Specific Conductivity	0.434	0.470	0.483	0.479			(m S/cm)
Turbidity (Turb)	11.5	0.1	0.4	0.1			(NTU)
Dissolved Oxygen (DO)	3.85	0.51	0.42	0.28			(mg/l)
Temperature (Temp)	23.17	22.32	21.57	21.70			(°C)
ORP	-38.0	-113.1	-115.7	-116.7			

Depth to Bottom	958.44	(In) (Minus)	Depth to Water	111.12	(In)	=	847.32	HT (in)
Depth to Bottom	79.87	(Ft) (Minus)	Depth to Water	9.26	(Ft)	=	70.61	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together
d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			847.32	1	3.14	2661	.0043	11.4		34.3	40
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 1115-17	
SAMPLE NO. UST1115-MW111517	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	
PID:	Sampling Device: Bailer

DATE 8/18/07
TIME 1400
Well Locked: [X] Yes
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.51	5.60	5.55	5.54			(STD)
Specific Conductivity	3.089	3.678	3.706	4.588			(m S/cm)
Turbidity (Turb)	156.9	42.7	24.7	16.1			(NTU)
Dissolved Oxygen (DO)	2.56	0.35	0.17	0.44			(mg/l)
Temperature (Temp)	21.49	21.29	21.51	21.79			(°C)
ORP	-50.5	-1.1	6.9	9.2			

Depth to Bottom	605.4	(In) (Minus)	Depth to Water	86.76	(In)	=	518.64	HT (in)
Depth to Bottom	50.45	(Ft) (Minus)	Depth to Water	7.23	(Ft)	=	43.22	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			518.64	1	3.14	1629	.0043	7.0		21.0	25
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 1115-21	
SAMPLE NO. UST1115-MW1115 21	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	
PID:	Sampling Device: Bailer

DATE 8/19/04
TIME 1100
Well Locked: [X] Yes
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.53	4.94	4.82	4.78			(STD)
Specific Conductivity	0.165	0.139	0.144	0.142			(m S/cm)
Turbidity (Turb)	51.7	98.8	43.5	71.6			(NTU)
Dissolved Oxygen (DO)	3.49	0.0	0.0	0.21			(mg/l)
Temperature (Temp)	23.99	23.33	23.41	23.44			(°C)
ORP	249.5	108.3	111.0	105.4			

Depth to Bottom	602.4	(In) (Minus)	Depth to Water	77.16	(In)	=	525.24	HT (in)
Depth to Bottom	50.2	(Ft) (Minus)	Depth to Water	6.43	(Ft)	=	43.77	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			525.24	1	3.14	1649	.0043	7.1		21.3	25
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Bubbles in Purge water

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 1115-04	
SAMPLE NO. UST1115-MW111504	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	
PID:	Sampling Device: Bailer

DATE 8/9/1904
TIME 1445
Well Locked: [X] Yes
☐ No

FIELD MEASUREMENTS

	1	2	3	4		
PH	6.06	5.73	5.08	5.03		(STD)
Specific Conductivity	0.541	0.219	0.158	0.170		(m S/cm)
Turbidity (Turb)	45.5	17.4	6.9	11.7		(NTU)
Dissolved Oxygen (DO)	4.04	1.18	1.32	0.69		(mg/l)
Temperature (Temp)	21.87	23.77	24.04	22.13		(°C)
ORP	53.6	107.7	173.8	157.1		

Depth to Bottom	210.36	(In) (Minus)	Depth to Water	20.64	(In)	=	189.72	HT (in)
Depth to Bottom	17.53	(Ft) (Minus)	Depth to Water	1.72	(Ft)	=	15.81	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			189.72	1	3.14	596	.0043	2.6		7.7	8
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Purged Dry 3x Vol.

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098
PROJECT NAME: HPFF
WELL NO. 1115-13
SAMPLE NO.UST 1115-111513

PROJECT LOCATION: Camp Lejeune, NC | LOGGER: Mark Martin | DATE 8/25/04
PROJECT CONTACT: Mark Martin | SAMPLER: Mark Martin | TIME 1100
PHONE: 910-451-2390 | WEATHER: Sunny 80's
LEL: | Well Locked: [X] Yes
PID: | Sampling Device: Bailer | ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.12	3.93	3.91	3.91			(STD)
Specific Conductivity	2.773	3.933	4.068	4.141			(m S/cm)
Turbidity (Turb)	402	22.5	42.2	29.4			(NTU)
Dissolved Oxygen (DO)	2.06	0.36	0.27	0.28			(mg/l)
Temperature (Temp)	26.07	25.62	25.59	25.56			(°C)
ORP	137.4	196.1	191.9	185.3			

Depth to Bottom	615.6	(In) (Minus)	Depth to Water	79.08	(In)	=	536.52	HT (in)
Depth to Bottom	51.3	(Ft) (Minus)	Depth to Water	6.59	(Ft)	=	44.71	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			536.52	1	3.14	1685	.0043	7.2		21.7	25
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Steam line near well. Bubbles in purge water.

PURGE DISCHARGED: | DRUM: ☐ | DRUM# | SITE TREATMENT: [X]
OTHER: ☐

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098
PROJECT NAME: HPFF
WELL NO. ~~HPFF~~ 1115-25
SAMPLE NO.UST 1115-111525

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin	DATE 8/25/09
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin	TIME 1000
PHONE: 910-451-2390	WEATHER: Sunny 80's	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.16	7.03	7.04	7.05			(STD)
Specific Conductivity	0.484	0.514	0.511	0.536			(m S/cm)
Turbidity (Turb)	27.3	1.0	6.1	0.18			(NTU)
Dissolved Oxygen (DO)	1.63	0.34	0.09	0.18			(mg/l)
Temperature (Temp)	24.16	23.75	23.89	23.79			(°C)
ORP	-62.0	-122.5	-129.9	-126.1			

Depth to Bottom	961.2	(In) (Minus)	Depth to Water	92.52	(In)	=	868.68	HT (in)
Depth to Bottom	80.1	(Ft) (Minus)	Depth to Water	7.71	(Ft)	=	72.39	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			868.68	1	3.14	2728	.0043	11.7		35.2	40
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Well is NEAR Steam Line

PURGE DISCHARGED:	DRUM: ☐	DRUM#.	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098
PROJECT NAME: HPFF
WELL NO. GT-9
SAMPLE NO.UST1115-GT09

PROJECT LOCATION: Camp Lejeune, NC
LOGGER: Mark Martin
DATE 8/27/09

PROJECT CONTACT: Mark Martin
SAMPLER: Mark Martin
TIME 0900/905

PHONE: 910-451-2390
WEATHER: Sunny 80's

LEL:
Well Locked: [X] Yes

PID:
Sampling Device: Bailer
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.65	5.76	5.67	5.50			(STD)
Specific Conductivity	0.337	0.389	0.409	0.490			(m S/cm)
Turbidity (Turb)	1561	520.3	305.6	23.4			(NTU)
Dissolved Oxygen (DO)	4.31	1.47	1.61	1.03			(mg/l)
Temperature (Temp)	23.80	24.03	24.31	24.34			(°C)
ORP	143.9	146.9	56.7	46.7			

Depth to Bottom	156.96	(In) (Minus)	Depth to Water	50.40	(In)	=	106.56	HT (in)
Depth to Bottom	13.08	(Ft) (Minus)	Depth to Water	4.20	(Ft)	=	8.88	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			106.56	1	3.14	335	.0043	1.4		4.3	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Duplicate Sample Taken
BIOSMAG IN well

PURGE DISCHARGED: DRUM: ☐ DRUM# SITE TREATMENT: [X]
OTHER: ☐

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. 1115-01	
SAMPLE NO.UST 1115-MW1150	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: SUNNY 80'S
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 8/15/04
TIME 1215
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.15	5.27	4.89	4.65			(STD)
Specific Conductivity	0.188	0.185	0.187	0.186			(m S/cm)
Turbidity (Turb)	264.5	207.4	142.8	93.1			(NTU)
Dissolved Oxygen (DO)	2.93	0.96	0.91	0.91			(mg/l)
Temperature (Temp)	29.67	29.20	28.83	28.42			(°C)
ORP	127.4	187.2	228.2	267.5			

Depth to Bottom	174.36	(In) (Minus)	Depth to Water	77.16	(In)	=	97.20	HT (in)
Depth to Bottom	14.53	(Ft) (Minus)	Depth to Water	6.43	(Ft)	=	8.1	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together
d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			97.20	1	3.14	305	.0043	1.3		3.9	5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS:

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. GT-1	
SAMPLE NO.UST 1115-GT01	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	
PID:	Sampling Device: Bailer

DATE 8/25/09

TIME 1200

Well Locked: [X] Yes ☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	4.42	5.24	5.03	5.03			(STD)
Specific Conductivity	0.526	0.231	0.283	0.302			(m S/cm)
Turbidity (Turb)	699.6	133.8	91.8	254.8			(NTU)
Dissolved Oxygen (DO)	2.54	0.40	0.43	0.31			(mg/l)
Temperature (Temp)	26.73	29.16	29.29	29.31			(°C)
ORP	195.5	146.9	123.8	123.4			

Depth to Bottom	205.2	(In) (Minus)	Depth to Water	33.72	(In)	=	171.48	HT (in)
Depth to Bottom	17.16	(Ft) (Minus)	Depth to Water	2.81	(Ft)	=	14.29	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			171.48	1	3.14	538	.0043	2.3		6.9	9
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Painting @ Bldg near by can smell the paint (Bldg 25' away) well is in asphalt area

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. MW1115-23	
SAMPLE NO.UST 1115-MW111523	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: SUNNY 80'S
LEL:	
PID:	Sampling Device: Bailer

DATE 8/18/04
TIME 1100
Well Locked: [X] Yes
☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	5.37	6.35	6.35	6.36			(STD)
Specific Conductivity	0.010	2.435	2.451	2.457			(m S/cm)
Turbidity (Turb)	46.7	46.0	74.8	107.0			(NTU)
Dissolved Oxygen (DO)	4.51	0.28	0.27	0.21			(mg/l)
Temperature (Temp)	22.31	21.02	21.01	21.01			(°C)
ORP	-24.8	-73.3	-75.0	-77.3			

Depth to Bottom	981.0	(In) (Minus)	Depth to Water	99.0	(In)	=	882.0	HT (in)
Depth to Bottom	81.75	(Ft) (Minus)	Depth to Water	8.25	(Ft)	=	73.5	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)
r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			882.	1	3.14	2769	.0043	11.9		35.7	40
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Well Bubbling (Bubbles in purge water).

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

	WELL OR GROUND WATER DATA SHEET	PROJECT NUMBER: 844098
		PROJECT NAME: HPFF
		WELL NO. 78GW22-2
		SAMPLE NO.UST 1105MW78GW2202

PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin	DATE 8/18/04
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin	TIME 1000/1005
PHONE: 910-451-2390	WEATHER: Sunny 80's	
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailer	☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	6.29	5.37	5.09	5.03			(STD)
Specific Conductivity	0.309	0.306	0.302	0.301			(m S/cm)
Turbidity (Turb)	107.0	134.2	100.4	65.7			(NTU)
Dissolved Oxygen (DO)	4.14	1.11	0.50	0.39			(mg/l)
Temperature (Temp)	23.80	23.76	23.48	23.61			(°C)
ORP	63.5	72.5	67.8	63.4			

Depth to Bottom	276.0	(In) (Minus)	Depth to Water	78.24	(In)	=	197.76	HT (in)
Depth to Bottom	23.0	(Ft) (Minus)	Depth to Water	6.52	(Ft)	=	16.48	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			197.76	1	3.14	621	.0043	2.7		8	10
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Duplicate Sample Taken

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 844098	
PROJECT NAME: HPFF	
WELL NO. GT-7	
SAMPLE NO.UST 1115-GT07	
PROJECT LOCATION: Camp Lejeune, NC	LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin
PHONE: 910-451-2390	WEATHER: Sunny 80's
LEL:	Well Locked: [X] Yes
PID:	Sampling Device: Bailer

DATE 8/18/04

TIME 1145

☐ No

FIELD MEASUREMENTS

	1	2	3	4			
PH	7.02	6.18					(STD)
Specific Conductivity	0.605	0.336					(m S/cm)
Turbidity (Turb)	1574	1589					(NTU)
Dissolved Oxygen (DO)	3.00	0.19					(mg/l)
Temperature (Temp)	25.01	26.05					(°C)
ORP	-48.4	+34.7					

Depth to Bottom	152.96	(In) (Minus)	Depth to Water	40.08	(In) =	116.88	HT (in)
Depth to Bottom	13.08	(Ft) (Minus)	Depth to Water	3.34	(Ft) =	9.74	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1

	BOTTOM	TOP	Layer Thickness	r^2	Π	Vol. Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			116.88	1	3.14	367	.0043	1.6		4.7	3.5
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	See Sample Number Above		
PAH 610	See Sample Number Above		

COMMENTS: Purged Dry x2 vol extremely silty.

PURGE DISCHARGED:	DRUM: ☐	DRUM#	SITE TREATMENT: [X]
OTHER: ☐			

APPENDIX E

LABORATORY GROUNDWATER ANALYTICAL REPORTS, SOUTHEAST COMPOUND

Southeast
ACCUTEST.
Laboratories

03/16/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F22336

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **45**

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F22336

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F22336-1	02/23/04	09:45	MM	02/24/04	AQ	Ground Water	UST1115-MW78GW3202
F22336-2	02/23/04	14:30	MM	02/24/04	AQ	Ground Water	UST1115-MW78GW3203
F22336-3	02/23/04	00:00	MM	02/24/04	AQ	Trip Blank Water	TRIP BLANK-022304

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW78GW3202		
Lab Sample ID:	F22336-1	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021013.D	5	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	325	5.0	2.5	ug/l	
75-27-4	Bromodichloromethane	ND	5.0	2.5	ug/l	
75-25-2	Bromoform	ND	5.0	2.5	ug/l	
74-83-9	Bromomethane	ND	5.0	2.5	ug/l	
56-23-5	Carbon tetrachloride	ND	5.0	2.5	ug/l	
108-90-7	Chlorobenzene	ND	5.0	2.5	ug/l	
124-48-1	Dibromochloromethane	ND	5.0	2.0	ug/l	
75-00-3	Chloroethane	ND	5.0	2.5	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	5.0	2.5	ug/l	
67-66-3	Chloroform	ND	5.0	2.5	ug/l	
74-87-3	Chloromethane	ND	5.0	2.5	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	5.0	2.5	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	5.0	2.5	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	5.0	2.5	ug/l	
75-71-8	Dichlorodifluoromethane	ND	5.0	2.5	ug/l	
75-34-3	1,1-Dichloroethane	ND	5.0	2.5	ug/l	
107-06-2	1,2-Dichloroethane	129	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethene	ND	5.0	2.5	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	5.0	2.5	ug/l	
78-87-5	1,2-Dichloropropane	ND	5.0	2.5	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	5.0	1.5	ug/l	
100-41-4	Ethylbenzene	16.0	5.0	2.5	ug/l	
75-09-2	Methylene chloride	ND	25	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	5.0	2.5	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.0	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	5.0	2.5	ug/l	
108-88-3	Toluene	43.9	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	5.0	2.5	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	5.0	2.5	ug/l	
79-01-6	Trichloroethene	ND	5.0	2.5	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:	UST1115-MW78GW3202		
Lab Sample ID:	F22336-1	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	5.0	2.5	ug/l	
75-01-4	Vinyl chloride	ND	5.0	2.5	ug/l	
1330-20-7	Xylenes (total)	55.7	15	5.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	105%		70-123%
563-58-6	1,1-Dichloropropene	96%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	UST1115-MW78GW3202		
Lab Sample ID:	F22336-1	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012930.D	1	02/25/04	CV	n/a	n/a	GXY384
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	41.0	0.50	0.30	ug/l	
74-84-0	Ethane	6.52	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW78GW3202		
Lab Sample ID:	F22336-1	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19456.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	970 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.2	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.2	2.1	ug/l	
120-12-7	Anthracene	ND	5.2	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.2	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.2	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.2	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.2	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.2	2.1	ug/l	
218-01-9	Chrysene	ND	5.2	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.2	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.2	2.1	ug/l	
86-73-7	Fluorene	ND	5.2	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.2	2.1	ug/l	
91-20-3	Naphthalene	2.1	5.2	2.1	ug/l	J
90-12-0	1-Methylnaphthalene	ND	5.2	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.2	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.2	2.1	ug/l	
129-00-0	Pyrene	ND	5.2	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	85%		42-123%
84-15-1	o-Terphenyl	84%		51-123%

(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:	UST1115-MW78GW3202		
Lab Sample ID:	F22336-1	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/25/04 16:45	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/25/04 16:45	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/25/04 16:45	MP	EPA 300/SW846 9056
Sulfate	<20	20	mg/l	1	02/25/04 16:45	MP	EPA 300/SW846 9056
Total Organic Carbon	9.4	1.0	mg/l	1	02/25/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW78GW3203		
Lab Sample ID:	F22336-2	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021015.D	1	03/03/04	RA	n/a	n/a	GQR893
Run #2	QR021019.D	5	03/03/04	RA	n/a	n/a	GQR893

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	20.9	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	59.8	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	183 [a]	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW78GW3203		
Lab Sample ID:	F22336-2	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	255	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	98%	100%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	112%	107%	70-123%
563-58-6	1,1-Dichloropropene	104%	100%	86-112%
563-58-6	1,1-Dichloropropene	108%	105%	86-112%

(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:	UST1115-MW78GW3203		
Lab Sample ID:	F22336-2	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012932.D	1	02/25/04	CV	n/a	n/a	GXY384
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	9.64	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW78GW3203		
Lab Sample ID:	F22336-2	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19457.D	1	03/01/04	SM	02/27/04	OP9847	GIJ943
Run #2							

	Initial Volume	Final Volume
Run #1	890 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.6	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.6	2.2	ug/l	
120-12-7	Anthracene	ND	5.6	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.6	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.6	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.6	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.6	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.6	2.2	ug/l	
218-01-9	Chrysene	ND	5.6	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.6	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.6	2.2	ug/l	
86-73-7	Fluorene	ND	5.6	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.6	2.2	ug/l	
91-20-3	Naphthalene	8.7	5.6	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.6	2.2	ug/l	
91-57-6	2-Methylnaphthalene	3.4	5.6	2.2	ug/l	J
85-01-8	Phenanthrene	ND	5.6	2.2	ug/l	
129-00-0	Pyrene	ND	5.6	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	72%		42-123%
84-15-1	o-Terphenyl	87%		51-123%

(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:	UST1115-MW78GW3203		
Lab Sample ID:	F22336-2	Date Sampled:	02/23/04
Matrix:	AQ - Ground Water	Date Received:	02/24/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/25/04 17:01	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/25/04 17:01	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/25/04 17:01	MP	EPA 300/SW846 9056
Sulfate	<20	20	mg/l	1	02/25/04 17:01	MP	EPA 300/SW846 9056
Total Organic Carbon	<1.0	1.0	mg/l	1	02/25/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-022304		
Lab Sample ID:	F22336-3	Date Sampled:	02/23/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QR021077.D	1	03/05/04	RA	n/a	n/a	GQR895
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.87	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-022304		
Lab Sample ID:	F22336-3	Date Sampled:	02/23/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/24/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	103%		70-123%
563-58-6	1,1-Dichloropropene	95%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

(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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F22336

COC Number:
844098-SE-022304

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gases RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1	Analysis Desired
1	UST1115-MW78GW3202	2/23/04	9:45		X	UST1115-MW78GW3202	10	X	X	X	X	X	X	
2	UST1115-MW78GW3203	2/23/04	14:30		X	UST1115-MW78GW3203	10	X	X	X	X	X	X	
3	Trip Blank-022304	2/23/04	——		X	Trip Blank	2	X						
4														
5														
6														
7														
8														
9														
10														

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 – 3		Fed Ex8434 9077 4634	2/23/04	18:00	Please E-mail results to Mark.Martin@Shawgrp.com
2	1-3	FED EX	[illegible]	2/24/04	09:00	21 Day TAT

3.1 C

F22336: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories

Southeast
ACCUTEST.
Laboratories

03/05/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F22316

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 53

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F22316

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F22316-1	02/20/04	15:20	MM	02/21/04	AQ	Ground Water	USTHPFF-MW17A
F22316-2	02/20/04	09:45	MM	02/21/04	AQ	Ground Water	USTHPFF-MWHPFF20
F22316-3	02/20/04	11:45	MM	02/21/04	AQ	Ground Water	USTHPFF-MWHPFF11
F22316-4	02/20/04	13:20	MM	02/21/04	AQ	Ground Water	USTHPFF-MWHPFF08
F22316-5	02/20/04	00:00	MM	02/21/04	AQ	Trip Blank Water	TRIP BLANK-022004

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MW17A		
Lab Sample ID:	F22316-1	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020991.D	500	03/02/04	RA	n/a	n/a	GQR891
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5520	500	250	ug/l	
75-27-4	Bromodichloromethane	ND	500	250	ug/l	
75-25-2	Bromoform	ND	500	250	ug/l	
74-83-9	Bromomethane	ND	500	250	ug/l	
56-23-5	Carbon tetrachloride	ND	500	250	ug/l	
108-90-7	Chlorobenzene	ND	500	250	ug/l	
124-48-1	Dibromochloromethane	ND	500	200	ug/l	
75-00-3	Chloroethane	ND	500	250	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	500	250	ug/l	
67-66-3	Chloroform	ND	500	250	ug/l	
74-87-3	Chloromethane	ND	500	250	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	500	250	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	500	250	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	500	250	ug/l	
75-71-8	Dichlorodifluoromethane	ND	500	250	ug/l	
75-34-3	1,1-Dichloroethane	ND	500	250	ug/l	
107-06-2	1,2-Dichloroethane	ND	500	250	ug/l	
75-35-4	1,1-Dichloroethene	ND	500	250	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	500	250	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	500	250	ug/l	
78-87-5	1,2-Dichloropropane	ND	500	250	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	500	150	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	500	150	ug/l	
100-41-4	Ethylbenzene	2690	500	250	ug/l	
75-09-2	Methylene chloride	ND	2500	2500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	500	250	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	100	ug/l	
127-18-4	Tetrachloroethene	ND	500	250	ug/l	
108-88-3	Toluene	24800	500	250	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	500	250	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	500	250	ug/l	
79-01-6	Trichloroethene	ND	500	250	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:	USTHPFF-MW17A		
Lab Sample ID:	F22316-1	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	500	250	ug/l	
75-01-4	Vinyl chloride	ND	500	250	ug/l	
1330-20-7	Xylenes (total)	10200	1500	500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	97%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	104%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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:	USTHPFF-MW17A		
Lab Sample ID:	F22316-1	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012898.D	1	02/23/04	CV	n/a	n/a	GXY382
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	180	0.50	0.30	ug/l	
74-84-0	Ethane	11.2	1.0	0.60	ug/l	
74-85-1	Ethene	5.71	1.0	0.80	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:	USTHPFF-MW17A		
Lab Sample ID:	F22316-1	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19420.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2 [a]	IJ19446.D	20	02/27/04	SM	02/24/04	OP9830	GIJ942

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2	950 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	432 [b]	110	42	ug/l	
90-12-0	1-Methylnaphthalene	73.6 [b]	110	42	ug/l	J
91-57-6	2-Methylnaphthalene	133 [b]	110	42	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	110%	173% [c]	42-123%
84-15-1	o-Terphenyl	91%	88%	51-123%

(a) All hits confirmed by dual column analysis.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.

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:	USTHPFF-MW17A		
Lab Sample ID:	F22316-1	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/24/04 13:58	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/24/04 13:58	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/24/04 13:58	MP	EPA 300/SW846 9056
Sulfate	<20	20	mg/l	1	02/24/04 13:58	MP	EPA 300/SW846 9056
Total Organic Carbon	47.2	1.0	mg/l	1	02/25/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF20		
Lab Sample ID:	F22316-2	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021012.D	100	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6430	100	50	ug/l	
75-27-4	Bromodichloromethane	ND	100	50	ug/l	
75-25-2	Bromoform	ND	100	50	ug/l	
74-83-9	Bromomethane	ND	100	50	ug/l	
56-23-5	Carbon tetrachloride	ND	100	50	ug/l	
108-90-7	Chlorobenzene	ND	100	50	ug/l	
124-48-1	Dibromochloromethane	ND	100	40	ug/l	
75-00-3	Chloroethane	ND	100	50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	100	50	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	100	50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	100	50	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	50	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	50	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	50	ug/l	
78-87-5	1,2-Dichloropropane	ND	100	50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	100	30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	100	30	ug/l	
100-41-4	Ethylbenzene	444	100	50	ug/l	
75-09-2	Methylene chloride	ND	500	100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	20	ug/l	
127-18-4	Tetrachloroethene	ND	100	50	ug/l	
108-88-3	Toluene	9790	100	50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF20		
Lab Sample ID:	F22316-2	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	100	50	ug/l	
75-01-4	Vinyl chloride	ND	100	50	ug/l	
1330-20-7	Xylenes (total)	6140	300	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	99%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	111%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	111%		86-112%

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:	USTHPFF-MWHPFF20		
Lab Sample ID:	F22316-2	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19421.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2 [a]	IJ19447.D	10	02/27/04	SM	02/24/04	OP9830	GIJ942

	Initial Volume	Final Volume
Run #1	930 ml	1.0 ml
Run #2	930 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.4	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.4	2.2	ug/l	
120-12-7	Anthracene	ND	5.4	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.4	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.4	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.4	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.4	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.4	2.2	ug/l	
218-01-9	Chrysene	ND	5.4	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.4	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.4	2.2	ug/l	
86-73-7	Fluorene	ND	5.4	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.4	2.2	ug/l	
91-20-3	Naphthalene	98.9 [b]	54	22	ug/l	
90-12-0	1-Methylnaphthalene	10.8	5.4	2.2	ug/l	
91-57-6	2-Methylnaphthalene	18.1	5.4	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.4	2.2	ug/l	
129-00-0	Pyrene	ND	5.4	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	96%	93%	42-123%
84-15-1	o-Terphenyl	89%	89%	51-123%

(a) All hits confirmed by dual column analysis.
(b) 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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F22316-3	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR021011.D	2	03/03/04	RA	n/a	n/a	GQR893
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	114	2.0	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	2.0	1.0	ug/l	
75-25-2	Bromoform	ND	2.0	1.0	ug/l	
74-83-9	Bromomethane	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	2.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	2.0	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	2.0	0.80	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	2.0	1.0	ug/l	
74-87-3	Chloromethane	ND	2.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	2.0	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	2.0	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	2.0	1.0	ug/l	
107-06-2	1,2-Dichloroethane	3.3	2.0	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	2.0	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	2.0	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	2.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.0	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.60	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.60	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	10	2.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.40	ug/l	
127-18-4	Tetrachloroethene	ND	2.0	1.0	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.0	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.0	1.0	ug/l	
79-01-6	Trichloroethene	ND	2.0	1.0	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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F22316-3	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	2.0	1.0	ug/l	
75-01-4	Vinyl chloride	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	6.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	101%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F22316-3	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012900.D	1	02/23/04	CV	n/a	n/a	GXY382
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	9.74	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F22316-3	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19422.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2							

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	ND	5.3	2.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	86%		42-123%
84-15-1	o-Terphenyl	97%		51-123%

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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F22316-3	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/24/04 14:14	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/24/04 14:14	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/24/04 14:14	MP	EPA 300/SW846 9056
Sulfate	25.2	20	mg/l	1	02/24/04 14:14	MP	EPA 300/SW846 9056
Total Organic Carbon	3.0	1.0	mg/l	1	02/25/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF08		
Lab Sample ID:	F22316-4	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020993.D	200	03/02/04	RA	n/a	n/a	GQR891
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	10200	200	100	ug/l	
75-27-4	Bromodichloromethane	ND	200	100	ug/l	
75-25-2	Bromoform	ND	200	100	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
56-23-5	Carbon tetrachloride	ND	200	100	ug/l	
108-90-7	Chlorobenzene	ND	200	100	ug/l	
124-48-1	Dibromochloromethane	ND	200	80	ug/l	
75-00-3	Chloroethane	ND	200	100	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	200	100	ug/l	
67-66-3	Chloroform	ND	200	100	ug/l	
74-87-3	Chloromethane	ND	200	100	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	200	100	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	200	100	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	200	100	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	100	ug/l	
75-34-3	1,1-Dichloroethane	ND	200	100	ug/l	
107-06-2	1,2-Dichloroethane	278	200	100	ug/l	
75-35-4	1,1-Dichloroethene	ND	200	100	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	200	100	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	200	100	ug/l	
78-87-5	1,2-Dichloropropane	ND	200	100	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	200	60	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	200	60	ug/l	
100-41-4	Ethylbenzene	609	200	100	ug/l	
75-09-2	Methylene chloride	ND	1000	1000	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	200	100	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	200	40	ug/l	
127-18-4	Tetrachloroethene	ND	200	100	ug/l	
108-88-3	Toluene	1230	200	100	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	200	100	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	200	100	ug/l	
79-01-6	Trichloroethene	ND	200	100	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:	USTHPFF-MWHPFF08		
Lab Sample ID:	F22316-4	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	200	100	ug/l	
75-01-4	Vinyl chloride	ND	200	100	ug/l	
1330-20-7	Xylenes (total)	1530	600	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	94%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	104%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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:	USTHPFF-MWHPFF08		
Lab Sample ID:	F22316-4	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012901.D	1	02/23/04	CV	n/a	n/a	GXY382
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	79.2	0.50	0.30	ug/l	
74-84-0	Ethane	12.9	1.0	0.60	ug/l	
74-85-1	Ethene	23.3	1.0	0.80	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:	USTHPFF-MWHPFF08		
Lab Sample ID:	F22316-4	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19423.D	1	02/26/04	SM	02/24/04	OP9830	GIJ941
Run #2 [a]	IJ19448.D	10	02/27/04	SM	02/24/04	OP9830	GIJ942

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2	940 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	184 [b]	53	21	ug/l	
90-12-0	1-Methylnaphthalene	17.5	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	30.1	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	126% [c]	102%	42-123%
84-15-1	o-Terphenyl	102%	93%	51-123%

(a) All hits confirmed by dual column analysis.
(b) Result is from Run# 2
(c) Outside control limits due to matrix interference.

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:	USTHPFF-MWHPFF08		
Lab Sample ID:	F22316-4	Date Sampled:	02/20/04
Matrix:	AQ - Ground Water	Date Received:	02/21/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/24/04 14:30	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/24/04 14:30	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/24/04 14:30	MP	EPA 300/SW846 9056
Sulfate	<20	20	mg/l	1	02/24/04 14:30	MP	EPA 300/SW846 9056
Total Organic Carbon	53.5	1.0	mg/l	1	02/25/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-022004		
Lab Sample ID:	F22316-5	Date Sampled:	02/20/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020986.D	1	03/02/04	RA	n/a	n/a	GQR891
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-022004		
Lab Sample ID:	F22316-5	Date Sampled:	02/20/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	99%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F22316

COC Number:
844098-SE-022004

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-364.1	SO4 BY 375.4	TOC BY 415.1	Analysis Desired
1	USTHPFF-MW17A	2/20/04	15:20		X	USTHPFF-MW17A	10	X	X	X	X	X	X	
2	USTHPFF-MWHPFF20	2/20/04	9:45		X	USTHPFF-MWHPFF20	5	X	X					
3	USTHPFF-MWHPFF11	2/20/04	11:45		X	USTHPFF-MWHPFF11	10	X	X	X	X	X	X	
4	USTHPFF-MWHPFF08	2/20/04	13:20		X	USTHPFF-MWHPFF08	10	X	X	X	X	X	X	
5	Trip Blank-022004	2/20/04			X	Trip Blank	2	X						
6														
7														
8														
9														
10														

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 – 5		Fed Ex8434 9077 5012	2/20/04	18:00	Please E-mail results to Mark.Martin@Shawgrp.com
2						21 Day TAT

2.4°

F22316: Chain of Custody
Page 1 of 2

ACCUTEST

Southeast
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Laboratories

02/26/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F22199

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **44**

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F22199

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F22199-1	02/14/04	08:15	MM	02/17/04	AQ	Ground Water	USTHPFF-MW11
F22199-2	02/14/04	09:45	MM	02/17/04	AQ	Ground Water	USTHPFF-MW01
F22199-3	02/14/04	09:50	MM	02/17/04	AQ	Ground Water	USTHPFF-MW01D
F22199-4	02/14/04	12:15	MM	02/17/04	AQ	Ground Water	USTHPFF-MW18
F22199-5	02/14/04	13:30	MM	02/17/04	AQ	Ground Water	UST1115-MW10R
F22199-6	02/14/04	14:45	MM	02/17/04	AQ	Ground Water	USTHPFF-MWHPFF19
F22199-7	02/14/04	00:00	MM	02/17/04	AQ	Trip Blank Water	TRIP BLANK-021404

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MW11		
Lab Sample ID:	F22199-1	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020823.D	1	02/19/04	RA	n/a	n/a	GQR884
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6.5	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	2.6	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	1.1	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MW11		
Lab Sample ID:	F22199-1	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	1.2	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	97%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	USTHPFF-MW11		
Lab Sample ID:	F22199-1	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19384.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2							

	Initial Volume	Final Volume
Run #1	870 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.7	2.3	ug/l	
208-96-8	Acenaphthylene	ND	5.7	2.3	ug/l	
120-12-7	Anthracene	ND	5.7	2.3	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.7	2.3	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.7	2.3	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.7	2.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.7	2.3	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.7	2.3	ug/l	
218-01-9	Chrysene	ND	5.7	2.3	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.7	2.3	ug/l	
206-44-0	Fluoranthene	ND	5.7	2.3	ug/l	
86-73-7	Fluorene	ND	5.7	2.3	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.7	2.3	ug/l	
91-20-3	Naphthalene	ND	5.7	2.3	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.7	2.3	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.7	2.3	ug/l	
85-01-8	Phenanthrene	ND	5.7	2.3	ug/l	
129-00-0	Pyrene	ND	5.7	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	81%		42-123%
84-15-1	o-Terphenyl	88%		51-123%

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:	USTHPFF-MW01		
Lab Sample ID:	F22199-2	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020795.D	100	02/18/04	RA	n/a	n/a	GQR882
Run #2	QR020818.D	500	02/19/04	RA	n/a	n/a	GQR884

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4970	100	50	ug/l	
75-27-4	Bromodichloromethane	ND	100	50	ug/l	
75-25-2	Bromoform	ND	100	50	ug/l	
74-83-9	Bromomethane	ND	100	50	ug/l	
56-23-5	Carbon tetrachloride	ND	100	50	ug/l	
108-90-7	Chlorobenzene	ND	100	50	ug/l	
124-48-1	Dibromochloromethane	ND	100	40	ug/l	
75-00-3	Chloroethane	ND	100	50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	100	50	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	100	50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	100	50	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	50	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	50	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	50	ug/l	
78-87-5	1,2-Dichloropropane	ND	100	50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	100	30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	100	30	ug/l	
100-41-4	Ethylbenzene	3580	100	50	ug/l	
75-09-2	Methylene chloride	ND	500	100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	20	ug/l	
127-18-4	Tetrachloroethene	ND	100	50	ug/l	
108-88-3	Toluene	25500 [a]	500	250	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MW01		
Lab Sample ID:	F22199-2	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	100	50	ug/l	
75-01-4	Vinyl chloride	ND	100	50	ug/l	
1330-20-7	Xylenes (total)	16500	300	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	101%	98%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	108%	102%	70-123%
563-58-6	1,1-Dichloropropene	99%	99%	86-112%
563-58-6	1,1-Dichloropropene	109%	108%	86-112%

(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:	USTHPFF-MW01		
Lab Sample ID:	F22199-2	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19386.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2 [a]	IJ19387.D	4	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #3 [a]	IJ19399.D	16	02/20/04	SM	02/19/04	OP9794	GIJ939

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2	990 ml	1.0 ml
Run #3	990 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.1	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.1	2.0	ug/l	
120-12-7	Anthracene	ND	5.1	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	2.0	ug/l	
218-01-9	Chrysene	ND	5.1	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.1	2.0	ug/l	
86-73-7	Fluorene	ND	5.1	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	2.0	ug/l	
91-20-3	Naphthalene	473 [b]	81	32	ug/l	
90-12-0	1-Methylnaphthalene	47.9 [c]	20	8.1	ug/l	
91-57-6	2-Methylnaphthalene	98.8 [c]	20	8.1	ug/l	
85-01-8	Phenanthrene	ND	5.1	2.0	ug/l	
129-00-0	Pyrene	ND	5.1	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
321-60-8	2-Fluorobiphenyl	87%	89%	73%	42-123%
84-15-1	o-Terphenyl	90%	91%	89%	51-123%

(a) All hits confirmed by dual column analysis.
(b) Result is from Run# 3
(c) 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:	USTHPFF-MW01D		
Lab Sample ID:	F22199-3	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020796.D	100	02/18/04	RA	n/a	n/a	GQR882
Run #2	QR020822.D	500	02/19/04	RA	n/a	n/a	GQR884

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4820	100	50	ug/l	
75-27-4	Bromodichloromethane	ND	100	50	ug/l	
75-25-2	Bromoform	ND	100	50	ug/l	
74-83-9	Bromomethane	ND	100	50	ug/l	
56-23-5	Carbon tetrachloride	ND	100	50	ug/l	
108-90-7	Chlorobenzene	ND	100	50	ug/l	
124-48-1	Dibromochloromethane	ND	100	40	ug/l	
75-00-3	Chloroethane	ND	100	50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	100	50	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	100	50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	100	50	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	50	ug/l	
107-06-2	1,2-Dichloroethane	ND	100	50	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	50	ug/l	
78-87-5	1,2-Dichloropropane	ND	100	50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	100	30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	100	30	ug/l	
100-41-4	Ethylbenzene	3500	100	50	ug/l	
75-09-2	Methylene chloride	ND	500	100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	20	ug/l	
127-18-4	Tetrachloroethene	ND	100	50	ug/l	
108-88-3	Toluene	24700 [a]	500	250	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MW01D		
Lab Sample ID:	F22199-3	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	100	50	ug/l	
75-01-4	Vinyl chloride	ND	100	50	ug/l	
1330-20-7	Xylenes (total)	16200	300	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	101%	98%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	111%	102%	70-123%
563-58-6	1,1-Dichloropropene	99%	99%	86-112%
563-58-6	1,1-Dichloropropene	109%	107%	86-112%

(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:	USTHPFF-MW01D		
Lab Sample ID:	F22199-3	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19388.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2 [a]	IJ19389.D	4	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #3 [a]	IJ19400.D	16	02/20/04	SM	02/19/04	OP9794	GIJ939

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2	1000 ml	1.0 ml
Run #3	1000 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	2.0	ug/l	
120-12-7	Anthracene	ND	5.0	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	2.0	ug/l	
218-01-9	Chrysene	ND	5.0	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	2.0	ug/l	
86-73-7	Fluorene	ND	5.0	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	2.0	ug/l	
91-20-3	Naphthalene	465 [b]	80	32	ug/l	
90-12-0	1-Methylnaphthalene	51.8 [c]	20	8.0	ug/l	
91-57-6	2-Methylnaphthalene	102 [c]	20	8.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	2.0	ug/l	
129-00-0	Pyrene	ND	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
321-60-8	2-Fluorobiphenyl	91%	90%	78%	42-123%
84-15-1	o-Terphenyl	85%	85%	81%	51-123%

(a) All hits confirmed by dual column analysis.
(b) Result is from Run# 3
(c) 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:	USTHPFF-MW18		
Lab Sample ID:	F22199-4	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020797.D	100	02/18/04	RA	n/a	n/a	GQR882
Run #2	QR020825.D	1000	02/19/04	RA	n/a	n/a	GQR884

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	12900 [a]	1000	500	ug/l	
75-27-4	Bromodichloromethane	ND	100	50	ug/l	
75-25-2	Bromoform	ND	100	50	ug/l	
74-83-9	Bromomethane	ND	100	50	ug/l	
56-23-5	Carbon tetrachloride	ND	100	50	ug/l	
108-90-7	Chlorobenzene	ND	100	50	ug/l	
124-48-1	Dibromochloromethane	ND	100	40	ug/l	
75-00-3	Chloroethane	ND	100	50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	100	50	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	100	50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	100	50	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	50	ug/l	
107-06-2	1,2-Dichloroethane	172	100	50	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	50	ug/l	
78-87-5	1,2-Dichloropropane	ND	100	50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	100	30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	100	30	ug/l	
100-41-4	Ethylbenzene	1800	100	50	ug/l	
75-09-2	Methylene chloride	ND	500	100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	20	ug/l	
127-18-4	Tetrachloroethene	ND	100	50	ug/l	
108-88-3	Toluene	27100 [a]	1000	500	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MW18		
Lab Sample ID:	F22199-4	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	100	50	ug/l	
75-01-4	Vinyl chloride	ND	100	50	ug/l	
1330-20-7	Xylenes (total)	11000	300	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	98%	95%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	108%	98%	70-123%
563-58-6	1,1-Dichloropropene	97%	99%	86-112%
563-58-6	1,1-Dichloropropene	108%	106%	86-112%

(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:	USTHPFF-MW18		
Lab Sample ID:	F22199-4	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19390.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2 [a]	IJ19391.D	5	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #3 [a]	IJ19401.D	20	02/20/04	SM	02/19/04	OP9794	GIJ939

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2	910 ml	1.0 ml
Run #3	910 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.5	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.5	2.2	ug/l	
120-12-7	Anthracene	ND	5.5	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.5	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.5	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.5	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.5	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.5	2.2	ug/l	
218-01-9	Chrysene	ND	5.5	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.5	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.5	2.2	ug/l	
86-73-7	Fluorene	ND	5.5	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.5	2.2	ug/l	
91-20-3	Naphthalene	658 [b]	110	44	ug/l	
90-12-0	1-Methylnaphthalene	44.2 [c]	27	11	ug/l	
91-57-6	2-Methylnaphthalene	88.7 [c]	27	11	ug/l	
85-01-8	Phenanthrene	ND	5.5	2.2	ug/l	
129-00-0	Pyrene	ND	5.5	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Run# 3	Limits
321-60-8	2-Fluorobiphenyl	114%	148% [d]	146% [d]	42-123%
84-15-1	o-Terphenyl	97%	97%	98%	51-123%

(a) All hits confirmed by dual column analysis.
(b) Result is from Run# 3
(c) Result is from Run# 2
(d) Outside control limits due to matrix interference.

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:	UST1115-MW10R		
Lab Sample ID:	F22199-5	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020830.D	10	02/19/04	RA	n/a	n/a	GQR884
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	197	10	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.0	ug/l	
75-25-2	Bromoform	ND	10	5.0	ug/l	
74-83-9	Bromomethane	ND	10	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	10	5.0	ug/l	
108-90-7	Chlorobenzene	ND	10	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	10	4.0	ug/l	
75-00-3	Chloroethane	ND	10	5.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	10	5.0	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	10	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	5.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	5.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	5.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	5.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	5.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	3.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.0	ug/l	
100-41-4	Ethylbenzene	175	10	5.0	ug/l	
75-09-2	Methylene chloride	ND	50	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	2.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	5.0	ug/l	
108-88-3	Toluene	650	10	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	5.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	5.0	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:	UST1115-MW10R		
Lab Sample ID:	F22199-5	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	10	5.0	ug/l	
1330-20-7	Xylenes (total)	861	30	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	106%		70-123%
563-58-6	1,1-Dichloropropene	101%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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:	UST1115-MW10R		
Lab Sample ID:	F22199-5	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ19392.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2 [a]	IJ19393.D	5	02/19/04	SM	02/19/04	OP9794	GIJ938

	Initial Volume	Final Volume
Run #1	870 ml	1.0 ml
Run #2	870 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.7	2.3	ug/l	
208-96-8	Acenaphthylene	ND	5.7	2.3	ug/l	
120-12-7	Anthracene	ND	5.7	2.3	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.7	2.3	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.7	2.3	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.7	2.3	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.7	2.3	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.7	2.3	ug/l	
218-01-9	Chrysene	ND	5.7	2.3	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.7	2.3	ug/l	
206-44-0	Fluoranthene	ND	5.7	2.3	ug/l	
86-73-7	Fluorene	ND	5.7	2.3	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.7	2.3	ug/l	
91-20-3	Naphthalene	50.9 [b]	29	11	ug/l	
90-12-0	1-Methylnaphthalene	17.5	5.7	2.3	ug/l	
91-57-6	2-Methylnaphthalene	32.0	5.7	2.3	ug/l	
85-01-8	Phenanthrene	ND	5.7	2.3	ug/l	
129-00-0	Pyrene	ND	5.7	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	101%	100%	42-123%
84-15-1	o-Terphenyl	101%	90%	51-123%

(a) All hits confirmed by dual column analysis.
(b) 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:	USTHPFF-MWHPFF19		
Lab Sample ID:	F22199-6	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020799.D	100	02/18/04	RA	n/a	n/a	GQR882
Run #2	QR020826.D	400	02/19/04	RA	n/a	n/a	GQR884

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	11300 [a]	400	200	ug/l	
75-27-4	Bromodichloromethane	ND	100	50	ug/l	
75-25-2	Bromoform	ND	100	50	ug/l	
74-83-9	Bromomethane	ND	100	50	ug/l	
56-23-5	Carbon tetrachloride	ND	100	50	ug/l	
108-90-7	Chlorobenzene	ND	100	50	ug/l	
124-48-1	Dibromochloromethane	ND	100	40	ug/l	
75-00-3	Chloroethane	ND	100	50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	100	50	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	100	50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	100	50	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	50	ug/l	
107-06-2	1,2-Dichloroethane	2160	100	50	ug/l	
75-35-4	1,1-Dichloroethene	ND	100	50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	50	ug/l	
78-87-5	1,2-Dichloropropane	ND	100	50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	100	30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	100	30	ug/l	
100-41-4	Ethylbenzene	847	100	50	ug/l	
75-09-2	Methylene chloride	ND	500	100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	20	ug/l	
127-18-4	Tetrachloroethene	ND	100	50	ug/l	
108-88-3	Toluene	13800 [a]	400	200	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF19		
Lab Sample ID:	F22199-6	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	100	50	ug/l	
75-01-4	Vinyl chloride	ND	100	50	ug/l	
1330-20-7	Xylenes (total)	10300	300	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	98%	96%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	105%	101%	70-123%
563-58-6	1,1-Dichloropropene	97%	99%	86-112%
563-58-6	1,1-Dichloropropene	108%	107%	86-112%

(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:	USTHPFF-MWHPFF19		
Lab Sample ID:	F22199-6	Date Sampled:	02/14/04
Matrix:	AQ - Ground Water	Date Received:	02/17/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19394.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2 [a]	IJ19395.D	5	02/19/04	SM	02/19/04	OP9794	GIJ938

	Initial Volume	Final Volume
Run #1	940 ml	1.0 ml
Run #2	940 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	216 [b]	27	11	ug/l	
90-12-0	1-Methylnaphthalene	38.9 [b]	27	11	ug/l	
91-57-6	2-Methylnaphthalene	62.8 [b]	27	11	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	81%	98%	42-123%
84-15-1	o-Terphenyl	93%	88%	51-123%

(a) All hits confirmed by dual column analysis.
(b) 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:	TRIP BLANK-021404		
Lab Sample ID:	F22199-7	Date Sampled:	02/14/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020819.D	1	02/19/04	RA	n/a	n/a	GQR884
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-021404		
Lab Sample ID:	F22199-7	Date Sampled:	02/14/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/17/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	98%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F22199

COC Number:
844098-SE-021404

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	Analysis Desired: VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1								
1	USTHPFF-MW11	2/14/04	8:15		X	USTHPFF-MW11	5	X	X												
2	USTHPFF-MW01	2/14/04	9:45		X	USTHPFF-MW01	5	X	X												
3	USTHPFF-MW01D	2/14/04	9:50		X	USTHPFF-MW01D	5	X	X												
4	USTHPFF-MW18	2/14/04	12:15		X	USTHPFF-MW18	5	X	X												
5	UST1115-MW10R	2/14/04	13:30		X	UST1115-MW10R	5	X	X												
6	USTHPFF-MWHPFF19	2/14/04	14:45		X	USTHPFF-MWHPFF19	5	X	X												
7	Trip Blank-021404	2/14/04			X	Trip Blank	2	X													
8																					
9																					
10																					

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 7		Fed Ex8434 9077 5104	2/16/04	18:00	Please E-mail results to Mark.Martin@Shawgrp.com
2		Fed Ex	Jeff Mistroff	2/17/04	08:45	21 Day TAT

3.8, 2.4, 2.2.

F22199: Chain of Custody
Page 1 of 2

Southeast
ACCUTEST.
Laboratories

02/25/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F22174

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **55**

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

Shaw E & I, Inc.

Job No: F22174

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F22174-1	02/13/04	10:40	MM	02/14/04	AQ	Ground Water	USTHPFF-MWHPFF01
F22174-2	02/13/04	12:50	MM	02/14/04	AQ	Ground Water	USTHPFF-MWHPFF05
F22174-3	02/13/04	11:45	MM	02/14/04	AQ	Ground Water	USTHPFF-MWHPFF07
F22174-4	02/13/04	13:45	MM	02/14/04	AQ	Ground Water	USTHPFF-MWHPFF09
F22174-5	02/13/04	00:00	MM	02/14/04	AQ	Trip Blank Water	TRIP BLANK-021304

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF01		
Lab Sample ID:	F22174-1	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020785.D	1	02/18/04	RA	n/a	n/a	GQR882
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF01		
Lab Sample ID:	F22174-1	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	99%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	109%		86-112%

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:	USTHPFF-MWHPFF01		
Lab Sample ID:	F22174-1	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012843.D	1	02/19/04	CV	n/a	n/a	GXY380
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	23.0	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF01		
Lab Sample ID:	F22174-1	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19378.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	ND	5.3	2.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	83%		42-123%
84-15-1	o-Terphenyl	86%		51-123%

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:	USTHPFF-MWHPFF01		
Lab Sample ID:	F22174-1	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	0.26	0.10	mg/l	1	02/14/04 13:40	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	0.26	0.20	mg/l	1	02/14/04 13:40	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/14/04 13:40	MP	EPA 300/SW846 9056
Sulfate	61.1	20	mg/l	1	02/14/04 13:40	MP	EPA 300/SW846 9056
Total Organic Carbon	3.0	1.0	mg/l	1	02/19/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF05		
Lab Sample ID:	F22174-2	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	QR020788.D	1	02/18/04	RA	n/a	n/a	GQR882
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	8.4	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.53	1.0	0.50	ug/l	J
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.7	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF05		
Lab Sample ID:	F22174-2	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	93%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	95%		70-123%
563-58-6	1,1-Dichloropropene	102%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

(a) All hits confirmed by GC/MS.

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:	USTHPFF-MWHPFF05		
Lab Sample ID:	F22174-2	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012844.D	1	02/19/04	CV	n/a	n/a	GXY380
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	110	0.50	0.30	ug/l	
74-84-0	Ethane	0.67	1.0	0.60	ug/l	J
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF05		
Lab Sample ID:	F22174-2	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19379.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2							

	Initial Volume	Final Volume
Run #1	950 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.3	2.1	ug/l	
208-96-8	Acenaphthylene	ND	5.3	2.1	ug/l	
120-12-7	Anthracene	ND	5.3	2.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.3	2.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.3	2.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.3	2.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.3	2.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.3	2.1	ug/l	
218-01-9	Chrysene	ND	5.3	2.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.3	2.1	ug/l	
206-44-0	Fluoranthene	ND	5.3	2.1	ug/l	
86-73-7	Fluorene	ND	5.3	2.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.3	2.1	ug/l	
91-20-3	Naphthalene	ND	5.3	2.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.3	2.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.3	2.1	ug/l	
85-01-8	Phenanthrene	ND	5.3	2.1	ug/l	
129-00-0	Pyrene	ND	5.3	2.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	82%		42-123%
84-15-1	o-Terphenyl	84%		51-123%

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:	USTHPFF-MWHPFF05		
Lab Sample ID:	F22174-2	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/14/04 13:58	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/14/04 13:58	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/14/04 13:58	MP	EPA 300/SW846 9056
Sulfate	59.6	20	mg/l	1	02/14/04 13:58	MP	EPA 300/SW846 9056
Total Organic Carbon	4.5	1.0	mg/l	1	02/19/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF07		
Lab Sample ID:	F22174-3	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020789.D	1	02/18/04	RA	n/a	n/a	GQR882
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF07		
Lab Sample ID:	F22174-3	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	93%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	97%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	USTHPFF-MWHPFF07		
Lab Sample ID:	F22174-3	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012845.D	1	02/19/04	CV	n/a	n/a	GXY380
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	59.0	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF07		
Lab Sample ID:	F22174-3	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19380.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2							

	Initial Volume	Final Volume
Run #1	990 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.1	2.0	ug/l	
208-96-8	Acenaphthylene	ND	5.1	2.0	ug/l	
120-12-7	Anthracene	ND	5.1	2.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	2.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	2.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	2.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	2.0	ug/l	
218-01-9	Chrysene	ND	5.1	2.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	2.0	ug/l	
206-44-0	Fluoranthene	ND	5.1	2.0	ug/l	
86-73-7	Fluorene	ND	5.1	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	2.0	ug/l	
91-20-3	Naphthalene	ND	5.1	2.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.1	2.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.1	2.0	ug/l	
85-01-8	Phenanthrene	ND	5.1	2.0	ug/l	
129-00-0	Pyrene	ND	5.1	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	79%		42-123%
84-15-1	o-Terphenyl	88%		51-123%

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:	USTHPFF-MWHPFF07		
Lab Sample ID:	F22174-3	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/14/04 14:16	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/14/04 14:16	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/14/04 14:16	MP	EPA 300/SW846 9056
Sulfate	66.8	20	mg/l	1	02/14/04 14:16	MP	EPA 300/SW846 9056
Total Organic Carbon	2.3	1.0	mg/l	1	02/19/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF09		
Lab Sample ID:	F22174-4	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020829.D	10	02/19/04	RA	n/a	n/a	GQR884
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	727	10	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.0	ug/l	
75-25-2	Bromoform	ND	10	5.0	ug/l	
74-83-9	Bromomethane	ND	10	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	10	5.0	ug/l	
108-90-7	Chlorobenzene	ND	10	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	10	4.0	ug/l	
75-00-3	Chloroethane	ND	10	5.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	10	5.0	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	10	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	5.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	5.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	5.0	ug/l	
107-06-2	1,2-Dichloroethane	192	10	5.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	5.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	3.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.0	ug/l	
100-41-4	Ethylbenzene	23.2	10	5.0	ug/l	
75-09-2	Methylene chloride	ND	50	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	112	10	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	2.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	5.0	ug/l	
108-88-3	Toluene	ND	10	5.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	5.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	5.0	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:	USTHPFF-MWHPFF09		
Lab Sample ID:	F22174-4	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	10	5.0	ug/l	
1330-20-7	Xylenes (total)	ND	30	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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:	USTHPFF-MWHPFF09		
Lab Sample ID:	F22174-4	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY012847.D	1	02/19/04	CV	n/a	n/a	GXY380
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	129	0.50	0.30	ug/l	
74-84-0	Ethane	5.41	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF09		
Lab Sample ID:	F22174-4	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ19381.D	1	02/19/04	SM	02/19/04	OP9794	GIJ938
Run #2							

	Initial Volume	Final Volume
Run #1	910 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.5	2.2	ug/l	
208-96-8	Acenaphthylene	ND	5.5	2.2	ug/l	
120-12-7	Anthracene	ND	5.5	2.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.5	2.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.5	2.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.5	2.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.5	2.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.5	2.2	ug/l	
218-01-9	Chrysene	ND	5.5	2.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.5	2.2	ug/l	
206-44-0	Fluoranthene	ND	5.5	2.2	ug/l	
86-73-7	Fluorene	ND	5.5	2.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.5	2.2	ug/l	
91-20-3	Naphthalene	ND	5.5	2.2	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.5	2.2	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.5	2.2	ug/l	
85-01-8	Phenanthrene	ND	5.5	2.2	ug/l	
129-00-0	Pyrene	ND	5.5	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	80%		42-123%
84-15-1	o-Terphenyl	87%		51-123%

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:	USTHPFF-MWHPFF09		
Lab Sample ID:	F22174-4	Date Sampled:	02/13/04
Matrix:	AQ - Ground Water	Date Received:	02/14/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	02/14/04 14:34	MP	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	02/14/04 14:34	MP	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	02/14/04 14:34	MP	EPA 300/SW846 9056
Sulfate	230	20	mg/l	1	02/14/04 14:34	MP	EPA 300/SW846 9056
Total Organic Carbon	17.6	1.0	mg/l	1	02/19/04	SM	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-021304		
Lab Sample ID:	F22174-5	Date Sampled:	02/13/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR020790.D	1	02/18/04	RA	n/a	n/a	GQR882
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-021304		
Lab Sample ID:	F22174-5	Date Sampled:	02/13/04
Matrix:	AQ - Trip Blank Water	Date Received:	02/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	98%		70-123%
563-58-6	1,1-Dichloropropene	101%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

COC Number: 844098-SE-021304 F22174

Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390 | Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-364.1	SO4 BY 375.4	TOC BY 415.1	Analysis Desired
1	USTHPFF-MWHPFF01	2/13/04	10:40		X	USTHPFF-MWHPFF01	10	X	X	X	X	X	X	
2	USTHPFF-MWHPFF05	2/13/04	12:50		X	USTHPFF-MWHPFF05	10	X	X	X	X	X	X	
3	USTHPFF-MWHPFF07	2/13/04	11:45		X	USTHPFF-MWHPFF07	10	X	X	X	X	X	X	
4	USTHPFF-MWHPFF09	2/13/04	13:45		X	USTHPFF-MWHPFF09	10	X	X	X	X	X	X	
5	Trip Blank-021304	2/13/04			X	Trip Blank	2	X						
6														
7														
8														
9														
10														

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 – 5		Fed Ex8434 9077 5115	2/13/04	18:00	Please E-mail results to Mark.Martin@Shawgrp.com
2				02/14/04	1015	21 Day TAT

3.4, 2.8

F22174: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories

Southeast
ACCUTEST.
Laboratories

09/24/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F26681

Sampling Date: 09/13/04

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 39

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F26681

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F26681-1	09/13/04	14:00	MM	09/14/04	AQ	Ground Water	UST1115-MW78GW3202
F26681-2	09/13/04	15:00	MM	09/14/04	AQ	Ground Water	USTHPFF-MW17A
F26681-3	09/13/04	00:00	MM	09/14/04	AQ	Trip Blank Water	TRIP BLANK-091304

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW78GW3202		
Lab Sample ID:	F26681-1	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024524.D	1	09/16/04	RA	n/a	n/a	GQR1082
Run #2	QR024527.D	5	09/16/04	RA	n/a	n/a	GQR1082

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	321 [a]	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	116 [a]	5.0	2.5	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	1.0	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	37.4	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	149 [a]	5.0	2.5	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW78GW3202		
Lab Sample ID:	F26681-1	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	178	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%	97%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	100%	95%	70-123%
563-58-6	1,1-Dichloropropene	96%	99%	86-112%
563-58-6	1,1-Dichloropropene	105%	100%	86-112%

(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:	UST1115-MW78GW3202		
Lab Sample ID:	F26681-1	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY015061.D	1	09/16/04	CV	n/a	n/a	GXY489
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	35.5	0.50	0.30	ug/l	
74-84-0	Ethane	4.53	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW78GW3202		
Lab Sample ID:	F26681-1	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20862.D	1	09/21/04	AA	09/17/04	OP11335	GIJ1023
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	6.7	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	2.6	4.8	1.9	ug/l	J
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	97%		42-123%
84-15-1	o-Terphenyl	100%		51-123%

(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:	UST1115-MW78GW3202		
Lab Sample ID:	F26681-1	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	0.10	0.10	mg/l	1	09/14/04 18:31	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	09/14/04 18:31	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	09/14/04 18:31	SJL	EPA 300/SW846 9056
Sulfate	7.1	2.0	mg/l	1	09/14/04 18:31	SJL	EPA 300/SW846 9056
Total Organic Carbon	13.2	1.0	mg/l	1	09/23/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MW17A		
Lab Sample ID:	F26681-2	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024528.D	500	09/16/04	RA	n/a	n/a	GQR1082
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4910	500	250	ug/l	
75-27-4	Bromodichloromethane	ND	500	250	ug/l	
75-25-2	Bromoform	ND	500	250	ug/l	
74-83-9	Bromomethane	ND	500	250	ug/l	
56-23-5	Carbon tetrachloride	ND	500	250	ug/l	
108-90-7	Chlorobenzene	ND	500	250	ug/l	
124-48-1	Dibromochloromethane	ND	500	200	ug/l	
75-00-3	Chloroethane	ND	500	250	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	500	250	ug/l	
67-66-3	Chloroform	ND	500	250	ug/l	
74-87-3	Chloromethane	ND	500	250	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	500	250	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	500	250	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	500	250	ug/l	
75-71-8	Dichlorodifluoromethane	ND	500	250	ug/l	
75-34-3	1,1-Dichloroethane	ND	500	250	ug/l	
107-06-2	1,2-Dichloroethane	ND	500	250	ug/l	
75-35-4	1,1-Dichloroethene	ND	500	250	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	500	250	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	500	250	ug/l	
78-87-5	1,2-Dichloropropane	ND	500	250	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	500	150	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	500	150	ug/l	
100-41-4	Ethylbenzene	2070	500	250	ug/l	
75-09-2	Methylene chloride	ND	2500	500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	500	250	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	100	ug/l	
127-18-4	Tetrachloroethene	ND	500	250	ug/l	
108-88-3	Toluene	20000	500	250	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	500	250	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	500	250	ug/l	
79-01-6	Trichloroethene	ND	500	250	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:	USTHPFF-MW17A		
Lab Sample ID:	F26681-2	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	500	250	ug/l	
75-01-4	Vinyl chloride	ND	500	250	ug/l	
1330-20-7	Xylenes (total)	7990	1500	500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	104%		70-123%
563-58-6	1,1-Dichloropropene	98%		86-112%
563-58-6	1,1-Dichloropropene	103%		86-112%

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:	USTHPFF-MW17A		
Lab Sample ID:	F26681-2	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY015062.D	1	09/16/04	CV	n/a	n/a	GXY489
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	232	0.50	0.30	ug/l	
74-84-0	Ethane	10.9	1.0	0.60	ug/l	
74-85-1	Ethene	6.40	1.0	0.80	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:	USTHPFF-MW17A		
Lab Sample ID:	F26681-2	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20876.D	5	09/21/04	AA	09/17/04	OP11335	GIJ1023
Run #2 [a]	IJ20880.D	20	09/22/04	AA	09/17/04	OP11335	GIJ1024

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2	1050 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	24	9.5	ug/l	
208-96-8	Acenaphthylene	ND	24	9.5	ug/l	
120-12-7	Anthracene	ND	24	9.5	ug/l	
56-55-3	Benzo(a)anthracene	ND	24	9.5	ug/l	
50-32-8	Benzo(a)pyrene	ND	24	9.5	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	24	9.5	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	24	9.5	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	24	9.5	ug/l	
218-01-9	Chrysene	ND	24	9.5	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	24	9.5	ug/l	
206-44-0	Fluoranthene	ND	24	9.5	ug/l	
86-73-7	Fluorene	ND	24	9.5	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	24	9.5	ug/l	
91-20-3	Naphthalene	402 [b]	95	38	ug/l	
90-12-0	1-Methylnaphthalene	85.3	24	9.5	ug/l	
91-57-6	2-Methylnaphthalene	153	24	9.5	ug/l	
85-01-8	Phenanthrene	ND	24	9.5	ug/l	
129-00-0	Pyrene	ND	24	9.5	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	248% [d]	0% [c]	42-123%
84-15-1	o-Terphenyl	101%	0% [c]	51-123%

(a) All hits confirmed by dual column analysis.
(b) Result is from Run# 2
(c) Outside control limits due to dilution.
(d) Outside control limits due to matrix interference.

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:	USTHPFF-MW17A		
Lab Sample ID:	F26681-2	Date Sampled:	09/13/04
Matrix:	AQ - Ground Water	Date Received:	09/14/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	<0.10	0.10	mg/l	1	09/14/04 18:46	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	<0.20	0.20	mg/l	1	09/14/04 18:46	SJL	SM18 4500NO3E
Nitrogen, Nitrite	<0.10	0.10	mg/l	1	09/14/04 18:46	SJL	EPA 300/SW846 9056
Sulfate	2.5	2.0	mg/l	1	09/14/04 18:46	SJL	EPA 300/SW846 9056
Total Organic Carbon	56.3	1.0	mg/l	1	09/23/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-091304		
Lab Sample ID:	F26681-3	Date Sampled:	09/13/04
Matrix:	AQ - Trip Blank Water	Date Received:	09/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024525.D	1	09/16/04	RA	n/a	n/a	GQR1082
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-091304		
Lab Sample ID:	F26681-3	Date Sampled:	09/13/04
Matrix:	AQ - Trip Blank Water	Date Received:	09/14/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	89%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	88%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F26681

COC Number:
844098-SE-091304

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc.

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	Analysis Desired: VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1
1	UST1115-MW78GW3202	9/13/04	14:00		X	UST1115-MW78GW3202	10	X	X	X	X	X	X
2	USTHPFF-MW17A	9/13/04	15:00		X	USTHPFF-MW17A	10	X	X	X	X	X	X
3	Trip Blank-091304	9/13/04			X	Trip Blank	2	X					
4													
5													
6													
7													
8													
9													
10													

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 – 3		FedEx 8481 5070 2896	9/13/04	16:00	Please E-mail results to Mark.Martin@shawgrp.com
2		FX		9/14/04	09:00	21 Day TAT

1-8

F26681: Chain of Custody
Page 1 of 2

Southeast
ACCUTEST.
Laboratories

10/07/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F26623

Sampling Dates: 09/08/04 - 09/09/04

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 91

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F26623

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F26623-1	09/08/04	13:00	MM	09/10/04	AQ	Ground Water	UST1115-MW10R
F26623-2	09/08/04	14:00	MM	09/10/04	AQ	Ground Water	USTHPFF-MWHPFF19
F26623-3	09/08/04	15:00	MM	09/10/04	AQ	Ground Water	UST1115-MWHPFF20
F26623-4	09/09/04	11:00	MM	09/10/04	AQ	Ground Water	UST1115-MW78GW3203
F26623-5	09/09/04	00:00	MM	09/10/04	AQ	Trip Blank Water	TRIP BLANK-090904

Accutest Laboratories

Report of Analysis

Client Sample ID:	UST1115-MW10R		
Lab Sample ID:	F26623-1	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024536.D	10	09/16/04	RA	n/a	n/a	GQR1082
Run #2	QR024555.D	50	09/17/04	RA	n/a	n/a	GQR1085

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	480	10	5.0	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.0	ug/l	
75-25-2	Bromoform	ND	10	5.0	ug/l	
74-83-9	Bromomethane	ND	10	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	10	5.0	ug/l	
108-90-7	Chlorobenzene	ND	10	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	10	4.0	ug/l	
75-00-3	Chloroethane	ND	10	5.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	10	5.0	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	10	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	5.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	5.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	5.0	ug/l	
107-06-2	1,2-Dichloroethane	5.9	10	5.0	ug/l	J
75-35-4	1,1-Dichloroethene	ND	10	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	5.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	3.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.0	ug/l	
100-41-4	Ethylbenzene	602	10	5.0	ug/l	
75-09-2	Methylene chloride	ND	50	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	2.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	5.0	ug/l	
108-88-3	Toluene	2210 [a]	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	5.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	5.0	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:	UST1115-MW10R		
Lab Sample ID:	F26623-1	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	10	5.0	ug/l	
1330-20-7	Xylenes (total)	2590	30	10	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	96%	101%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	112%	112%	70-123%
563-58-6	1,1-Dichloropropene	102%	99%	86-112%
563-58-6	1,1-Dichloropropene	104%	109%	86-112%

(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:	UST1115-MW10R		
Lab Sample ID:	F26623-1	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20830.D	1	09/14/04	AA	09/11/04	OP11287	GIJ1020
Run #2	IJ20831.D	5	09/14/04	AA	09/11/04	OP11287	GIJ1020

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2	1050 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	4.7	4.8	1.9	ug/l	J
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	178 [a]	24	9.5	ug/l	
90-12-0	1-Methylnaphthalene	57.1 [a]	24	9.5	ug/l	
91-57-6	2-Methylnaphthalene	155 [a]	24	9.5	ug/l	
85-01-8	Phenanthrene	7.9	4.8	1.9	ug/l	
129-00-0	Pyrene	3.6	4.8	1.9	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	148% [b]	143% [b]	42-123%
84-15-1	o-Terphenyl	104%	95%	51-123%

(a) Result is from Run# 2
(b) Outside control limits due to matrix interference.

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:	USTHPFF-MWHPFF19		
Lab Sample ID:	F26623-2	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024559.D	200	09/17/04	RA	n/a	n/a	GQR1085
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	10900	200	100	ug/l	
75-27-4	Bromodichloromethane	ND	200	100	ug/l	
75-25-2	Bromoform	ND	200	100	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
56-23-5	Carbon tetrachloride	ND	200	100	ug/l	
108-90-7	Chlorobenzene	ND	200	100	ug/l	
124-48-1	Dibromochloromethane	ND	200	80	ug/l	
75-00-3	Chloroethane	ND	200	100	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	200	100	ug/l	
67-66-3	Chloroform	ND	200	100	ug/l	
74-87-3	Chloromethane	ND	200	100	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	200	100	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	200	100	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	200	100	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	100	ug/l	
75-34-3	1,1-Dichloroethane	ND	200	100	ug/l	
107-06-2	1,2-Dichloroethane	1370	200	100	ug/l	
75-35-4	1,1-Dichloroethene	ND	200	100	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	200	100	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	200	100	ug/l	
78-87-5	1,2-Dichloropropane	ND	200	100	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	200	60	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	200	60	ug/l	
100-41-4	Ethylbenzene	723	200	100	ug/l	
75-09-2	Methylene chloride	ND	1000	200	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	200	100	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	200	40	ug/l	
127-18-4	Tetrachloroethene	ND	200	100	ug/l	
108-88-3	Toluene	12300	200	100	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	200	100	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	200	100	ug/l	
79-01-6	Trichloroethene	ND	200	100	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:	USTHPFF-MWHPFF19		
Lab Sample ID:	F26623-2	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	200	100	ug/l	
75-01-4	Vinyl chloride	ND	200	100	ug/l	
1330-20-7	Xylenes (total)	7660	600	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	99%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	106%		70-123%
563-58-6	1,1-Dichloropropene	98%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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:	USTHPFF-MWHPFF19		
Lab Sample ID:	F26623-2	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20832.D	1	09/14/04	AA	09/11/04	OP11287	GIJ1020
Run #2	IJ20844.D	10	09/14/04	AA	09/11/04	OP11287	GIJ1021

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2	1050 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	316 [a]	48	19	ug/l	
90-12-0	1-Methylnaphthalene	48.8 [a]	48	19	ug/l	
91-57-6	2-Methylnaphthalene	103 [a]	48	19	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	88%	119%	42-123%
84-15-1	o-Terphenyl	92%	95%	51-123%

(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:	UST1115-MWHPFF20		
Lab Sample ID:	F26623-3	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024537.D	10	09/16/04	RA	n/a	n/a	GQR1082
Run #2	QR024556.D	50	09/17/04	RA	n/a	n/a	GQR1085

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3030 [a]	50	25	ug/l	
75-27-4	Bromodichloromethane	ND	10	5.0	ug/l	
75-25-2	Bromoform	ND	10	5.0	ug/l	
74-83-9	Bromomethane	ND	10	5.0	ug/l	
56-23-5	Carbon tetrachloride	ND	10	5.0	ug/l	
108-90-7	Chlorobenzene	ND	10	5.0	ug/l	
124-48-1	Dibromochloromethane	ND	10	4.0	ug/l	
75-00-3	Chloroethane	ND	10	5.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	10	5.0	ug/l	
67-66-3	Chloroform	ND	10	5.0	ug/l	
74-87-3	Chloromethane	ND	10	5.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	5.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	5.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	5.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	5.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	5.0	ug/l	
107-06-2	1,2-Dichloroethane	11.9	10	5.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	5.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	5.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	5.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	5.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	3.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	3.0	ug/l	
100-41-4	Ethylbenzene	362	10	5.0	ug/l	
75-09-2	Methylene chloride	ND	50	10	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	10	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	2.0	ug/l	
127-18-4	Tetrachloroethene	ND	10	5.0	ug/l	
108-88-3	Toluene	2770 [a]	50	25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	5.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	5.0	ug/l	
79-01-6	Trichloroethene	ND	10	5.0	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:	UST1115-MWHPFF20		
Lab Sample ID:	F26623-3	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	10	5.0	ug/l	
75-01-4	Vinyl chloride	ND	10	5.0	ug/l	
1330-20-7	Xylenes (total)	2920 [a]	150	50	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	99%	99%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	110%	108%	70-123%
563-58-6	1,1-Dichloropropene	95%	97%	86-112%
563-58-6	1,1-Dichloropropene	106%	107%	86-112%

(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:	UST1115-MWHPFF20		
Lab Sample ID:	F26623-3	Date Sampled:	09/08/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20835.D	1	09/14/04	AA	09/11/04	OP11287	GIJ1020
Run #2	IJ20845.D	8	09/14/04	AA	09/11/04	OP11287	GIJ1021

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2	1040 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	68.6 [a]	38	15	ug/l	
90-12-0	1-Methylnaphthalene	8.9	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	15.1	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	75%	81%	42-123%
84-15-1	o-Terphenyl	79%	76%	51-123%

(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:	UST1115-MW78GW3203		
Lab Sample ID:	F26623-4	Date Sampled:	09/09/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024526.D	1	09/16/04	RA	n/a	n/a	GQR1082
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	28.9	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	8.7	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	60.6	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	UST1115-MW78GW3203		
Lab Sample ID:	F26623-4	Date Sampled:	09/09/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	64.0	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	100%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	102%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	UST1115-MW78GW3203		
Lab Sample ID:	F26623-4	Date Sampled:	09/09/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY015038.D	1	09/13/04	CV	n/a	n/a	GXY487
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	16.5	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	UST1115-MW78GW3203		
Lab Sample ID:	F26623-4	Date Sampled:	09/09/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20836.D	1	09/14/04	AA	09/11/04	OP11287	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	2.4	4.8	1.9	ug/l	J
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	100%		42-123%
84-15-1	o-Terphenyl	103%		51-123%

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:	UST1115-MW78GW3203		
Lab Sample ID:	F26623-4	Date Sampled:	09/09/04
Matrix:	AQ - Ground Water	Date Received:	09/10/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	< 0.10	0.10	mg/l	1	10/06/04 20:56	KG	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [b]	< 0.20	0.20	mg/l	1	10/06/04 20:56	KG	SM18 4500NO3E
Nitrogen, Nitrite [a]	< 0.10	0.10	mg/l	1	10/06/04 20:56	KG	EPA 300/SW846 9056
Sulfate	3.4	2.0	mg/l	1	10/06/04 20:56	KG	EPA 300/SW846 9056
Total Organic Carbon	< 1.0	1.0	mg/l	1	09/23/04	LE	EPA 415.1

(a) Exceeded holding time.
(b) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	TRIP BLANK-090904		
Lab Sample ID:	F26623-5	Date Sampled:	09/09/04
Matrix:	AQ - Trip Blank Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024534.D	1	09/16/04	RA	n/a	n/a	GQR1082
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.56	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	3.0	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-090904		
Lab Sample ID:	F26623-5	Date Sampled:	09/09/04
Matrix:	AQ - Trip Blank Water	Date Received:	09/10/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	2.0	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	89%		70-123%
563-58-6	1,1-Dichloropropene	100%		86-112%
563-58-6	1,1-Dichloropropene	106%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

COC Number:
844098-SE-090904

Shaw Environmental & Infrastructure, Inc.

F26623

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3-NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1	Analysis Desired
1	UST1115-MW10R	9/8/04	13:00		X	UST1115-MW10R	5	X	X					
2	USTHPFF-MWHPFF19	9/8/04	14:00		X	USTHPFF-MWHPFF19	5	X	X					
3	USTHPFF-MWHPFF20	9/8/04	15:00		X	USTHPFF-MWHPFF20	5	X	X					
4	UST1115-MW78GW3203	9/9/04	11:00		X	UST1115-MW78GW3203	10	X	X	X	X	X	X	
5	Trip Blank-090904	9/9/04			X	Trip Blank	2	X						
6														
7														
8														
9														
10														

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 5	FX	FedEx 8481 5070 2885	9/9/04	16:00	Please E-mail results to mamartin@theitgroup.com
2		[illegible]	[illegible]	9/10/04	9:30	21 Day TAT

2.2

F26623: Chain of Custody
Page 1 of 2

Southeast
ACCUTEST.
Laboratories

09/24/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F26453

Sampling Date: 08/31/04

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 37

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F26453

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
F26453-1	08/31/04	11:30	09/01/04	AQ	Ground Water	USTHPFF-MWHPFF08
F26453-2	08/31/04	09:30	09/01/04	AQ	Ground Water	USTHPFF-MWHPFF11

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF08		
Lab Sample ID:	F26453-1	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024490.D	200	09/14/04	RA	n/a	n/a	GQR1080
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	11500	200	100	ug/l	
75-27-4	Bromodichloromethane	ND	200	100	ug/l	
75-25-2	Bromoform	ND	200	100	ug/l	
74-83-9	Bromomethane	ND	200	100	ug/l	
56-23-5	Carbon tetrachloride	ND	200	100	ug/l	
108-90-7	Chlorobenzene	ND	200	100	ug/l	
124-48-1	Dibromochloromethane	ND	200	80	ug/l	
75-00-3	Chloroethane	ND	200	100	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	200	100	ug/l	
67-66-3	Chloroform	ND	200	100	ug/l	
74-87-3	Chloromethane	ND	200	100	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	200	100	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	200	100	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	200	100	ug/l	
75-71-8	Dichlorodifluoromethane	ND	200	100	ug/l	
75-34-3	1,1-Dichloroethane	ND	200	100	ug/l	
107-06-2	1,2-Dichloroethane	231	200	100	ug/l	
75-35-4	1,1-Dichloroethene	ND	200	100	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	200	100	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	200	100	ug/l	
78-87-5	1,2-Dichloropropane	ND	200	100	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	200	60	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	200	60	ug/l	
100-41-4	Ethylbenzene	627	200	100	ug/l	
75-09-2	Methylene chloride	ND	1000	200	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	200	100	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	200	40	ug/l	
127-18-4	Tetrachloroethene	ND	200	100	ug/l	
108-88-3	Toluene	1540	200	100	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	200	100	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	200	100	ug/l	
79-01-6	Trichloroethene	ND	200	100	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:	USTHPFF-MWHPFF08		
Lab Sample ID:	F26453-1	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	200	100	ug/l	
75-01-4	Vinyl chloride	ND	200	100	ug/l	
1330-20-7	Xylenes (total)	2130	600	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	96%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	104%		86-112%

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:	USTHPFF-MWHPFF08		
Lab Sample ID:	F26453-1	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014922.D	1	09/03/04	CV	n/a	n/a	GXY482
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	121	0.50	0.30	ug/l	
74-84-0	Ethane	14.9	1.0	0.60	ug/l	
74-85-1	Ethene	24.8	1.0	0.80	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:	USTHPFF-MWHPFF08		
Lab Sample ID:	F26453-1	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20819.D	1	09/13/04	AA	09/07/04	OP11253	GIJ1020
Run #2	IJ20842.D	8	09/14/04	AA	09/07/04	OP11253	GIJ1021

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2	1050 ml	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	2.2	4.8	1.9	ug/l	J
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	171 [a]	38	15	ug/l	
90-12-0	1-Methylnaphthalene	11.8	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	24.4	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	115%	99%	42-123%
84-15-1	o-Terphenyl	107%	102%	51-123%

(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:	USTHPFF-MWHPFF08		
Lab Sample ID:	F26453-1	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	09/03/04 07:31	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	09/03/04 07:31	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	09/03/04 07:31	SJL	EPA 300/SW846 9056
Sulfate	2.9	2.0	mg/l	1	09/03/04 07:31	SJL	EPA 300/SW846 9056
Total Organic Carbon	73.0	1.0	mg/l	1	09/23/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF11		
Lab Sample ID:	F26453-2	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024491.D	1	09/14/04	RA	n/a	n/a	GQR1080
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	89.6	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	4.0	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	2.6	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.56	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F26453-2	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	87%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	89%		70-123%
563-58-6	1,1-Dichloropropene	97%		86-112%
563-58-6	1,1-Dichloropropene	101%		86-112%

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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F26453-2	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014923.D	1	09/03/04	CV	n/a	n/a	GXY482
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	14.9	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F26453-2	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20820.D	1	09/13/04	AA	09/07/04	OP11253	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	91%		42-123%
84-15-1	o-Terphenyl	96%		51-123%

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:	USTHPFF-MWHPFF11		
Lab Sample ID:	F26453-2	Date Sampled:	08/31/04
Matrix:	AQ - Ground Water	Date Received:	09/01/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	0.19	0.10	mg/l	1	09/03/04 07:46	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	09/03/04 07:46	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	09/03/04 07:46	SJL	EPA 300/SW846 9056
Sulfate	21.0	2.0	mg/l	1	09/03/04 07:46	SJL	EPA 300/SW846 9056
Total Organic Carbon	2.7	1.0	mg/l	1	09/23/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F26453

COC Number:
844098-SE-083104

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1	Analysis Desired
1	USTHPFF-MWHPFF08	8/31/04	11:30		X	USTHPFF-MWHPFF08	10	X	X	X	X	X	X	
2	USTHPFF-MWHPFF11	8/31/04	9:30		X	USTHPFF-MWHPFF11	10	X	X	X	X	X	X	
3	Trip Blank-083104	8/31/04			X	Trip Blank	2	X						
4														
5														
6														
7														
8														
9														
10														

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 – 3		FedEx 8481 5070 2874	8/31/04	16:00	Please E-mail results to mamartin@theitgroup.com
2				9/1/04	0930	21 Day TAT

3. 2

F26453: Chain of Custody
Page 1 of 2

ACCUTEST. Laboratories
F26453

Southeast
ACCUTEST.
Laboratories

09/22/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F26394

Sampling Date: 08/27/04

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 52

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F26394

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F26394-1	08/27/04	09:45	MM	08/28/04	AQ	Ground Water	USTHPFF-MWHPFF01
F26394-2	08/27/04	10:30	MM	08/28/04	AQ	Ground Water	USTHPFF-MWHPFF07
F26394-3	08/27/04	11:30	MM	08/28/04	AQ	Ground Water	USTHPFF-MWHPFF05
F26394-4	08/27/04	12:30	MM	08/28/04	AQ	Ground Water	USTHPFF-MWHPFF09

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF01		
Lab Sample ID:	F26394-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024377.D	1	09/09/04	RA	n/a	n/a	GQR1073
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3.8	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.88	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF01		
Lab Sample ID:	F26394-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	97%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	112%		70-123%
563-58-6	1,1-Dichloropropene	91%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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:	USTHPFF-MWHPFF01		
Lab Sample ID:	F26394-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014879.D	1	09/02/04	CV	n/a	n/a	GXY481
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	46.1	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF01		
Lab Sample ID:	F26394-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20806.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	92%		42-123%
84-15-1	o-Terphenyl	101%		51-123%

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:	USTHPFF-MWHPFF01		
Lab Sample ID:	F26394-1	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/29/04 13:50	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/29/04 13:50	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/29/04 13:50	SJL	EPA 300/SW846 9056
Sulfate	63.5	2.0	mg/l	1	08/29/04 13:50	SJL	EPA 300/SW846 9056
Total Organic Carbon	3.7	1.0	mg/l	1	09/21/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF07		
Lab Sample ID:	F26394-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024421.D	1	09/10/04	RA	n/a	n/a	GQR1075
Run #2 [a]	QR024375.D	1	09/09/04	RA	n/a	n/a	GQR1073

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.5	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	0.90	1.0	0.50	ug/l	J
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.65	1.0	0.50	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF07		
Lab Sample ID:	F26394-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%	95%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	97%	104%	70-123%
563-58-6	1,1-Dichloropropene	101%	92%	86-112%
563-58-6	1,1-Dichloropropene	109%	104%	86-112%

(a) Confirmation run.

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:	USTHPFF-MWHPFF07		
Lab Sample ID:	F26394-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014880.D	1	09/02/04	CV	n/a	n/a	GXY481
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	56.8	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF07		
Lab Sample ID:	F26394-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20807.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	98%		42-123%
84-15-1	o-Terphenyl	106%		51-123%

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:	USTHPFF-MWHPFF07		
Lab Sample ID:	F26394-2	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/29/04 14:05	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/29/04 14:05	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/29/04 14:05	SJL	EPA 300/SW846 9056
Sulfate	74.3	2.0	mg/l	1	08/29/04 14:05	SJL	EPA 300/SW846 9056
Total Organic Carbon	49.2	1.0	mg/l	1	09/21/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF05		
Lab Sample ID:	F26394-3	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024378.D	1	09/09/04	RA	n/a	n/a	GQR1073
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4.1	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	0.50	1.0	0.50	ug/l	J
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.3	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	0.92	1.0	0.50	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF05		
Lab Sample ID:	F26394-3	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	97%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	113%		70-123%
563-58-6	1,1-Dichloropropene	91%		86-112%
563-58-6	1,1-Dichloropropene	103%		86-112%

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:	USTHPFF-MWHPFF05		
Lab Sample ID:	F26394-3	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014881.D	1	09/02/04	CV	n/a	n/a	GXY481
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	71.2	0.50	0.30	ug/l	
74-84-0	Ethane	ND	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF05		
Lab Sample ID:	F26394-3	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20808.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.8	1.9	ug/l	
120-12-7	Anthracene	ND	4.8	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	1.9	ug/l	
218-01-9	Chrysene	ND	4.8	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.8	1.9	ug/l	
86-73-7	Fluorene	ND	4.8	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.9	ug/l	
91-20-3	Naphthalene	ND	4.8	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.8	1.9	ug/l	
129-00-0	Pyrene	ND	4.8	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	89%		42-123%
84-15-1	o-Terphenyl	97%		51-123%

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:	USTHPFF-MWHPFF05		
Lab Sample ID:	F26394-3	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/29/04 14:19	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/29/04 14:19	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/29/04 14:19	SJL	EPA 300/SW846 9056
Sulfate	65.0	2.0	mg/l	1	08/29/04 14:19	SJL	EPA 300/SW846 9056
Total Organic Carbon	4.3	1.0	mg/l	1	09/21/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MWHPFF09		
Lab Sample ID:	F26394-4	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024376.D	1	09/09/04	RA	n/a	n/a	GQR1073
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.88	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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	36.4	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	11.4	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MWHPFF09		
Lab Sample ID:	F26394-4	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	99%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	114%		70-123%
563-58-6	1,1-Dichloropropene	93%		86-112%
563-58-6	1,1-Dichloropropene	103%		86-112%

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:	USTHPFF-MWHPFF09		
Lab Sample ID:	F26394-4	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	RSKSOP-147/175	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XY014882.D	1	09/02/04	CV	n/a	n/a	GXY481
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	49.9	0.50	0.30	ug/l	
74-84-0	Ethane	2.25	1.0	0.60	ug/l	
74-85-1	Ethene	ND	1.0	0.80	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:	USTHPFF-MWHPFF09		
Lab Sample ID:	F26394-4	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	IJ20809.D	1	09/13/04	AA	09/01/04	OP11232	GIJ1020
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	1.9	ug/l	
208-96-8	Acenaphthylene	ND	4.9	1.9	ug/l	
120-12-7	Anthracene	ND	4.9	1.9	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	1.9	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	1.9	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	1.9	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	1.9	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	1.9	ug/l	
218-01-9	Chrysene	ND	4.9	1.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	1.9	ug/l	
206-44-0	Fluoranthene	ND	4.9	1.9	ug/l	
86-73-7	Fluorene	ND	4.9	1.9	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	1.9	ug/l	
91-20-3	Naphthalene	ND	4.9	1.9	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.9	1.9	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	1.9	ug/l	
85-01-8	Phenanthrene	ND	4.9	1.9	ug/l	
129-00-0	Pyrene	ND	4.9	1.9	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	72%		42-123%
84-15-1	o-Terphenyl	87%		51-123%

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:	USTHPFF-MWHPFF09		
Lab Sample ID:	F26394-4	Date Sampled:	08/27/04
Matrix:	AQ - Ground Water	Date Received:	08/28/04
		Percent Solids:	n/a
Project:	Camp Lejeune-SE		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate	< 0.10	0.10	mg/l	1	08/29/04 14:34	SJL	EPA 300/SW846 9056
Nitrogen, Nitrate + Nitrite [a]	< 0.20	0.20	mg/l	1	08/29/04 14:34	SJL	SM18 4500NO3E
Nitrogen, Nitrite	< 0.10	0.10	mg/l	1	08/29/04 14:34	SJL	EPA 300/SW846 9056
Sulfate	< 2.0	2.0	mg/l	1	08/29/04 14:34	SJL	EPA 300/SW846 9056
Total Organic Carbon	96.4	1.0	mg/l	1	09/21/04	LE	EPA 415.1

(a) Calculated as: (Nitrogen, Nitrate) + (Nitrogen, Nitrite)

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F26394

COC Number:
844098-SE-082704

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc.

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390 | Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1
1	USTHPFF-MWHPFF01	8/27/04	9:45		X	USTHPFF-MWHPFF01	10	X	X	X	X	X	X
2	USTHPFF-MWHPFF07	8/27/04	10:30		X	USTHPFF-MWHPFF07	10	X	X	X	X	X	X
3	USTHPFF-MWHPFF05	8/27/04	11:30		X	USTHPFF-MWHPFF05	10	X	X	X	X	X	X
4	USTHPFF-MWHPFF09	8/27/04	12:30		X	USTHPFF-MWHPFF09	10	X	X	X	X	X	X
5													
6													
7													
8													
9													
10													

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 4		FedEx 8481 5070 2852	8/27/04	16:00	Please E-mail results to mamartin@theitgroup.com
2		FX		8-30-04	09:00	21 Day TAT

2.6, 3.4

F26394: Chain of Custody
Page 1 of 2

ACCUTEST Laboratories
F26394

Southeast
ACCUTEST.
Laboratories

09/09/04

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-SE

844098

Accutest Job Number: F26222

Sampling Date: 08/20/04

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 35

ACCREDITED IN ACCORDANCE WITH nelac

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

Harry Behzadi, Ph.D.
Laboratory Director

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

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Sample Summary

Shaw E & I, Inc.

Job No: F26222

Camp Lejeune-SE
Project No: 844098

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
F26222-1	08/20/04	11:30	MM	08/21/04	AQ	Ground Water	USTHPFF-MW18
F26222-2	08/20/04	10:30	MM	08/21/04	AQ	Ground Water	USTHPFF-MW01
F26222-3	08/20/04	10:35	MM	08/21/04	AQ	Ground Water	USTHPFF-MW01D
F26222-4	08/20/04	00:00	MM	08/21/04	AQ	Trip Blank Water	TRIP BLANK-082004

Accutest Laboratories

Report of Analysis

Client Sample ID:	USTHPFF-MW18		
Lab Sample ID:	F26222-1	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024297.D	100	09/02/04	RA	n/a	n/a	GQR1067
Run #2	QR024309.D	1000	09/03/04	RA	n/a	n/a	GQR1069

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

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	7040 [a]	1000	500	ug/l	
75-27-4	Bromodichloromethane	ND	100	50	ug/l	
75-25-2	Bromoform	ND	100	50	ug/l	
74-83-9	Bromomethane	ND	100	50	ug/l	
56-23-5	Carbon tetrachloride	ND	100	50	ug/l	
108-90-7	Chlorobenzene	ND	100	50	ug/l	
124-48-1	Dibromochloromethane	ND	100	40	ug/l	
75-00-3	Chloroethane	ND	100	50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	100	50	ug/l	
67-66-3	Chloroform	ND	100	50	ug/l	
74-87-3	Chloromethane	ND	100	50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	100	50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	100	50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	100	50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	100	50	ug/l	
75-34-3	1,1-Dichloroethane	ND	100	50	ug/l	
107-06-2	1,2-Dichloroethane	76.3	100	50	ug/l	J
75-35-4	1,1-Dichloroethene	ND	100	50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	100	50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	100	50	ug/l	
78-87-5	1,2-Dichloropropane	ND	100	50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	100	30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	100	30	ug/l	
100-41-4	Ethylbenzene	1950	100	50	ug/l	
75-09-2	Methylene chloride	ND	500	100	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	100	20	ug/l	
127-18-4	Tetrachloroethene	ND	100	50	ug/l	
108-88-3	Toluene	17800 [a]	1000	500	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	100	50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	100	50	ug/l	
79-01-6	Trichloroethene	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:	USTHPFF-MW18		
Lab Sample ID:	F26222-1	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	100	50	ug/l	
75-01-4	Vinyl chloride	ND	100	50	ug/l	
1330-20-7	Xylenes (total)	13700	300	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	102%	93%	70-123%
352-33-0	1-Chloro-4-fluorobenzene	110%	105%	70-123%
563-58-6	1,1-Dichloropropene	97%	98%	86-112%
563-58-6	1,1-Dichloropropene	104%	108%	86-112%

(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:	USTHPFF-MW18		
Lab Sample ID:	F26222-1	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20773.D	20	08/30/04	AA	08/26/04	OP11190	GIJ1017
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	95	38	ug/l	
208-96-8	Acenaphthylene	ND	95	38	ug/l	
120-12-7	Anthracene	ND	95	38	ug/l	
56-55-3	Benzo(a)anthracene	ND	95	38	ug/l	
50-32-8	Benzo(a)pyrene	ND	95	38	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	95	38	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	95	38	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	95	38	ug/l	
218-01-9	Chrysene	ND	95	38	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	95	38	ug/l	
206-44-0	Fluoranthene	ND	95	38	ug/l	
86-73-7	Fluorene	ND	95	38	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	95	38	ug/l	
91-20-3	Naphthalene	700	95	38	ug/l	
90-12-0	1-Methylnaphthalene	52.3	95	38	ug/l	J
91-57-6	2-Methylnaphthalene	115	95	38	ug/l	
85-01-8	Phenanthrene	ND	95	38	ug/l	
129-00-0	Pyrene	ND	95	38	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	0% [b]		42-123%
84-15-1	o-Terphenyl	0% [b]		51-123%

(a) All hits confirmed by dual column analysis.
(b) Outside control limits due to dilution.

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:	USTHPFF-MW01		
Lab Sample ID:	F26222-2	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024290.D	500	09/02/04	RA	n/a	n/a	GQR1067
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3180	500	250	ug/l	
75-27-4	Bromodichloromethane	ND	500	250	ug/l	
75-25-2	Bromoform	ND	500	250	ug/l	
74-83-9	Bromomethane	ND	500	250	ug/l	
56-23-5	Carbon tetrachloride	ND	500	250	ug/l	
108-90-7	Chlorobenzene	ND	500	250	ug/l	
124-48-1	Dibromochloromethane	ND	500	200	ug/l	
75-00-3	Chloroethane	ND	500	250	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	500	250	ug/l	
67-66-3	Chloroform	ND	500	250	ug/l	
74-87-3	Chloromethane	ND	500	250	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	500	250	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	500	250	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	500	250	ug/l	
75-71-8	Dichlorodifluoromethane	ND	500	250	ug/l	
75-34-3	1,1-Dichloroethane	ND	500	250	ug/l	
107-06-2	1,2-Dichloroethane	ND	500	250	ug/l	
75-35-4	1,1-Dichloroethene	ND	500	250	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	500	250	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	500	250	ug/l	
78-87-5	1,2-Dichloropropane	ND	500	250	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	500	150	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	500	150	ug/l	
100-41-4	Ethylbenzene	2620	500	250	ug/l	
75-09-2	Methylene chloride	ND	2500	500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	500	250	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	100	ug/l	
127-18-4	Tetrachloroethene	ND	500	250	ug/l	
108-88-3	Toluene	20700	500	250	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	500	250	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	500	250	ug/l	
79-01-6	Trichloroethene	ND	500	250	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:	USTHPFF-MW01		
Lab Sample ID:	F26222-2	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	500	250	ug/l	
75-01-4	Vinyl chloride	ND	500	250	ug/l	
1330-20-7	Xylenes (total)	12300	1500	500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	97%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	107%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	105%		86-112%

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:	USTHPFF-MW01		
Lab Sample ID:	F26222-2	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20774.D	20	08/30/04	AA	08/26/04	OP11190	GIJ1017
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	97	39	ug/l	
208-96-8	Acenaphthylene	ND	97	39	ug/l	
120-12-7	Anthracene	ND	97	39	ug/l	
56-55-3	Benzo(a)anthracene	ND	97	39	ug/l	
50-32-8	Benzo(a)pyrene	ND	97	39	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	97	39	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	97	39	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	97	39	ug/l	
218-01-9	Chrysene	ND	97	39	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	97	39	ug/l	
206-44-0	Fluoranthene	ND	97	39	ug/l	
86-73-7	Fluorene	ND	97	39	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	97	39	ug/l	
91-20-3	Naphthalene	586	97	39	ug/l	
90-12-0	1-Methylnaphthalene	56.3	97	39	ug/l	J
91-57-6	2-Methylnaphthalene	115	97	39	ug/l	
85-01-8	Phenanthrene	ND	97	39	ug/l	
129-00-0	Pyrene	ND	97	39	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	0% [b]		42-123%
84-15-1	o-Terphenyl	0% [b]		51-123%

(a) All hits confirmed by dual column analysis.
(b) Outside control limits due to dilution.

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:	USTHPFF-MW01D		
Lab Sample ID:	F26222-3	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024291.D	500	09/02/04	RA	n/a	n/a	GQR1067
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3110	500	250	ug/l	
75-27-4	Bromodichloromethane	ND	500	250	ug/l	
75-25-2	Bromoform	ND	500	250	ug/l	
74-83-9	Bromomethane	ND	500	250	ug/l	
56-23-5	Carbon tetrachloride	ND	500	250	ug/l	
108-90-7	Chlorobenzene	ND	500	250	ug/l	
124-48-1	Dibromochloromethane	ND	500	200	ug/l	
75-00-3	Chloroethane	ND	500	250	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	500	250	ug/l	
67-66-3	Chloroform	ND	500	250	ug/l	
74-87-3	Chloromethane	ND	500	250	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	500	250	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	500	250	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	500	250	ug/l	
75-71-8	Dichlorodifluoromethane	ND	500	250	ug/l	
75-34-3	1,1-Dichloroethane	ND	500	250	ug/l	
107-06-2	1,2-Dichloroethane	ND	500	250	ug/l	
75-35-4	1,1-Dichloroethene	ND	500	250	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	500	250	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	500	250	ug/l	
78-87-5	1,2-Dichloropropane	ND	500	250	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	500	150	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	500	150	ug/l	
100-41-4	Ethylbenzene	2540	500	250	ug/l	
75-09-2	Methylene chloride	ND	2500	500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	500	250	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	500	100	ug/l	
127-18-4	Tetrachloroethene	ND	500	250	ug/l	
108-88-3	Toluene	20400	500	250	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	500	250	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	500	250	ug/l	
79-01-6	Trichloroethene	ND	500	250	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:	USTHPFF-MW01D		
Lab Sample ID:	F26222-3	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	500	250	ug/l	
75-01-4	Vinyl chloride	ND	500	250	ug/l	
1330-20-7	Xylenes (total)	12000	1500	500	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	97%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	108%		70-123%
563-58-6	1,1-Dichloropropene	98%		86-112%
563-58-6	1,1-Dichloropropene	107%		86-112%

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:	USTHPFF-MW01D		
Lab Sample ID:	F26222-3	Date Sampled:	08/20/04
Matrix:	AQ - Ground Water	Date Received:	08/21/04
Method:	EPA 610 EPA 610	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	IJ20775.D	20	08/30/04	AA	08/26/04	OP11190	GIJ1017
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	96	38	ug/l	
208-96-8	Acenaphthylene	ND	96	38	ug/l	
120-12-7	Anthracene	ND	96	38	ug/l	
56-55-3	Benzo(a)anthracene	ND	96	38	ug/l	
50-32-8	Benzo(a)pyrene	ND	96	38	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	96	38	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	96	38	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	96	38	ug/l	
218-01-9	Chrysene	ND	96	38	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	96	38	ug/l	
206-44-0	Fluoranthene	ND	96	38	ug/l	
86-73-7	Fluorene	ND	96	38	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	96	38	ug/l	
91-20-3	Naphthalene	648	96	38	ug/l	
90-12-0	1-Methylnaphthalene	63.9	96	38	ug/l	J
91-57-6	2-Methylnaphthalene	132	96	38	ug/l	
85-01-8	Phenanthrene	ND	96	38	ug/l	
129-00-0	Pyrene	ND	96	38	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
321-60-8	2-Fluorobiphenyl	0% [b]		42-123%
84-15-1	o-Terphenyl	0% [b]		51-123%

(a) All hits confirmed by dual column analysis.
(b) Outside control limits due to dilution.

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-082004		
Lab Sample ID:	F26222-4	Date Sampled:	08/20/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QR024308.D	1	09/03/04	RA	n/a	n/a	GQR1069
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL 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	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	0.50	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
74-87-3	Chloromethane	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.50	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.50	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.50	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	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	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethene	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-082004		
Lab Sample ID:	F26222-4	Date Sampled:	08/20/04
Matrix:	AQ - Trip Blank Water	Date Received:	08/21/04
Method:	EPA 601/602	Percent Solids:	n/a
Project:	Camp Lejeune-SE		

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%		70-123%
352-33-0	1-Chloro-4-fluorobenzene	102%		70-123%
563-58-6	1,1-Dichloropropene	99%		86-112%
563-58-6	1,1-Dichloropropene	108%		86-112%

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

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F26222

COC Number:
844098-SE-082004

Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw Environmental & Infrastructure, Inc. - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390

Receiving Lab: ACCUTEST

Project Name	Project Location
CAMP LEJEUNE - SE	CAMP LEJEUNE, NC

Project Number	Contact	PO Number
844098	Mark Martin	3600

Client Rep	Project Manager
US NAVY - LANTDIV	Ron Kenyon

Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOA 601/602	PAH 610	Dissolved Gasses RSK-175	NO3,NO2,NO3-NO2 BY 353.2-354.1	SO4 BY 375.4	TOC BY 415.1
1	USTHPFF-MW18	8/20/04	11:30		X	USTHPFF-MW18	5	X	X				
2	USTHPFF-MW01	8/20/04	10:30		X	USTHPFF-MW01	5	X	X				
3	USTHPFF-MW01D	8/20/04	10:35		X	USTHPFF-MW01D	5	X	X				
4	Trip Blank-082004	8/20/04			X	Trip Blank	2	X					
5													
6													
7													
8													
9													
10													

Analysis Desired

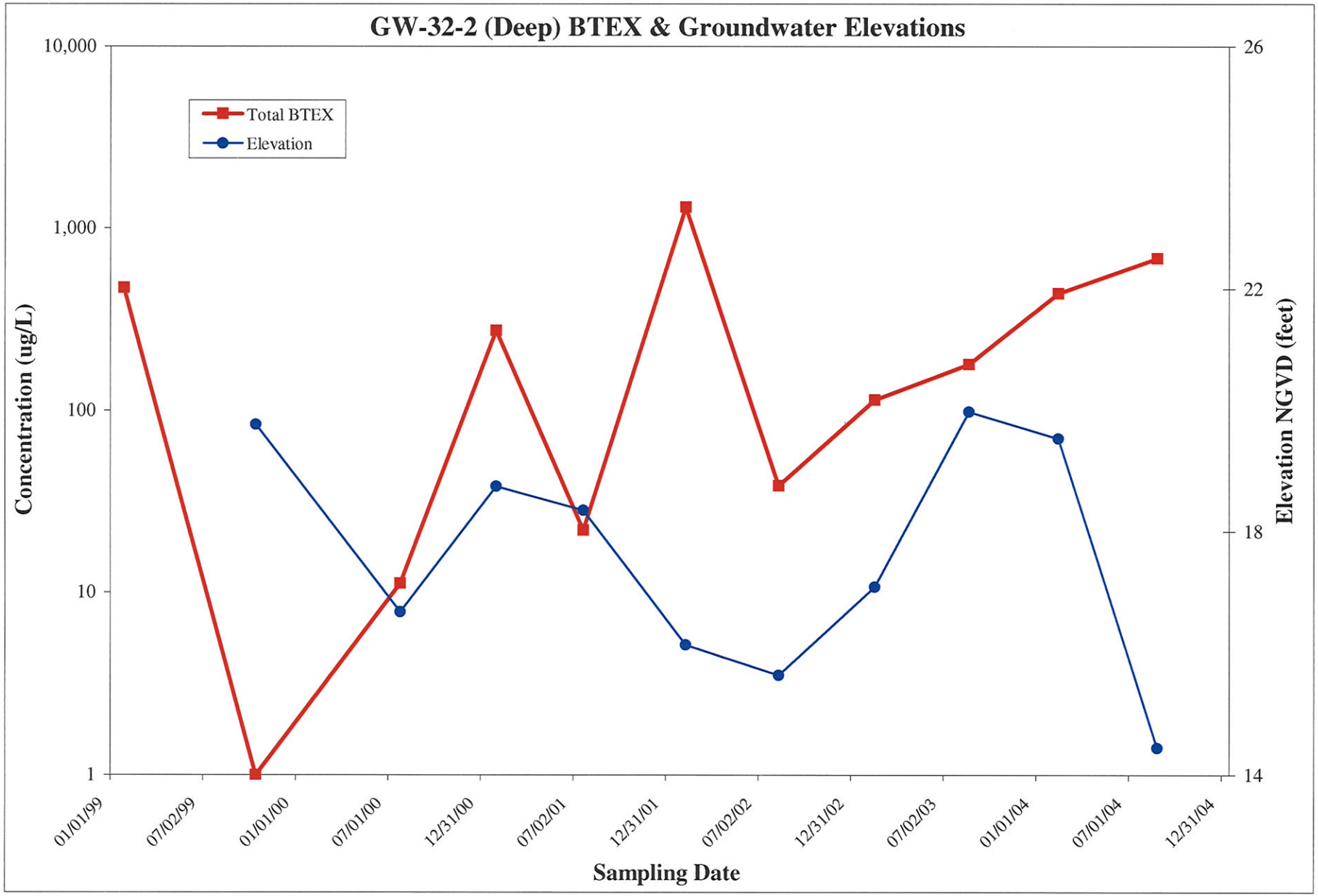
Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1-4		FedEx 8481 5070 6869	8/20/04	16:00	Please E-mail results to mamartin@theitgroup.com
2				8/21/04	09:00	21 Day TAT

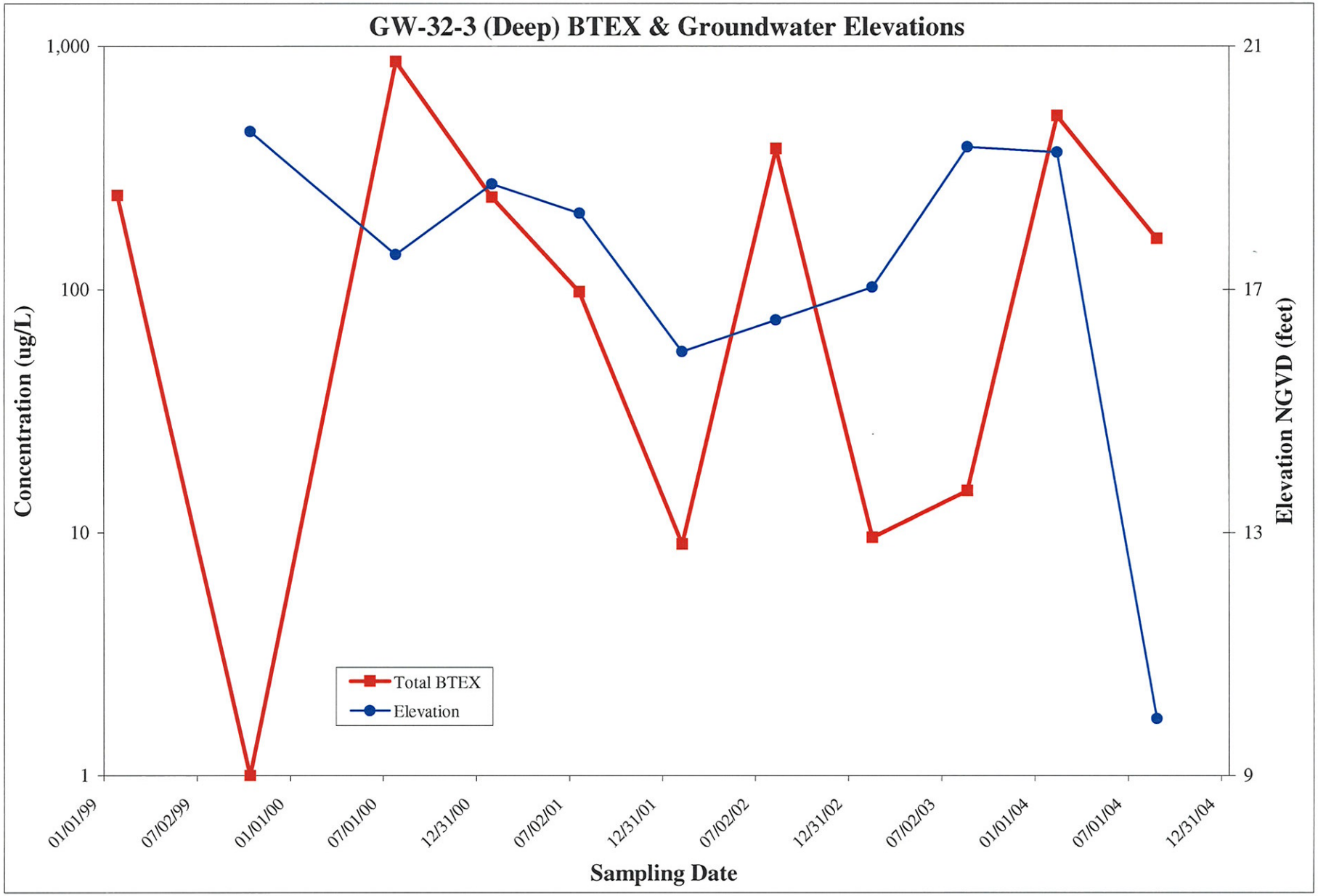
3-2

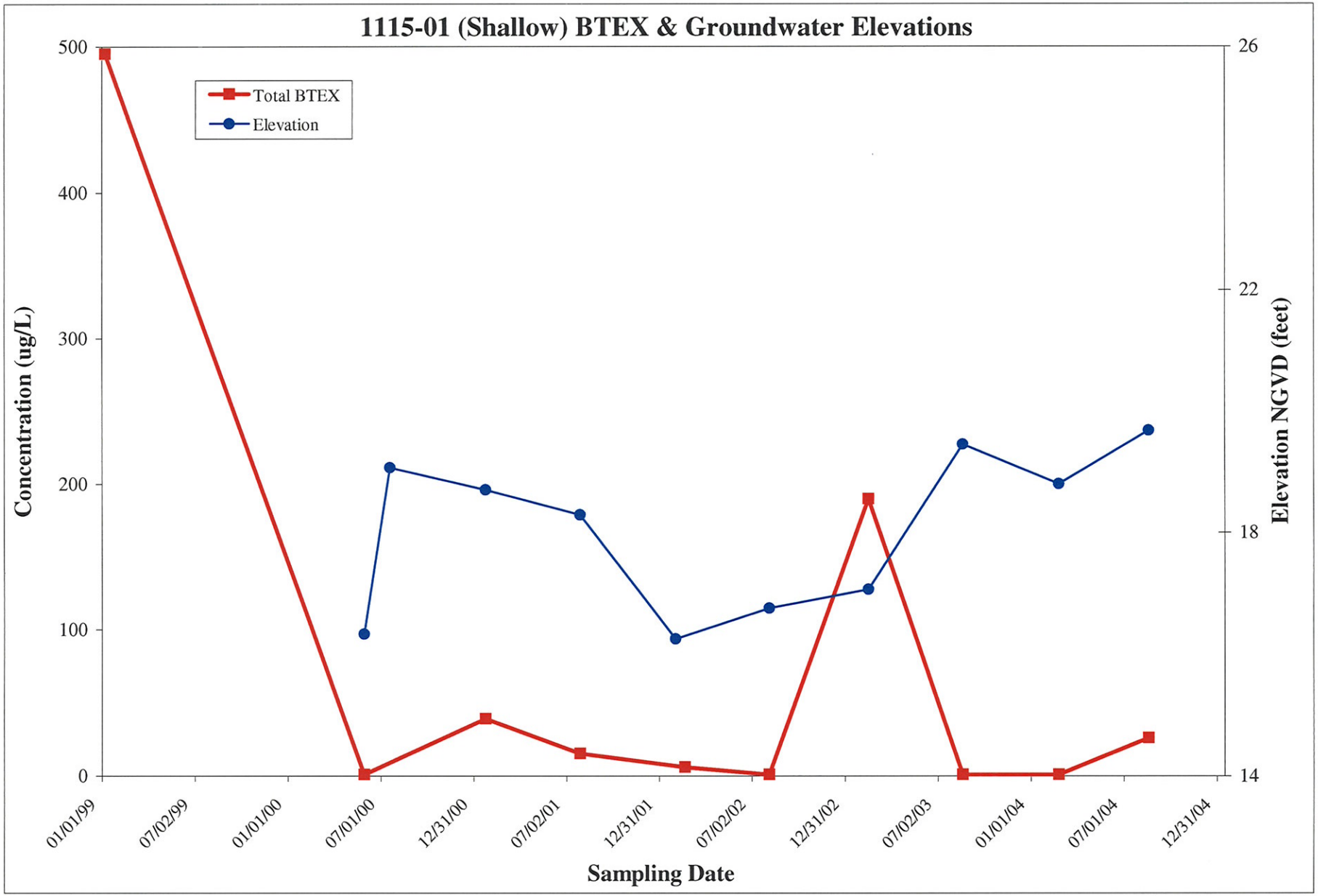
F26222: Chain of Custody
Page 1 of 2

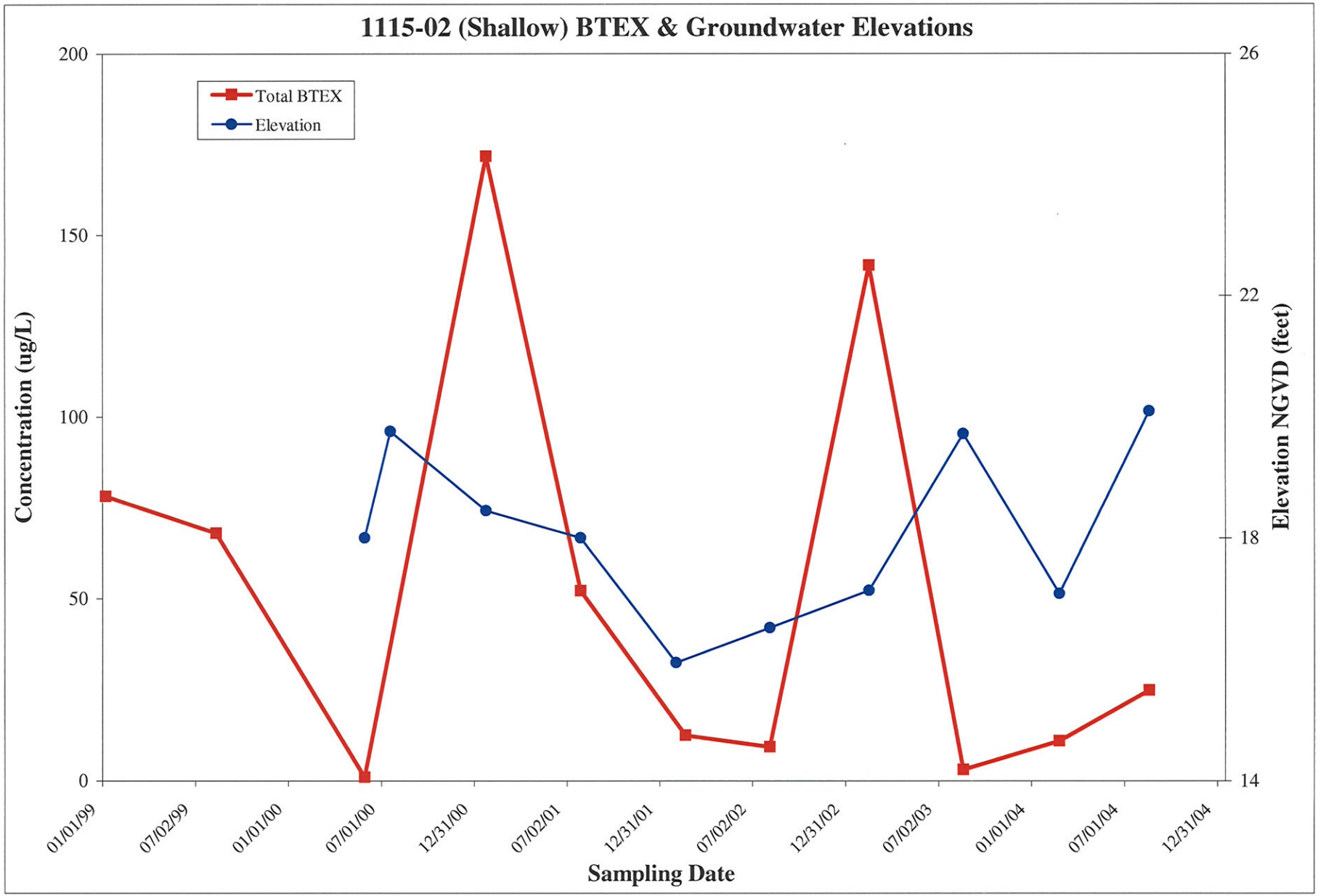
APPENDIX F

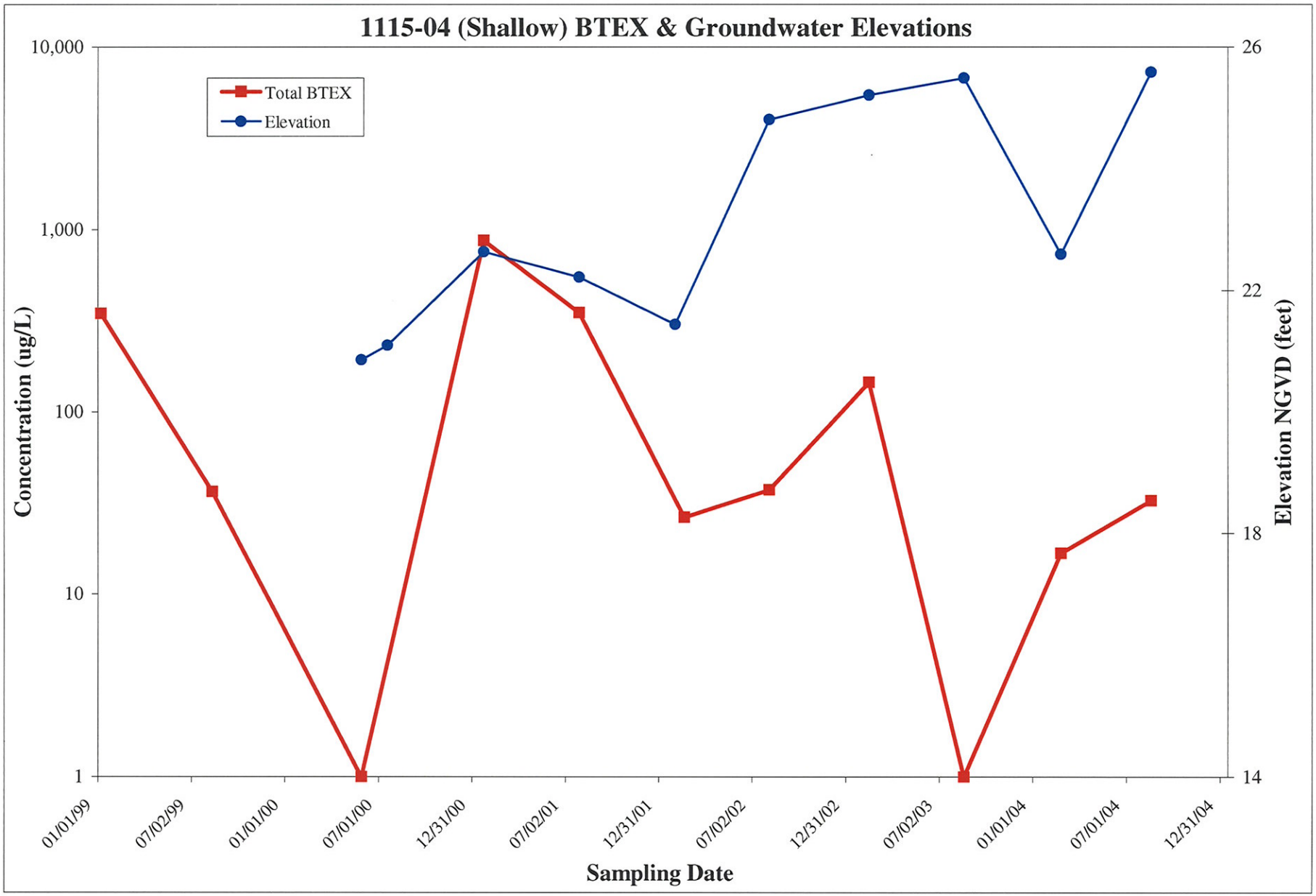
HYDROGRAPHS WITH GROUNDWATER ANALYTICAL RESULTS

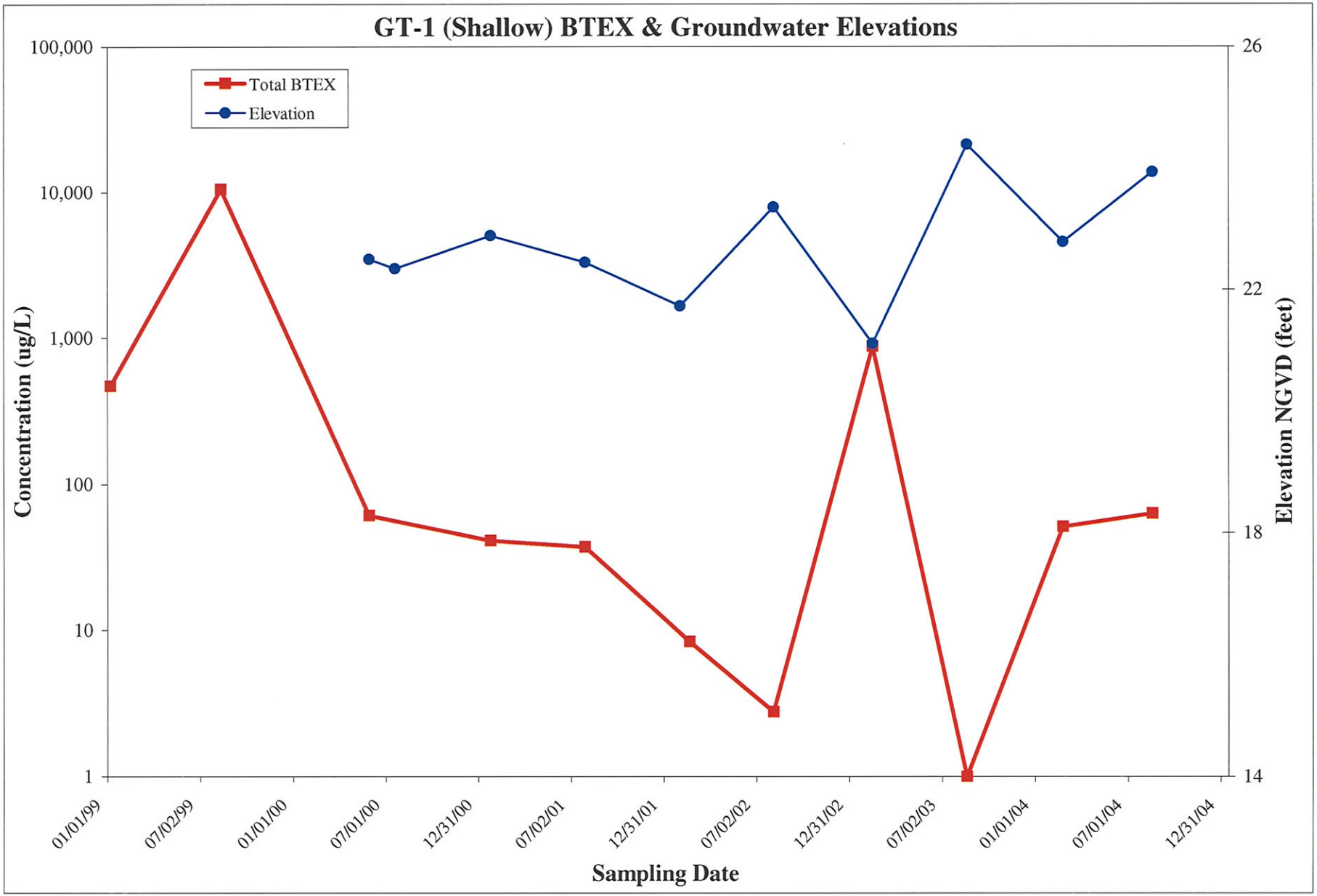

GW-32-2 (Deep) BTEX & Groundwater Elevations
Total BTEX
Elevation
10,000
1,000
100
10
1
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

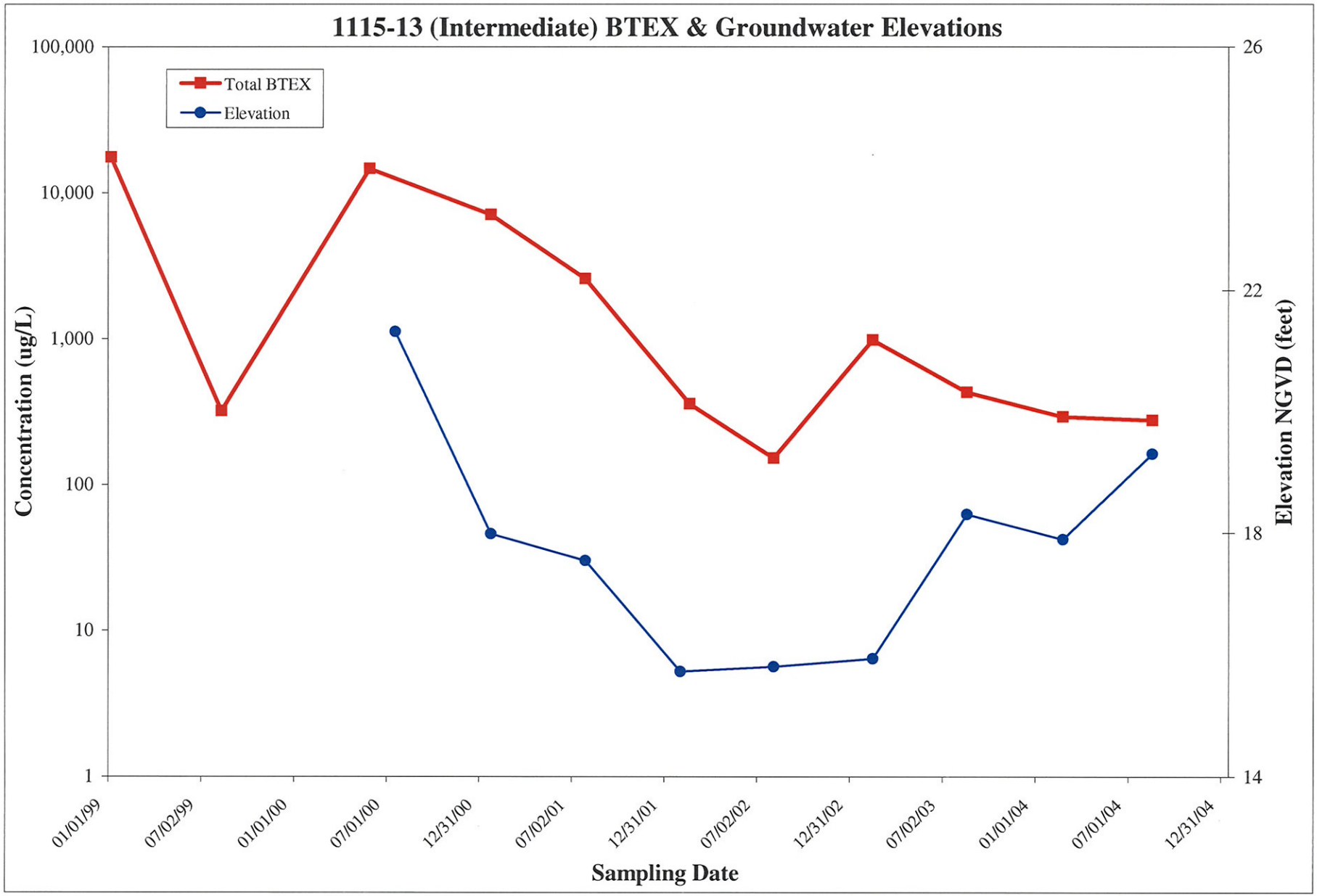

GW-32-3 (Deep) BTEX & Groundwater Elevations
1,000
100
10
1
21
17
13
9
Concentration (ug/L)
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

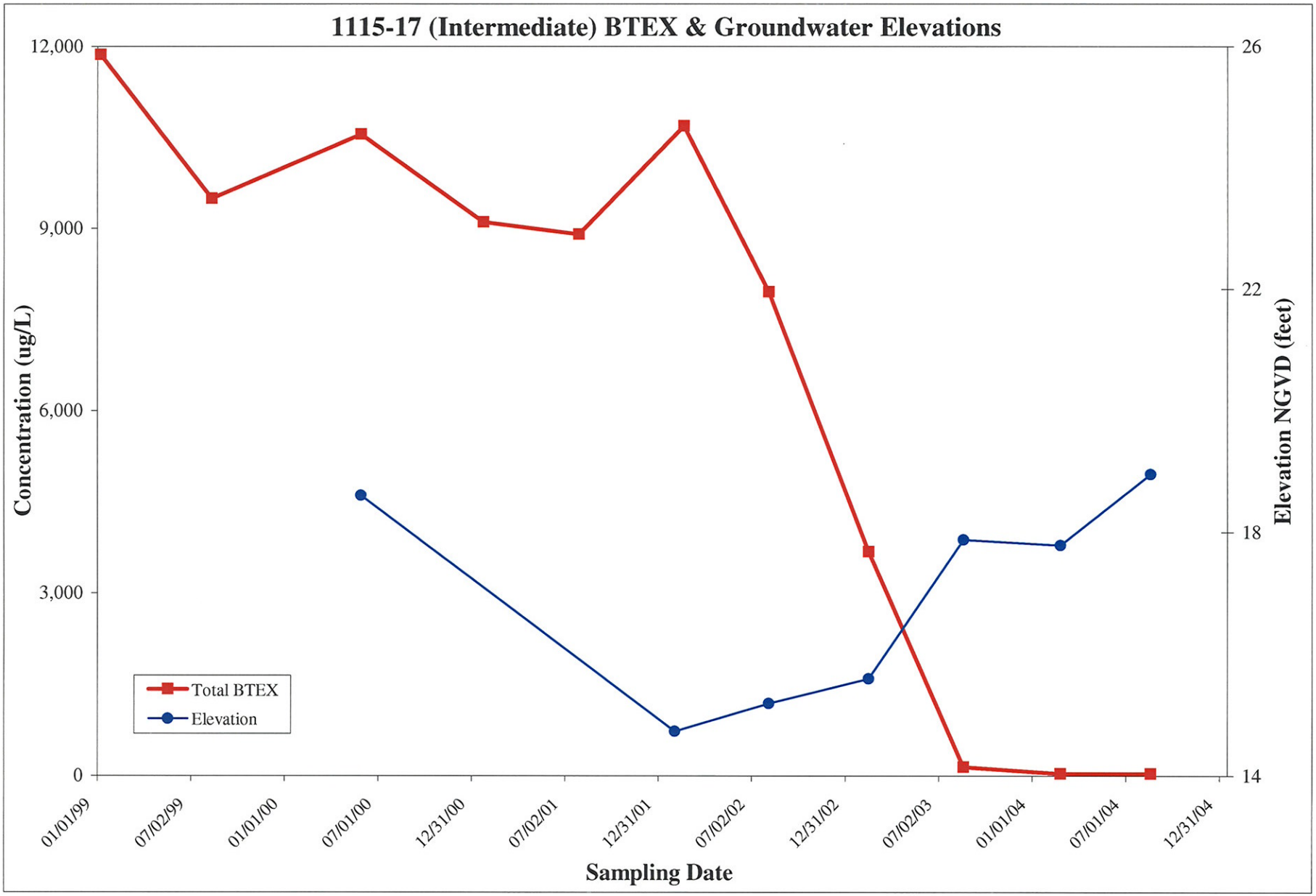

1115-01 (Shallow) BTEX & Groundwater Elevations
Total BTEX
Elevation
Concentration (ug/L)
Elevation NGVD (feet)
Sampling Date
500
400
300
200
100
0
26
22
18
14
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04

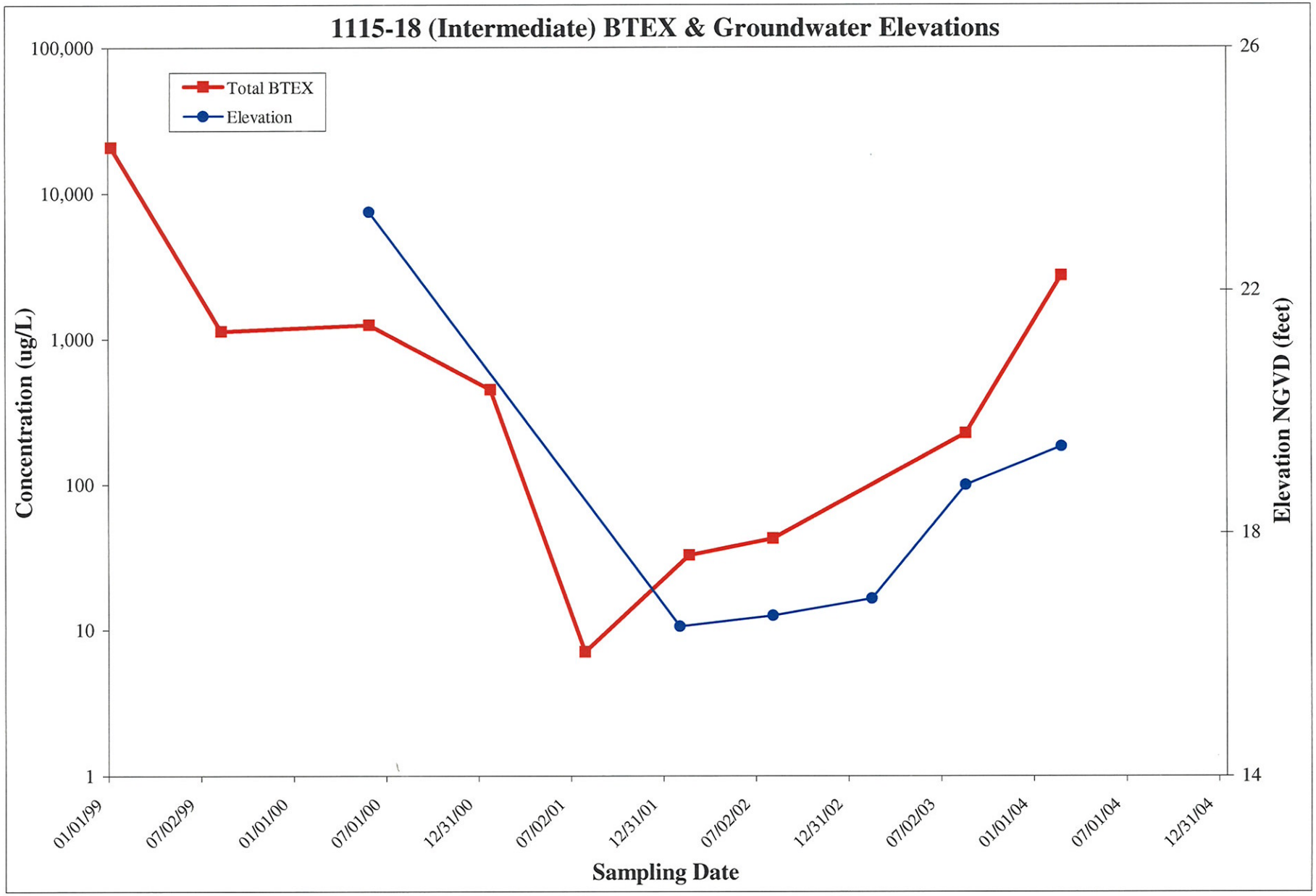

1115-02 (Shallow) BTEX & Groundwater Elevations
Total BTEX
Elevation
Concentration (ug/L)
Elevation NGVD (feet)
Sampling Date
200
150
100
50
0
26
22
18
14
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04

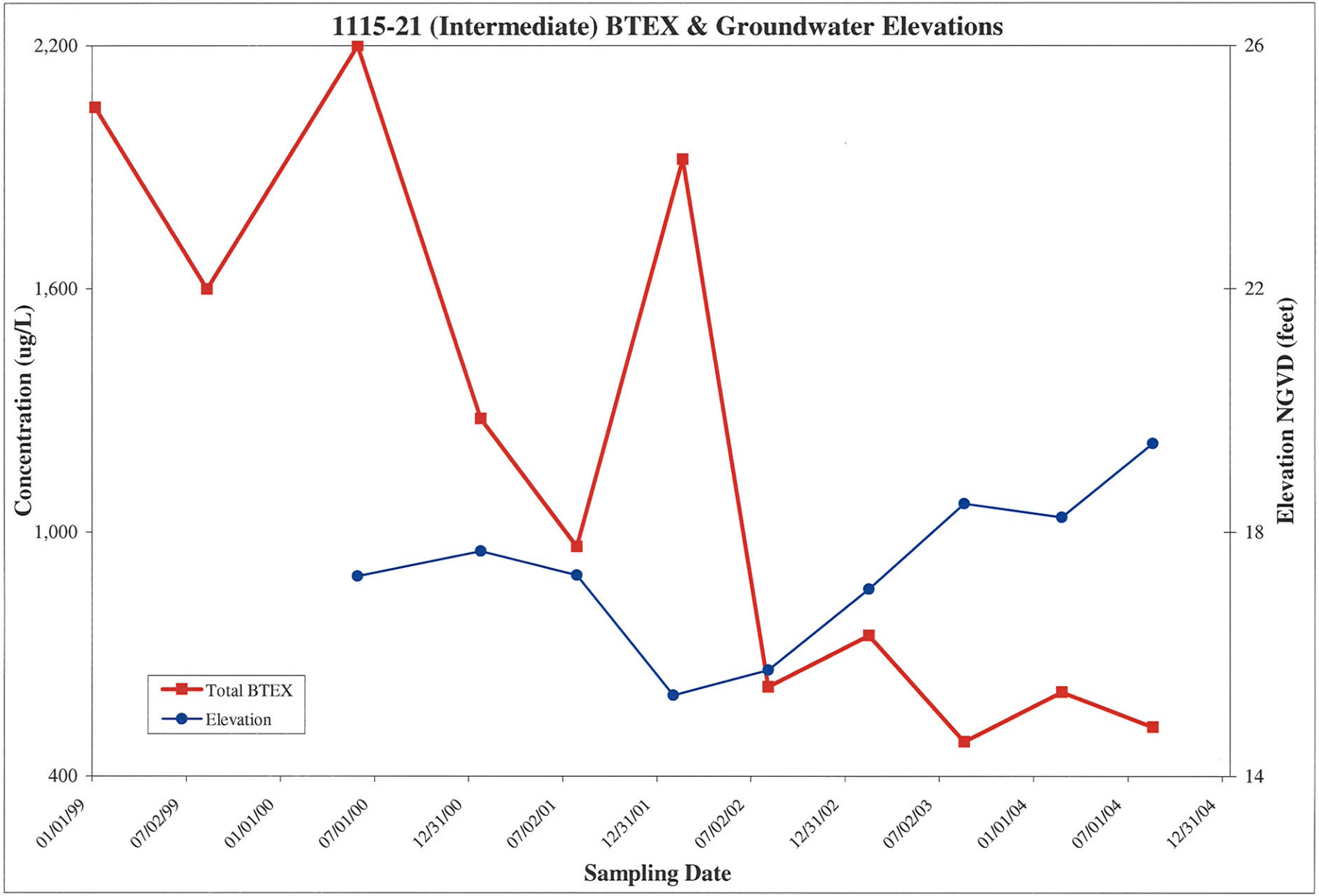

1115-04 (Shallow) BTEX & Groundwater Elevations
Total BTEX
Elevation
10,000
1,000
100
10
1
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

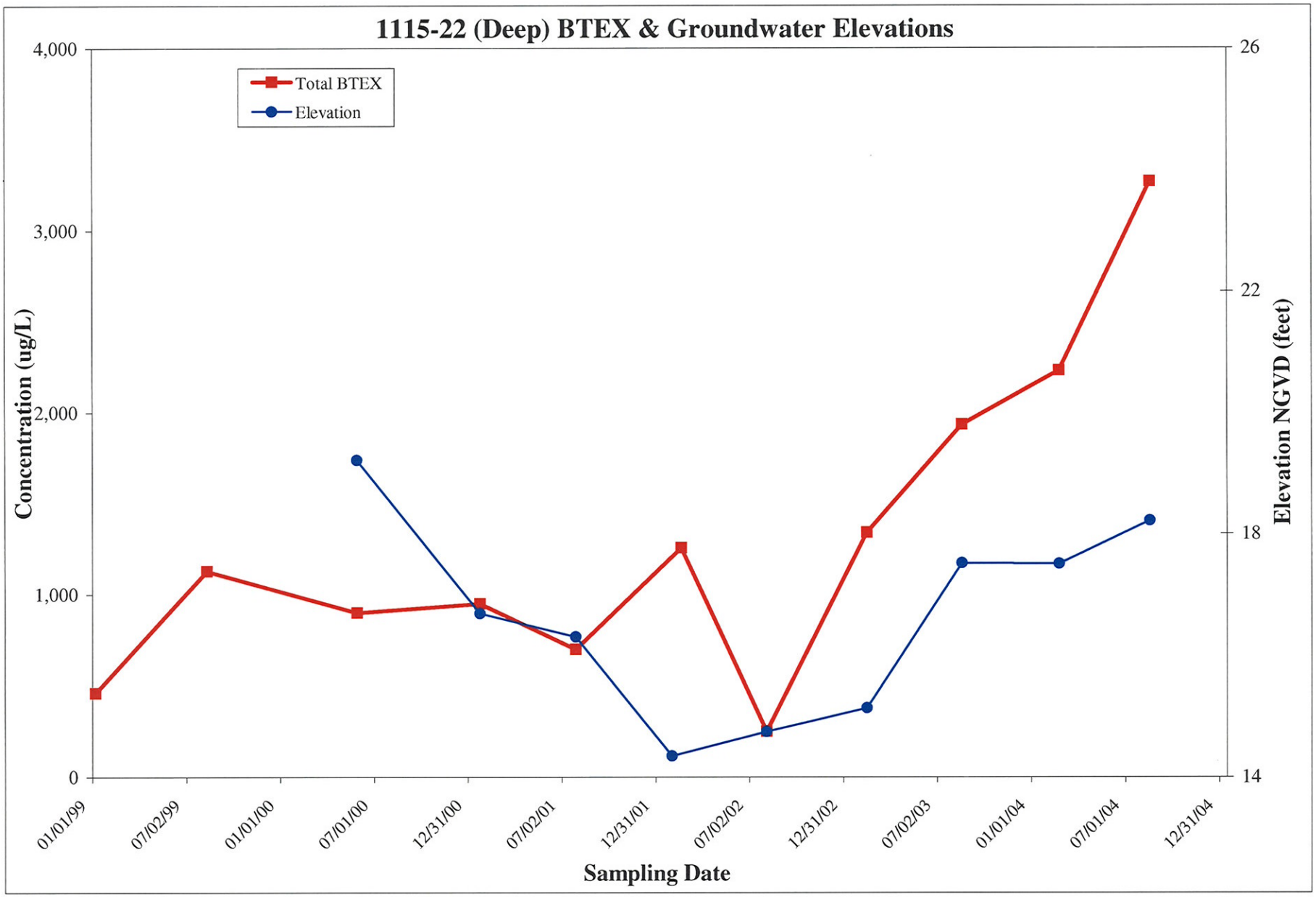

GT-1 (Shallow) BTEX & Groundwater Elevations
Total BTEX
Elevation
100,000
10,000
1,000
100
10
1
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

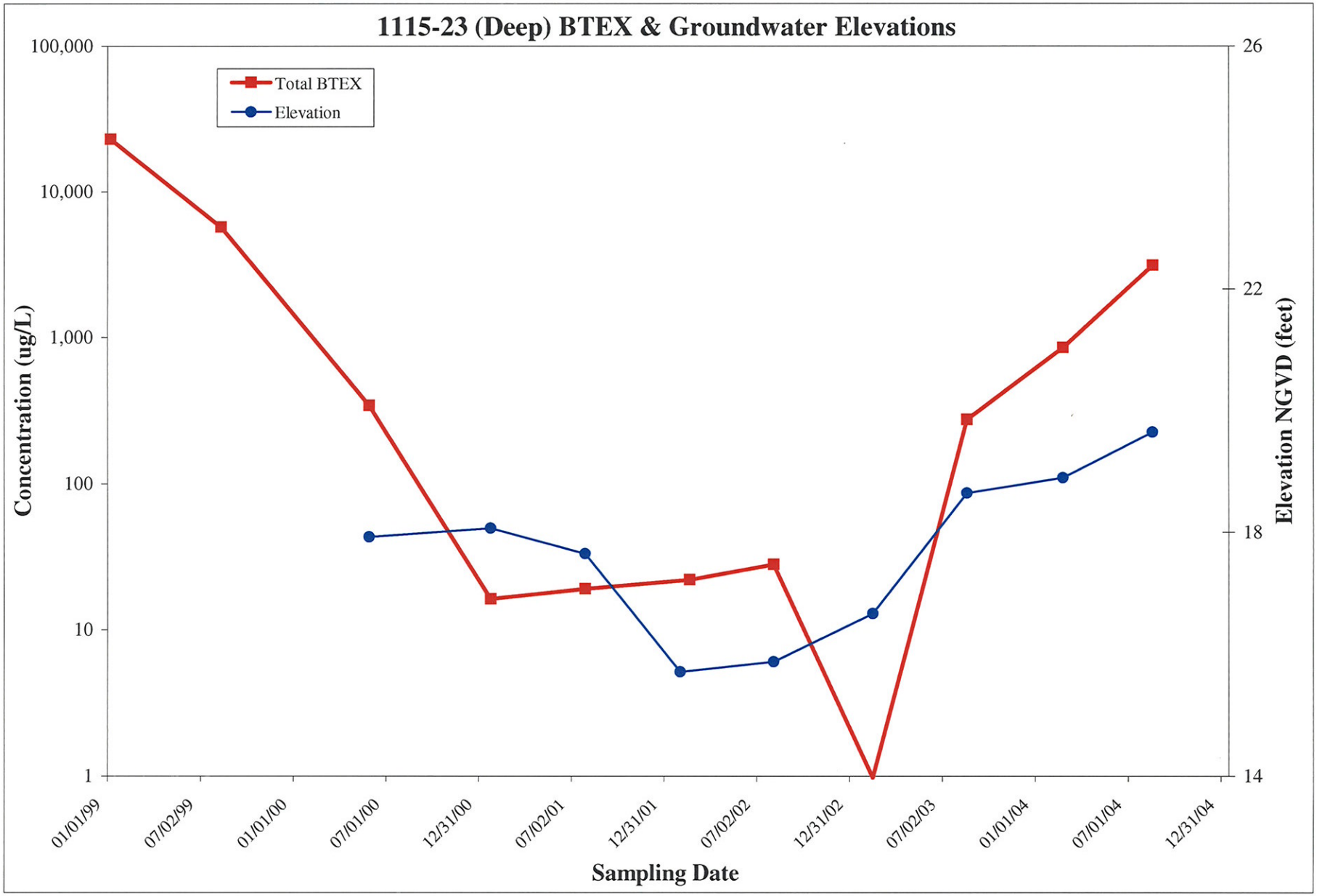

1115-13 (Intermediate) BTEX & Groundwater Elevations
Total BTEX
Elevation
100,000
10,000
1,000
100
10
1
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

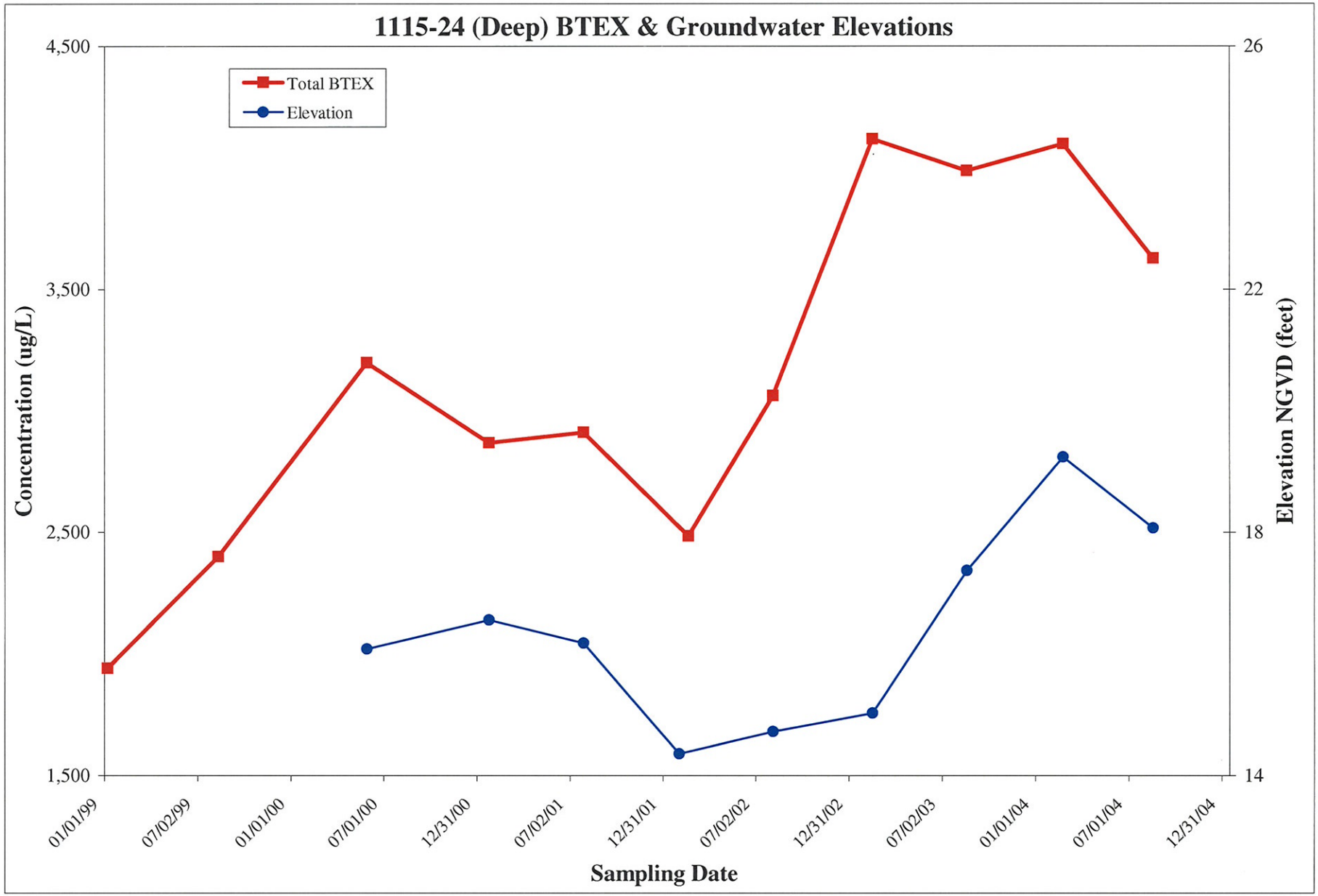

1115-17 (Intermediate) BTEX & Groundwater Elevations
12,000
9,000
6,000
3,000
0
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

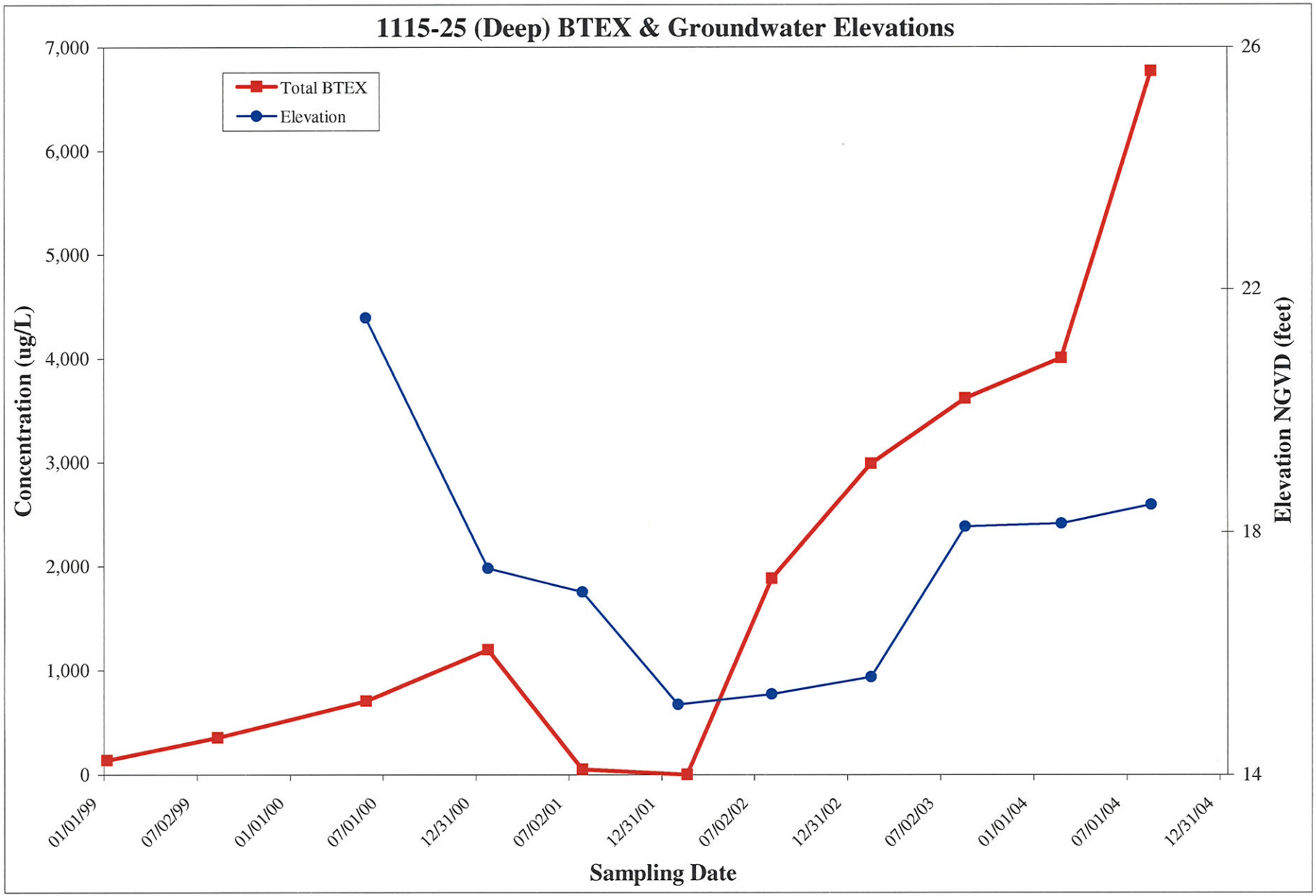

1115-18 (Intermediate) BTEX & Groundwater Elevations
Total BTEX
Elevation
100,000
10,000
1,000
100
10
1
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

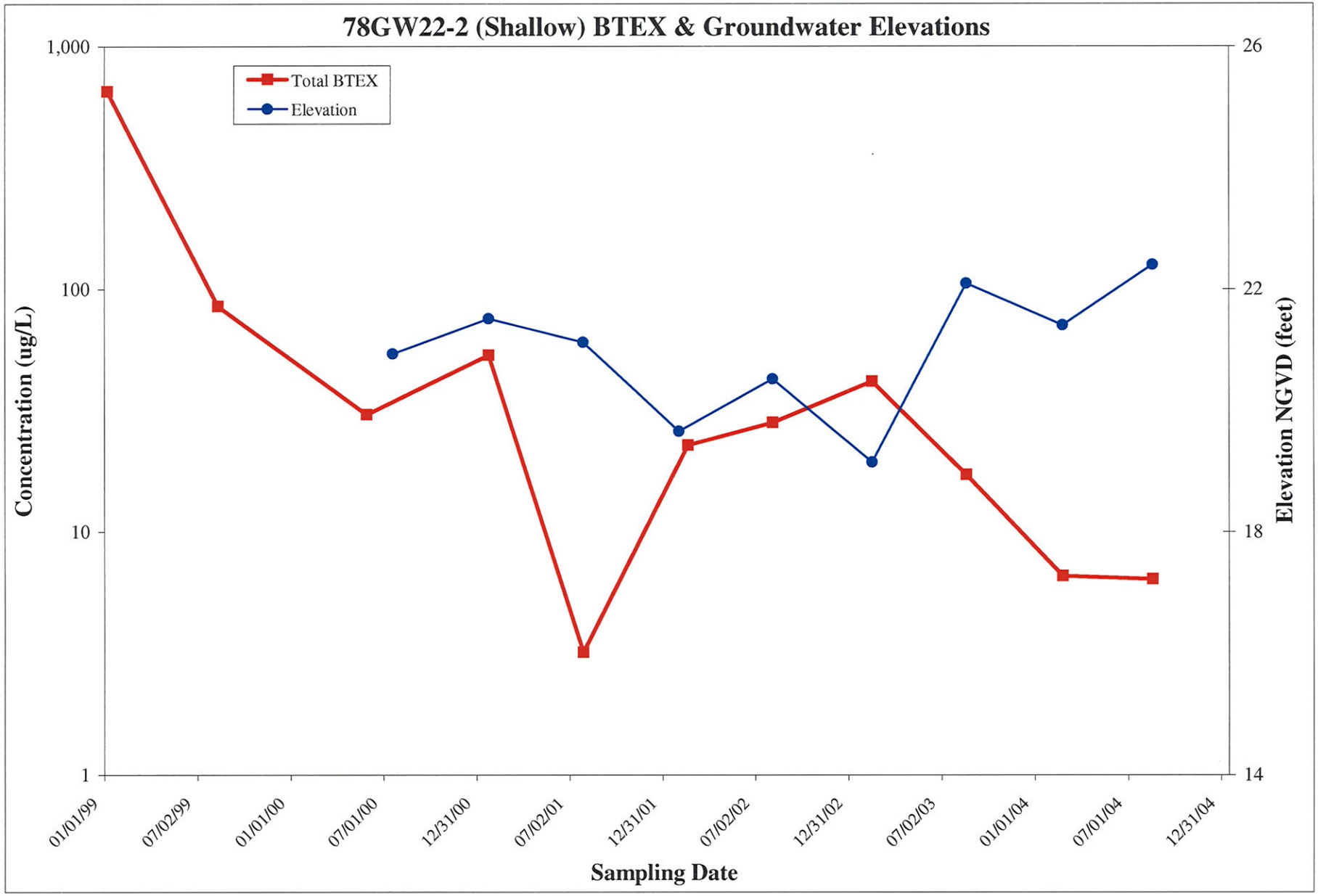

1115-21 (Intermediate) BTEX & Groundwater Elevations
2,200
1,600
1,000
400
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

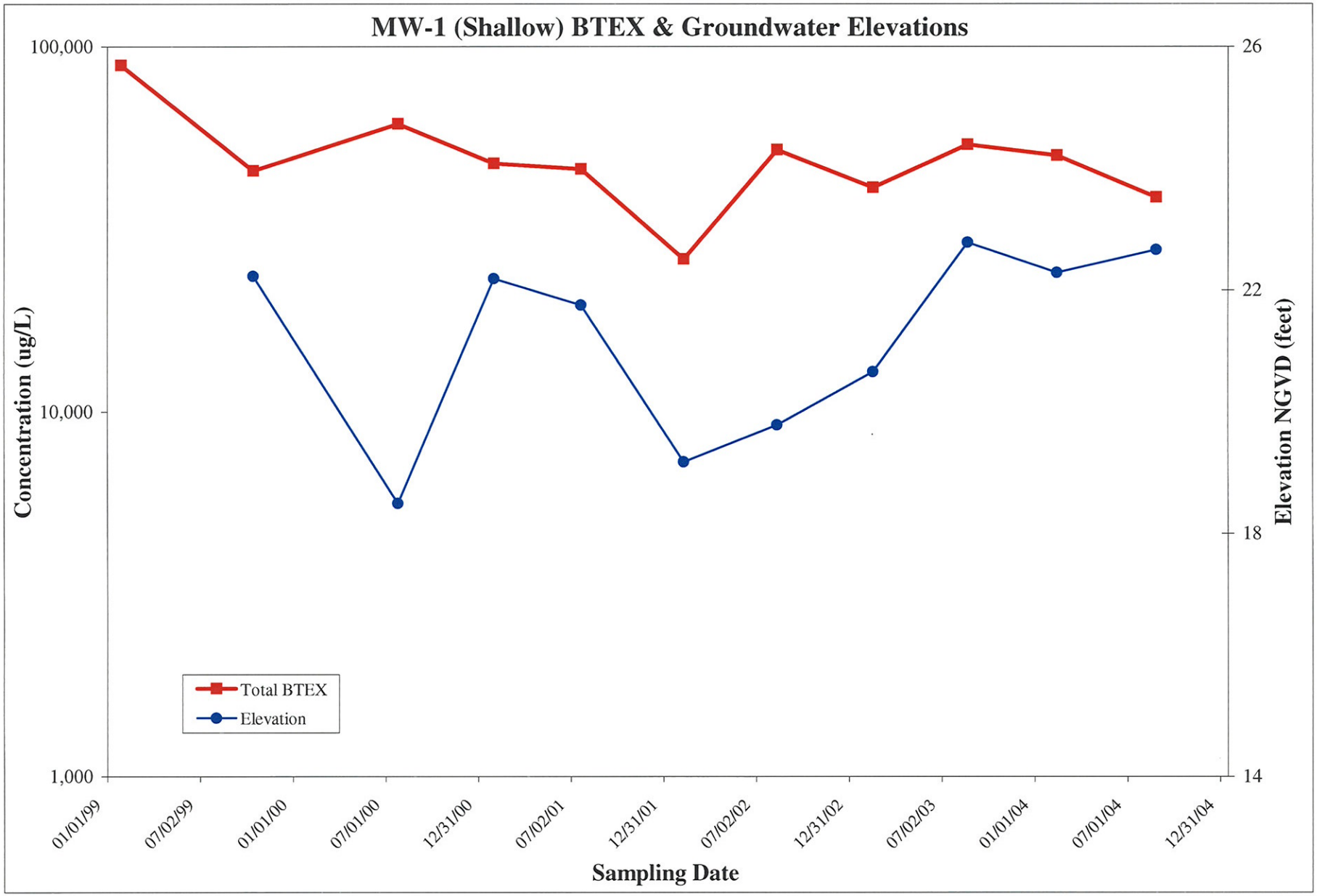

1115-22 (Deep) BTEX & Groundwater Elevations
Total BTEX
Elevation
Concentration (ug/L)
Elevation NGVD (feet)
Sampling Date
4,000
3,000
2,000
1,000
0
26
22
18
14
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
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07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04

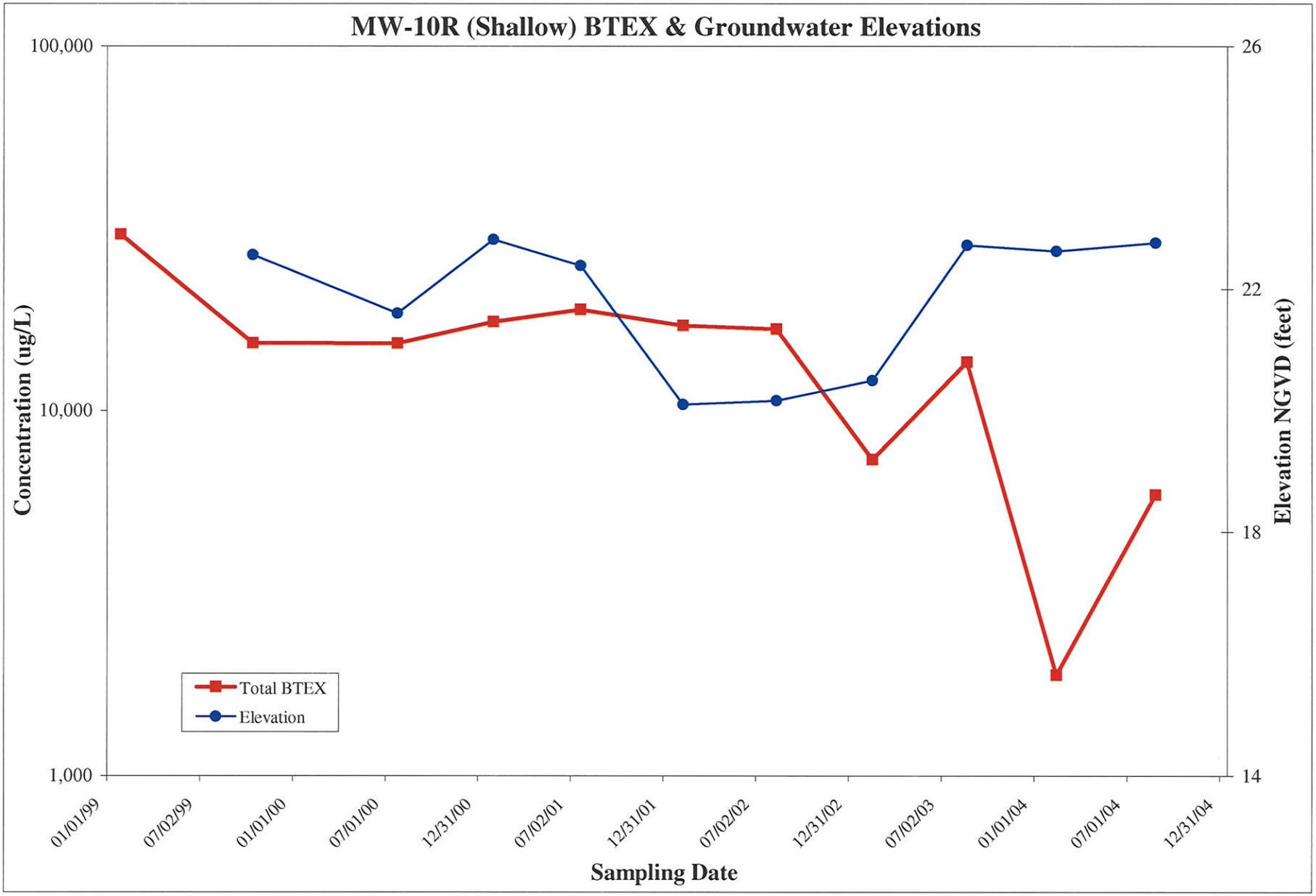

1115-23 (Deep) BTEX & Groundwater Elevations
Total BTEX
Elevation
100,000
10,000
1,000
100
10
1
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

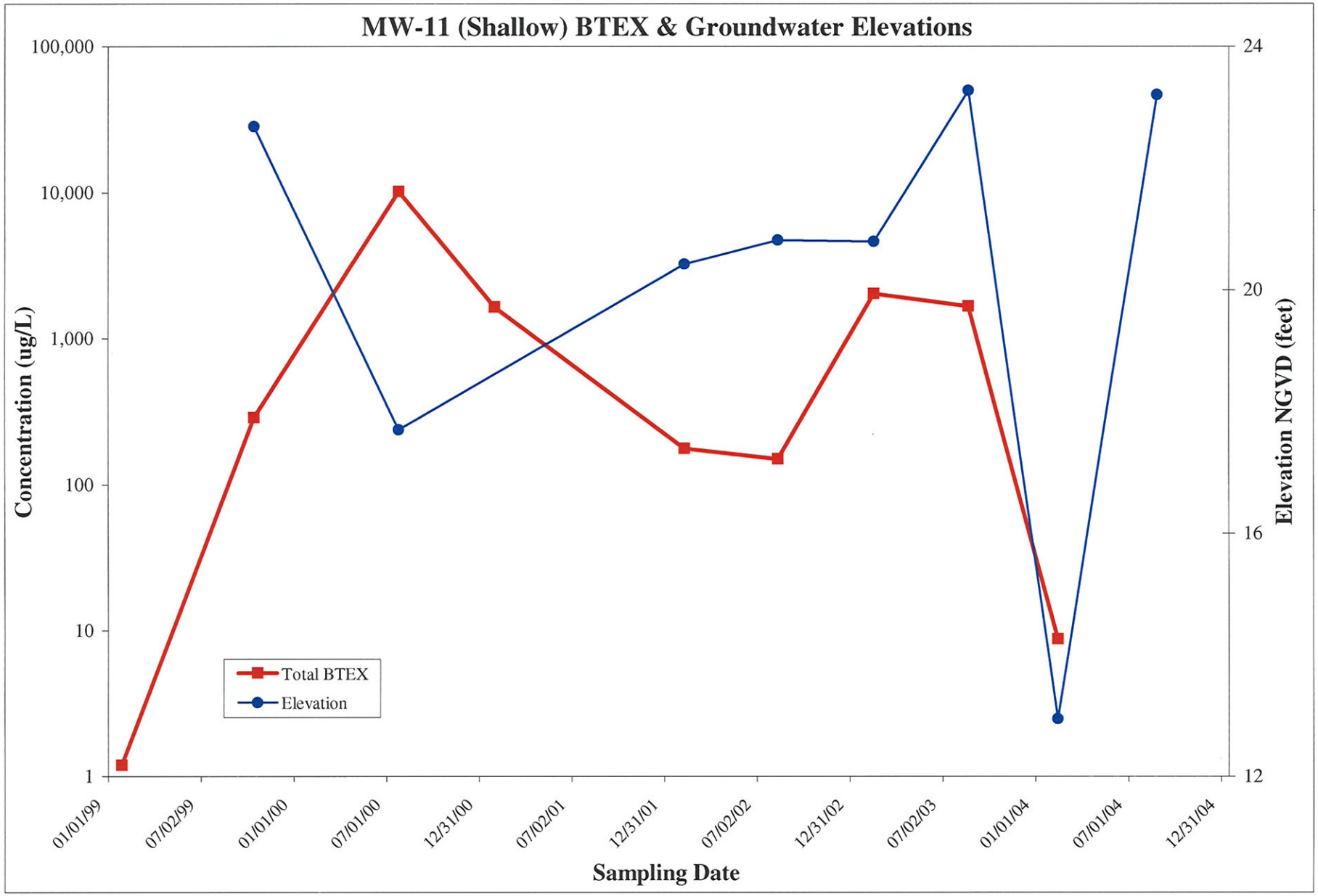

1115-24 (Deep) BTEX & Groundwater Elevations
Total BTEX
Elevation
4,500
3,500
2,500
1,500
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date


1115-25 (Deep) BTEX & Groundwater Elevations
Total BTEX
Elevation
Concentration (ug/L)
Elevation NGVD (feet)
Sampling Date
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
26
22
18
14
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
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07/01/04
12/31/04

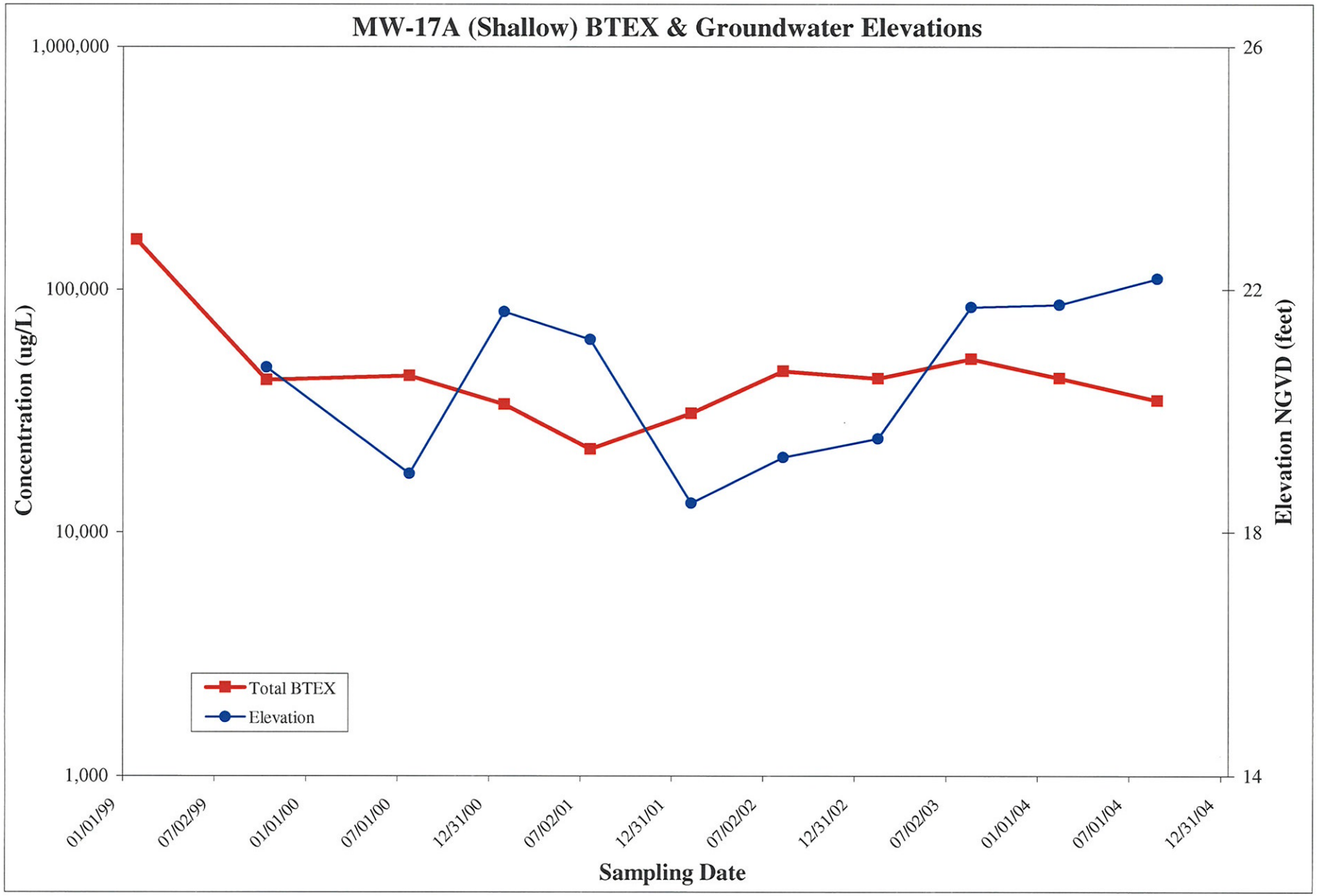

78GW22-2 (Shallow) BTEX & Groundwater Elevations
Total BTEX
Elevation
1,000
100
10
1
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

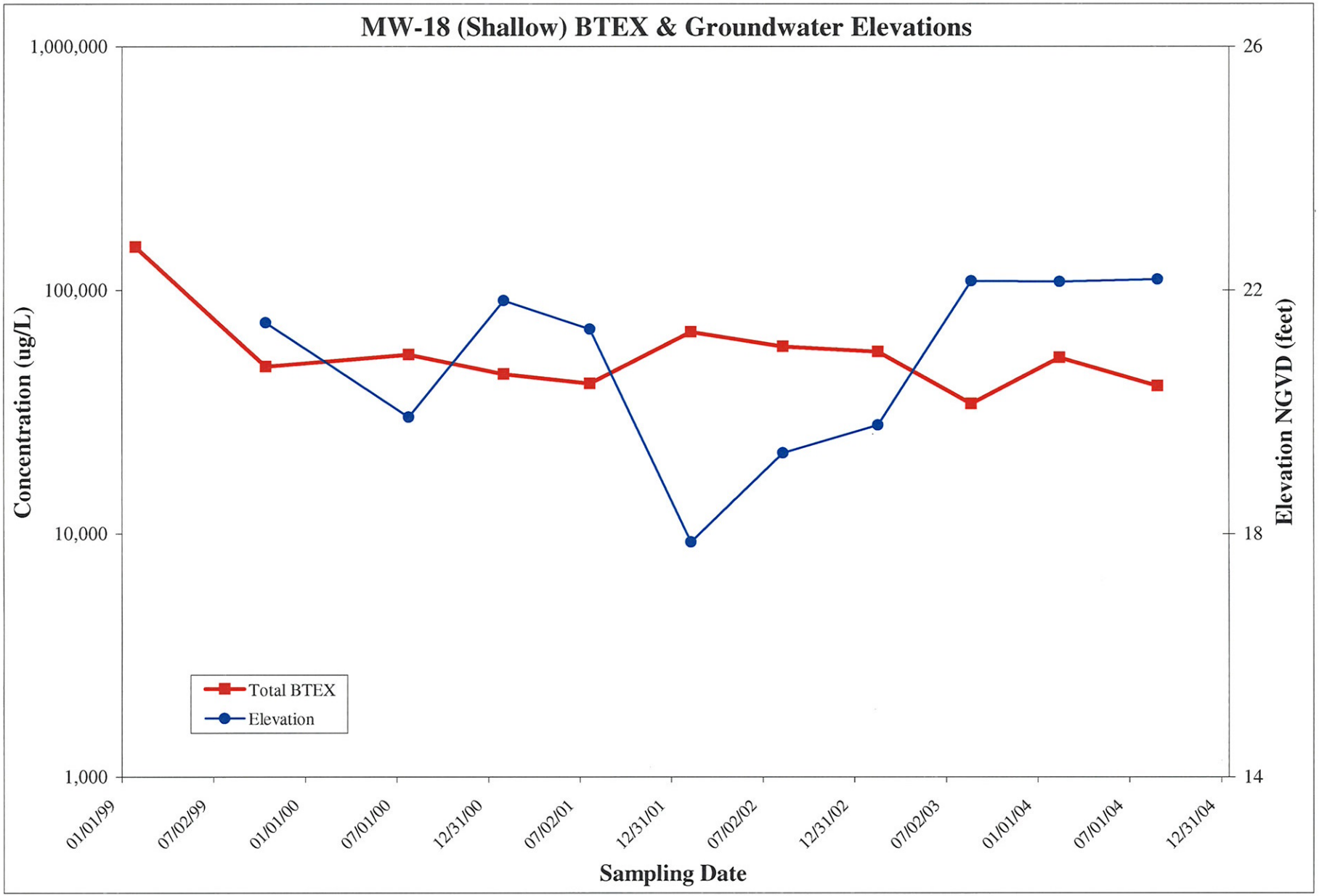

MW-1 (Shallow) BTEX & Groundwater Elevations
100,000
10,000
1,000
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

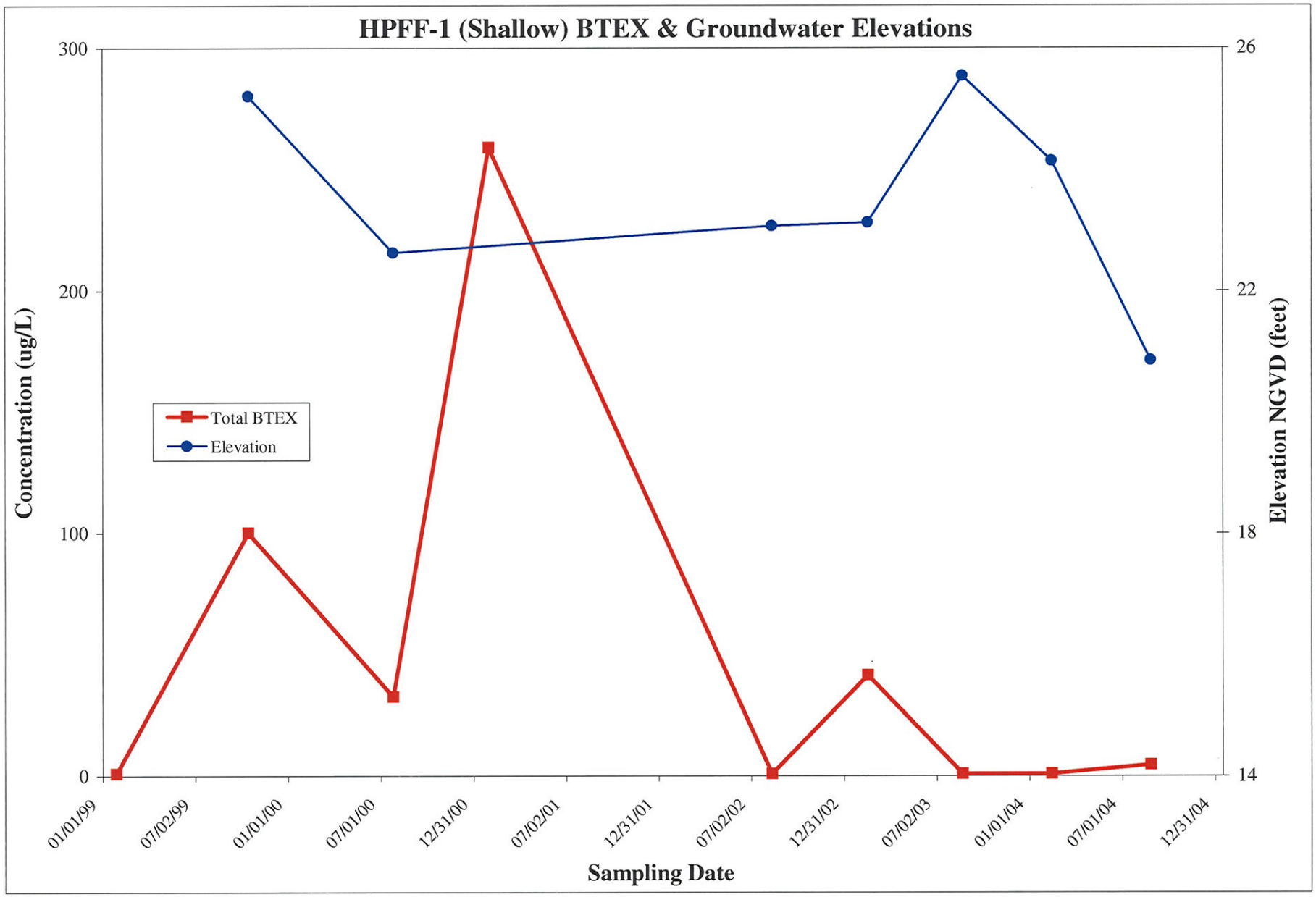

MW-10R (Shallow) BTEX & Groundwater Elevations
100,000
10,000
1,000
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

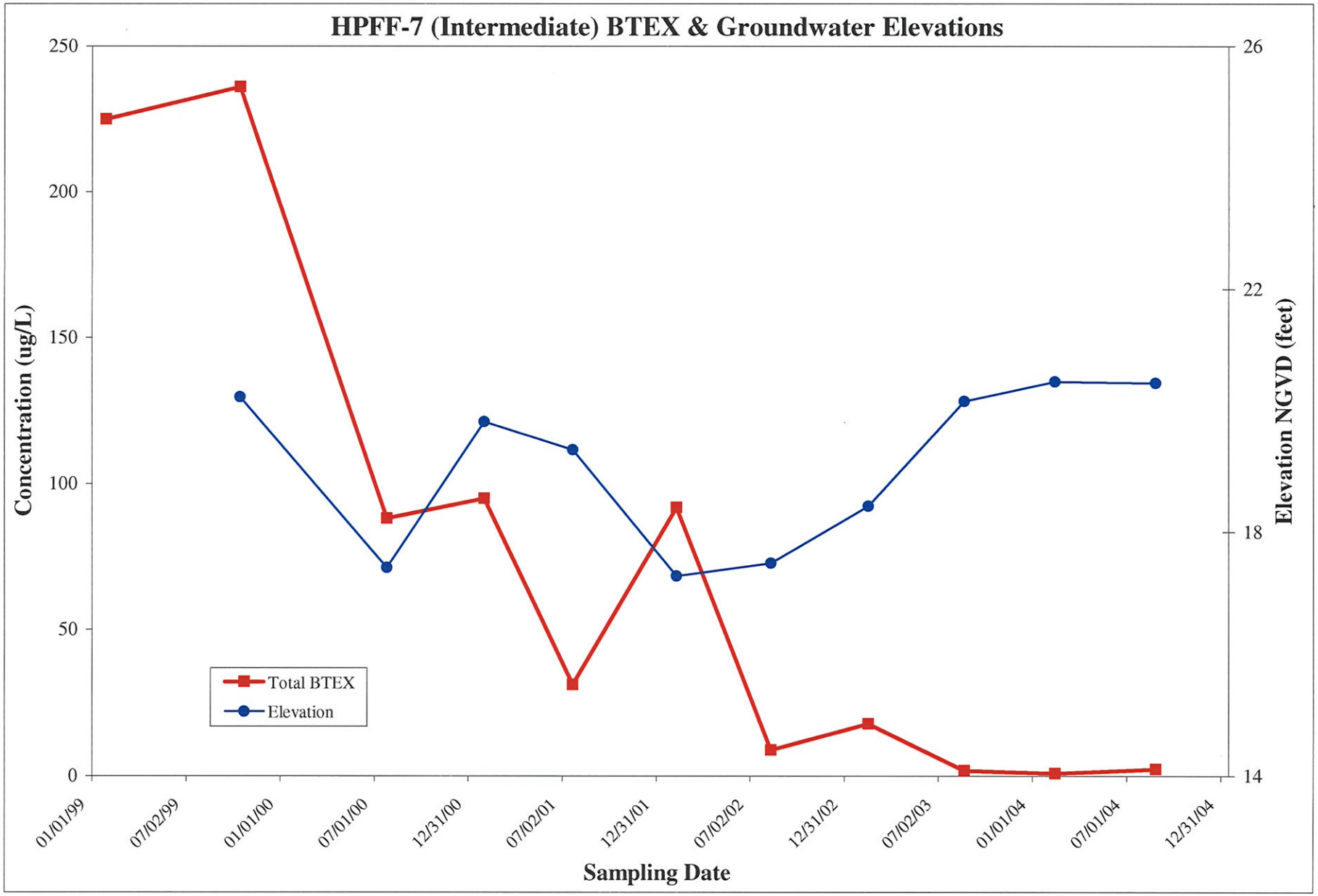


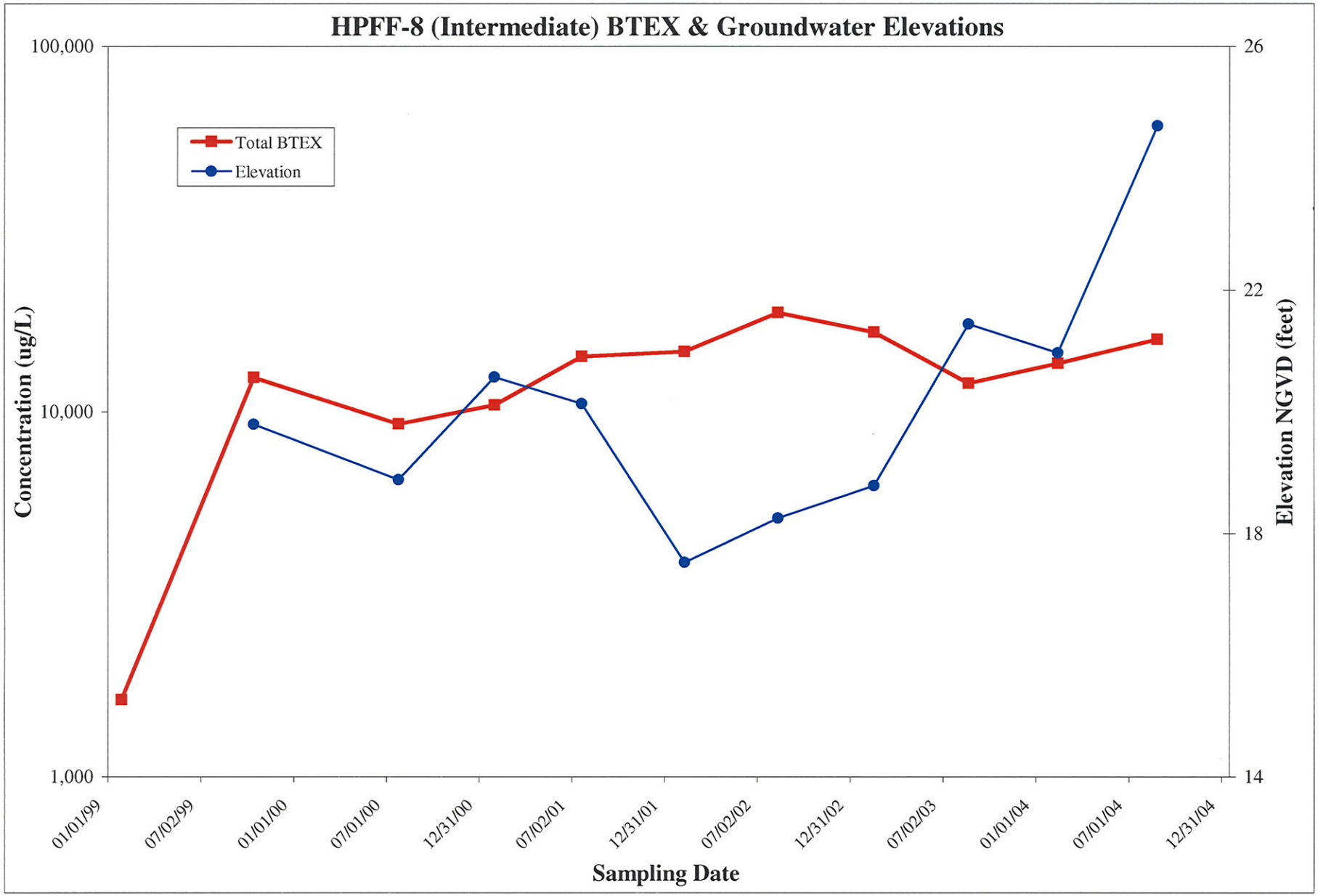
MW-11 not sampled in August 2004

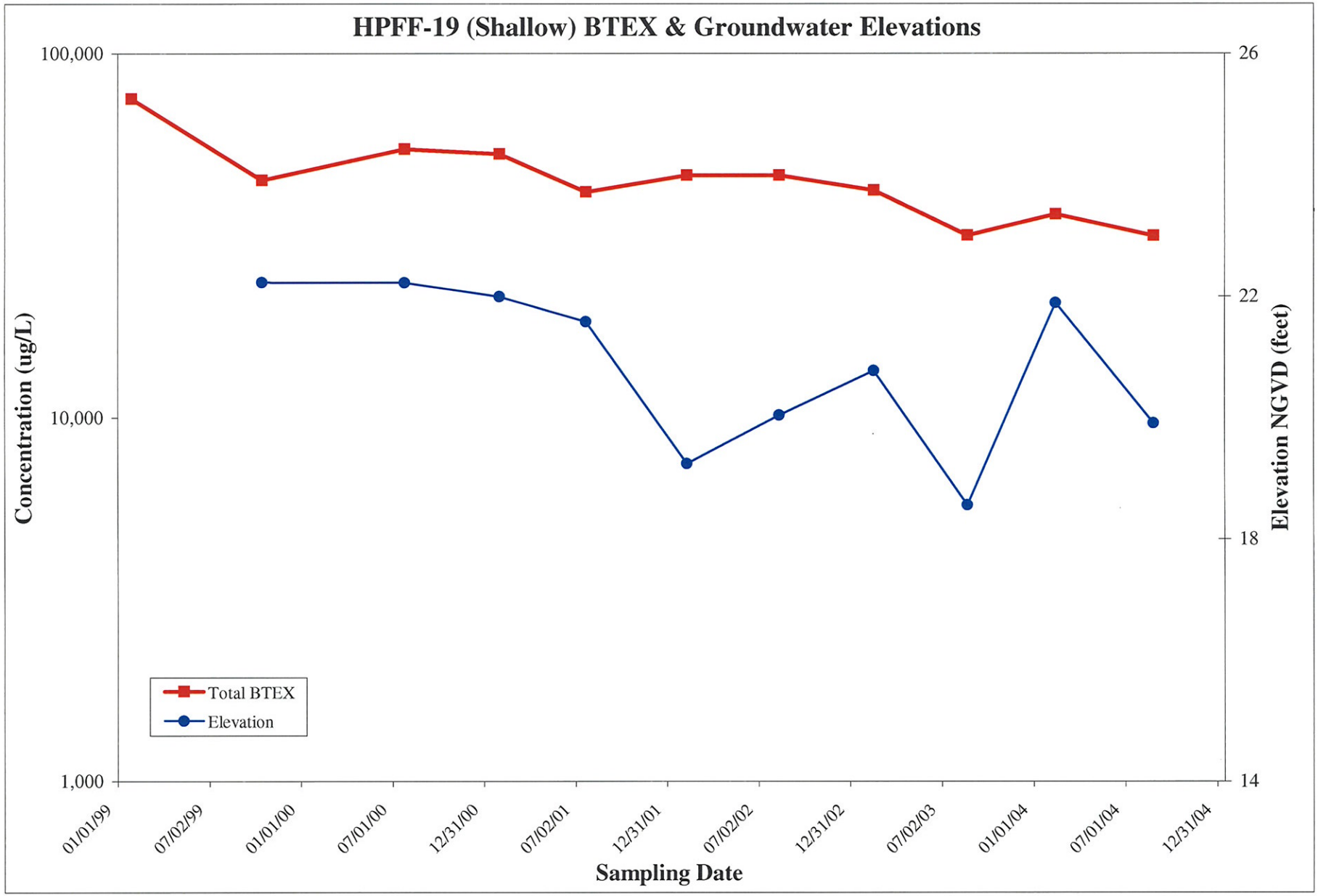

MW-17A (Shallow) BTEX & Groundwater Elevations
1,000,000
100,000
10,000
1,000
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date

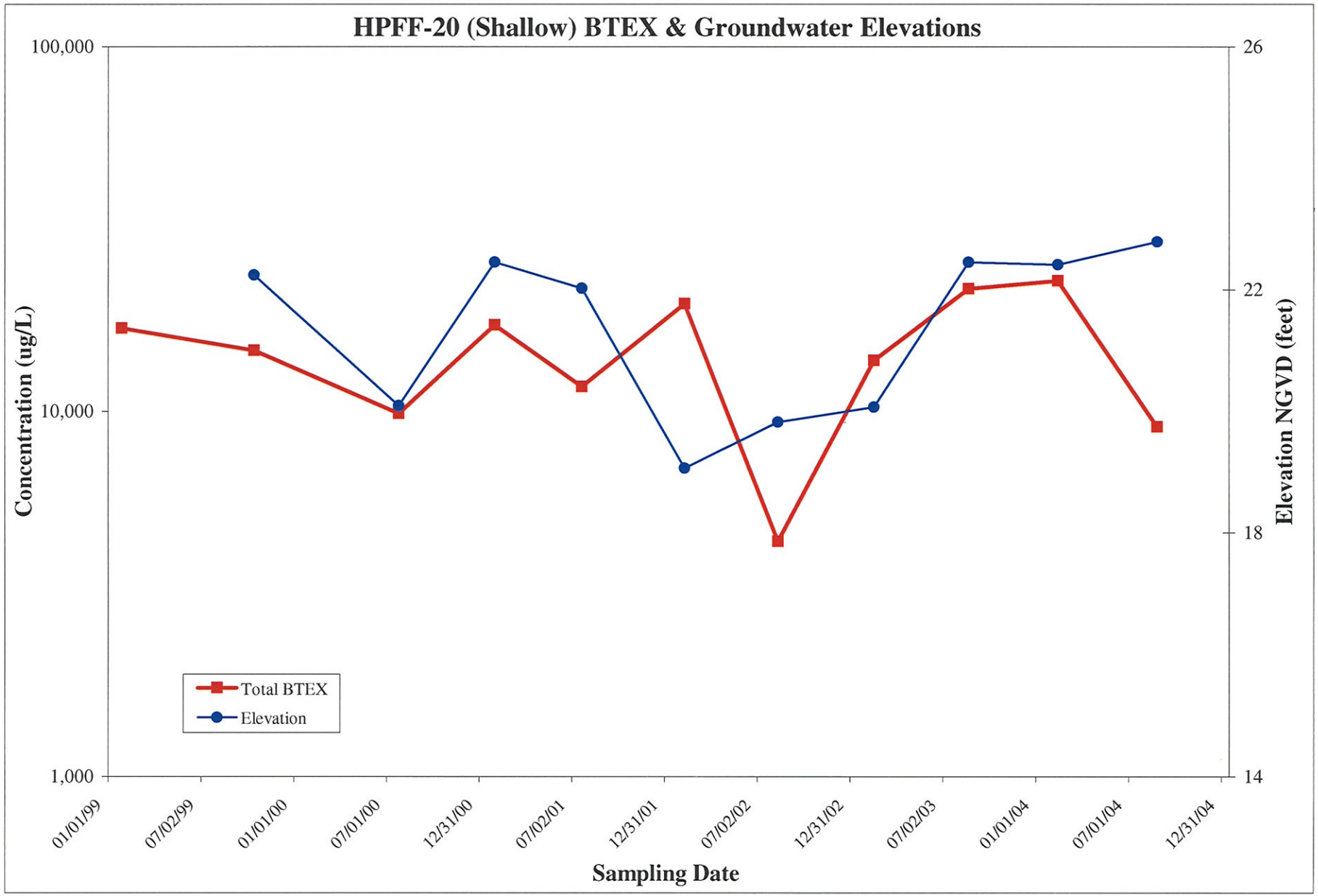

MW-18 (Shallow) BTEX & Groundwater Elevations
1,000,000
100,000
10,000
1,000
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date


HPFF-1 (Shallow) BTEX & Groundwater Elevations
300
200
100
0
26
22
18
14
Concentration (ug/L)
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date


HPFF-7 (Intermediate) BTEX & Groundwater Elevations
Concentration (ug/L)
Elevation NGVD (feet)
Sampling Date
250
200
150
100
50
0
26
22
18
14
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Total BTEX
Elevation


HPFF-8 (Intermediate) BTEX & Groundwater Elevations
100,000
10,000
1,000
26
22
18
14
Total BTEX
Elevation
Concentration (ug/L)
Elevation NGVD (feet)
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date


HPFF-19 (Shallow) BTEX & Groundwater Elevations
100,000
10,000
1,000
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date


HPFF-20 (Shallow) BTEX & Groundwater Elevations
100,000
10,000
1,000
Concentration (ug/L)
26
22
18
14
Elevation NGVD (feet)
Total BTEX
Elevation
01/01/99
07/02/99
01/01/00
07/01/00
12/31/00
07/02/01
12/31/01
07/02/02
12/31/02
07/02/03
01/01/04
07/01/04
12/31/04
Sampling Date