

**2002 ANNUAL MONITORING REPORT
BUILDING 1613
MARINE CORPS BASE CAMP LEJEUNE
ONSLOW COUNTY, NORTH CAROLINA**

Prepared for:

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TITLE PAGE

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

UST Location 1600 Block of Hadnot Point Industrial Area
Intersection of Fir and West near Holcomb Blvd
Onslow County
Camp Lejeune, NC 28542

UST Incident Number: 20660
ID Number: Not Applicable
Risk Classification: High
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 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: USTs
Latitude and Longitude: 34° 40' 7.6475" N
 77° 20' 26.0568" W

Tank Number	Installation Date	Tank Capacity	Tank Dimensions	Last Contents	Previous Contents
1613-1	Unknown	30000	Unknown	Gasoline	Unknown
1613-2	Unknown	30000	Unknown	Gasoline	Unknown
1613-3	Unknown	10000	Unknown	Gasoline	Unknown
1613-4	Unknown	9000	Unknown	Gasoline	Unknown

1.0 INTRODUCTION

This annual monitoring report describes system operation and monitoring results collected from January through December 2002 from the Air Sparge (AS)/Soil Vapor Extraction (SVE) treatment system installed at the Building 1613 site to remediate a release of petroleum. The report is being submitted in accordance with the Corrective Action Plan dated April 6, 1998 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 history of the environmental history of the site, summarizes the corrective action plan, and describes the installation and operation to date of the recommended remedial alternative. 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.

1.1 CAMP LEJEUNE MARINE CORPS 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 1,000 feet to the north of the Building 1613 area. Surface water runoff from the site is diverted into a network of storm drains located at the site. Storm water collected by this system of drains ultimately discharges to the New River.

Sediment and stratigraphy in the vicinity of the site indicates 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 ground surface

(bgs). 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 bgs. Medium to fine grained sandy clay, sand with minor silts, and clay with minor silts are typically encountered from below 25 feet bgs to the limestone interface at an approximate depth of 40 feet bgs. 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. However, one inactive groundwater well (HP-603) is located within 1,500 feet of the site. Active water recovery wells at the Base are sampled annually and analyzed for volatile organic compounds using EPA Method 524.2. *Appendix A* provides an analytical results summary report of 64 water supply wells that are sampled annually at the Base.

An unnamed tributary to Beaverdam Creek approximately 1,000 feet north of the site was identified as a potential surface water receptor ("Leaking Underground Storage Tank Corrective Action Plan" dated 1998). Depth to groundwater ranged from 7 to 16 feet bgs in shallow Type II monitoring wells that were gauged during 2002. In general, the direction of groundwater flow in the vicinity of the site is to the west toward the New River.

1.3 BUILDING 1613 SITE DESCRIPTION

Building 1613 is a Marine Corp Community Services (MCCS) gas station located on the northwest side of West Street in the Hadnot Point area of MCB Camp Lejeune, Onslow County (*Figure 1.2*). There were formerly four gasoline underground storage tanks (USTs) located northeast of the building. These included two 30,000-gallon USTs, one 10,000-gallon UST, and one 9,000-gallon UST. These tanks were reportedly installed in the 1950s and removed in January 1995 along with 2,128 tons of contaminated soil. The USTs were replaced by aboveground storage tanks (ASTs) located northwest of the building.

Building 1613 is a single-story brick building. To either side of the building are three concrete pump islands. The two pump islands closest to the building on either side

currently contain two petroleum dispensers per pump island. There are no dispensers on the two concrete pump islands furthest from the building. These dispensers were reportedly removed prior to the mid-1980s.

A canopy extends from the building to the second pump island on either side. Pavement extends continuously from Building 1613 to West Street, to either side of the building past the outermost pump islands, and northwest approximately 60 feet from the building. Three ASTs are currently located in a fenced area adjacent to the edge of the pavement northwest of the building.

2.0 CONTAMINATION INVESTIGATION HISTORY

2.1 BUILDING 1613 AREA

In the early 1990s, several environmental investigations were completed at the site. Results of these investigations identified a plume of dissolved gasoline compounds, as well as a free product plume in the vicinity of monitoring well HPGW-6. In 1995, the existing USTs located in the grassy area just northeast of monitoring well 1613-10 were removed. During UST removal activities, 2,128 tons of contaminated soil were removed from the site. The USTs were replaced with ASTs northwest of the building.

2.2 CORRECTIVE ACTION PLAN

CATLIN and Associates (CATLIN) completed a Comprehensive Site Assessment (CSA) report in 1996 describing results of the investigation and identifying the extent of petroleum contamination at the site. Following its investigation, CATLIN submitted a Corrective Action Plan (CAP) dated April 6, 1998, identifying AS/SVE to remediate soil and groundwater that had been adversely affected by petroleum releases at Building 1613.

The following three remedial goals were developed for the site:

- Remove free-phase product from the subsurface to the extent practicable,
- Prevent further migration of contaminated groundwater,
- Rehabilitate the groundwater by removing any dissolved petroleum constituents in concentrations exceeding North Carolina's groundwater quality standards.

Table 2.1 (reproduced from the CAP) presents the analytes of concern, their respective target concentrations, and current contaminant concentrations at the site. CATLIN evaluated alternative remedial strategies and conducted SVE and AS pilot tests at the site. Based on these studies, CATLIN recommended a combination of treatment technologies to meet the remedial goals at the site. These technologies included:

- Aggressive Fluid/Vapor Recovery (AFVR) for removal of free-phase product from wells HPGW-6, 1613-17, and 1613-18.

- A field of AS wells. The wells would be located where they could remove high concentrations of dissolved-phase petroleum constituents and prevent further migration of the plume.
- Two SVE wells located adjacent to each AS well. The SVE wells would capture fugitive emissions. In addition, the SVE wells would also remediate any adsorbed-phase petroleum in that portion of the vadose zone within their radii of influence.
- Natural attenuation of low concentrations of dissolved-phase petroleum constituents.

OHM installed the AS/SVE treatment system in accordance with this plan in mid 1998. This system has been in operation since October 1998. The layout of the original system is presented on *Figure 1.3*.

2.3 ADDITIONAL INVESTIGATIONS

Periodic sampling conducted since 1998 indicates that the system has remediated much of the dissolved-phase petroleum at the fringes of the plumes. However, concentrations of the constituents of concern (COCs) in groundwater remain above North Carolina Groundwater Quality Standards (NCGQS) near the former USTs and monitoring well HPGW-6.

The NCDENR provided comments to the CSA report in a letter dated October 11, 1999. The letter requested an additional soil investigation near the fuel dispensers and buried transfer piping at the site. In response to this letter, an additional soil investigation was completed at the site in September 2000. Results of the additional soil assessment work were submitted by OHM in a report titled "*Additional Soil Assessment Building 1613, Marine Corp Base Camp Lejeune, Onslow County, North Carolina*", dated January 2001.

Concurrent with the soil assessment, a groundwater investigation was also performed in September 2000 to better define the extent of groundwater contamination at the site. Results of the groundwater assessment work were submitted by OHM in a report titled "*Additional Groundwater Assessment Building 1613, Marine Corp Base Camp Lejeune, Onslow County, North Carolina*", dated January 2001.

Results from the additional soil assessment work at the site did not indicate contamination consistent with a large-scale release of petroleum hydrocarbons near the fuel dispensers or transfer lines. Based on these results, it was concluded that no further soil assessment is required at the site.

The additional groundwater assessment identified two areas of dissolved contamination that were not being treated by the remedial system. The areas were near HPGW-6 (area of historic free product) and monitoring well 1613-10 (former UST area). The assessment did not detect dissolved contamination on the south (downgradient) side of West Street. Based on these results, recommendations to expand the AS/SVE system were presented in the report.

2.4 AS/SVE SYSTEM EXPANSION

Based on results from the additional assessment work completed in September 2000 and previous investigations at the site, OHM recommended the installation of five additional AS/SVE well pairs at the site. The additional AS/SVE well pairs were installed in March and April 2001. One well pair (AS-11) was installed near HPGW-6. A second well pair (AS-12) was installed near 1613-MW10. The remaining three AS/SVE well pairs (AS-13, AS-14 and AS-15) were installed along the southern property boundary (adjacent to West Street) with the center well pair (AS-14) near 1613-MW16. The locations of the additional AS/SVE well pairs are illustrated on *Figure 2.1*. The additional AS/SVE well pairs were brought on line in late April 2001.

3.0 AS/SVE REMEDIAL SYSTEM OPERATION AND RESULTS

3.1 AS/SVE SYSTEM MONITORING

Operational data collection from the AS/SVE system began on November 16, 1998 and has continued at regular intervals to the present. This report discusses the system's operation and monitoring results collected from January through December 2002. During this operational period, no significant downtime (exceeding several days) occurred. Minor downtime periods ranging from one day to a few days duration that occurred as a result of excessive groundwater entrainment, minor equipment repairs and routine maintenance. The remedial system was in operation a total of 350 days from January 2002 through December 2002 for an operational efficiency of 96 percent.

An operational and maintenance schedule has been established to obtain consistent system measurements and notes on system performance. With the exception of some holidays, the system equipment was inspected every weekday. During site inspections, a checklist is used to record operational measurements and conditions, such as vacuum blower meter hours, inlet filter differential pressure, and the bleed air valve position. This information is used to identify areas requiring maintenance (such as filter replacement) and to fine-tune the system's operation.

The AS/SVE wells are inspected on a weekly basis. Each individual well vault is examined. System components are checked and indicators of operational performance (such as vacuum, air velocity, and temperature) are recorded. As with the equipment, these inspections help to identify maintenance needs. Additional measurements include the system's total recovered vapor concentrations recorded concurrent with the weekly inspection of the well field.

3.2 AS/SVE SYSTEM MONITORING RESULTS

Hydrocarbon recovery from the system is calculated monthly from measured system operational parameters such as organic vapor concentration, exhaust stack pressure, velocity and temperature. These parameters are used to compute the cumulative mass of hydrocarbons recovered. During 2002, approximately 3,000 pounds of hydrocarbons were recovered by the remedial system. A total of 35,470 pounds of hydrocarbons have been recovered from the Building 1613 area since the system was started in November 1998. Hydrocarbon recovery data are provided in *Table 3.1* and graphically presented in *Table 3.2*.

Prior to bringing the five additional AS/SVE well pairs on line in late April 2001, approximately 20 pounds of hydrocarbons had been recovered since January 3, 2001 (<1 lb/day). After the additional AS/SVE well pairs were brought on line, the average recovery rate increased to 11 lb/day (recovery rates ranged from 26 lb/day one week after bringing the wells on line to 2 lb/day), recovering approximately 2,700 pounds of hydrocarbons from May 2001 through December 2001. This recovery rate continued in 2002 recovering approximately 3,000 pounds of hydrocarbons with vapor recovery rates ranging from 4 to 18 lb/day.

4.0 GROUNDWATER MONITORING RESULTS

Depth to groundwater measurements were collected from select monitoring wells at the site in June and December 2002. Groundwater samples were also collected for analysis from select monitoring wells in June and December 2002. The groundwater sample collection field logs are provided in *Appendix B*.

4.1 GROUNDWATER ELEVATION MEASUREMENTS

During June 2002, the depth to groundwater from the top of the casing was gauged in 19 Type II monitoring wells at the site. The depth to groundwater ranged from 7.70 feet bgs in monitoring well 1613-8 to 16.11 feet bgs in monitoring well 1613-18. Groundwater elevations ranged from 9.14 feet National Geodetic Vertical Datum (NGVD) in monitoring well 1613-18 to 21.45 feet NGVD in monitoring well 1613-8. No detectable thickness of free product was observed in any of the wells. A groundwater elevation contour map for the Type II monitoring wells during the June 2002 gauging event is presented in *Figure 4.1*. Data from this event are summarized in *Table 4.1*.

During June 2002, the depth to groundwater from the top of the casing was gauged in four Type III monitoring wells at the site. The depth to groundwater ranged from 13.68 feet bgs in monitoring well 1613-13 to 18.95 feet bgs in monitoring well 1613-15. Groundwater elevations ranged from 10.32 feet NGVD in monitoring well 1613-15 to 11.91 feet NGVD in monitoring well 1613-13. No detectable thickness of free product was observed in any of the wells. *Figure 4.2* presents groundwater elevations of the Type III monitoring wells for the June 2002 gauging event. Data from this event are summarized in *Table 4.1*.

During December 2002, the depth to groundwater from the top of the casing was gauged in 18 Type II monitoring wells at the site. The depth to groundwater ranged from 6.45 feet bgs in monitoring well 1613-9 to 15.49 feet bgs in monitoring well 1613-10. Groundwater elevations ranged from 13.13 feet NGVD in monitoring well 1613-20 to 23.59 feet NGVD in monitoring well 1613-8. No detectable thickness of free product was observed in any of the wells. A groundwater elevation contour map for the Type II monitoring wells during the December 2002 gauging event is presented in *Figure 4.3*. Data from this event are summarized in *Table 4.1*.

During December 2002, the depth to groundwater from the top of the casing was gauged in four Type III monitoring wells at the site. The depth to groundwater ranged from

12.14 feet bgs in monitoring well 1613-13 to 18.10 feet bgs in monitoring well 1613-15. Groundwater elevations ranged from 11.17 feet NGVD in monitoring well 1613-15 to 15.41 feet NGVD in monitoring well 1613-14. No detectable thickness of free product was observed in any of the wells. *Figure 4.2* presents groundwater elevations of the Type III monitoring wells for the December 2002 gauging event. Data from this event are summarized in *Table 4.1*.

4.2 GROUNDWATER SAMPLING AND ANALYSIS

4.2.1 June 2002 Sampling Event

Groundwater sample collection and analysis was completed at seven Type II monitoring wells (1613-06, 1613-10, 1613-11, 1613-20, 1613-21, 1613-22, and HPGW6) on June 26, 2002. One Type III monitoring well (1613-16) was also sampled. The samples were analyzed for Volatile Organic Aromatics (VOAs) using Method 624 and Polynuclear Aromatic Hydrocarbons (PAHs) using Method 610. Of the eight monitoring wells sampled, the following five wells displayed compounds in excess of NC Groundwater Quality Standards.

- 1613-11 (3.9 micrograms per liter [$\mu\text{g/L}$], benzene)
- 1613-10 (474 $\mu\text{g/L}$, methyl tert-butyl ether; 2,280 $\mu\text{g/L}$, total xylenes; 342 $\mu\text{g/L}$, ethylbenzene; and 125 $\mu\text{g/L}$, naphthalene)
- 1613-20 (318 $\mu\text{g/L}$, methyl tert-butyl ether)
- 1613-22 (437 $\mu\text{g/L}$, benzene; 1,080 $\mu\text{g/L}$, toluene; 289 $\mu\text{g/L}$, methyl tert-butyl ether; 36.6 $\mu\text{g/L}$, ethylbenzene; and 22.8 $\mu\text{g/L}$, naphthalene).
- HPGW-6 (61 $\mu\text{g/L}$, benzene; 96.7 $\mu\text{g/L}$, ethylbenzene; 2,380 $\mu\text{g/L}$, total xylenes; and 60.3 $\mu\text{g/L}$, naphthalene).

Groundwater analytical results of the contaminants of concern for the June 2002 sampling event are presented in *Table 4.2* and on *Figure 4.4 (benzene)*; *Figure 4.5 (ethylbenzene)*; *Figure 4.6 (toluene)*; *Figure 4.7 (methyl tert-butyl ether)*; *Figure 4.8 (total xylenes)*; and *Figure 4.9 (naphthalene)*. The complete laboratory analytical reports showing all detections are provided in *Appendix C*.

4.2.2 December 2002 Sampling Event

Groundwater sample collection and analysis was completed at seven Type II monitoring wells (1613-06, 1613-10, 1613-11, 1613-20, 1613-21, 1613-22 and HPGW6) on December 17, 2002. One Type III monitoring well (1613-16) was also sampled. The

samples were analyzed for VOAs using Method 624 and PAHs using Method 610. Of the eight monitoring wells sampled, the following three wells displayed compounds in excess of NC Groundwater Quality Standards.

- 1613-10 (145 µg/L, ethylbenzene; 998 µg/L, total xylenes; and 108 µg/L, naphthalene)
- 1613-22 (11.2 µg/L, benzene)
- HPGW-6 (2.4 µg/L, benzene)

Groundwater analytical results of the contaminants of concern for the December 17, 2002 sampling event are presented in *Table 4.3* and *Figure 4.4 (benzene)*; *Figure 4.5 (ethylbenzene)*; *Figure 4.6 (toluene)*; *Figure 4.7 (methyl tert-butyl ether)*; *Figure 4.8 (total xylenes)*; and *Figure 4.9 (naphthalene)*. The complete laboratory analytical reports showing all detections are provided in *Appendix C*.

5.0 CONCLUSIONS

5.1 AS/SVE SYSTEM OPERATION

Five additional AS/SVE well pairs were brought on line in late April 2001. The expanded system average hydrocarbon vapor recovery rate increased from less than 1 lb/day (January 2001 through April 2001) to 11 lb/day (May 2001 through December 2001) and recovered approximately 2,700 pounds of hydrocarbons from May 2001 through December 2001. This recovery rate decreased slightly in 2002 recovering approximately 3,000 pounds of hydrocarbons with an average vapor recovery rate of 8.7 lb/day. As adsorbed-phase petroleum compounds are removed from the unsaturated zone, a decreasing trend in recovered hydrocarbon vapor concentrations is expected to develop during 2003.

Based on the decreasing contaminant concentration trends observed at the site, it appears that the existing AS/SVE system will reduce contaminant concentrations to remedial goals in a timely manner without additions to the system or additional technology augmentation.

5.2 GROUNDWATER ELEVATION MEASUREMENTS

Figures 4.1, 4.2 and 4.3 present groundwater elevations from the Type II and Type III monitoring wells measured during the June 2002 and December 2002 sampling events. Groundwater elevations continued the decreasing trend in June that has been occurring at the base over the past couple years. However, in December groundwater elevations increased from one to two feet in monitoring wells at the site. This is probably the result from above average rainfall in July (8.36 inches), August (9.05 inches) and September (4.48 inches). Groundwater in the shallow aquifer appears to flow from the northeast and the southwest (toward the center of the site) and then flows from the center of the site at a lower gradient toward the south.

Based on groundwater level measurements collected from Type II and Type III monitoring well clusters there is a significant downward vertical gradient at the site. This is consistent with past groundwater level measurements. However, monitoring well cluster 1613-10 (Type II) and 1613-16 (Type III) measurements in December 2002 indicate a reverse, to an upward gradient, in the central portion of the site. Continued monitoring will determine if this is a temporary condition or true trend developing at the site. The groundwater elevation measurements for the shallow and deep well clusters are



as follows:

- June 2002: 1613-7 (shallow), 14.12 NGVD; 1613-13 (deep), 11.91 NGVD
December 2002: 1613-7, 15.39 NGVD; 1613-13, 13.45 NGVD
- June 2002: 1613-8 (shallow), 21.45 NGVD; 1613-15 (deep), 10.32 NGVD
December 2002: 1613-8, 23.59 NGVD; 1613-15, 11.17 NGVD
- June 2002: 1613-10 (shallow), 11.95 NGVD; 1613-16 (deep), 10.93 NGVD
December 2002: 1613-10 (shallow), 13.18 NGVD; 1613-16 (deep), 13.81 NGVD

5.3 GROUNDWATER ANALYTICAL RESULTS

Monitoring wells 1613-6 and 1613-10 have been sampled 12 times since September 1998. One monitoring well (1613-11) has been sampled six times beginning in November 1999. Five monitoring wells (HPGW6, 1613-16, 1613-20, 1613-21 and 1613-22) have been sampled five times beginning September 2000.

The “perimeter” monitoring well 1613-6 analytical results have remained below NC Groundwater Quality Standards since November 1999 and 1613-21 analytical results has remained below NC quality standards since sampling began in Sept-00. The “source” monitoring well 1613-10 analytical results have demonstrated a 30% decrease in dissolved BTEX compounds since the remedial system was started in 1998. Monitoring well HPGW-6, that displayed free product as recently as 2000, has demonstrated a 50% reduction in total BTEX concentrations dating back to September 2000.

Of the eight monitoring wells sampled in 2002, only three (1613-10, 1613-22, and HPGW6) have consistently displayed dissolved petroleum hydrocarbon compounds in excess of NC Groundwater Quality Standards. Monitoring well 1613-20 has demonstrated an exceedance of MTBE in three of the sampling events (361 µg/L, Sept-00; 403 µg/L, Dec-01; and 318 µg/L, Jun-02). Monitoring well 1613-11 has demonstrated an exceedance of benzene in three of the sampling events (23 µg/L, Sept-99; 3 µg/L, Jun-01; and 3.9 µg/L, Jun-02). Deep Type III monitoring well 1613-16 analytical results have remained below NC quality standards since Jun-01. Historical groundwater analytical results for monitoring wells at the site are provided in *Appendix D*. Graphs comparing groundwater elevation versus total BTEX concentration in select monitoring wells that have displayed the presence of BTEX compounds above the groundwater quality standard are provided in *Appendix E*.



Based on analytical results from the comprehensive groundwater assessment completed in September 2000 and groundwater monitoring during 2001, the extent of the dissolved contaminant plume has been delineated at the site. Analytical results during 2002 confirm the horizontal and vertical extent of contamination has been delineated at the site. The area of contaminated groundwater extends southeast from HPGW-6 in the vicinity of the ASTs across the central portion of the site, to the south side of monitoring well 1613-22 (but not extending across West Street to monitoring wells 1613-20 and 1613-21) and east to the former UST basin.

The lateral extent of the dissolved-phase contaminants continues to decrease over the last couple years. This, coupled with a reduction in concentrations of analytes in the groundwater samples, indicates that natural attenuation and the AS/SVE system are operating as expected to reduce contaminant levels at the site. The expansion of the AS/SVE system is treating areas of the site that were not being treated by the initial remedial system (i.e., HPGW-6, MW10, and MW22). Evidence of treatment is reflected in the increased vapor recovery of the system since the additional AS/SVE well pairs were brought on line in April 2001.



6.0 RECOMMENDATIONS

6.1 GROUNDWATER MONITORING

Based on the inferred groundwater flow regime at the site and the groundwater analytical results from on-site monitoring wells, OHM recommends continuing groundwater sampling and analysis on a semiannual schedule. The monitoring wells will be sampled in June and December 2003. To monitor the horizontal extent of the contaminant plume, the following "perimeter" Type II monitoring wells will be sampled: 1613-6, 1613- 11, 1613-20, and 1613-21. To monitor the progress of the remedial system, the following "source" monitoring wells will be sampled: HPGW-6, 1613-10, and 1613-22. To monitor the vertical extent of the contaminant plume, monitoring well 1613-16, a deep Type III monitoring well, will be sampled.

In accordance with the *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater* dated 1998, the groundwater samples will be analyzed for VOHs using EPA Method 624; VOAs using EPA Method 624; and PAHs using EPA Method 610.

During the sampling events, depth to groundwater measurements will be collected from the following Type II monitoring wells: HPGW-6, 1613-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 17, 18, 19, 20, 21, and 22. Depth to groundwater measurements will be collected from the following Type III monitoring wells: 1613-13, 14, 15, and 16.

6.2 AS/SVE SYSTEM OPERATION

Because the analytical data from samples collected from wells 1613-10, HPGW-6, and 1613-22 continue to demonstrate contamination levels above NC Groundwater Quality Standards, Shaw recommends continuing operation of the AS/SVE system as in the past.

TABLES

TABLE 2.1

**MCB CAMP LEJEUNE
BUILDING 1613 ANNUAL REPORT
GROUNDWATER
SITE REHABILITATION GOALS**

ANALYTE	2001 MAXIMUM CONCENTRATION	2002 MAXIMUM CONCENTRATION	TARGET CONCENTRATION (NORTH CAROLINA STANDARDS)*
Benzene	583 ppb	437 ppb	1 ppb
Toluene	2,460 ppb	1,080 ppb	1000 ppb
Ethylbenzene	241 ppb	342 ppb	29 ppb
Xylenes	2,860 ppb	2,380 ppb	530 ppb
MTBE	719 ppb	474 ppb	200 ppb
Naphthalene	36.2 ppb	125 ppb	21 ppb

ppb

parts per billion

*

Goals of remediation are to achieve target concentrations or less

TABLE 3.1
Cumulative Mass of Volatile Hydrocarbons Discharged
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Building 1613
SVE Stack

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc (PPM _{measured})	Vapor Velocity (V) (ft/min)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Discharge Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Discharged (lbs)	Comments
11/16/98	11:30	3087	1130	5000	550	418	6.01	224.61	0.00	BOD - Received on 12/15/98
11/17/98	9:45	3093	1130	5000	550	418	6.01	224.68	56.16	
11/20/98	10:30	3163	2350	5000	550	418	12.50	467.28	1108.53	
12/01/98	11:30	3427	2872	3300	551	275	14.21	350.02	5552.82	
12/11/98	11:00	3682	1700	3100	543	282	9.04	212.28	8305.57	
12/15/98	10:35	3757	1833	3100	541	283	9.75	223.72	9180.40	
12/22/98	12:20	3927	2193	3500	551	282	11.66	304.68	11073.15	
01/08/99	15:05	3982	2805	3400	540	289	14.01	382.88	11838.07	
01/11/99	13:50	4052	1032	3100	540	264	5.48	128.58	12556.25	
01/20/99	14:35	4227	594.5	4000	542	339	3.16	95.96	13378.56	
01/29/99	14:45	4444	402	3300	558	273	2.14	52.10	14048.33	
02/05/99	17:06	4498	20716	2400	542	203	110.18	2006.40	16364.24	
02/11/99	15:30	4840	232	2700	559	222	1.23	24.53	22372.43	
02/18/99	14:10	4807	682	2200	556	182	3.83	59.02	22863.13	
02/28/99	10:00	4995	840	1600	539	138	4.47	54.54	23107.92	
03/05/99	11:00	5162	1008	2500	547	210	5.96	100.77	23648.26	
03/08/99	14:00	5239	778	2500	548	210	4.14	77.63	23934.44	
03/18/99	8:30	5473	704	2700	555	224	3.74	74.91	24678.08	
03/25/99	16:04	5640	1592	2500	552	208	8.47	151.70	25487.39	
03/31/99	12:00	5744	387	2600	560	213	1.95	37.27	26072.31	
04/06/99	11:30	5930	188	3000	568	247	1.00	22.11	26252.92	
04/13/99	13:00	6320	305	3000	561	248	1.81	35.44	26380.82	
04/20/99	11:00	6132	119	2400	553	199	0.63	11.30	26528.29	
04/30/99	11:30	6433	108	2600	535	223	0.57	11.48	26642.65	
05/04/99	12:00	6524	508	1800	554	149	2.70	96.10	26732.85	
05/12/99	8:30	6718	184	2400	560	197	0.98	17.25	26948.25	
05/19/99	7:30	6882	132	2800	564	228	0.70	14.33	27055.47	
06/04/99	9:45	7267	144	3300	582	270	0.77	18.48	27318.78	
06/08/99	9:45	7368	213	3000	574	240	1.13	24.35	27408.93	
06/18/99	13:00	7575	279	2000	543	169	1.48	22.48	27610.87	
06/25/99	7:45	7738	79	2000	576	160	0.42	6.00	27707.57	

TABLE 3.1 (cont.)
Cumulative Mass of Volatile Hydrocarbons Discharged
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Building 1613

SVE Stack										
Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc (PPM _{measured}) (PPMw)	Vapor Velocity (V) (ft/min)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Discharge Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Discharged (lbs)	Comments
07/01/99	13:00	7885	88	1900	580	151	0.47	6.31	27745.26	
07/08/99	7:30	8078	4	1700	580	135	0.02	0.26	27771.64	
07/14/99	8:00	8196	36	2100	575	168	0.19	2.88	27778.34	
07/22/99	13:05	8385	273	1400	588	109	1.45	14.22	27846.64	
07/27/99	15:55	8579	91	2300	579	183	0.48	7.9	27935.06	
08/05/99	9:40	8176	107	3200	567	256	0.57	13.21	27758.78	
08/12/99	14:00	8884	86	2900	572	233	0.46	9.54	28004.27	
08/18/99	14:50	9058	84	3000	573	241	0.45	9.62	28183.71	
08/24/99	7:56	9171	120	2200	565	179	0.64	10.22	28210.42	
08/31/99	9:54	9321	197	1400	580	115	1.05	10.77	28276.02	
09/09/99	10:18	9468	87	3100	584	253	0.46	10.46	28341.04	
09/14/99	9:16	9589	27	3800	562	245	0.14	3.15	28375.36	
10/04/99	14:45	9701	434	3400	564	277	2.31	57.23	28516.24	
10/11/99	15:10	9876	0	3100	581	254	0.00	0	28724.87	
10/18/99	14:16	10009	126	2900	560	228	0.37	14.27	28764.42	
10/29/99	7:59	10122	0	3100	554	257	0.00	0	28798.02	
11/03/99	9:40	10221	0	2800	555	240	0.00	0	28798.02	
11/09/99	13:45	10340	0	3000	561	246	0.00	0	28798.02	
11/15/99	13:15	10483	0	2800	555	240	0.00	0	28798.02	
11/22/99	13:10	10586	71	3100	555	257	0.38	9.67	28816.63	
12/03/99	15:03	10666	0	3200	548	269	0.00	0	28885.42	
12/12/99	15:20	11080	0	3000	544	253	0.00	0	28885.42	
12/17/99	15:07	11202	0	3400	541	289	0.00	0	28885.42	
01/04/00	9:46	11629	21	3100	545	261	0.11	3	28888.68	
01/08/00	19:58	11729	0	2900	540	243	0.00	0	28894.11	
01/12/00	9:58	11819	13	2900	540	247	0.07	2	28896.97	
01/21/00	4:33	12041	0	1400	532	121	0.05	1	28906.43	
01/27/00	16:28	12187	0	2300	535	198	0.00	0	28908.00	
02/09/00	12:55	12306	2	2800	540	238	0.01	0	28908.57	
02/16/00	14:24	12476	0	2500	545	211	0.00	0	28908.57	
02/27/00	17:15	12741	0	2500	545	211	0.00	0	28908.57	
03/08/00	9:30	12874	0	3174	554	268	0.00	0	28908.57	
03/14/00	14:25	13123	254	6054	538	517	1.95	63	28909.37	
03/20/00	11:36	13264	0	2733	552	228	0.00	0	29103.43	
03/27/00	10:30	13430	0	2340	558	192	0.00	0	29287.07	

TABLE 3.1 (cont.)
Cumulative Mass of Volatile Hydrocarbons Discharged
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJUNE - Building 1613

Date	Time	SVE Stack							Comments
		SVE Blower Hour Meter (Hrs)	TH Conc (PPM _{measured})	Vapor Velocity (V) (ft/min)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Discharge Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Discharged (lbs)
04/05/00	10:15	13648	1	2516	560	207	0.01	0	29287.51
04/11/00	7:00	13763	0	3890	585	305	0.00	0	29287.75
04/17/00	7:00	13832	9.8	2537	558	212	0.05	1	29291.24
04/27/00	8:30	14173	0	4310	563	360	0.00	0	29296.21
05/02/00	11:30	14294	10.4	2922	558	241	0.06	1	29299.21
05/09/00	8:00	14461	10.8	3100	560	254	0.06	1	29307.91
05/15/00	7:30	14604	0	2900	556	247	0.00	0	29311.80
05/25/00	8:21	14742	23	3200	565	260	0.12	3	29319.03
06/01/00	8:40	14808	35	3300	558	272	0.19	5	29345.86
06/06/00	9:20	15030	23	3200	561	262	0.12	3	29384.31
06/15/00	13:55	15203	17	3100	571	249	0.09	2	29381.92
06/22/00	14:13	15415	55	3500	569	283	0.29	7	29423.52
07/07/00	12:15	15740	24	3800	568	307	0.13	4	29407.40
07/14/00	12:58	15907	15	3500	566	284	0.08	2	29516.98
07/21/00	14:44	16075	9	3000	560	246	0.05	1	29527.47
07/28/00	13:44	16219	26	2900	582	229	0.14	3	29533.14
08/02/00	12:48	16338	11	3100	582	245	0.06	1	29549.34
08/11/00	12:37	16477	18	2800	583	221	0.10	2	29558.53
08/15/00	8:05	16568	8	3200	569	258	0.03	1	29563.51
08/22/00	8:15	16743	7	3300	568	268	0.04	1	29569.66
08/28/00	13:58	16885	4	3200	574	256	0.02	0	29579.57
09/07/00	11:38	17073	26	2200	563	180	0.14	2	29504.18
09/11/00	14:51	17169	7	3200	569	258	0.04	1	29590.35
09/19/00	10:58	17254	10	3000	568	243	0.05	1	29593.92
09/28/00	14:10	17286	16	3900	561	319	0.09	2	29596.46
10/03/00	13:17	17407	11	3900	568	316	0.06	2	29606.59
10/11/00	15:40	17564	0	3800	549	318	0.00	0	29611.89
10/16/00	13:40	17657	4	3700	564	307	0.02	1	29613.11
10/26/00	7:57	17891	3	3100	551	259	0.02	0	29617.70
11/01/00	10:54	18039	6	3800	553	316	0.03	1	29621.62
11/07/00	11:20	18182	7	3900	549	326	0.04	1	29627.55
11/16/00	11:24	18389	8	3700	545	312	0.04	1	29637.84
11/20/00	15:45	18499	0	3800	539	307	0.00	0	29640.31
11/29/00	9:56	18647	15	3000	556	243	0.08	2	29645.77

TABLE 3.1 (cont.)
Cumulative Mass of Volatile Hydrocarbons Discharged
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Building 1613
SVE Stack

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc (PPM _{measured})	Vapor Velocity (V) (ft/min)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Discharge Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Discharged (lbs)	Comments
12/03/00	14:54	18780	0	3400	555	282	0.00	0	29650.68	
12/12/00	12:22	18846	5	3700	550	309	0.03	1	29651.89	
12/19/00	11:48	18982	2	3600	547	302	0.01	0	29651.59	
12/29/00	10:30	19223	2	3600	536	309	0.01	0	29657.51	
01/03/01	8:46	19282	0	3600	526	315	0.00	0	29657.87	
01/09/01	8:32	19378	0	3600	526	315	0.00	0	29657.87	
01/15/01	13:47	19520	1	3400	543	285	0.01	0	29658.29	
01/23/01	13:20	19718	0	3100	541	263	0.00	0	29658.83	
01/29/01	12:15	19860	0	3300	543	279	0.00	0	29658.83	
02/07/01	10:10	20073	1	3400	547	286	0.01	0	29659.43	
02/13/01	15:25	20220	0	3700	545	312	0.00	0	29659.85	
02/21/01	7:55	20407	0	3400	549	285	0.00	0	29659.85	
02/28/01	14:55	20533	0.33	3300	559	271	0.00	0	29659.96	
03/10/01	8:05	20776	0	3100	546	261	0.00	0	29660.18	
03/14/01	9:39	20873	0	3300	555	273	0.00	0	29660.18	
03/20/01	7:36	21016	0	3200	548	268	0.00	0	29660.18	
03/28/01	11:31	21151	1	3000	554	249	0.01	0	29660.52	
04/03/01	10:35	21283	0.27	3100	557	256	0.00	0	29660.96	
04/10/01	11:21	21462	10	3400	571	274	0.05	1	29671.84	
04/16/01	15:26	21610	5	3300	566	268	0.03	1	29675.33	
04/23/01	9:24	21740	5	3700	560	304	0.03	1	29675.33	
05/01/01	7:47	21914	162	3400	547	286	0.86	22	29757.79	
05/08/01	10:59	22094	167	3900	568	322	0.89	26	29926.53	
05/15/01	10:25	22251	153	3600	554	299	0.81	22	30091.33	
05/22/01	7:44	22417	91	3700	558	305	0.81	22	30212.18	
05/30/01	11:53	22595	116	3800	564	310	0.48	13	30324.57	
06/06/01	8:02	22763	87	3900	564	318	0.62	17	30430.40	
06/12/01	12:15	22910	96	3800	578	302	0.46	13	30512.98	
06/20/01	7:35	23095	56	3600	565	293	0.33	8	30598.28	
06/26/01	10:17	23240	83	3400	575	272	0.44	11	30662.27	
07/03/01	7:42	23406	103	3500	563	286	0.55	14	30737.83	
07/10/01	9:18	23558	67	4100	569	331	0.35	11	30815.62	
07/18/01	11:10	23703	51	4200	568	340	0.27	9	30872.43	
07/24/01	14:35	23800	141	4200	571	338	0.75	23	30996.39	

TABLE 3.1 (cont.)
Cumulative Mass of Volatile Hydrocarbons Discharged
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Building 1613

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc (PPM _{hydrocarbon})	Vapor Velocity (ft/min)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Discharge Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Discharged (lbs)	Comments
08/01/01	13:42	24080	107	4100	508	332	0.57	17	31156.05	
08/08/01	10:27	24277	93	4200	570	339	0.49	15	31280.26	
08/16/01	8:36	24443	103	4300	565	325	0.55	15	31387.25	
08/22/01	8:50	24587	60	3800	564	318	0.37	10	31486.41	
08/28/01	13:40	24732	62	4500	567	365	0.33	11	31530.45	
08/07/01	8:02	24967	45	3700	559	304	0.24	7	31615.08	
09/12/01	13:42	25091	74	3600	566	292	0.39	10	31658.46	
09/17/01	12:30	25210	48	3800	562	311	0.26	/	31701.58	
09/24/01	14:09	25381	48	3800	567	308	0.26	7	31751.94	
10/03/01	10:36	25583	42	3700	559	304	0.22	6	31809.87	
10/10/01	9:09	25759	56	3600	550	301	0.30	8	31858.62	
10/16/01	14:21	25908	48	5300	558	437	0.26	10	31914.47	
10/24/01	8:04	26094	47	3700	552	308	0.25	7	31978.81	
11/02/01	11:08	26237	48	4400	551	367	0.26	8	32026.31	
11/08/01	10:47	26363	54	900	540	75	0.29	2	32056.72	
11/15/01	11:54	26550	49	4000	544	338	0.26	8	32090.88	
11/23/01	10:15	26739	36	3800	539	324	0.18	6	32143.77	
11/28/01	11:25	26836	58	4100	550	343	0.31	9	32174.10	
12/05/01	10:30	27018	54	3900	545	329	0.29	8	32241.26	
12/12/01	14:24	27186	66	3800	543	322	0.35	10	32306.97	
12/21/01	10:56	27399	49	3600	536	309	0.26	7	32363.74	
12/27/01	10:38	27542	41	3900	530	277	0.22	5	32421.32	
01/02/02	14:45	27690	71	2800	522	247	0.38	8	32463.70	
01/10/02	14:37	27882	40	3900	539	333	0.26	8	32528.04	
01/24/02	15:38	28218	76	3800	546	320	0.40	12	32663.34	
01/29/02	14:25	28337	52	3900	550	326	0.26	8	32711.98	
02/06/02	10:02	28526	54	3400	532	294	0.23	8	32773.46	
02/13/02	14:54	28699	52	3700	545	312	0.28	8	32828.50	
02/21/02	14:42	28892	65	4200	548	352	0.35	11	32903.36	
02/26/02	13:10	29058	49	4100	538	350	0.26	8	32963.29	
03/07/02	10:33	29222	43	3900	547	328	0.23	7	33020.10	
03/12/02	9:10	29342	48	4200	545	354	0.26	8	33057.10	
03/21/02	14:30	29512	0	4300	547	361	0.00	0	33085.75	
03/25/02	11:26	29605	56	3900	556	322	0.31	9	33102.99	

TABLE 3.1 (cont.)
Cumulative Mass of Volatile Hydrocarbons Discharged
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Building 1613
SVE Stack

Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc (PPM _{measured})	Vapor Velocity (V) (ft/min)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Discharge Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Discharged (lbs)	Comments
04/01/02	14:42	29774	55	4900	556	405	0.29	11	33171.65	
04/09/02	8:30	29861	40	3800	552	316	0.21	6	33236.42	
04/16/02	13:40	30131	44	4300	564	350	0.23	7	33283.74	
04/24/02	10:05	30320	43	3700	558	306	0.23	6	33337.27	
04/30/02	11:00	30465	45	4000	557	330	0.24	7	33377.53	
05/08/02	10:25	30680	56	4400	563	359	0.29	9	33451.90	
05/15/02	14:40	30828	53	4400	562	360	0.26	9	33508.27	
05/20/02	10:47	30945	46	4200	552	350	0.24	8	33549.06	
05/28/02	8:58	31135	64	4600	560	377	0.34	11	33624.86	
06/03/02	15:30	31286	52	4900	567	397	0.28	10	33691.97	
06/11/02	12:54	31475	66	4800	567	389	0.35	12	33778.79	
06/18/02	9:30	31630	69	4600	557	380	0.37	12	33863.13	
06/24/02	9:57	31780	61	4000	566	325	0.32	9	33927.44	
07/02/02	10:05	31940	58	4900	562	401	0.31	11	33995.74	
07/12/02	10:45	32122	55	4500	559	370	0.29	10	34074.40	
07/17/02	7:55	32240	95	4800	565	390	0.51	18	34141.60	
07/23/02	12:09	32388	85	4100	571	330	0.45	13	34237.20	
08/01/02	13:30	32605	74	4400	578	350	0.39	12	34353.25	
08/07/02	14:25	32750	03	3800	569	307	0.44	12	34427.09	
08/13/02	14:35	32884	70	3900	573	313	0.37	10	34494.73	
08/21/02	10:33	33045	62	4100	566	333	0.33	10	34556.41	
08/28/02	12:30	33212	70	4300	564	350	0.37	12	34633.20	
09/04/02	13:00	33321	66	3300	578	310	0.35	10	34681.79	
09/13/02	11:24	33468	50	4200	565	342	0.30	9	34747.69	
09/18/02	9:55	33607	75	4200	568	340	0.40	12	34799.90	
09/25/02	10:22	33774	91	4000	559	329	0.48	14	34891.85	
10/01/02	11:01	33917	36	4100	563	335	0.19	6	34951.17	
10/07/02	14:20	34085	27	4100	565	333	0.20	6	34986.96	
10/16/02	15:42	34281	38	4100	552	341	0.20	6	35041.18	
10/23/02	9:39	34444	27	3600	552	300	0.14	4	35075.21	
10/30/02	13:45	34617	58	4000	551	334	0.31	8	35122.28	
11/08/02	13:24	34833	48	3800	552	300	0.26	7	35194.53	
11/15/02	11:35	34998	44	3700	552	307	0.23	6	35240.21	
11/22/02	10:25	35166	29	4500	554	373	0.15	5	35280.78	
11/25/02	12:45	35240	30	3800	551	317	0.16	5	35295.70	

TABLE 3.1 (cont.)
Cumulative Mass of Volatile Hydrocarbons Discharged
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
MCB CAMP LEJEUNE - Building 1613

SVE Stack									
Date	Time	SVE Blower Hour Meter (Hrs)	TH Conc (PPM _{measured})	Vapor Velocity (V) (ft/min)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Discharge Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Discharged (lbs)
12/04/02	12:45	35456	27	3600	532	311	0.14	4	35333.87
12/12/02	11:25	35644	42	3600	539	533	0.22	7	35375.77
12/18/02	9:30	35777	34	3400	536	292	0.18	5	35407.26
12/23/02	12:50	35897	31	3600	541	323	0.16	5	35430.96
12/31/02	12:50	36083	34	3675	537	315	0.18	5	35468.87
									Extrapolated Data

Notes:

C = (PPM_{measured}) * K * (M_w/K_s) / 1000
 C: vapor concentration (mg/l)
 PPM_{measured}: FID reading (PPM)
 K: number of carbon atoms in calibration gas
 (1 for methane)
 TH: total hydrocarbons calculated as gasoline
 (GRO)

percent water vapor by volume
 SVE Stack pipe diameter

0.003
 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, calculation assumes saturated water stream or B = 0.

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

$$M = Q \times C \times 0.0095$$

M: hydrocarbon recovery rate (lb/day)

Assumptions:

Mg = 128 mg/mg-mole

Kg = 24.07 dm³/10⁶ gm-mole

D = 0.003 from Perry's Chem. Eng. Hbk

A = 0.0873 sq. ft

TABLE 3.2

Cumulative Mass of Hydrocarbons Recovered

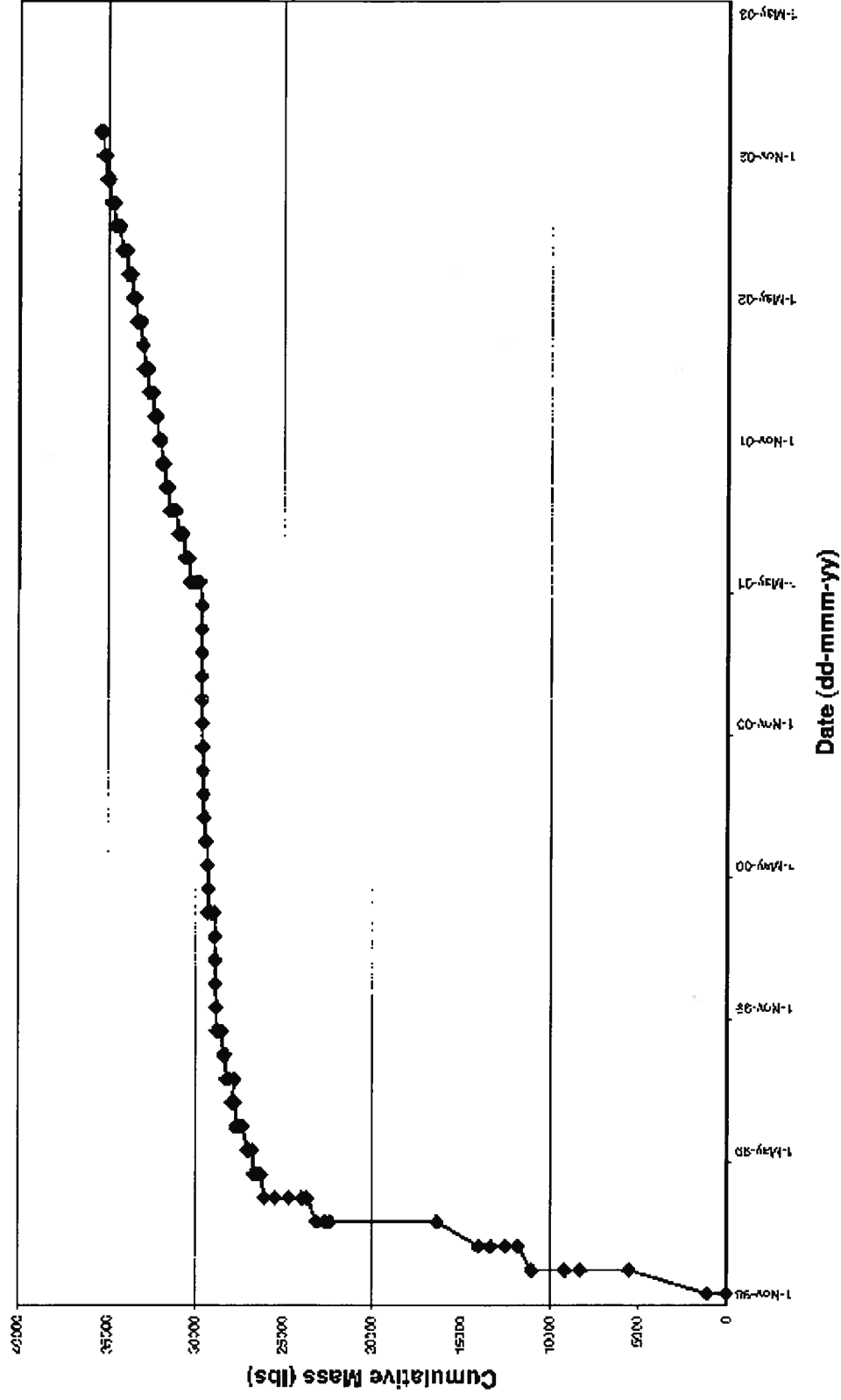


Table 4.1
Groundwater Elevation Table
Building 1613

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)
3-0-0	Type II	28.10	10-Dec-00	11.32	NM	Dec-01	11.52	15.78	Jun-02	13.51	14.48	Dec-02	14.35	13.75
3-1-0	Type II	28.22	10-Dec-00	10.42	NM	Dec-01	10.42	17.60	Jun-02	15.86	12.36	Dec-02	14.53	13.69
3-2-0	Type II	28.69	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	14.88	14.83	Dec-02	12.23	18.46
3-3-0	Type II	25.50	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	13.46	12.04	Dec-02	12.26	13.24
3-4-0	Type II	26.28	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	8.63	17.63	Dec-02	7.34	18.54
3-5-0	Type II	24.89	10-Dec-00	5.79	NM	Dec-01	NM	NM	Jun-02	8.35	18.54	Dec-02	8.75	18.14
3-6-0	Type II	27.77	10-Dec-00	11.41	18.36	Dec-01	15.58	12.39	Jun-02	15.75	12.02	Dec-02	14.33	13.44
3-7-0	Type II	25.54	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	11.22	14.12	Dec-02	9.95	15.39
3-8-0	Type II	29.15	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	7.70	21.45	Dec-02	5.56	23.59
3-9-0	Type II	25.89	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	1.72	16.17	Dec-02	8.45	19.44
3-10-0	Type II	28.67	10-Dec-00	11.34	16.83	Dec-01	16.28	12.39	Jun-02	16.72	11.95	Dec-02	15.49	13.18
3-11-0	Type II	26.24	10-Dec-00	NM	NM	Dec-01	12.59	12.85	Jun-02	12.81	12.33	Dec-02	11.69	13.56
3-12-0	Type II	28.45	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	14.83	11.82	Dec-02	13.1	13.35
3-13-0	Type II	25.62	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	13.81	12.01	Dec-02	12.28	13.34
3-14-0	Type II	25.25	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	16.11	9.14	Dec-02	11.42	13.83
3-15-0	Type II	24.53	10-Dec-00	8.87	16.08	Dec-01	NM	NM	Jun-02	13.14	11.79	Dec-02	NM	NM
3-20-0	Type II	25.72	10-Dec-00	NM	NM	Dec-01	13.29	12.43	Jun-02	13.80	11.92	Dec-02	12.59	13.13
3-21-0	Type II	20.24	10-Dec-00	NM	NM	Dec-01	13.59	12.85	Jun-02	13.76	12.49	Dec-02	12.57	13.87
3-22-0	Type II	25.52	10-Dec-00	NM	NM	Dec-01	12.79	12.73	Jun-02	13.35	12.17	Dec-02	11.69	13.83
3-13-0	Type III	25.59	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	13.63	11.91	Dec-02	12.12	13.45
3-14-0	Type III	27.65	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	16.59	11.26	Dec-02	12.24	15.41
3-15-0	Type III	28.27	10-Dec-00	NM	NM	Dec-01	NM	NM	Jun-02	18.55	10.32	Dec-02	18.1	11.17
3-16-0	Type III	27.03	10-Dec-00	NM	NM	Dec-01	15.55	11.48	Jun-02	16.70	10.95	Dec-02	15.22	13.81

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

Table 4.2
Analytical Data Summary
Sampling Event June 2002 Organics

Well ID:	1613-11	1613-10	1613-5	1613-20	1613-21	HPGW6	1613-22	1613-16
Laboratory Sample ID:	F13689-2	F13689-6	F13689-1	F13689-3	F13689-4	F13689-5	F13689-7	F13689-9
Field Sample:	06/25/02	06/25/02	06/25/02	06/25/02	06/25/02	06/25/02	06/25/02	06/25/02
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result
EPA 624								
Benzene	1	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0
1,2-Dichlorobenzene	620	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0
1,3-Dichlorobenzene	620	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0
1,4-Dichlorobenzene	75	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0
Ethylbenzene	29	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0
Toluene	1000	632	<1.0	0.87 J	1.8	669	<1.0	<1.0
Methyl tert-butyl ether	200	<20	<1.0	<1.0	<1.0	<20	<1.0	<1.0
Xylenes (total)	330	12.3	<5.0	2.7 J	4.7	526	<3.0	<3.0
Total BTEX		3254		3.57	6.5	3206.7	2079.6	
EPA 610								
Acenaphthene	20	<21	<5.1	<5.0	<5.0	<20	<20	<5.1
Acenaphthylene	20	8.8 J	<5.1	<5.0	<5.0	<20	<20	<5.1
Anthracene	2100	<21	<5.1	<5.0	<5.0	<20	<20	<5.1
Benzo[a]anthracene	0.25	<21	<5.1	<5.0	<5.0	<20	<20	<5.1
Fluoranthene	280	<21	<5.1	<5.0	<5.0	<20	<20	<5.1
Fluorene	260	<21	<5.1	<5.0	<5.0	<20	<20	<5.1
Naphthalene	210	<21	<5.1	<5.0	<5.0	<20	<20	<5.1
Phenanthrene	210	<21	<5.1	<5.0	<5.0	<20	<20	<5.1
Pyrene	210	<21	<5.1	<5.0	<5.0	<20	<20	<5.1
Bold type indicates detectable concentrations.								
Shaded areas indicate concentrations above the problem water quality standards.								

**Table 4.2 (cont.)
Analytical Data Summary**

Sampling Event June 2002 Field Parameters

Well ID:	1613-11	1613-10	1613-6	1613-20	1613-21	HPGW6	1613-22	1613-16
Date Sampled:	06/28/02	06/28/02	06/28/02	06/28/02	06/28/02	06/28/02	06/28/02	06/28/02
Analyte (ug/l)	Result	Result	Result	Result	Result	Result	Result	Result
Field Parameters	Action Level							
Depth to Water	feet	16.72	15.75	13.8	13.7	13.61	13	15.11
Temperature	°C	21.81	20.78	25.98	29.33	21.97	24.48	21.87
Conductivity	mS/m	48.5	7.5	5.04	16.2	10.7	49.1	61.7
Turbidity	NTU	550	990+	990+	260	580	490	420
pH	-	5.23	4.47	5.45	5.17	5.17	3.77	6.98
Dissolved Oxygen	mg/L	0	5.95	4.06	0.46	4.15	5.7	0
Oxidation-Reduction Potential	mV	213	154	147	135	-55	238	108

Table 4.3
Analytical Data Summary
Sampling Event December 2002 Organics

Well ID:	1613-11	1613-10	1613-6	1613-20	1613-21	HPGW6	1613-22	1613-16
Laboratory Sample ID:	F15976-2	F15976-6	F15976-7	F15976-3	F15976-4	F15976-5	F15976-7	F15975-9
Date Sampled:	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result
EPA 624								
Benzene	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	520	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	75	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	<1.0	<1.0	<1.0	<1.0	19.5	2	6.7
Toluene	1000	0.59 J	<1.0	<1.0	<1.0	82.1	25.6	6.2
Methyl tert-butyl ether	200	<1.0	<1.0	127	<1.0	2.3	62.6	<1.0
Xylenes (total)	520	<3.0	<3.0	<3.0	<3.0	412	13.3	52.6
Total BTEX		0.59	1312			486	52.1	65.5
EPA 610								
Acetophenone	30	<5.1	<5.2	<5.1	<5.1	<5.3	<5.2	<5.2
Acenaphthylene	210	<5.1	<5.2	<5.1	<5.1	<5.3	<5.2	<5.2
Anthracene	2100	<5.1	<5.2	<5.1	<5.1	<5.3	<5.2	<5.2
Benzo(a)anthracene	0.05	<5.1	<5.2	<5.1	<5.1	<5.3	<5.2	<5.2
Fluoranthene	280	<5.1	<5.2	<5.1	<5.1	<5.3	<5.2	<5.2
Fluorene	280	<5.1	<5.2	<5.1	<5.1	<5.3	<5.2	<5.2
Naphthalene	21	<5.1	<5.2	<5.1	<5.1	15.6	<5.2	2.6 J
Phenanthrene	200	<5.1	<5.2	<5.1	<5.1	<5.3	<5.2	<5.2
Pyrene	210	<5.1	<5.2	<5.1	<5.1	<5.3	<5.2	<5.2
Bold type indicates detectable concentrations.								
Shaded type indicates results above the applicable water quality standard.								

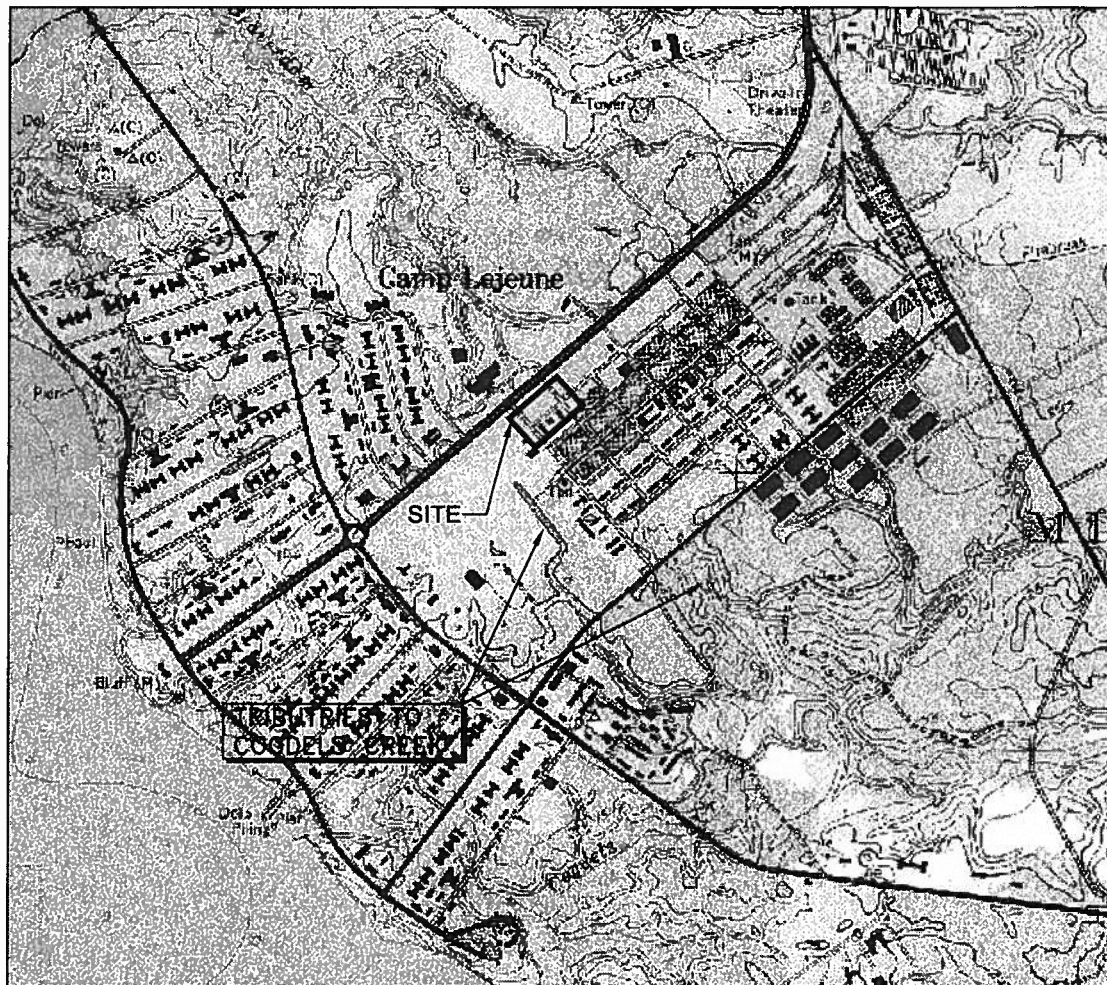
Table 4.3 (cont.)

Analytical Data Summary

Sampling Event December 2002 Field Parameters

Well ID:	1613-11	1613-10	1613-6	1613-20	1613-21	HPGW6	1613-22	1613-15
Date Sampled:	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02	12/17/02
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result
Field Parameters								
Depth to Water	feet	11.68	14.33	12.58	12.57	14.35	11.69	18.27
Temperature	°C	23.25	21.72	26.41	26.12	19.48	22.90	22.07
Conductivity	µS/cm	56.8	13.6	9.5	42.1	19	59.9	61.8
Turbidity	NTU	82.1	60.8	190	374	453	208	137
pH	-	5.25	5.14	4.05	6.49	4.17	3.49	7.10
Dissolved Oxygen	mg/L	0	0	4.76	4.29	4.86	5.88	4.08
Oxidation-Reduction Potential	mV	178	-46	319	37	492	318	-44

FIGURES



SCALE: 1" = 2000'



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



Shaw Environmental, Inc.

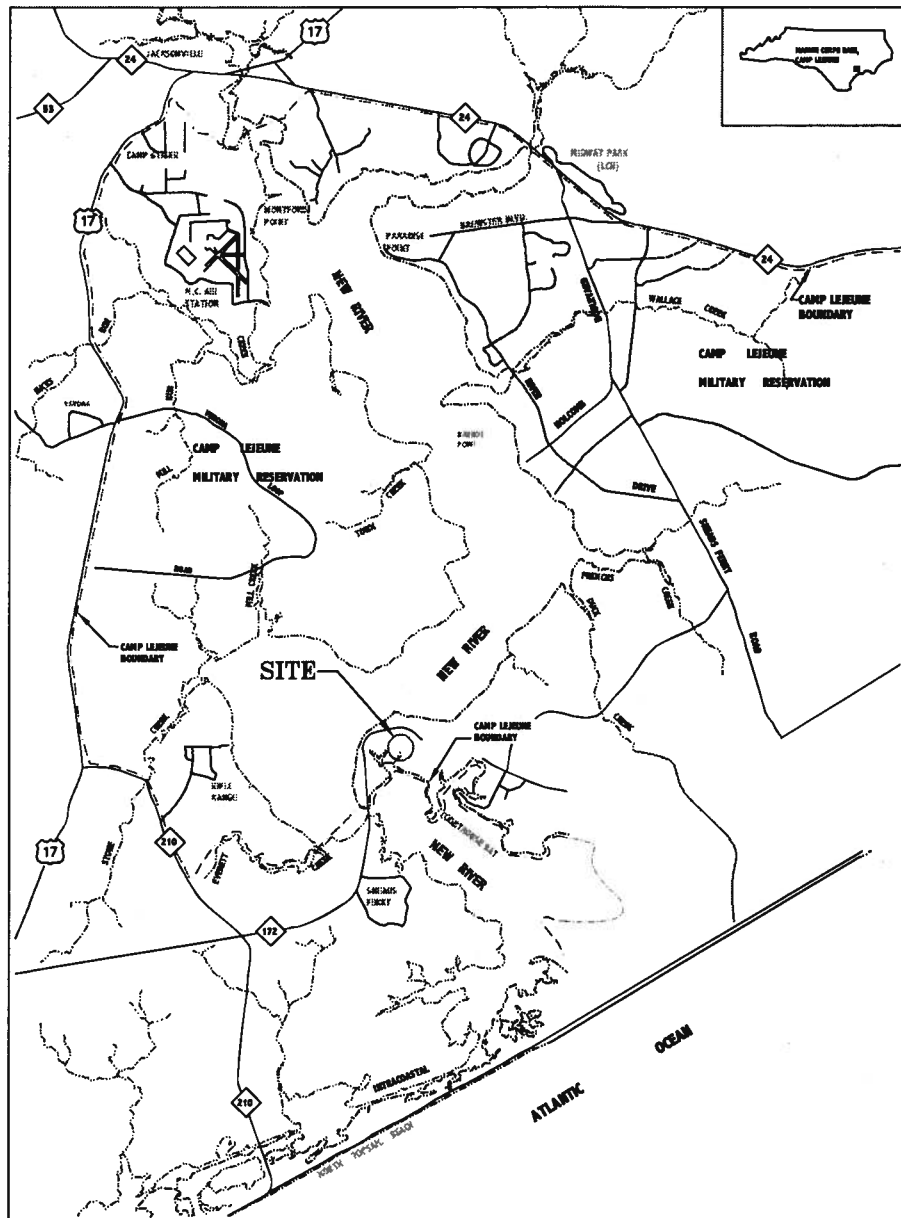
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CHECKED BY	T. McCORRY	9/22/00
APPROVED BY	J. DUNN	9/22/00
REV. 0	SHEET #	PROJECT NO. 780790

FIGURE 1.1

VICINITY MAP

BUILDING 1613
MARINE CORPS BASE
CAMP LEJEUNE

MARINE CORPS BASE, CAMP LEJEUNE NORTH CAROLINA



MILES 0 1.5 3 4.5 6 7.5



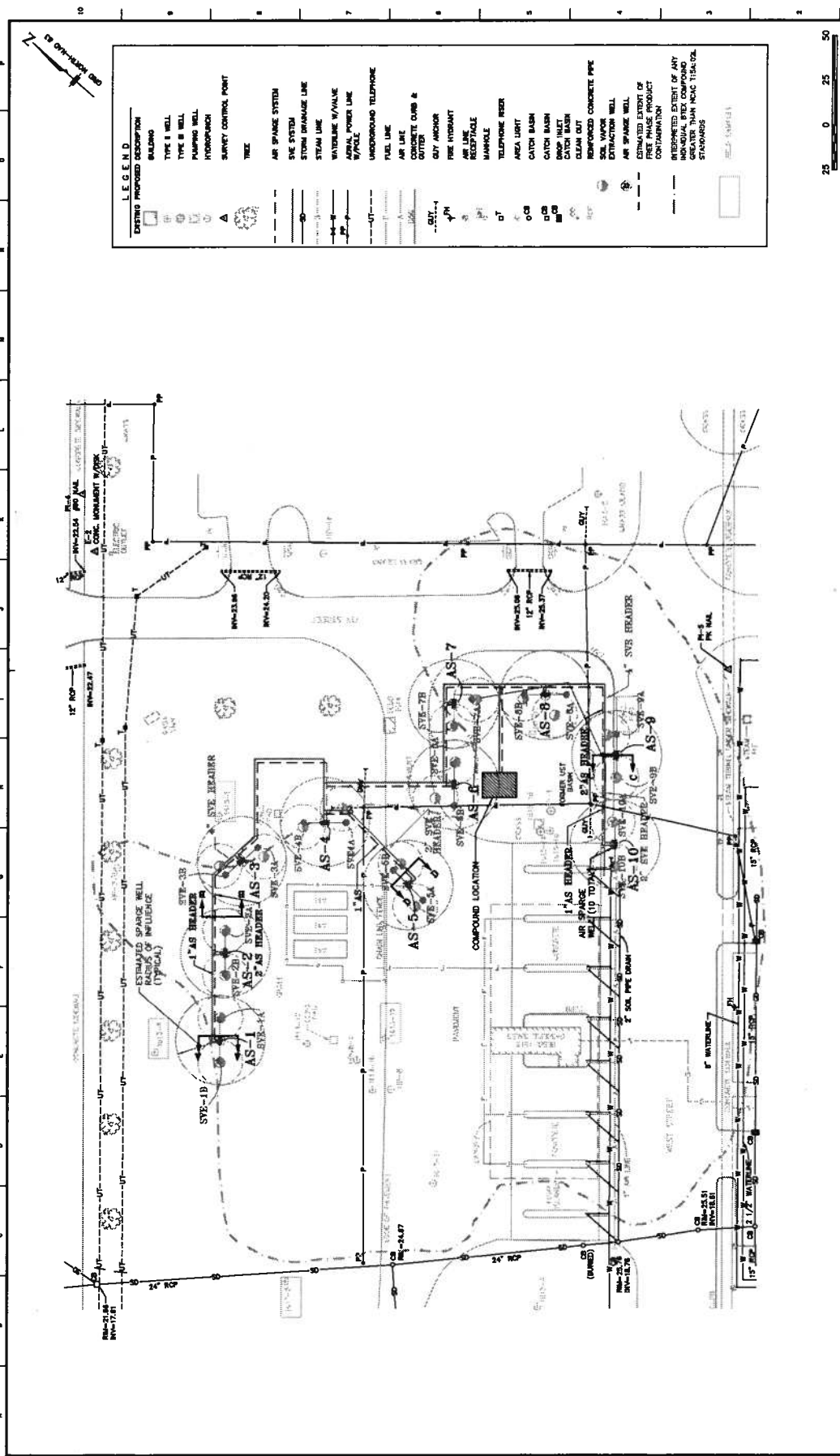
Shaw
Shaw Environmental, Inc.

DRAWN BY	J. WILLIAMS	02/07/00
CHECKED BY	T. McCORRY	02/07/00
APPROVED BY	J. DUNN	02/07/00
REV. 0	SHEET #	PROJECT NO. 780790

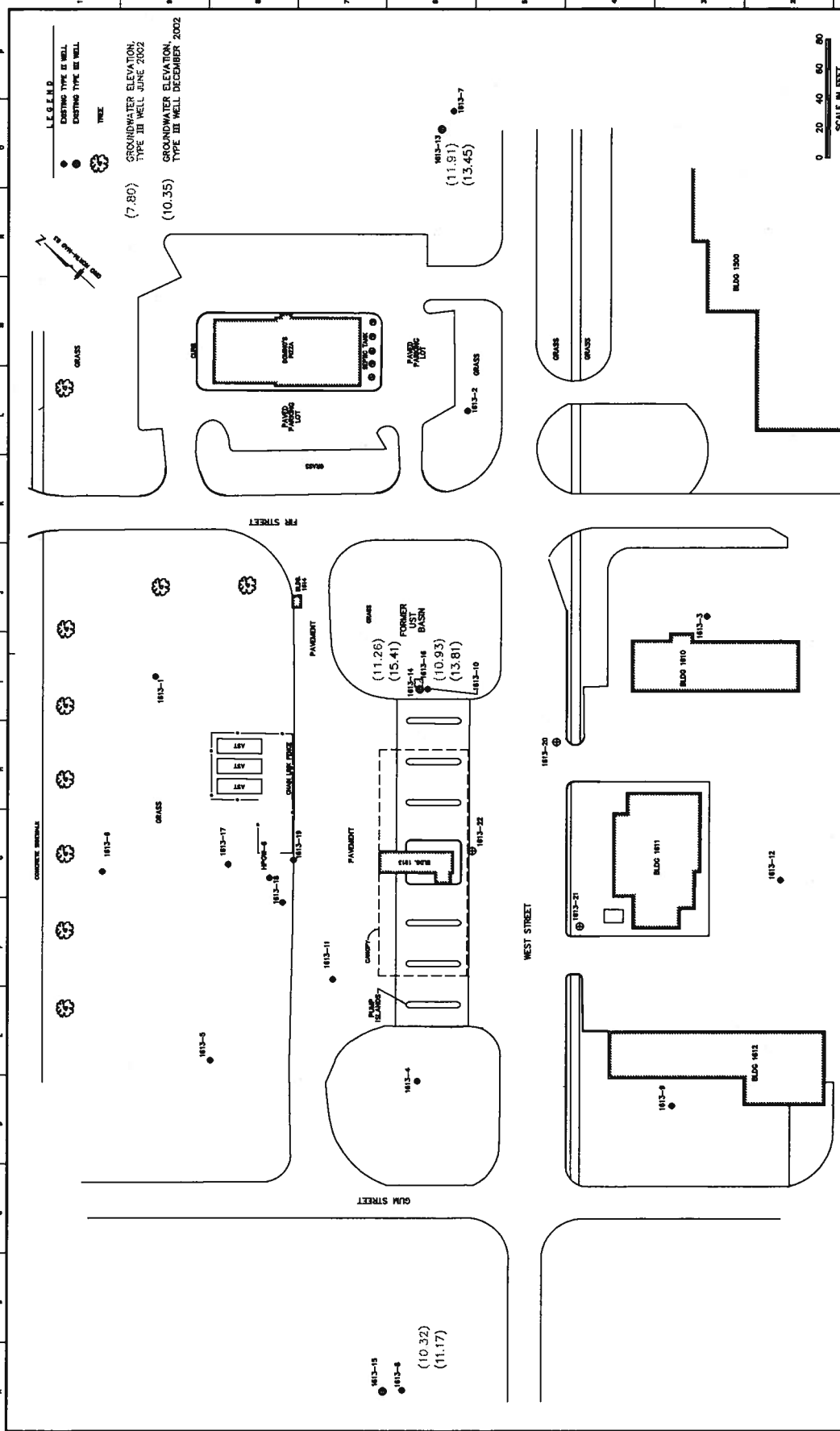
FIGURE 1.2

LOCATION MAP

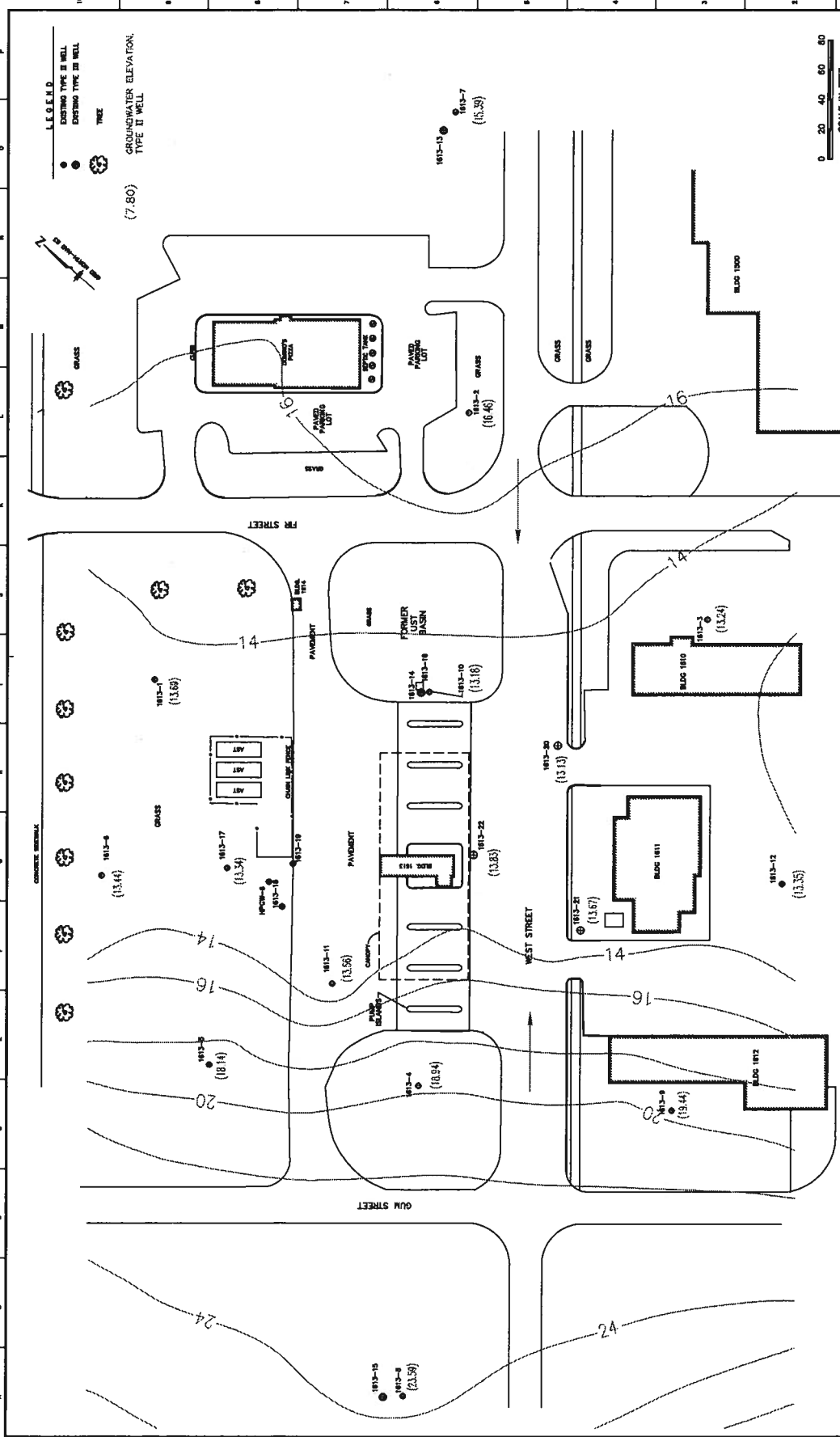
BUILDING 1613



SHAW SHAW Environmental, Inc. DRAWN BY: J. LARKE CHECKED BY: J. LARKE APPROVED BY: J. LARKE DATE: 11/10/00		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>REV.</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>WORK PLAN ADDITION</td> <td>11/10/00</td> </tr> </tbody> </table>		NO.	REV.	DESCRIPTION	DATE	1	0	WORK PLAN ADDITION	11/10/00	DEPARTMENT OF THE NAVY ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NAVAL STATION CONTRACT N6470-97-3-0000 ONE PROJECT NO. 3994		FIGURE 1.3 ORIGINAL AS/SVE REMEDIAL SYSTEM BUILDING 1613 DATE: 11/10/00	
NO.	REV.	DESCRIPTION	DATE												
1	0	WORK PLAN ADDITION	11/10/00												



Shaw SHAW ENTERPRISES, INC. 10000 SHAW BLVD SUITE 100 FALLS CHURCH, VA 22044 TEL: (703) 441-1000 FAX: (703) 441-1001 WWW.SHAW-ENTERPRISES.COM		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>01/20/02</td> <td>ISSUED FOR CONSTRUCTION</td> </tr> </tbody> </table>		NO.	DATE	DESCRIPTION	1	01/20/02	ISSUED FOR CONSTRUCTION
NO.	DATE	DESCRIPTION							
1	01/20/02	ISSUED FOR CONSTRUCTION							
ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND 10000 SHAW BLVD FALLS CHURCH, VA 22044 TEL: (703) 441-1000 FAX: (703) 441-1001 WWW.SHAW-ENTERPRISES.COM		FIGURE 4.2 GROUNDWATER ELEVATION MAP TYPE III WELLS 2002							



Shaw SHAW ENVIRONMENTAL, INC. 10000 W. 10TH AVE. DENVER, CO 80202 PHONE: (303) 751-1000 FAX: (303) 751-1001 WWW: WWW.SHAW-ENV.COM		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DATE	DESCRIPTION																															CLIENT U.S. NAVY NAVAL FACILITIES ENGINEERING COMMAND 3333 15TH AVE. S.E. ARLINGTON, VA 22204 PHONE: (703) 605-1000 FAX: (703) 605-1001 WWW: WWW.NFEC.NAVY.MIL		PROJECT GROUNDWATER ELEVATION MAP TYPE II WELLS DECEMBER 2002		DATE 1/20/03	
NO.	DATE	DESCRIPTION																																								

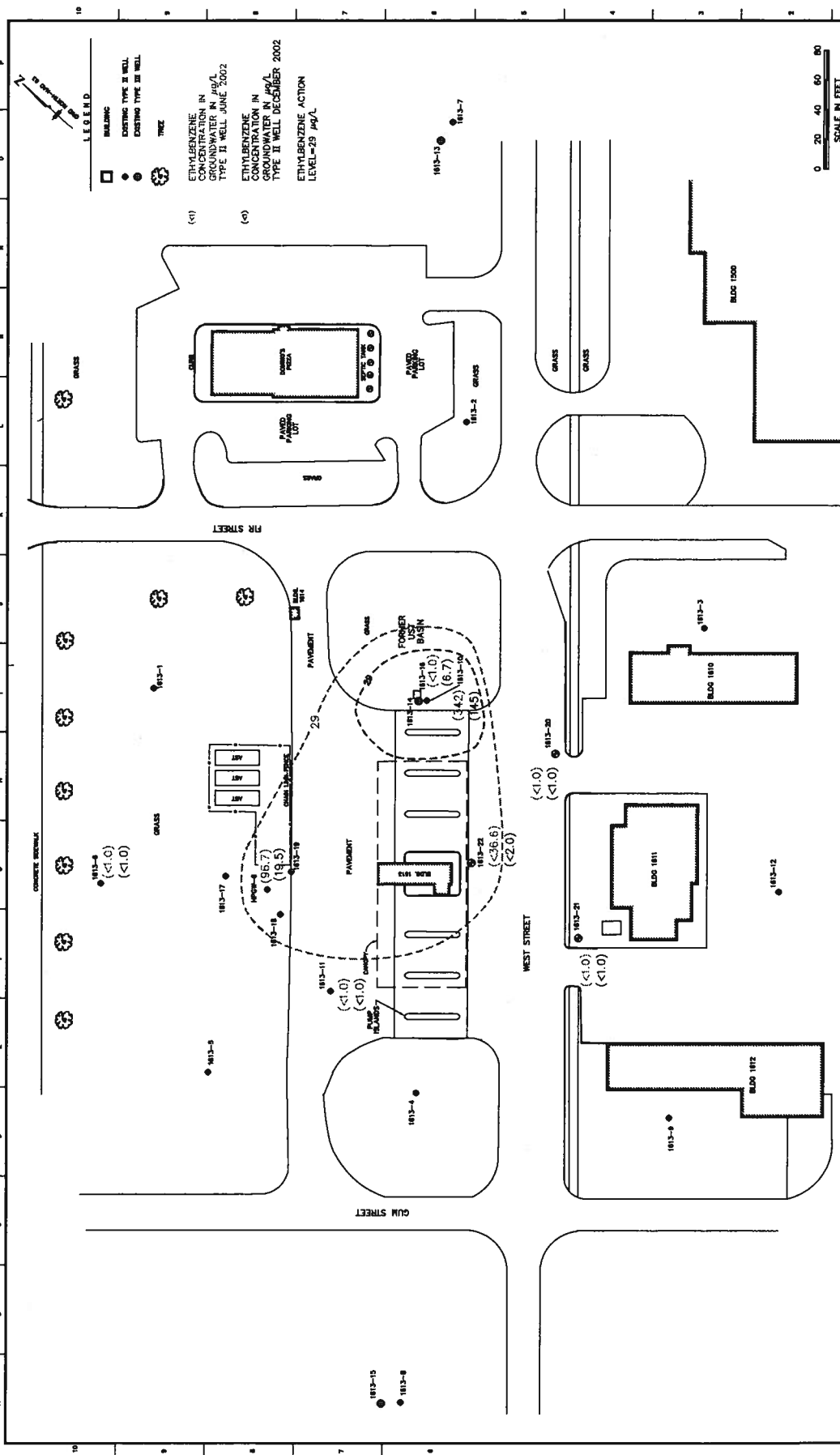
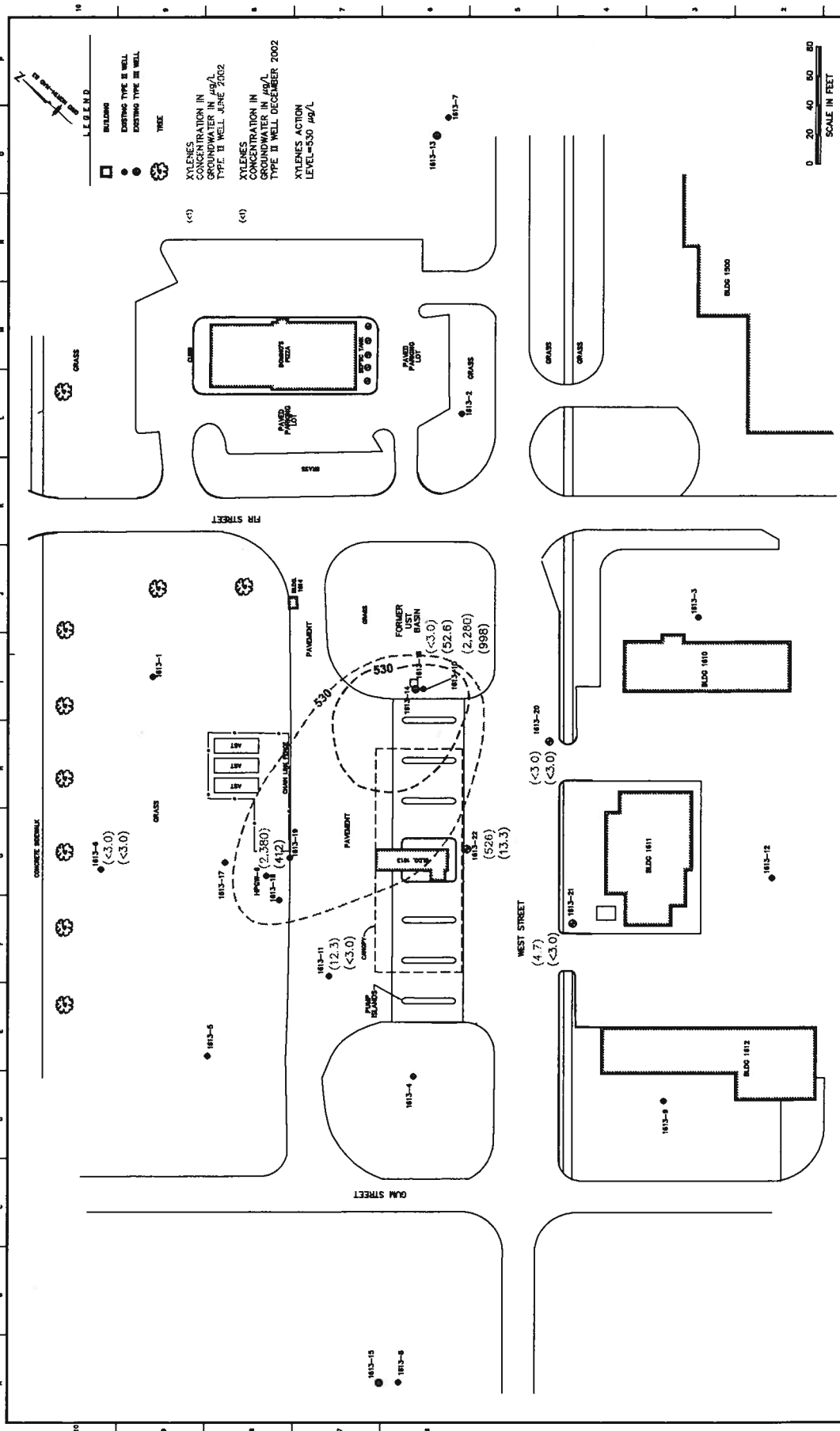


FIGURE 4.5 DISSOLVED ETHYLENE IN GROUNDWATER TYPE II WELLS BUILDING 1813		DRAWING NUMBER SHEET NUMBER DATE			
ATLANTIC DIVISION NAVY FACILITIES ENGINEERING COMMAND NAVY STATION CONTRACT NAVAL-97-3-800 ONE PROJECT NO. 1813A MARINE CORPS BASE, CAMP LEONARD, N.C.		NAVY FACILITIES ENGINEERING COMMAND NAVY STATION CONTRACT NAVAL-97-3-800 ONE PROJECT NO. 1813A MARINE CORPS BASE, CAMP LEONARD, N.C.			
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Shaw Environmental, Inc. SUBMITTED: _____ DATE: _____ APPROVED: _____ DATE: _____ CHECKED: _____ DATE: _____		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO.	DESCRIPTION	BY	DATE																																									DEPARTMENT OF THE NAVY ATLANTIC DIVISION NAVAL FACILITY ENGINEERING COMMAND NAVAL STATION CONSTRUCTION ORDER NO. 0011 CONSTRUCTION NAME, CLAS, LOCATION, N.C. CONSTRUCTION NO. 0004		FIGURE 4.8 DISSOLVED XYLENES IN GROUNDWATER TYPE II WELLS BUILDING 1613 DRAWING NUMBER: SHEET NUMBER: DATE: 01/20/03	
NO.	DESCRIPTION	BY	DATE																																																

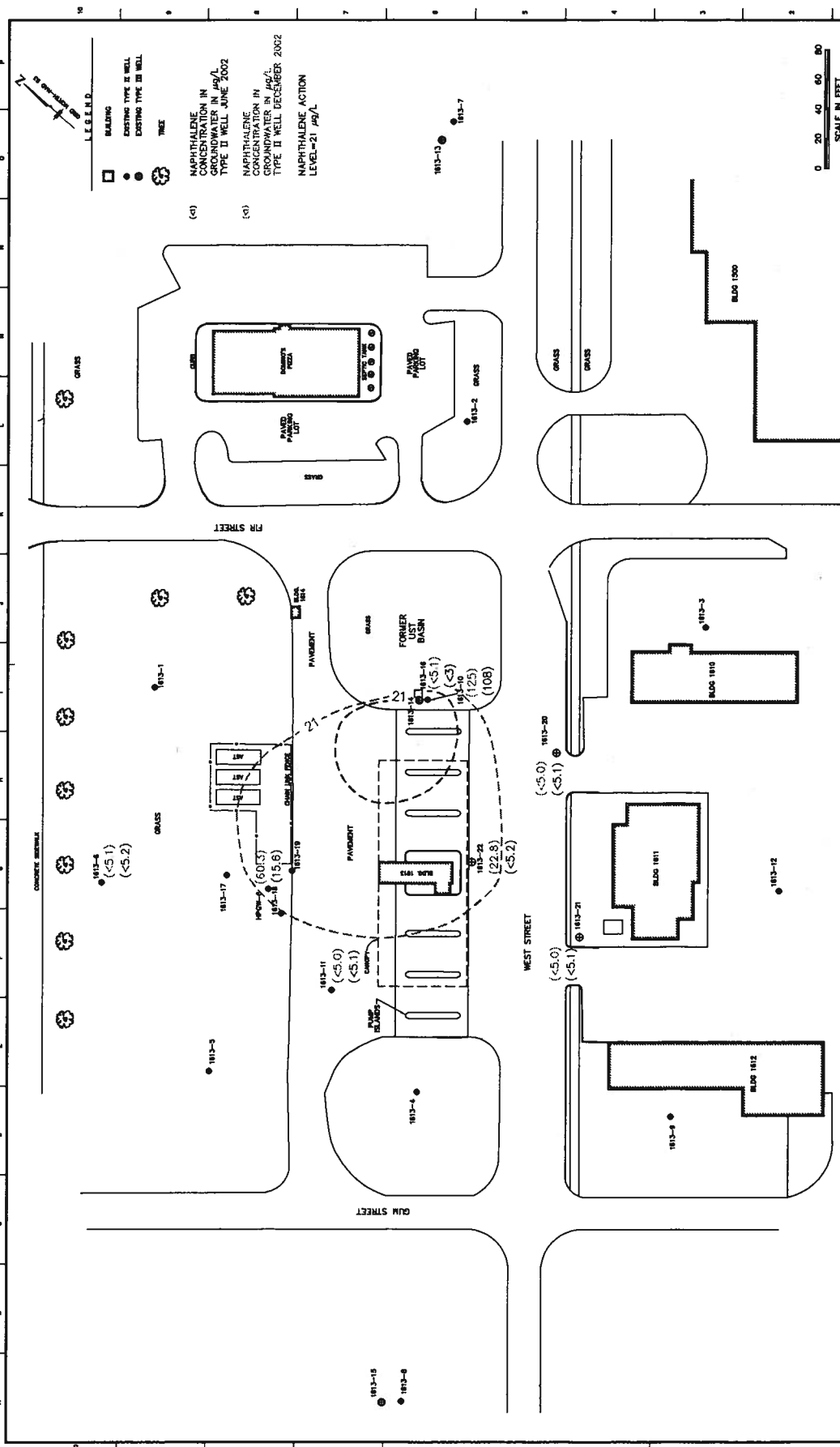


FIGURE 4.9 DISSOLVED NAFTHALENE IN GROUNDWATER TYPE II MONITORING WELLS BUILDING 1813		DRAWING NUMBER: SHEET NUMBER: DATE: 01/29/03																																												
ATLANTIC DIVISION NAVAL FACILITIES ENGINEERING COMMAND NAVAL FACILITY KNOXVILLE, TENNESSEE CONTRACT NUMBER: 67-A-000 DEPT PROJECT NO. 0794 NAVAL CORPS BASE, CAMP KNOXVILLE, T.C.		REVISIONS <table border="1"> <thead> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DESCRIPTION	BY	DATE																																								
NO.	DESCRIPTION	BY	DATE																																											
SHAW SHAW ENVIRONMENTAL, INC. PREPARED BY: J. L. LANE CHECKED BY: J. L. LANE DATE: 01/29/03 APPROVED BY: J. L. LANE DATE: 01/29/03		1813-15 1813-8 1813-11 1813-17 1813-18 1813-19 1813-20 1813-21 1813-22 1813-23 1813-24 1813-25 1813-26 1813-27 1813-28 1813-29 1813-30 1813-31 1813-32 1813-33 1813-34 1813-35 1813-36 1813-37 1813-38 1813-39 1813-40 1813-41 1813-42 1813-43 1813-44 1813-45 1813-46 1813-47 1813-48 1813-49 1813-50 1813-51 1813-52 1813-53 1813-54 1813-55 1813-56 1813-57 1813-58 1813-59 1813-60 1813-61 1813-62 1813-63 1813-64 1813-65 1813-66 1813-67 1813-68 1813-69 1813-70 1813-71 1813-72 1813-73 1813-74 1813-75 1813-76 1813-77 1813-78 1813-79 1813-80 1813-81 1813-82 1813-83 1813-84 1813-85 1813-86 1813-87 1813-88 1813-89 1813-90 1813-91 1813-92 1813-93 1813-94 1813-95 1813-96 1813-97 1813-98 1813-99 1813-100																																												

APPENDIX A

WATER SUPPLY WELL ANALYTICAL RESULTS

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. MW-20	
				SAMPLE NO. 0222	
PROJECT LOCATION: Camp Lajeune		LOGGER: Mark Martin		DATE 6/25/02	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME 1630	
PHONE: 910-451-2390		WEATHER: 90°+ Sunny			
LEL: —		Well Locked: [X] Yes			
PID: —		Sampling Device: Bailer No			

FIELD MEASUREMENTS						
	1	2	3	4	Avg	
PH	5.69	5.53	5.47	5.45	5.54	(STD)
Specific Conductivity	44.4	48.2	50.1	5.04	48.28	(m S/m)
Turbidity (Turb)	990+	990+	990+	990+	990+	(NTU)
Dissolved Oxygen (DO)	6.10	4.63	4.05	4.06	4.71	(mg/L)
Temperature (Temp)	31.03	30.03	28.79	28.58	29.73	(°C)
TDS	0.31	0.31	0.32	0.32	0.315	
ORP	113	129	145	147	133.5	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	202.68	(In) (Minus)	Depth to Water	165.6	(In) =	37.08	HT (in)
Depth to Bottom	16.85	(Ft) (Minus)	Depth to Water	13.8	(Ft) =	3.09	HT (ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
	TOP		37.08	1	3.14	116	.0043	0.5	1.5	3
	Middle				3.14		.0043			
	Bottom				3.14		.0043			
	Total				3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	4571613-MW20-0222	3 X 40 ml	HCL
PAH 610	4571613-MW20-0222	2 X 1 L Amber	4 deg. C.
COMMENTS: STOP LINE next to well.			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. MW-25W	
				SAMPLE NO.	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE 6/25/02	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME 1530	
PHONE: 910-451-2390		WEATHER: 90°+ Sunny			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailor			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	5.64	5.42	5.11	5.17	5.34	(STD)
Specific Conductivity	27.2	12.1	15.1	16.2	17.65	(m S/m)
Turbidity (Turb)	230	290	290	360	265	(NTU)
Dissolved Oxygen (DO)	4.97	2.20	0.70	0.46	2.08	(mg/L)
Temperature (Temp)	30.84	29.45	29.39	29.33	29.75	(°C)
TDS	0.16	0.11	0.10	0.11	0.12	
ORP	63	93	138	135	107.25	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	25.72	(In) (Minus)	Depth to Water	16.44	(In)	=	55.32	HT (In)
Depth to Bottom	18.31	(Ft) (Minus)	Depth to Water	13.7	(Ft)	=	24.61	HT (Ft)

MEASUREMENTS (IN INCHES)										
d = 2	Multiply Together									
r = 1	Vol.									
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Pumped
TOP			54.2	1	3.14	174	.0043	.75	2.25	5
Middle			55.32		3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	651613-MW21-021C	3 X 40 ml	HCL
PAH 610	651613-MW21-021C	2 X 1 L Amber	4 deg. C.
COMMENTS: Steam Line Near Well			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603
		PROJECT NAME: Bldg 1613
		WELL NO. 4P60-6
		SAMPLE NO.
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin
PHONE: 910-451-2390		DATE 6/25/02
WEATHER: 90°+ Sunny		TIME 1445
LEL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailor	Nn

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	4.92	5.03	5.17	5.17	5.07	(STD)
Specific Conductivity	101	11.1	7.7	10.7	10.15	(m S/m)
Turbidity (Turb)	980+	830	640	580	683.3	(NTU)
Dissolved Oxygen (DO)	2.02	5.23	4.27	4.15	5.09	(%)
Temperature (Temp)	22.71	22.22	22.03	21.97	22.23	(°C)
TDS	0.07	0.07	0.07	0.07	0.07	
ORP	104	-14	-52	-56	-4.5	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	32.45	(In) (Minus)	Depth to Water	13.61	(In)	=	16.16	HT (In)
Depth to Bottom	27.04	(Ft) (Minus)	Depth to Water	143.32	(Ft)	=	13.43	HT (Ft)

MEASUREMENTS (IN INCHES)											
d = 2											
r = 1											
d/2 = 1											
	BOTTOM	TOP	Layer Thickness	r ²	Π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged	
TOP			16.16	1	3.14	50.6	.0043	2.2	6.6	10	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	4571613-HP602-6	3 X 40 ml	HCL
PAH 610	4571613-HP602-6	2 X 1 L Amber	4 deg. C.

COMMENTS: TURB. WAS AVERAGED USING THE LAST 3 READINGS.

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. <u>MW-6</u>	
				SAMPLE NO. <u>0202</u>	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>6/25/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME <u>1400</u>	
PHONE: 910-451-2390		WEATHER: <u>90° Sunny</u>			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailor			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	4.06	4.23	4.50	4.47	4.32	(STD)
Specific Conductivity	9.5	8.5	7.1	7.5	7.90	(m S/m)
Turbidity (Turb)	990+	530	990+	990+	—	(NTU)
Dissolved Oxygen (DO)	7.73	7.07	6.26	5.85	6.95	~~8.4~~ 9/L
Temperature (Temp)	21.01	20.84	20.71	20.28	20.83	(°C)
TDS	0.06	0.06	0.06	0.06	0.06	
ORP	150	153	148	151	151.25	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	22.3	(In) (Minus)	Depth to Water	15.75'	(In) =	6.55	HI (In)
Depth to Bottom	26.6	(Ft) (Minus)	Depth to Water	18.9	(Ft) =	78.6	HT (Ft)

d = <u>2</u>	MEASUREMENTS (IN INCHES)									
r = <u>1</u>	Multiply Together					Vol.				
d/2 = <u>1</u>	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic In.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
	TOP		28.6	1	3.14	247	.0043	1.1	3.3	5
	Middle				3.14		.0043			
	Bottom				3.14		.0043			
	Total				3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	<u>U5T1613-MW6--020</u>	3 X 40 ml	HCL
PAH 610	<u>U5T1613-MW6--020</u>	2 X 1 L Amber	4 deg. C.
COMMENTS: <u>water silty at first purged silt out of line before taking readings with HANNA</u>			
PURGE DISCHARGED:		DRUM:	DRUM#
OTHER:		SITE TREATMENT: [X]	

WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603
		PROJECT NAME: Bldg 1613
		WELL NO. MW-10
		SAMPLE NO. 0202
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin
PHONE: 910-451-2390		DATE: 6/26/82
WEATHER: 80° cloudy (Heavy Rain)		TIME: 1230
LEL:		Well Locked: [X] Yes
PID:		No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	6.41	6.10	-	-	6.255	(STD)
Specific Conductivity	15.1	13.6	-	-	14.35	(m S/m)
Turbidity (Turb)	410	420	-	-	415	(NTU)
Dissolved Oxygen (DO)	6.02	2.37	-	-	4.195	(% g/L)
Temperature (Temp)	21.98	21.81	-	-	21.895	(°C)
TDS	0.09	0.09	-	-	0.09	
ORP	-200	-187	-	-	-193.5	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom:	243.6	(In) (Minus)	Depth to Water	200.64	(In)	=	42.96	BIT (In)
Depth to Bottom:	20.3	(Ft) (Minus)	Depth to Water	16.72	(Ft)	=	3.58	HT (Ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic In.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			42.96	1	3.14	135	.0043	0.6	1.7	3
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	WST 1613-MW10-020	3 X 40 ml	HCL
PAH 610	WST 1613-MW10-020	2 X 1 L Amber	4 deg. C.

COMMENTS: Duplicate sample taken, well purged dry			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. MW-16	
				SAMPLE NO. 0202	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE 6/26/02	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME 1130	
PHONE: 910-451-2390		WEATHER: 80° Cloudy			
IPL:				Well Locked: ☒ Yes	
PID:		Sampling Device: Bailer			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg	
PH	6.63	6.96	6.98	6.98	6.85	(STD)
Specific Conductivity	55.4	60.5	64.5	66.7	60.53	(m S/m)
Turbidity (Turb)	410	370	360	420	390	(NTU)
Dissolved Oxygen (DO)	7.95	0.03	0.00	0.00	2.00	40.9%
Temperature (Temp)	22.03	21.81	21.83	21.87	21.85	(°C)
TDS	0.36	0.40	0.41	0.39	0.39	
ORP	130	115	110	108	116.75	
Chloride (Cl2)						
Perrous Iron (Fe2)						

Depth to Bottom	608.4	(In) (Minus)	Depth to Water	193.32	(In)	=	415.08	HT (in)
Depth to Bottom	50.7	(Ft) (Minus)	Depth to Water	16.11	(Ft)	=	34.59	HT (ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together						Vol.			
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
	TOP		415.08	1	3.14	1303	.0043	5.6	16.8	20
	Middle				3.14		.0043			
	Bottom				3.14		.0043			
	Total				3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	AST1613-MW16-0202	3 X 40 ml	HCL
PAH 610	AST1613-MW16-0202	2 X 1 L Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. MW11	
				SAMPLE NO. 0202	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE 6/26/02	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME 1015	
PHONE: 910-451-2390		WEATHER: 80° + Cloudy			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailor			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	5.21	5.18	5.18	5.23	5.21	(STD)
Specific Conductivity	34.9	33.6	32.5	48.5	37.38	(m S/m)
Turbidity (Turb)	980+	810	650	550		(NTU)
Dissolved Oxygen (DO)	5.93	2.19	0.14	0.00	2.07	(mg/L)
Temperature (Temp)	23.86	24.24	24.53	24.60	24.33	(°C)
TDS	0.22	0.22	0.21	0.33	0.25	
ORP	187	198	210	213	202.0	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	24.8	(In) (Minus)	Depth to Water	154.92	(In)	=	86.88	HT (in)
Depth to Bottom	20.6	(Ft) (Minus)	Depth to Water	12.91	(Ft)	=	7.24	HT (ft)

MEASUREMENTS (IN INCHES)											
d = 2	Multiply Together										
r = 1	Vol.										
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	h	Cubic in.	Conversion Factor	EST. GALLONS		Purge Vol.	Vol. Purged
TOP			86.98	1	3.14	273	.0043	1.2		3.5	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	UST 1613-MW11 -0202	3 X 40 ml	HCL
PAH 610	UST 1613-MW11 -0202	2 X 1 L Amber	4 deg. C.

COMMENTS: TDS Calculated Last 3 Readings			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. MW-26	
				SAMPLE NO. 0202	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE 6/26/03	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME 0930	
PHONE: 910-451-2390		WEATHER: Cloudy 80's			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailor			

FIELD MEASUREMENTS						
	1	2	3	4	Avg	
PH	3.74	3.76	3.81	3.77	3.77	(STD)
Specific Conductivity	56.8	51.7	49.9	49.1	51.88	(m S/m)
Turbidity (Turb)	560	510	490	490	512.5	(NTU)
Dissolved Oxygen (DO)	7.35	6.19	6.94	6.70	6.80	mg/L
Temperature (Temp)	24.61	24.65	24.59	24.48	24.58	(°C)
TDS	0.35	0.33	0.32	0.32	0.33	
ORP	194	206	230	238	217	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	224.4	(In) (Minus)	Depth to Water	160.2	(In) =	64.2	HT (in)
Depth to Bottom	18.7	(Ft) (Minus)	Depth to Water	13.35	(Ft) =	5.35	HT (ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			64.2	1	3.14	202	.0043	0.9	2.7	5
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	45T1613-MW22-028	3 X 40 ml	HCL.
PAH 610	45T1613-MW22-028	2 X 1 L Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			



1



		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. MW 11	
				SAMPLE NO. UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE 12/17/02	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailor			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	5.17	5.24	5.23	5.25		(STD)
Specific Conductivity	50.6	50.6	50.9	50.8		(m S/m)
Turbidity (Turb)	598	240	147	82.1		(NTU)
Dissolved Oxygen (DO)	2.21	0.20	0.0	0.0		(g/l)
Temperature (Temp)	23.55	23.61	23.52	23.25		(°C)
TDS	0.32	0.32	0.32	0.32		
ORP	198	190	188	178		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In) =	HT (in)
Depth to Bottom	20.00	(Ft) (Minus)	Depth to Water	11.68	(Ft) =	HT (ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	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: Bldg 1613	
				WELL NO. <u>PAH-10</u>	
				SAMPLE NO. UST1613- <u>PAH10</u>	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>12/17/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LFL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailer		No	

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	<u>4.47</u>	<u>5.01</u>	<u>5.10</u>	<u>5.14</u>		(STD)
Specific Conductivity	<u>14.6</u>	<u>13.7</u>	<u>13.8</u>	<u>13.6</u>		(m S/m)
Turbidity (Turb)	<u>15.4</u>	<u>71.5</u>	<u>67.4</u>	<u>60.8</u>		(NTU)
Dissolved Oxygen (DO)	<u>9.39</u>	<u>1.89</u>	<u>0.42</u>	<u>0.00</u>		(g/l)
Temperature (Temp)	<u>21.50</u>	<u>21.62</u>	<u>21.47</u>	<u>21.72</u>		(°C)
TDS	<u>0.10</u>	<u>0.09</u>	<u>0.09</u>	<u>0.09</u>		
ORP	<u>140</u>	<u>-18</u>	<u>-37</u>	<u>-46</u>		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In) -	HT (in)
Depth to Bottom	<u>20.25</u>	(Ft) (Minus)	Depth to Water	<u>15.49</u>	(Ft) =	HT (ft)

MEASUREMENTS (IN INCHES)										
d = <u>2</u>	Multiply Together					Vol.				
r = <u>1</u>										
d/2 = <u>1</u>	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	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: Bldg 1613	
				WELL NO. <u>MW-6</u>	
				SAMPLE NO. UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>12/17/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailor			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	3.81	3.98	4.03	4.05		(STD)
Specific Conductivity	11.4	10.0	10.1	9.5		(m S/cm)
Turbidity (Turb)	131	176	174	190		(NTU)
Dissolved Oxygen (DO)	4.97	4.84	4.67	4.76		(g/l)
Temperature (Temp)	19.20	18.49	18.87	18.77		(°C)
TDS	0.07	0.06	0.07	0.06		
ORP	309	311	313	315		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	<u>210</u>	(In) (Minus)	Depth to Water		(In) =	HT (in)
Depth to Bottom	<u>17.5</u>	(Ft) (Minus)	Depth to Water	<u>14.33</u>	(Ft) -	HT (ft)

d = <u>2</u>	MEASUREMENTS (IN INCHES)									
r = <u>1</u>	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613- -02C	3 X 40 ml	HCl.
PAH 610	UST1613- -02C	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: Bldg 1613	
				WELL NO. <i>MW-20</i>	
				SAMPLE NO. UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <i>12/7/02</i>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Boiler			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	<i>7.11</i>	<i>6.87</i>	<i>6.57</i>	<i>6.49</i>		(STD)
Specific Conductivity	<i>41.0</i>	<i>39.6</i>	<i>41.1</i>	<i>42.1</i>		(m S/m)
Turbidity (Turb)	<i>990+</i>	<i>990+</i>	<i>485</i>	<i>374</i>		(NTU)
Dissolved Oxygen (DO)	<i>8.57</i>	<i>6.95</i>	<i>4.69</i>	<i>4.28</i>		(g/l)
Temperature (Temp)	<i>23.65</i>	<i>24.52</i>	<i>26.94</i>	<i>24.41</i>		(°C)
TDS	<i>0.27</i>	<i>0.26</i>	<i>0.27</i>	<i>0.28</i>		
ORP	<i>0</i>	<i>10</i>	<i>28</i>	<i>37</i>		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In)	=	HT (In)
Depth to Bottom	<i>16.3</i>	(Ft) (Minus)	Depth to Water	<i>12.52</i>	(Ft)	=	HT (Ft)

d = <i>2</i>	MEASUREMENTS (IN INCHES)									
r = <i>1</i>	Multiply Together					Vol.				
d/2 = <i>1</i>	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	2 X 1 L Amber	4 deg. C.
COMMENTS: <i>Steam line next to well</i>			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Didge 1613	
				WELL NO. MW 21	
				SAMPLE NO. UST1613- MW 21	
PROJECT LOCATION: Camp Lejeune			LOGGER: Mark Martin		DATE
PROJECT CONTACT: Mark Martin			SAMPLER: Mark Martin		TIME
PHONE: 910-451-2390			WEATHER:		
LFL:					Well Locked: ☒ Yes
PID:			Sampling Device: Bailer		No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	6.26	5.37	5.11	5.12		(STD)
Specific Conductivity	2761	1613	14.5	19.0		(mS/m)
Turbidity (Turb)	374	332	337	457		(NTU)
Dissolved Oxygen (DO)	6.83	3.88	3.06	2.56		(%)
Temperature (Temp)	27.63	28.22	27.57	28.12		(°C)
TDS	0.13	0.11	0.11	0.12		
ORP	65	147	187	192		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In)	=	HT (in)
Depth to Bottom	18.30	(Ft) (Minus)	Depth to Water	12.57	(Ft)	=	HT (ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together:					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	2 X 1 L Amber	4 deg. C.
COMMENTS: Well near Steam Line			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. <u>HP6W-06</u>	
				SAMPLE NO. UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>12/17/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LEL:				Well Locked: ☒ Yes	
PID:		Sampling Device: Bailor			No

FIELD MEASUREMENTS						
	1	2	3	4	AVE.	
PH	4.13	4.12	4.15	4.17		(STD)
Specific Conductivity	9.8	10.0	10.0	10.3		(m S/m)
Turbidity (Turb)	64.5	209	188	195		(NTU)
Dissolved Oxygen (DO)	6.43	5.5	4.87	4.86		(g/l)
Temperature (Temp)	19.33	20.29	19.71	19.48		(°C)
TDS	0.06	0.06	0.07	0.07		
ORP	237	212	201	198		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	<u>302.76</u>	(In) (Minus)	Depth to Water		(In)	=		RT (in)
Depth to Bottom	<u>25.23</u>	(Ft) (Minus)	Depth to Water	<u>14.35</u>	(Ft)	=		RT (ft)

d = <u>2</u>	MEASUREMENTS (IN INCHES)									
r = <u>1</u>	Multiply Together					Vol.				
d/2 = <u>1</u>	BOTTOM	TOP	Layer Thickness	r ²	II	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	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	2 X 11. Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 324603	
				PROJECT NAME: Bldg 1613	
				WELL NO. <u>11022</u>	
				SAMPLE NO. UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>12/17/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailor			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	4.09	3.63	3.54	3.49		(STD)
Specific Conductivity	60.1	59.5	59.7	59.9		(m S/m)
Turbidity (Turb)	9904	609	572	209		(NTU)
Dissolved Oxygen (DO)	10.13	6.03	5.61	5.89		(g/l)
Temperature (Temp)	21.44	23.18	23.18	22.99		(°C)
TDS	0.36	0.38	0.38	0.38		
ORP	257	299	310	318		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In) =	HT (In)
Depth to Bottom	16.9	(Ft) (Minus)	Depth to Water	11.69	(Ft) =	HT (Ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613-02C	3 X 40 ml	HCL
PAH 610	UST1613-02C	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: Bldg 1613	
				WELL NO. 192-16	
				SAMPLE NO. UST1613- 19216	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE 12/12/02	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LEL:				Well Locked: [X] Yes	
PID:		Sampling Device: Bailor			No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	6.24	6.86	7.02	7.10		(STD)
Specific Conductivity	36.4	61.1	61.6	61.8		(in S/m)
Turbidity (Turb)	72.1	120	159	137		(NTU)
Dissolved Oxygen (DO)	9.67	5.98	5.10	4.88		(g/l)
Temperature (Temp)	21.60	22.00	22.03	22.07		(°C)
TDS	0.37	0.35	0.35	0.40		
ORP	-16	-43	-46	-44		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In)	=	HT (In)
Depth to Bottom	49.9	(Ft) (Minus)	Depth to Water	18.27	(Ft)	=	HT (Ft)

d = 2	MEASUREMENTS (IN INCHES)										
r = 1	Multiply Together					Vol.					
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	2 X 1 L Amber	4 deg. C.

COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

APPENDIX B

GROUNDWATER SAMPLE COLLECTION FIELD LOGS

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. <u>MW-2P</u>	
				SAMPLE NO.	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>6/25/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME <u>1530</u>	
PHONE: 910-451-2390		WEATHER: <u>90°+ Sunny</u>			
LEL:		Well Locked: [X] Yes			
PID:		No			
		Sampling Device: Bailor			

FIELD MEASUREMENTS						
	1	2	3	4	Avg	
PH	5.64	5.42	5.11	5.17	5.34	(STD)
Specific Conductivity	27.2	12.1	15.1	16.2	17.65	(m S/m)
Turbidity (Turb)	230	280	290	260	265	(NTU)
Dissolved Oxygen (DO)	4.97	2.20	0.70	0.46	2.08	(ppm)
Temperature (Temp)	30.84	29.45	28.39	29.33	29.75	(°C)
TDS	0.16	0.11	0.10	0.11	0.12	
ORP	63	93	138	135	107.25	
Chloride (Cl2)						
Feorous Iron (Fe2)						

Depth to Bottom	28.72	(In) (Minus)	Depth to Water	164.4	(In) =	54.12	HT (in)
Depth to Bottom	18.31	(Ft) (Minus)	Depth to Water	13.7	(Ft) =	4.81	HT (ft)

MEASUREMENTS (IN INCHES)											
d = 2											
r = 1											
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	II	Vol. Cubic in.	Conversion Factor	GST. GALLONS	Purge Vol.	Vol. Purged	
	TOP		84.2	1	3.14	774	.0043	.73	2.25	5	
	Middle		55.32		3.14		.0043				
	Bottom				3.14		.0043				
	Total				3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	BST 1613-MW21 -102C	3 X 40 ml	HCL
PAH 610	BST 1613-MW21 -102C	2 X 1 L Amber	4 deg. C.
COMMENTS: <u>Steam Line Near Well</u>			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. HP6W-6	
				SAMPLE NO.	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE 6/25/01	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME 1445	
PHONE: 910-451-2390		WEATHER: 90°+ Sunny			
TEL.		Well Locked: ☒ Yes			
PID:		Sampling Device: Bailor		No	

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	4.92	5.03	5.17	5.17	5.07	(S.D)
Specific Conductivity	111	111	117	107	10.15	(in S/cm)
Turbidity (Turb)	990	830	640	580	683.3	(NTU)
Dissolved Oxygen (DO)	4.10	5.23	4.27	4.15	5.09	(%)
Temperature (Temp)	22.71	22.22	22.03	21.57	22.23	(°C)
TDS	0.07	0.07	0.07	0.07	0.07	
ORP	104	-14	-52	-56	-4.5	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	324.48	(In) (Minus)	Depth to Water	13.61	(In)	=	161.14	HT (in)
Depth to Bottom	270.9	(Ft) (Minus)	Depth to Water	143.32	(Ft)	=	13.43	HT (ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together					Vol.				
d/r = 1	Bottom	Top	Layer Thickness	r ²	π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol	Vol. Purged
	TOP		161.16	1	3.14	504	.0043	2.2	6.6	10
	Middle				3.14		.0043			
	Bottom				3.14		.0043			
	Total				3.14		.0043			

ANALYTE:	CONTAINER NUMBER:	SIZE:	PRESERVATIVE:
VOC 602	4571613-HP6W-6 -02E	3 X 40 ml	HCL
PAH 610	4571613-HP6W-6 -02E	2 X 1 L Amber	4 deg. C.
COMMENTS: TURB WAS AVERAGED USING THE LAST 3 READINGS			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: #24603	
				PROJECT NAME: Bldg 1613	
				WELL NO. <u>MW-6</u>	
				SAMPLE NO. <u>0202</u>	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>6/25/06</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME <u>1400</u>	
PHONE: 910-451-2390		WEATHER: <u>90° Sunny</u>			
LEL:		Well Locked: ☒ Yes			
PID:		Sampling Device: Bailer		No	

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	4.06	4.23	4.50	4.17	4.32	(STD)
Specific Conductivity	8.5	8.5	7.1	7.5	7.90	(in S/cm)
Turbidity (Turb)	990+	530	990+	990+	—	(NTU)
Dissolved Oxygen (DO)	7.73	7.07	6.26	5.85	6.95	(%) g/L
Temperature (Temp)	21.01	20.84	20.71	20.78	20.83	(°C)
TDS	0.06	0.06	0.06	0.06	0.06	
ORP	150	153	148	154	151.25	
Chloride (Cl ₂)						
Ferrous Iron (Fe ₂)						

Depth to Bottom	22.3	(in) (Mines)	Depth to Water	15.75'	(in) =	6.55'	BT (in)
Depth to Bottom	26.6	(ft) (Mines)	Depth to Water	18.9	(ft) =	28.6	BT (ft)

MEASUREMENTS (IN INCHES)											
d = 2											
r = 1	Multiply Together										
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	H	Vol. Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol	Vol. Pumped	
TOP			28.6	1	3.14	247	.0043	1.1	2.3	5	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	U5T1613-MW6--02E	3 X 40 ml	HCL
PAH 610	U5T1613-MW6--02E	2 X 1 L Amber	4 deg. C.
COMMENTS: <u>water silty at first purged silt out of line before taking readings with HANNA</u>			
PURGE DISCHARGED:		DRUM:	DRUM#
OTHER:		SITE TREATMENT: ☒ Yes	

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 821603	
				PROJECT NAME: Hdg 1613	
				WELL NO. <u>MW-10</u>	
				SAMPLE NO. <u>0202</u>	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>6/26/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME <u>1230</u>	
PHONE: 910-451-2390		WEATHER: <u>80° Cloudy (Heavy Rain)</u>			
I.F.T.:		Well Locked: ☒ Yes			
PID:		Sampling Device: Bailor			
		No			

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	6.41	6.10	-	-	6.255	(STD)
Specific Conductivity	15.1	13.6	-	-	14.35	(m S/cm)
Turbidity (Turb)	410	425	-	-	415	(NTU)
Dissolved Oxygen (DO)	6.02	2.37	-	-	4.195	(% Sat)
Temperature (Temp)	21.98	26.81	-	-	26.895	(°C)
TDS	0.04	0.09	-	-	0.09	
ORP	-200	-187	-	-	-193.5	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	243.6	(In) (Minus)	Depth to Water	200.64	(In)	=	42.96	ITT (In)
Depth to Bottom	20.3	(Ft) (Minus)	Depth to Water	16.72	(Ft)	=	3.58	ITT (Ft)

d = 2	MEASUREMENTS (IN INCHES)									
r = 1	Multiply Together					Vol.				
W/2 = 1	BOTTOM	TOP	Layer Thickness	t ²	IT	Cubic In.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
	TOP		42.96	1	3.14	135	.0043	0.6	1.7	3
	Middle				3.14		.0043			
	Bottom				3.14		.0043			
	Total				3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	AST 1613-MW10-0202	1 X 40 mil	HCL
PAH 610	AST 1613-MW10-0202	2 X 1 L Amber	4 deg. C.
COMMENTS: Duplicate sample taken, well purged dry			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
		PROJECT NAME: Bldg 1613	
		WELL NO. MW-16	
		SAMPLE NO. 0202	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE: 6/26/02
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin	TIME: 1130
PHONE: 910-451-2398		WEATHER: 80° Cloudy	
LBI:		Well Locked: ☒ Yes	
PID:		Sampling Device: Darter	No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	6.63	6.96	6.98	6.98	6.89	(STD)
Specific Conductivity	55.4	60.5	64.5	61.7	60.53	(m S/m)
Turbidity (Turb)	410	370	360	420	390	(NTU)
Dissolved Oxygen (DO)	7.95	0.03	0.00	0.00	2.00	mg/L
Temperature (Temp)	22.03	21.81	21.83	21.87	21.83	(°C)
TDS	0.36	0.40	0.41	0.39	0.39	
ORP	130	115	110	108	115.75	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	608.4	(In) (Minus)	Depth to Water	193.32	(In) =	415.08	HT (in)
Depth to Bottom	50.7	(Ft) (Minus)	Depth to Water	16.11	(Ft) =	34.59	HT (ft)

MEASUREMENTS (IN INCHES)										
d = 2										
r = 1	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			415.08	1	3.14	1303	.0043	5.6	16.8	20
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	U5T1613-MW16-0202	3 X 40 ml	HCl
PAH 610	U5T1613-MW16-0202	2 X 11. Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Big 1613	
				WELL NO. MW11	
				SAMPLE NO. 0202	
PROJECT LOCATION: Camp Lejeune		LOGGERS: Mark Martin		DATE 6/26/02	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME 1015	
PHONE: 910-451-2390		WEATHER: 80+ Cloudy			
LEL:		Well Locked: [X] Yes			
PID:		Sampling Device: Dailer			

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	5.21	5.18	5.19	5.23	5.21	(STD)
Specific Conductivity	34.9	33.6	32.5	49.5	37.38	(m S/m)
Turbidity (Turb)	550	810	650	550		(NTU)
Dissolved Oxygen (DO)	5.93	2.09	0.14	0.00	2.07	(%)
Temperature (Temp)	23.56	24.24	24.53	24.60	24.33	(°C)
TDS	0.22	0.22	0.21	0.33	0.25	
ORT	187	198	210	213	202.0	
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom	241.8	(In) (Minus)	Depth to Water	154.92	(In)	=	86.88	HT (in)
Depth to Bottom	201.5	(ft) (Minus)	Depth to Water	12.91	(ft)	=	7.24	HT (ft)

J = 2 MEASUREMENTS (IN INCHES)										
r = 1		Multiply Together				Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			86.88	1	3.14	273	.0043	1.2	3.5	
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	457163-MW11-0202	3 X 40 ml	HCl
PAH 610	4571613-MW11-0202	2 X 1 l. Amber	4 deg. C.

COMMENTS: Turb calculated last 3 readings

PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. <u>MW-22</u>	
				SAMPLE NO. <u>0202</u>	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE: <u>5/24/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME: <u>0930</u>	
PHONE: 910-451-2390		WEATHER: <u>Cloudy 80's</u>			
LEI:		Well Locked: ☒ Yes			
PID:		Sampling Device: Bahier			
		No			

FIELD MEASUREMENTS					
	1	2	3	4	Avg.
PH	3.74	3.70	3.81	3.77	3.77
Specific Conductivity	56.8	56.7	49.9	49.1	51.88
Turbidity (Turb)	56.0	51.0	49.0	49.0	51.25
Dissolved Oxygen (DO)	7.35	6.19	6.94	6.70	6.80
Temperature (Temp)	24.61	24.65	24.59	24.48	24.58
TDS	0.35	0.33	0.32	0.32	0.33
ORP	194	206	230	238	217
Chloride (Cl2)					
Ferrous Iron (Fe2)					

Depth to Biocum	224.4	(In) (Mins)	Depth to Water	160.2	(In)	=	64.2	HT (in)
Depth to Bottom	18.7	(Ft) (Mins)	Depth to Water	13.35	(Ft)	=	6.35	HT (ft)

MEASUREMENTS (IN INCHES)									
d = 2									
r = 1									
	Multiply Together					Vol.			
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	IT	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.
TOP			64.2	1	3.14	202	.0043	0.9	2.7
Middle					3.14		.0043		5
Bottom					3.14		.0043		
Total					3.14		.0043		

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	225163-MW22-028	3 X 40 ml	HCl.
PAH 610	225163-MW22-028	2 X 1 L Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824693	
				PROJECT NAME: Bldg 1613	
				WELL NO. <i>MW 11</i>	
				SAMPLE NO. UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE: <i>12/17/02</i>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME:	
PHONE: 910-451-2390		WEATHER:			
TEL:				Well Locked: ☒ Yes	
PID:		Sampling Device: Bailor		No	

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	<i>5.17</i>	<i>5.24</i>	<i>5.23</i>	<i>5.25</i>		(STD)
Specific Conductivity	<i>50.6</i>	<i>50.6</i>	<i>50.9</i>	<i>50.8</i>		(m S/m)
Turbidity (Turb)	<i>558</i>	<i>2400</i>	<i>147</i>	<i>82.1</i>		(NTU)
Dissolved Oxygen (DO)	<i>2.21</i>	<i>0.20</i>	<i>0.0</i>	<i>0.0</i>		(wt)
Temperature (Temp)	<i>23.46</i>	<i>23.61</i>	<i>23.52</i>	<i>23.25</i>		(°C)
TDS	<i>0.32</i>	<i>0.32</i>	<i>0.32</i>	<i>0.32</i>		
ORP	<i>198</i>	<i>190</i>	<i>188</i>	<i>178</i>		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In) =	FT (In)
Depth to Bottom	<i>20.00</i>	(Ft) (Minus)	Depth to Water	<i>11.68</i>	(Ft) =	IFT (Ft)

d = <i>2</i>	MEASUREMENTS (IN INCHES)									
r = <i>1</i>	Multiply Together					Vol.				
d/2 = <i>1</i>	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613-	-07C 3 X 40 ml	HCL
FAH 610	UST1613-	-02C 2 X 11. Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603			
		PROJECT NAME: Bldg 1613			
		WELL NO. <u>11W-10</u>			
		SAMPLE NO UST1613- <u>AW10</u>			
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE <u>12/17/06</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LEL		Well Locked: [X] Yes			
PID:		Sampling Device: Bailor			
		No			

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	4.47	5.01	5.10	5.14		(STD)
Specific Conductivity	14.6	13.7	13.8	13.6		(m S/m)
Turbidity (Turb)	15.4	71.5	67.4	60.8		(NTU)
Dissolved Oxygen (DO)	9.39	1.89	0.42	0.00		(%I)
Temperature (Temp)	21.50	21.62	21.47	21.72		(°C)
TDS	0.10	0.09	0.09	0.09		
ORP	140	-18	-37	-46		
Chloride (Cl2)						
Potential Iron (Fe2)						

Depth to Bottom		(Ls) (Minus)	Depth to Water		(In)	=	HT (In)
Depth to Bottom	20.25	(Ft) (Minus)	Depth to Water	15.47	(Ft)	=	HT (Ft)

d = 2 MEASUREMENTS (IN INCHES)									
r = 1 Multiply Together						Vol.			
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.
	TOP			1	3.14		.0043		Vol. Purged
	Middle				3.14		.0043		
	Bottom				3.14		.0043		
	Total				3.14		.0043		

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	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: Bldg 1613	
				WELL NO. <u>MW-6</u>	
				SAMPLE NO. UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE: <u>12/17/02</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME:	
PHONE: 910-451-2390		WEATHER:			
LEI:		Well Locked: ☒ Yes			
PUD:		Sampling Device: Bailor			
		No			

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	3.81	3.98	4.03	4.05		(STD)
Specific Conductivity	11.4	10.0	10.1	9.5		(m S/m)
Turbidity (Turb)	131	196	174	190		(NTU)
Dissolved Oxygen (DO)	4.97	4.84	4.67	4.76		(%)
Temperature (Temp)	18.20	18.49	18.87	18.77		(°C)
TDS	0.07	0.06	0.07	0.06		
ORP	309	311	313	315		
Chloride (Cl ⁻)						
Ferrous Iron (Fe ²⁺)						

Depth to Bottom	210	(In) (Minus)	Depth to Water		(In) =		HT (in)
Depth to Bottom	175	(Ft) (Minus)	Depth to Water	14.33	(Ft) =		HT (ft)

MEASUREMENTS (IN INCHES)										
d = 2										
r = 1										
	Multiply Together					Vol.				
d/2 - 1	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613- -02C	3 X 40 ml	HCl,
PAH 610	UST1613- -02C	2 X 1 L Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒ Yes
OTHER:			

		WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
				PROJECT NAME: Bldg 1613	
				WELL NO. MW-20	
				SAMPLE NO. UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE 12/17/02	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME	
PHONE: 910-451-2390		WEATHER:			
LEL:		Well Locked: [X] Yes			
PID:		Sampling Device: Bailor		No	

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	7.11	6.87	6.57	6.49		(STD)
Specific Conductivity	41.0	39.6	41.1	42.6		(m S/m)
Turbidity (Turb)	990+	990+	485	374		(NTU)
Dissolved Oxygen (DO)	8.57	5.55	4.69	4.29		(g/l)
Temperature (Temp)	23.65	26.52	26.94	26.41		(°C)
TDS	0.27	0.26	0.27	0.28		
ORP	0	10	28	37		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In) =	HT (in)
Depth to Bottom	16.3	(Ft) (Minus)	Depth to Water	12.52	(Ft) =	HT (ft)

MEASUREMENTS (IN INCHES)											
d = 2		Multiply Together									
n = 1		Vol.									
d/2 - 1	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	2 X 1 L Amber	4 deg. C.

COMMENTS: Steam line next to well			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
		PROJECT NAME: Bldg 1613	
		WELL NO. MW 21	
		SAMPLE NO. UST1613-MW 21	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE:
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin	TIME:
PHONE: 910-451-2390		WEATHER:	
LRL:		Well Locked: [X] Yes	
PID:		No	

FIELD MEASUREMENTS					
	1	2	3	4	Avg.
PH	6.26	5.37	5.11	5.12	(STD)
Specific Conductivity	27.1	16.3	16.5	19.0	(m S/m)
Turbidity (Turb)	374	332	337	453	(NTU)
Dissolved Oxygen (DO)	6.83	3.88	3.06	2.56	(g/l)
Temperature (Temp)	27.63	28.22	27.97	28.12	(°C)
TDS	0.13	0.11	0.11	0.12	
ORP	65	147	187	192	
Chloride (Cl ₂)					
Ferrous Iron (Fe ₂)					

Depth to Bottom	(In) (Minus)	Depth to Water	(In) =	HT (in)
Depth to Bottom	18.30 (Ft) (Minus)	Depth to Water	12.57 (Ft) -	HT (ft)

J - 2 MEASUREMENTS (IN INCHES)										
r = 1	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	π	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	UST1613-	-02C 3 X 40 ml	HCL
PAH 610	UST1613-	-02C 2 X 1 L Amber	4 deg. C.
COMMENTS: Well near steam line			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603	
		PROJECT NAME: Bldg 1613	
		WELL NO. <u>H/64W-06</u>	
		SAMPLE NO UST1613-	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE: <u>12/17/02</u>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin	TIME:
PHONE: 910-451-2390		WEATHER:	
LEI:		Well Locked: ☒ Yes	
PID:		Sampling Device: Bailor	
		Nn	

FIELD MEASUREMENTS					
	1	2	3	4	Avg.
PH	4.13	4.12	4.15	4.17	(STD)
Specific Conductivity	9.9	10.0	10.0	10.3	(m S/m)
Turbidity (Turb)	6.65	2.08	1.88	1.95	(NTU)
Dissolved Oxygen (DO)	6.43	5.5	4.87	4.86	(g/l)
Temperature (Temp)	19.33	20.29	19.71	19.48	(°C)
TDS	0.06	0.06	0.07	0.07	
ORP	237	212	201	198	
Chloride (Cl2)					
Ferrous Iron (Fe2)					

Depth to Bottom	302.70	(In) (Minus)	Depth to Water		(In) =	HT (in)
Depth to Bottom	25.23	(Ft) (Minus)	Depth to Water	14.35	(Ft) =	HT (ft)

MEASUREMENTS (IN INCHES)									
d = 2									
r = 1	Multiply Together					Vol.			
d/2 - 1	BOTTOM	TOP	Layer Thickness	r ²	It	Cubic In.	Conversion Factor	EST. GALLONS	Purge Vol.
TOP				1	3.14		.0043		
Middle					3.14		.0043		
Bottom					3.14		.0043		
Total					3.14		.0043		

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	2 X 1 L Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: ☒
OTHER:			

WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 824603
		PROJECT NAME: Hdg 1613
		WELL NO. <u>MW 22</u>
		SAMPLE NO. UST1613-
PROJECT LOCATION: Camp Lejeune	LOGGER: Mark Martin	DATE <u>12/17/02</u>
PROJECT CONTACT: Mark Martin	SAMPLER: Mark Martin	TIME
PHONE: 910-451-2390	WEATHER:	
LBL:		Well Locked: [X] Yes
PID:	Sampling Device: Bailor	No

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	4.09	3.63	3.54	3.49		(STD)
Specific Conductivity	60.1	59.5	59.7	59.8		(m S/m)
Turbidity (Turb)	950	609	572	209		(NTU)
Dissolved Oxygen (DO)	10.13	6.03	5.61	5.89		(%)
Temperature (Temp)	21.44	23.18	23.18	22.99		(°C)
TDS	0.36	0.38	0.38	0.38		
ORP	257	299	310	318		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In) =	HT (in)
Depth to Bottom	16.9	(Ft) (Minus)	Depth to Water	11.69	(Ft) =	HT (ft)

MEASUREMENTS (IN INCHES)										
J = 2										
r = 1										
Multiply Together					Vol.					
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	I	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	UST1613-02C	3 X 40 ml	HCl
PAH 610	UST1613-02C	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: Bldg 1613	
				WELL NO. <u>AW-16</u>	
				SAMPLE NO. UST1613- <u>AW16</u>	
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin		DATE: <u>12/17/04</u>	
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin		TIME:	
PHONE: 910-451-2390		WEATHER:			
LEL:		Well Locked: [X] Yes			
PID:		Sampling Device: Bailor		No	

FIELD MEASUREMENTS						
	1	2	3	4	Avg.	
PH	6.24	6.86	7.02	7.10		(STD)
Specific Conductivity	56.4	61.1	61.6	61.8		(m S/m)
Turbidity (Turb)	72.1	120	159	137		(NTU)
Dissolved Oxygen (DO)	9.67	5.98	5.10	4.08		(g/l)
Temperature (Temp)	21.60	22.00	22.03	22.07		(°C)
TDS	0.37	0.39	0.39	0.40		
ORP	-16	-43	-46	-44		
Chloride (Cl2)						
Ferrous Iron (Fe2)						

Depth to Bottom		(In) (Minus)	Depth to Water		(In) =	HT (In)
Depth to Bottom	49.9	(Ft) (Minus)	Depth to Water	18.27	(Ft) =	HT (Ft)

MEASUREMENTS (IN INCHES)										
d = 2										
r = 1										
	Multiply Together					Vol.				
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	ft	Cubic in.	Conversion Factor	EST. GAL(ONS)	Purge Vol.	Vnl. Parged
TOP				1	3.14		.0043			
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	UST1613- -02C	3 X 40 ml	HCL
PAH 610	UST1613- -02C	2 X 1 L Amber	4 deg. C.
COMMENTS:			
PURGE DISCHARGED:	DRUM:	DRUM#	SITE TREATMENT: [X]
OTHER:			

APPENDIX C

GROUNDWATER LABORATORY ANALYTICAL REPORTS



Southeast

ACCUTEST

Laboratories

07/16/02

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-Bldg. 1613

920704

Accutest Job Number: F13689

Report to:

Shaw E&I, Inc.

Natasha.Sullivan@theitgroup.com

ATTN: Natasha Sullivan

Total number of pages in report: 89



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
Harry Behzadi, Ph.D.
Laboratory Director

Certification: Florida DOH ES3510

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Sample Summary

Shaw E&I, Inc.

Job No: F13689

Camp Lejeune-Bldg. 1613
Project No: 920704

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F13689-1	06/25/02	14:00 MM	06/27/02	AQ	GroundW ater	UST1613-MW06-02C2
F13689-2	06/26/02	10:15 MM	06/27/02	AQ	GroundW ater	UST1613-MW11-02C2
F13689-3	06/25/02	16:30 MM	06/27/02	AQ	GroundW ater	UST1613-MW20-02C2
F13689-4	06/25/02	15:30 MM	06/27/02	AQ	GroundW ater	UST1613-MW21-02C2
F13689-5	06/25/02	14:45 MM	06/27/02	AQ	GroundW ater	UST1613-HPGW6-02C2
F13689-6	06/26/02	12:30 MM	06/27/02	AQ	GroundW ater	UST1613-MW10-02C2
F13689-7	06/26/02	09:30 MM	06/27/02	AQ	GroundW ater	UST1613-MW22-02C2
F13689-8	06/26/02	12:35 MM	06/27/02	AQ	GroundW ater	UST1613-MW10-02C2D
F13689-9	06/26/02	11:30 MM	06/27/02	AQ	GroundW ater	UST1613-MW16-02C2
F13689-10	06/26/02	13:00 MM	06/27/02	AQ	Field BlankW ater	UST1613-EB-02C2
F13689-11	06/26/02	16:00 MM	06/27/02	AQ	Trip BlankW ater	UST1613-TB-02C2

Report of Analysis

Page 1 of 2

Client Sample ID:	UST1613-MW06-0202	Date Sampled:	06/25/02
Lab Sample ID:	F13689-1	Date Received:	06/27/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	FLA6 01/602		
Project:	Campe Lejeune-Bldg. 1613		

Run#	FileID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	QR010017.D	1	07/01/02	RA	n/a	n/a	GQR465
Run#2							

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

VOAPP List

CASN o.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
110-75-8	2-Chloroethylvinylether	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-1	Ethylbenzene	ND	1.0	ug/l	
75-09-2	Methylenechloride	ND	5.0	ug/l	
1634-01-4	MethyltertButyl Ether	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloromethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND=Not Detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated blank

N=Indicates unspecified evidence of compound

Report of Analysis

Page 2 of 2

Client Sample ID:	11ST1613-MW06-02C2	Date Sampled:	06/25/02
Laboratory ID:	F13689-1	Date Received:	06/27/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	MPA6 01/602		
Project:	Camp Lejeune Bldg. 1613		

VOAPP LLSI

CASN o.	Compound	Result	RL	Units Q
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l
75-01-4	Vinyl chloride	ND	1.0	ug/l
1330-20-7	Xylenes (total)	ND	3.0	ug/l

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	87%		80-120%
352-33-0	1-Chloro-4-fluorobenzene	85%		80-120%
563-58-6	1,1-Dichloropropene	113%		75-125%
563-58-6	1,1-Dichloropropene	107%		75-125%

ND=Not detected
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates no estimated value
 B=Indicates analyte found in associated method blank
 N=Indicates presence of compound

Report of Analysis

Page 1 of 1

Client Sample ID: USF1613-MW06-02C2
 Lab Sample ID: F13689-1
 Matrix: AQ-Group ndW ater
 Method: EPA6 10EP A 610
 Project: Camp Lejeune Bldg. 1613

Date Sampled: 06/25/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	Prep Date	Prep Date h	Analytical Date h
Run#1	UJ15556.D	1	07/06/02	ME	07/01/02	075405	071740
Run#2							

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

BN PAH List

CASN o.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.1	ug/l	
208-96-8	Acenaphthylene	ND	5.1	ug/l	
120-12-7	Anthracene	ND	5.1	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.1	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.1	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.1	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.1	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.1	ug/l	
218-01-9	Chrysene	ND	5.1	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.1	ug/l	
206-44-0	Fluoranthene	ND	5.1	ug/l	
86-73-7	Fluorene	ND	5.1	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.1	ug/l	
91-20-3	Naphthalene	ND	5.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.1	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.1	ug/l	
85-01-8	Phenanthrene	ND	5.1	ug/l	
129-00-0	Pyrene	ND	5.1	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	73%		39-124%
84-15-1	o-Terphenyl	97%		63-120%

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated method blank

N=1 indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client(Sample ID):	BS11613-MW11-02C2	Date Sampled:	06/26/02
Lab Sample ID:	F13689-2	Date Received:	06/27/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camp Lejeune Bldg. 1613		

Run#1	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#2	QR010018.D	1	07/01/02	RA	n/a	n/a	CQR465

Run#1	Purge Volume
Run#2	5.0ml

VOA PPL list

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	3.9	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
110-75-8	2-Chloroethylvinylether	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	0.93	1.0	ug/l	J
75-09-2	Methylenechloride	ND	5.0	ug/l	
1634-04-4	MethyltertButyl Ether	1.1	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	13.9	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found by an associated method

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID: UST1613-MW11-02C2
 Lab Sample ID: 013689-2
 Matrix: AQ-Groundwater
 Method: EPA 81602
 Project: Campbell Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

VOAPP List

CASN o.	Compound	Result	RL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	12.3	3.0	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%		80-120%
352-33-0	1-Chloro-4-fluorobenzene	86%		80-120%
563-58-6	1,1-Dichloropropene	112%		75-125%
563-58-6	1,1-Dichloropropene	106%		75-125%

ND=Not detected
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates no estimated value
 B=Indicates analyte found in associated method blank
 N=Indicates presence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: UST1613 MW11-02C2		Date Sampled: 06/26/02	
Lab Sample ID: F13689 2		Date Received: 06/27/02	
Matrix: AQ-Groundwater		Percent Solids: n/a	
Method: EPA8160P A 610			
Project: Camp Lejeune-Bldg. 1613			

Run#	ID#	IN#	Analyzed	Qty	Prep Date	Prep Batch	Analytical Batch
Run#1	1115557.1	1	07/06/02	ML	07/01/02	OP5405	GIJ740
Run#2							

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

BN PAHs

CAS#	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-14-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CAS#	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	73%		39-124%
84-15-1	o-Terphenyl	99%		63-120%

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: UST1613-MW20-02C2
 Lab Sample ID: F13689-3
 Matrix: AQ-Group ndWater
 Method: EPA8 01/602
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 06/25/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DP	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	QR010026.D	1	07/01/02	RA	n/a	n/a	GQR465
Run#2	QR010075.D	5	07/03/02	RA	n/a	n/a	GQR468

	Purge Volume
Run#1	5.0m l
Run#2	5.0m l

VOAPP LList

CASN n.	Compound	Result	RI	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
93-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Trichlorobenzene	ND	1.0	ug/l	
75-09-2	Methylenechloride	ND	5.0	ug/l	
1634-04-4	MethylTertiaryButyl Ether	318 ^b	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	0.87	1.0	ug/l	J
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	2.1	1.0	ug/l	

ND=Not Detected

RI= Retention Index

E= Indicates use of external calibration

J= Indicates estimated value

B= Indicates analyte found in associated method blank

N= Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID: UST1613-MW20-02C2
 Lab Sample ID: F13689-3
 Matrix: AQ Groundwater
 Method: EPA8 01/602
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 06/25/02
 Date Received: 06/27/02
 Percent Solids: n/a

VOAPP LL list

CASN o.	Compound	Result	RL	Units	Q
75-69-4	Trichlorofluoromethane	0.98	1.0	ug/l	J
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	2.7	3.0	ug/l	J

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%	89%	80-120%
352-33-0	1-Chloro-4-fluorobenzene	88%	89%	80-120%
563-58-6	1,1-Dichloropropene	111%	108%	75-125%
563-58-6	1,1-Dichloropropene	109%	106%	75-125%

(a) Confirmed by GC/MS

(b) Retention from Run# 2

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

D=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: CST1613-MW20-0202
 Lab Sample ID: F13689-3
 Matrix: AQ-Grout/Water
 Method: EPA 8160-A 610
 Project: Camp Lejeune Bldg. 1613

Date Sampled: 06/25/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	IJ15558.D	1	07/06/02	ME	07/01/02	OP5405	GJ740
Run#2							

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

BN PAH List

CASN o.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	85%		39-124%
84-15-1	o-Terphenyl	105%		63-120%

ND=Not detected
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates an estimated value
 B=Indicates analyte found in associated method blank
 N=Indicates presence of compound

Report of Analysis

Page 1 of 2

Client Sample ID: UST1613-MW21-02C2
 Lab Sample ID: P13689-4
 Matrix: AQ-Groundwater
 Method: EPA 81602
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 06/25/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	QR010027.D	1	07/01/02	RA	n/a	n/a	CQR465
Run#2							

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

VOA PPL List

CAS No.	Compound	Result	RL	Units (Q)
71-43-2	Benzene	ND	1.0	ug/l
75-27-4	Bromodichloromethane	ND	1.0	ug/l
75-25-2	Bromoform	ND	1.0	ug/l
74-83-9	Bromomethane	ND	1.0	ug/l
56-23-5	Carbon tetrachloride	ND	1.0	ug/l
108-90-7	Chlorobenzene	ND	1.0	ug/l
124-48-1	Dibromochloromethane	ND	1.0	ug/l
75-00-3	Chloroethane	ND	1.0	ug/l
110-75-8	2-Chloroethylvinyl ether	ND	1.0	ug/l
67-66-3	Chloroform	ND	1.0	ug/l
74-87-3	Chloromethane	ND	1.0	ug/l
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l
156-50-2	cis-1,2-Dichloroethene	ND	1.0	ug/l
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l
100-11-4	Ethylbenzene	ND	1.0	ug/l
75-09-2	Methylenechloride	ND	5.0	ug/l
1634-04-4	Methyl tertButyl Ether	ND	1.0	ug/l
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l
127-18-4	Tetrachloroethene	ND	1.0	ug/l
108-88-3	Toluene	1.8	1.0	ug/l
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l
79-01-6	Trichloroethene	ND	1.0	ug/l

ND= Not detected

RL= Reporting Limit

E= Indicates value exceeds calibration range

J= Indicates a negative value

B= Indicates a negative value associated with blank

N= Indicates presence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	UST1613-MW21-02C2	Date Sampled:	06/25/02
Lab Sample ID:	F13689-4	Date Received:	06/27/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camp Lejeune-Bldg. 1613		

VOA-P-P (L) sr

CASN #	Compound	Result	RL	Units	Q
75-69-4	Trichlorofluoromethane	0.64	1.0	ug/l	J
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	4.7	3.0	ug/l	

CASN #	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	90%		80-120%
352-33-0	1-Chloro-4-fluorobenzene	85%		80-120%
563-58-6	1,1-Dichloropropene	111%		75-125%
563-58-6	1,1-Dichloropropene	106%		75-125%

(a) Confirmed by GC/MS

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive identification of compound

Report of Analysis

Page 1 of 1

Client Sample ID:	UST1613-MW21-0202	Date Sampled:	06/25/02
Lab Sample ID:	F13689-4	Date Received:	06/27/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 610EP A 610		
Project:	Camp Lejeune Bldg. 1613		

Run#	FileID	DF	Analyzed	Qty	Prep Date	Prep Batch	Analytical Batch
Run#1	IJ15559.D	1	07/06/02	ML	07/01/02	OP5405	GU740
Run#2							

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

BN PAH List

CASN o.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-0	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-0	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	67%		39-124%
84-15-1	o-Terphenyl	93%		63-120%

ND=Not Detected
 RL=Reporting Limit
 U=Indicates value exceeds calibration range

J=Indicates an estimated value
 R=Indicates analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: UST1613 HPGW0-02C2
 Lab Sample ID: F13689.5
 Matrix: AQ-Gravel/Water
 Method: EPA601/602
 Project: Campbell-Jenue-Bldg 1613

Date Sampled: 06/25/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	QR010067.D	20	07/03/02	RA	n/a	n/a	GQR468
Run#2							

Run#	Purge Volume
Run#1	5.0mL
Run#2	

VOAPP LLSI st

CAS#	Compound	Result	RL	Units	Q
71-43-2	Benzene	61.0	20	ug/l	
75-27-4	Bromodichloromethane	ND	20	ug/l	
75-25-2	Bromoform	ND	20	ug/l	
74-83-9	Bromomethane	ND	20	ug/l	
56-23-5	Carbon tetrachloride	ND	20	ug/l	
108-90-7	Chlorobenzene	ND	20	ug/l	
124-48-1	Dibromochloromethane	ND	20	ug/l	
75-00-3	Chloroethane	ND	20	ug/l	
110-75-8	2-Chloroethylvinylether	ND	20	ug/l	
67-66-3	Chloroform	ND	20	ug/l	
74-87-3	Chloromethane	ND	20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	20	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	20	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	ug/l	
75-34-3	1,1-Dichloroethane	ND	20	ug/l	
107-06-2	1,2-Dichloroethane	ND	20	ug/l	
75-35-4	1,1-Dichloroethene	ND	20	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	20	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	20	ug/l	
78-87-3	1,2-Dichloropropane	ND	20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	20	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	20	ug/l	
100-41-4	Ethylbenzene	96.7	20	ug/l	
75-09-2	Methylenechloride	ND	100	ug/l	
1634-04-4	Methyl tert-Butyl Ether	ND	20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	ug/l	
127-18-4	Tetrachloroethene	ND	20	ug/l	
108-88-3	Toluene	669	20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	20	ug/l	
79-01-6	Trichloroethene	ND	20	ug/l	

ND=Not Detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J Indicates an estimated value

B=Indicates analyte found in associated method blank

N=Indicates presence of volatile compound

Report of Analysis

Page 2 of 2

Client Sample ID:	11ST1613-11PGW6-02C2	Date Sampled:	06/25/02
Lab Sample ID:	F13689-5	Date Received:	06/27/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 601/602		
Project:	Camp Lejeune Bldg. 1613		

VOAPP List

CAS No.	Compound	Result	RL	Units	Q
75-69-4	Trichlorofluoromethane	ND	20	ug/l	
75-01-4	Vinyl chloride	ND	20	ug/l	
1330-20-7	Xylenes (total)	2380	60	ug/l	

CAS No.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	91%		80-120%
352-33-0	1-Chloro-4-fluorobenzene	90%		80-120%
563-58-6	1,1-Dichloropropene	107%		75-125%
563-58-6	1,1-Dichloropropene	106%		75-125%

(a) Confirmed by GC/MS

ND=Not detected
 RL= Reporting Limit
 E= Indicates value exceeds calibration range

J= Indicates no estimated value
 B= Indicates analyte found in associated method blank
 N= Indicates presence of non-halogenated compound

Report of Analysis

Page 1 of 1

Client Sample ID:	UST1613-HPCWB-02C2	Date Sampled:	06/25/02
Lab Sample ID:	F13689-5	Date Received:	06/27/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 8160F A 610		
Project:	Camptel June-Bldg. 1613		

	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	IJ15573.D	4	07/08/02	ME	07/01/02	OP5405	GIJ741
Run#2							

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

BN PAH List

CASN o.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	20	ug/l	
208-96-8	Acenaphthylene	ND	20	ug/l	
120-12-7	Anthracene	ND	20	ug/l	
56-55-3	Benzo(a)anthracene	ND	20	ug/l	
50-32-8	Benzo(a)pyrene	ND	20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	20	ug/l	
218-01-9	Chrysene	ND	20	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	20	ug/l	
206-44-0	Fluoranthene	ND	20	ug/l	
86-73-7	Fluorene	ND	20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	20	ug/l	
91-20-3	Naphthalene ^b	60.3	20	ug/l	
90-12-0	1-Methylnaphthalene ^b	16.3	20	ug/l	J
91-57-6	2-Methylnaphthalene ^b	11.5	20	ug/l	J
85-01-8	Phenanthrene	ND	20	ug/l	
129-00-0	Pyrene	ND	20	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	108%		39-124%
84-15-1	o-Terphenyl	109%		63-120%

(a) Dilution required due to matrix interference.

(b) Analyte confirmed by dual column analysis.

ND = Not detected
 RL = Reporting Limit
 F = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: UST1613-MW10-02C2
 Lab Sample ID: F13689-6
 Matrix: AQ-Groundwater
 Method: EPA 81602
 Project: Camp Lejeune Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DP	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR010070.D	20	07/03/02	RA	n/a	n/a	GQR168
Run#2							

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

VOAPP List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	20	ug/l	
75-27-4	Bromodichloromethane	ND	20	ug/l	
75-25-2	Bromoform	ND	20	ug/l	
74-83-0	Bromomethane	ND	20	ug/l	
56-23-5	Carbon tetrachloride	ND	20	ug/l	
108-90-7	Chlorobenzene	ND	20	ug/l	
124-48-1	Dibromochloromethane	ND	20	ug/l	
75-00-3	Chloroethane	ND	20	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	20	ug/l	
67-66-3	Chloroform	ND	20	ug/l	
74-87-3	Chloromethane	ND	20	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	20	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	20	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	20	ug/l	
75-34-3	1,1-Dichloroethane	ND	20	ug/l	
107-06-2	1,2-Dichloroethane	ND	20	ug/l	
75-35-4	1,1-Dichloroethene	ND	20	ug/l	
156-49-2	cis-1,2-Dichloroethene	ND	20	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	20	ug/l	
78-87-5	1,2-Dichloropropane	ND	20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	20	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	20	ug/l	
100-41-4	Ethylbenzene	342	20	ug/l	
75-09-2	Methylenechloride	ND	100	ug/l	
1634-04-4	MethylTertButyl Ether	474	20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	20	ug/l	
127-18-4	Tetrachloroethene	ND	20	ug/l	
108-88-3	Toluene	632	20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	20	ug/l	
78-01-6	Trichloroethene	ND	20	ug/l	

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates non-estimated value

B=Indicates analytical method associated in ethdb link

N=Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: UST1613-MW10-02C2
 Lab Sample ID: F13589-6
 Matrix: AQ-Groundwater
 Method: EPA 8160
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

VOA P List

CAS No.	Compound	Result	RL	Units	Q
75-69-4	Trichlorofluoromethane	ND	20	ug/l	
75-01-4	Vinyl chloride	ND	20	ug/l	
1330-20-7	Xylenes (total)	2280	60	ug/l	

CAS No.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%		80-120%
352-33-0	1-Chloro-4-fluorobenzene	91%		80-120%
563-58-6	1,1-Dichloropropene	109%		75-125%
563-58-6	1,1-Dichloropropene	106%		75-125%

ND=Not detected
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates non-simulated value
 B=Indicates analyte found in associated method blank
 N=1 indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: UST1613-MW10 02C2
 Lab Sample ID: F13889-6
 Matrix: AQ-Groundwater
 Method: EPA6 10EP A 510
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	015574.D	4	07/08/02	ME	07/01/02	OP5405	CU741
Run#2							

Run#	Initial Volume	Final Volume
Run#1	970ml	1.0ml
Run#2		

BN PAH List

CASN o.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	21	ug/l	
208-96-8	Acenaphthylene ^b	8.8	21	ug/l	J
120-12-7	Anthracene	ND	21	ug/l	
56-55-3	Benzo(a)anthracene	ND	21	ug/l	
50-32-8	Benzo(a)pyrene	ND	21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	21	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	21	ug/l	
218-01-9	Chrysene	ND	21	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	21	ug/l	
206-44-0	Fluoranthene	ND	21	ug/l	
86-73-7	Fluorene	ND	21	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	21	ug/l	
91-20-3	Naphthalene ^b	125	21	ug/l	
90-12-0	1-Methylnaphthalene ^b	21.4	21	ug/l	
91-57-6	2-Methylnaphthalene ^b	30.6	21	ug/l	
85-01-8	Phenanthrene	ND	21	ug/l	
129-00-0	Pyrene	ND	21	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	88%		39-124%
84-15-1	o-Terphenyl	109%		63-120%

(a) Dilution required due to matrix interference.

(b) Analysis confirmed by dual column analysis.

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: US11613-MW22-0202
 Lab Sample ID: F13689-7
 Matrix: AQ-Groundwater
 Method: EPA 81602
 Project: Camp Lejeune Bldg. 1613

Date Sampled: 06/28/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR010031.D	10	07/01/02	RA	n/a	n/a	QQR465
Run#2	QR010072.D	20	07/03/02	RA	n/a	n/a	QQR468

	Purge Volume
Run#1	5.0m l
Run#2	5.0m l

VOAPP List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	437	10	ug/l	
75-27-4	Bromodichloromethane	ND	10	ug/l	
75-25-2	Bromoform	ND	10	ug/l	
74-83-9	Bromomethane	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	10	ug/l	
108-90-7	Chlorobenzene	ND	10	ug/l	
124-48-1	Dibromochloromethane	ND	10	ug/l	
75-00-3	Chloroethane	ND	10	ug/l	
110-75-8	2-Chloroethylvinylether	ND	10	ug/l	
67-66-3	Chloroform	ND	10	ug/l	
74-87-3	Chloromethane	ND	10	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	10	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	ug/l	
100-41-4	Ethylbenzene	36.6	10	ug/l	
75-09-2	Methylenechloride	ND	50	ug/l	
1634-04-4	MethyltertButyl Ether	289	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	ug/l	
127-18-4	Tetrachloroethene	ND	10	ug/l	
108-88-3	Toluene	1080	20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	ug/l	
79-01-6	Trichloroethene	ND	10	ug/l	

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates non-stated value

B=Indicates analytical method associated with blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID: UST1613 MW22-02C2
 Lab Sample ID: F136897
 Matrix: AQ-Grout and Water
 Method: EPA601/602
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

VOAPP List

CASN #	Compound	Result	RL	Units	Q
75-69-4	Trichlorofluoromethane	ND	10	ug/l	
75-01-4	Vinyl chloride	ND	10	ug/l	
1330-20-7	Xylenes (total)	526	30	ug/l	

CASN #	Surrogate Recoveries	Run #1	Run #2	Limits
352-33-0	1-Chloro-4-fluorobenzene	89%	92%	80-120%
352-33-0	1-Chloro-4-fluorobenzene	88%	93%	80-120%
563-58-6	1,1-Dichloropropene	110%	108%	75-125%
563-58-6	1,1-Dichloropropene	107%	108%	75-125%

(a) Confirmed by GC/MS

(b) Results from Run # 2

ND=Not detected
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates an estimated value
 B=Indicates analyte found in associated blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: UST1813-MW22-02C2
 Lab Sample ID: F13889-7
 Matrix: AQ-Gravel/Water
 Method: EPA816EP-A 610
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	IJ15566.D	4	07/07/02	ME	07/01/02	OP5405	GIJ740
Run#2							

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

BN PAH List

CASN o.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	20	ug/l	
208-96-8	Acenaphthylene	ND	20	ug/l	
120-12-7	Anthracene	ND	20	ug/l	
56-55-3	Benzo(a)anthracene	ND	20	ug/l	
50-32-8	Benzo(a)pyrene	ND	20	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	20	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	20	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	20	ug/l	
218-01-9	Chrysene	ND	20	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	20	ug/l	
206-44-0	Fluoranthene	ND	20	ug/l	
86-73-7	Fluorene	ND	20	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	20	ug/l	
91-20-3	Naphthalene ^b	22.8	20	ug/l	
90-12-0	1-Methylnaphthalene	ND	20	ug/l	
91-57-6	2-Methylnaphthalene	ND	20	ug/l	
85-01-8	Phenanthrene	ND	20	ug/l	
129-00-0	Pyrene	ND	20	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	115%		39-124%
84-15-1	o-Terphenyl	113%		63-120%

(a) Dilution required due to matrix interference.

(b) Analysis confirmed by dual column analysis.

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates no estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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ClientSampleID: UST1613-MW10-02C2D							
LabSampleID: F13689-8				DateSampled: 06/26/02			
Matrix: AQ-Groundwater				DateReceived: 06/27/02			
Method: EPA8 01/602				PercentSolids: n/a			
Project: CampLejeune-Bldg. 1613							
Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR010032.D	10	07/02/02	RA	n/a	n/a	GQR465
Run#2	QR010073.D	20	07/03/02	RA	n/a	n/a	GQR468
Run#	PurgeVolume						
Run#1	5.0m l						
Run#2	5.0m l						

VOAPP Results

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	5.1	10	ug/l	J
75-27-4	Bromodichloromethane	ND	10	ug/l	
75-25-2	Bromoform	ND	10	ug/l	
74-83-9	Bromomethane	ND	10	ug/l	
56-23-5	Carbon tetrachloride	ND	10	ug/l	
108-90-7	Chlorobenzene	ND	10	ug/l	
124-48-1	Dibromochloromethane	ND	10	ug/l	
75-00-3	Chloroethane	ND	10	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	10	ug/l	
67-66-3	Chloroform	ND	10	ug/l	
74-87-3	Chloromethane	ND	10	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	10	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	10	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	10	ug/l	
75-71-8	Dichlorodifluoromethane	ND	10	ug/l	
75-34-3	1,1-Dichloroethane	ND	10	ug/l	
107-06-2	1,2-Dichloroethane	ND	10	ug/l	
75-35-4	1,1-Dichloroethene	ND	10	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	10	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	10	ug/l	
78-87-5	1,2-Dichloropropane	ND	10	ug/l	
10061-011-5	cis-1,3-Dichloropropene	ND	10	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	10	ug/l	
100-41-4	Ethylbenzene	372	10	ug/l	
75-09-2	Methylenechloride	ND	50	ug/l	
1634-04-4	Methyl tertButyl Ether	496	10	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	ug/l	
127-18-4	Tetrachloroethene	ND	10	ug/l	
108-88-3	Toluene	675	10	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	10	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	10	ug/l	
79-01-6	Trichloroethene	ND	10	ug/l	

ND=Not detected

RL=Reporting limit

E=Indicates value exceeds calibration range

J Indicates an estimated value

B=Indicates analyte found by an associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	UST1613 MW10-02C-2D	Date Sampled:	06/26/02
Lab Sample ID:	F13689-8	Date Received:	06/27/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPA 601/602		
Project:	Camille Jeanne Bldg. 1613		

VOAPP List

CASN o.	Compound	Result	RL	Units Q
75-69-4	Trichlorofluoromethane	ND	10	ug/l
75-01-4	Vinyl chloride	ND	10	ug/l
1330-20-7	Xylenes (total)	2280 *	60	ug/l

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	92%	93%	80-120%
352-33-0	1-Chloro-4-fluorobenzene	90%	92%	80-120%
563-58-6	1,1-Dichloropropene	112%	109%	75-125%
563-58-6	1,1-Dichloropropene	107%	107%	75-125%

(a) Results from Run#2

ND=Not detected
 RL= Reporting Limit
 E= Indicates value exceeds calibration range

J= Indicates an estimated value
 B= Indicates a value found using associated method blank
 N= Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	UST1613-MW10-02CZD	Date Sampled:	06/26/02
Lab Sample ID:	F13689 8	Date Received:	06/27/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPA 106P A 610		
Project:	Camp Lejeune Bldg. 1613		

Run#	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	UJ15567.D	4	07/07/02	ME	07/01/02	OP5405	GU740
Run#2							

Run#	Initial Volume	Final Volume
Run#1	960ml	1.0ml
Run#2		

BN PAHs

CASN n.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	21	ug/l	
208-96-8	Acenaphthylene	8.6	21	ug/l	J
120-12-7	Anthracene	ND	21	ug/l	
56-55-3	Benzo(a)anthracene	ND	21	ug/l	
50-32-8	Benzo(a)pyrene	ND	21	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	21	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	21	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	21	ug/l	
218-01-9	Chrysene	ND	21	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	21	ug/l	
206-44-0	Fluoranthene	ND	21	ug/l	
80-73-7	Fluorene	ND	21	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	21	ug/l	
91-20-3	Naphthalene	140	21	ug/l	
90-12-0	1-Methylnaphthalene	25.5	21	ug/l	
91-57-6	2-Methylnaphthalene	38.2	21	ug/l	
85-01-8	Phenanthrene	ND	21	ug/l	
129-00-0	Pyrene	ND	21	ug/l	

CASN n.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	92%		39-124%
84-15-1	o-Terphenyl	108%		63-120%

(a) All values confirmed by dual column analysis.

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in association with another analyte

N=Indicates presence of evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: UST1013 MW16-02C2		Date Sampled: 06/26/02	
Lab Sample ID: F13689-9		Date Received: 06/27/02	
Matrix: AQ-Crown m/Water		Percent Solids: n/a	
Method: EPA6 01/602			
Project: Camp Lejeune-Bldg. 1613			

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR010028.D	1	07/01/02	RA	n/a	n/a	GQR465
Run#2	QR010074.D	2	07/03/02	RA	n/a	n/a	GQR468

	Purge Volume
Run#1	5.0m l
Run#2	5.0m l

VOA PPL List

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
124-48-1	Dibromodichloromethane	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
110-75-8	2-Chloroethylvinylether	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	10.1	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	1.0	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
75-09-2	Methylenechloride	ND	5.0	ug/l	
1634-04-4	Methyltertbutyl Ether	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	51.8 ^b	2.0	ug/l	

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	UST1613 MW16-02C2	Date Sampled:	06/26/02
Lab Sample ID:	F13689-9	Date Received:	06/27/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camille Jeanne Bldg. 1613		

VOAPP List

CAS#	Compound	Result	RL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	

CAS#	Surrogate Recoveries	Run#1	Run#2	Units
352-33-0	1-Chloro-4-fluorobenzene	87%	88%	80-120%
352-33-0	1-Chloro-4-fluorobenzene	85%	88%	80-120%
563-58-6	1,1-Dichloropropene	109%	107%	75-125%
563-58-6	1,1-Dichloropropene	106%	106%	75-125%

(a) Confirmed by GC/MS

(b) Results from Run# 2

ND=Not detected
 RL=Reporting Limit
 B=Indicates value exceeds calibration range

J=Indicates estimated value
 B=Indicates analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: UST1613-MW16 02C2
 Lab Sample ID: F13689-9
 Matrix: AQ-Creek mW ater
 Method: EPA8160E-P A 610
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	IJ15568.D	1	07/07/02	ME	07/01/02	OP5405	GLJ740
Run#2							

Run#	Initial Volume	Final Volume
Run#1	980ml	1.4ml
Run#2		

BN PAH List

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

CAS No.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	72%		39-124%
84-15-1	n-Terphenyl	90%		63-120%

ND=Not Detected

RL=Reporting Limit

R=Indicates value exceeds calibration range

J=Indicates non estimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: USF1613-EU-02CZ
 Lab Sample ID: F13680-10
 Matrix: AQ-10 eldBlank Water
 Method: EPA 601/602
 Project: Camp Lejeune Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR010029.D	1	07/01/02	RA	n/a	n/a	GOR465
Run#2							

Run#	Purge Volume
Run#1	5.0mL
Run#2	

VOAPP List

CAS#	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
75-09-2	Methylenechloride	ND	5.0	ug/l	
1634-04-4	MethylTertiaryButyl Ether	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	UST1613-FR-0202	Date Sampled:	06/26/02
Lab Sample ID:	F13689-10	Date Received:	06/27/02
Matrix:	AQ-Field Blank Water	Percent Solids:	n/a
Method:	EPA 601/602		
Project:	Campl. Jeune Bldg. 1613		

VOAPP List

CASN o.	Compound	Result	RL	Units	Q
75-69-4	Trichlorofluoromethane	ND	1.0	ug/l	
75-01-4	Vinyl chloride	ND	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	88%		80-120%
352-33-0	1-Chloro-4-fluorobenzene	85%		80-120%
563-58-6	1,1-Dichloropropene	110%		75-125%
563-58-6	1,1-Dichloropropene	106%		75-125%

ND=Not detected

RL=Reporting limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in association with blank

N=1 indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: UST1613-BB-02C2		Date Sampled: 06/26/02	
Lab Sample ID: F13688-10		Date Received: 06/27/02	
Matrix: AQ-F1 eld Blank Water		Percent Solids: n/a	
Method: EPA 8160P-A 610			
Project: Camp Lejeune-Bldg. 1613			

Run#	FileID	ID#	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	115569.D	1	07/07/02	ML	07/01/02	OP5405	GU740
Run#2							

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

BN PAHs

CASN o.	Compound	Result	RL	Units	Q
83-32-9	Acenaphthene	ND	5.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	ug/l	
120-12-7	Anthracene	ND	5.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	ug/l	
218-01-9	Chrysene	ND	5.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	ug/l	
86-73-7	Fluorene	ND	5.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	ug/l	
91-20-3	Naphthalene	ND	5.0	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	ug/l	
129-00-0	Pyrene	ND	5.0	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	95%		39-124%
84-15-1	o-Terphenyl	104%		63-121%

ND=Not detected

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates non-stimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: UST1613-TB 02C2							
Lab Sample ID: F13689 11				Date Sampled: 06/26/02			
Matrix: AQ-Tri pBl ank Water				Date Received: 06/27/02			
Method: EPA 8 01/602				Percent Solids: n/a			
Project: Camp Lejeune-Bldg. 1613							
Run#1	FileID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#2	QR010030.D	1	07/01/02	RA	n/a	n/a	GQR465
Run#1	Purge Volume						
Run#2	5.0m l						

VOAPPL List

CAS#	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	ug/l	
75-25-2	Bromoform	ND	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	ug/l	
75-00-3	Chloroethane	ND	1.0	ug/l	
110-75-8	2-Chloroethylvinylether	ND	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	ug/l	
74-87-3	Chloromethane	ND	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	ug/l	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	ug/l	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	ug/l	
100-41-1	Ethylbenzene	ND	1.0	ug/l	
75-09-2	Methylenechloride	ND	5.0	ug/l	
1634-01-4	MethyltertButyl Ether	ND	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	ug/l	
79-00-5	1,1,2 Trichloroethane	ND	1.0	ug/l	
79-01-6	Trichloroethene	ND	1.0	ug/l	

ND=Not detected

RL= Reporting limit

E= Indicates value exceeds calibration range

J= Indicates no estimated value

B= Indicates analyte found in associated blank

N= Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID: UST1613-TB-02C2
 Lab Sample ID: F13089-11
 Matrix: AQ-Tri phl ankW ater
 Method: EPA8 01/602
 Project: Camp Lejeune Bldg. 1613

Date Sampled: 06/26/02
 Date Received: 06/27/02
 Percent Solids: n/a

VOAPP List

CAS#	Compound	Result	RL	Units
75-89-4	Trichlorofluoromethane	ND	1.0	ug/l
75-01-4	Vinyl chloride	ND	1.0	ug/l
1330-20-7	Xylenes (total)	ND	3.0	ug/l

CAS#	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	88%		80-120%
352-33-0	1-Chloro-4-fluorobenzene	85%		80-120%
563-58-6	1,1-Dichloropropene	111%		75-125%
563-58-6	1,1-Dichloropropene	106%		75-125%

ND= Not detected

RL= Reporting Limit

E= Indicates value exceeds calibration range

J= Indicates an estimated value

B= Indicates a value found in association with the blank

N=1 indicates presence of a compound

CHAIN-OF-CUSTODY RECORD

COC Number:
920704-1613-062502

FI 3688



IT group/OHM Remediation Services - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390										Receiving Lab: Accutest									
Project Name: CAMP LEJEUNE - Bldg 1613										Project Location: CAMP LEJEUNE, NC									
Project Number: 920704					Contact: Mark Martin					PO Number: 93010					Analysis Desired:				
Client Rep: US NAVY - LANTDM										Project Manager: JIM DUNN									
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	VOC 601/602	PAH 610										
1	UST1613-MW08-02C2	6/25/02	14:00		X	MW-06	5	X	X										
2	UST1613-MW11-02C2	6/26/02	10:15		X	MW-11	5	X	X										
3	UST1613-MW20-02C2	6/25/02	16:30		X	MW-20	5	X	X										
4	UST1613-MW21-02C2	6/25/02	15:30		X	MW-21	5	X	X										
5	UST1613-HPGW6-02C2	6/25/02	14:45		X	H-PGW-6	5	X	X										
6	UST1613-MW10-02C2	6/26/02	12:30		X	MW-10	5	X	X										
7	UST1613-MW22-02C2	6/26/02	9:30		X	MW-22	5	X	X										
8	UST1613-MW10-02C2D	6/26/02	12:35		X	MW-10 Dup	5	X	X										
9	UST1613-MW16-02C2	6/26/02	11:30		X	MW-16	5	X	X										
10	UST1613-EB-02C2	6/26/02	13:00		X	Equip. Blank	5	X	X										
11	UST1613-TB-02C2	6/26/02	16:00		X	Trip Blank	2	X	X										

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1-11	<i>[Signature]</i>	UPS 1Z71V0980199897108 / 1Z71V0980195785111	6/26/02	16:00	Please e-Mail results to memartin@theitgroup.com
2		<i>[Signature]</i>	<i>[Signature]</i>	6/26/02	10:30	14 Day TAT on All Samples
3						

3.2'
2.8'



Southeast
ACCUTEST
laboratories

01/03/03

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-Bldg. 1613

824603

Accutest Job Number: F15976

Report to:

Shaw E&I, Inc.

Natasha.Sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 90



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
Harry Behzadi, Ph.D.
Laboratory Director

Certifications: IL (DOHHS 510), NE (573), NJ (PL002), MA (TL040), IA (366), LA (0305-1), KS (E-10327), SC, AK
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Accutest Laboratories

Sample Summary

Shaw E&I, Inc.

Job No: P15976

Camp Lejeune-Bldg. 1613
Project No: 824603

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F15976-1	12/17/02	11:00 MM	12/21/02	AQ	GroundW ater	UST1613-MW06
F15976-2	12/17/02	17:00 MM	12/21/02	AQ	GroundW ater	UST1613-MW11
F15976-3	12/17/02	14:00 MM	12/21/02	AQ	GroundW ater	UST1613-MW20
F15976-4	12/17/02	15:00 MM	12/21/02	AQ	GroundW ater	UST1613-MW21
F15976-5	12/17/02	12:00 MM	12/21/02	AQ	GroundW ater	UST1613-11PGW6
F15976-6	12/17/02	10:00 MM	12/21/02	AQ	GroundW ater	UST1613-MW10
F15976-7	12/17/02	16:00 MM	12/21/02	AQ	GroundW ater	UST1613-MW22
F15976-8	12/17/02	10:05 MM	12/21/02	AQ	GroundW ater	UST1613-MW10D
F15976-9	12/17/02	13:00 MM	12/21/02	AQ	GroundW ater	UST1613-MW16
F15976-10	12/17/02	15:05 MM	12/21/02	AQ	GroundW ater	UST1613-EB

Report of Analysis

Page 1 of 2

Client Sample ID:	UST1613 MW06	Date Sampled:	12/17/02
Lab Sample ID:	F159761	Date Received:	12/21/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Cambridge Bldg. 1613		

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR015387.D	1	12/27/02	RA	n/a	n/a	GQR592
Run#2							

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

VOAPP List

CAS#	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	
108-44-7	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	Methyltertbutyl 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 a non-detect value

B = Indicates a value found by a non-associated method

N = Indicates presence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID: UST1613-MW06
 Lab Sample ID: F15976-1
 Matrix: AQ-Groundwater
 Method: EPA 601/602
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 12/17/02
 Date Received: 12/21/02
 Percent Solids: n/a

VOA PPL List

CASN o.	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	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	98%		74-127%
352-33-0	1-Chloro-4-fluorobenzene	96%		74-127%
563-58-6	1,1-Dichloropropene	100%		87-120%
563-58-6	1,1-Dichloropropene	100%		87-120%

ND = Not detected MDL = Method detection limit
 RL = Reporting limit
 E = Indicates value exceeds allocation range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

ClientSampleID: UST1613-MW06							
LabSampleID: P15876-1				DateSampled: 12/17/02			
Matrix: AQ-GroutWater				DateReceived: 12/21/02			
Method: EPA8160SW 8463510C				PercentSolids: n/a			
Project: CampLejeune-Bldg. 1613							
Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	U16736.D	1	12/31/02	NJ	12/24/02	OP6638	GU797
Run#2							
	InitialVolume	FinalVolume					
Run#1	960ml	1.0ml					
Run#2							

BN PAID is 1

CASN n.	Compound	Result	RL	MDL	Units	Q
83-32-4	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	ND	5.2	2.1	ug/l	
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	

CASN n.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	86%		41-135%
84-15-1	o-Terphenyl	95%		46-135%

ND=Not detected MDL=Method Detection Limit
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates an estimated value
 B=Indicates analyte found in associated method blank
 N=1 indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	UST1613-MW11	Date Sampled:	12/17/02
Lab Sample ID:	F15976-2	Date Received:	12/21/02
Matrix:	AQ-CrowndWater	Percent Solids:	n/a
Method:	EPA8 01/602		
Project:	Camp Lejeune Bldg. 1613		

Run#	FileID	DP	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	QR015388.D	1	12/27/02	RA	n/a	n/a	GQR592
Run#2							

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

VOA PFL 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	
107-66-2	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	
75-08-2	Methylenechloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyl tertButyl 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	0.59	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 non estimated value

B=Indicates analyte found by associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID: UST1613 MW11
 Lab Sample ID: F15976 2
 Matrix: AQ-Groundwater
 Method: EPA 8160/2
 Project: Campbell-John-Bldg. 1613

Date Sampled: 12/17/02
 Date Received: 12/21/02
 Percent Solids: n/a

VOAPP List

CAS#	Compound	Result	RI	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#	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	100%		74-127%
352-33-0	1-Chloro-4-fluorobenzene	96%		74-127%
563-58-6	1,1-Dichloropropene	100%		87-120%
563-58-6	1,1-Dichloropropene	98%		87-120%

ND=Not detected MDL=Method detection limit
 RL=Reporting limit
 E=Indicates value exceeds calibration range

J=Indicates an estimated value
 B=Indicates a analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: USF1613 MW11		Date Sampled: 12/17/02	
Lab Sample ID: F15976 2		Date Received: 12/21/02	
Matrix: Aqueous Groundwater		Percent Solids: n/a	
Method: EPA 8160 SW 8463510C			
Project: Camp Lejeune Bldg. 1613			

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	IJ16737.D	1	12/31/02	NJ	12/24/02	0146638	GIJ797
Run#2							

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

BN PAH List

CASN n.	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	
207-40-9	Benzo(k)fluoranthene	ND	5.1	2.0	ug/l	
218-01-9	Chrysene	ND	5.1	2.0	ug/l	
53-70-3	Dibenz(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	

CASN n.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	69%		41-139%
84-15-1	o-Terphenyl	84%		46-135%

ND=Not Detected MDL=Method Detection Limit

RL=Reporting Limit

R=Indicates value exceeds calibration range

I=Indicates estimated value

R=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: US11613-MW20							
Lab Sample ID: F15976-3				Date Sampled: 12/17/02			
Matrix: AQ-Groundwater				Date Received: 12/21/02			
Method: EPA 81602				Percent Solids: n/a			
Project: Camp Lejeune-Bldg. 1613							
Run#1	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR015393.D	1	12/27/02	RA	n/a	n/a	GQR592
Run#2	QR015433.D	2	12/30/02	RA	n/a	n/a	GQR593
Purge Volume							
Run#1	5.0m l						
Run#2	5.0m l						

VOAPP List

CASN o.	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 ^a	2.0	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND ^a	2.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND ^a	2.0	0.80	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 ^a	2.0	1.0	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 ^a	2.0	0.60	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND ^a	2.0	0.60	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
75-09-2	Methylenechloride	ND	5.0	1.0	ug/l	
1634-01-4	Methyltertbutyl Ether	127 ^a	2.0	1.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
127-18-1	Tetrachloroethene	2.5	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	2.8	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 blank

N=1 indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID: UST1613 MW20
 Lab Sample ID: F15976-3
 Matrix: AQ-Groundwater
 Method: EPA 81602
 Project: Camp Lejeune-8/dig. 1613

Date Sampled: 12/17/02
 Date Received: 12/21/02
 Percent Solids: n/a

VOAPP List

CASN o.	Compound	Result	RL	MDL	Units	Q
75-69-4	Trichlorofluoromethane	0.79	1.0	0.50	ug/l	J
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	99%	97%	74-127%
352-33-0	1-Chloro-4-fluorobenzene	98%	98%	74-127%
563-58-6	1,1-Dichloropropene	100%	102%	87-120%
563-58-6	1,1-Dichloropropene	100%	100%	87-120%

(a) Results 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

Report of Analysis

Page 1 of 1

Client Sample ID:	UST1613-MW20	Date Sampled:	12/17/02
Lab Sample ID:	V15976-3	Date Received:	12/21/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 610SW 8463510C		
Project:	Camp Lejeune-Bldg. 1613		

Run#1	FileID	DP	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#2	U16739.D	1	12/31/02	NJ	12/21/02	OP6638	CU797

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

BN PAH List

CASN o.	Compound	Result	RL	MDL	Units	Q
83-32-0	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	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	74%		41-139%
84-15-1	o-Terphenyl	87%		46-135%

ND=Not detected MDL=Method Detection Limit

RL=Reporting Limit

Q=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID: UST1613-MW21		Date Sampled: 12/17/02	
Lab Sample ID: F15876-4		Date Received: 12/21/02	
Matrix: AQ-Groundwater		Percent Solids: n/a	
Method: EPA 81602			
Project: Camp Lejeune-Blkg. 1613			

Run#	FileID	DP	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR015430.D	1	12/30/02	RA	n/a	n/a	QR593
Run#2							

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

VOAPPLIst

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	
121-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
75-00-3	Chloroethane	ND	1.0	0.50	ug/l	
110-75-8	2-Chloroethylvinylether	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	Methylenechloride	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 non-estimated value

B=Indicates analyte found in associated method blank

N=1 indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	UST1613-MW21	Date Sampled:	12/17/02
Lab Sample ID:	F15976-4	Date Received:	12/21/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Campejeune Bldg. 1613		

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CASN o.	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	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	98%		74-127%
352-33-0	1-Chloro-4-fluorobenzene	97%		74-127%
563-58-6	1,1-Dichloropropene	101%		87-120%
563-58-6	1,1-Dichloropropene	100%		87-120%

ND=Not Detected MDL=Method Detection Limit
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates an estimated value
 B=Indicates analyte found in associated method blank
 N=1 indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: UST1613-MW21		Date Sampled: 12/17/02	
Lab Sample ID: Y15976-1		Date Received: 12/21/02	
Matrix: AQ-Groundwater		Percent Solids: n/a	
Method: EPA 8160 SW 8463510C			
Project: Camp Lejeune Bldg. 1613			

Run#	FileID	ID#	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	U16741.D	1	12/31/02	NJ	12/24/02	OP6638	GIJ797
Run#2							

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

BN PAH List

CAS#	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#	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	69%		41-139%
84-15-1	o-Terphenyl	80%		46-135%

ND=Not detected MDL=Method Detection Limit
 RL=Reporting Limit
 B=Indicates value exceeds calibration range

J=Indicates an estimated value
 B=Indicates analyte found in associated method blank
 N=1 indicates presumptive identification compound

Report of Analysis

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Client Sample ID:	UST1613 HPGW6	Date Sampled:	12/17/02
Lab Sample ID:	F15976-5	Date Received:	12/21/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camp Lejeune-Bldg. 1613		

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR015395.D	1	12/27/02	RA	n/a	n/a	GQR592
Run#2	QR015434.D	2	12/30/02	RA	n/a	n/a	GQR593

Run#	Purge Volume
Run#1	5.0m l
Run#2	5.0m l

VOAPI List

CAS#	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.4	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND ^a	2.0	1.0	ug/l	
74-83-9	Bromomethane	ND	1.0	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND ^a	2.0	1.0	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND ^a	2.0	0.80	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 ^a	2.0	1.0	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 ^a	2.0	0.60	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND ^a	2.0	0.60	ug/l	
100-41-4	Ethylbenzene	19.5	1.0	0.50	ug/l	
75-09-2	Methylenechloride	ND	5.0	1.0	ug/l	
1634-04-4	MethyltertButyl Ether	2.3	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	62.1	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-00-6	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

J=Indicates an estimated value

RL=Reporting Limit

B=Indicates analyte found in associated method blank

E=Indicates value exceeds calibration range

N=Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	UST1613 HPGW6	Date Sampled:	12/17/02
Lab Sample ID:	F15976-S	Date Received:	12/21/02
Matrix:	AQ- Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camp Lejeune-Bldg. 1613		

VOAPP List

CASN #	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)	112 ^a	6.0	2.0	ug/l

CASN #	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	103%	101%	74-127%
352-33-0	1-Chloro-4-fluorobenzene	102%	102%	74-127%
563-58-0	1,1-Dichloropropene	100%	102%	87-120%
563-58-6	1,1-Dichloropropene	101%	100%	87-120%

(a) Results from Run#2

ND=Not detected MDL=Method detection limit
 RL=Reporting limit
 E=Indicates value exceeds calibration range

J=Indicates an estimated value
 R=Indicates analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: UST1613 HPGW6
 Lab Sample ID: P15976-5
 Matrix: AQ Groundwater
 Method: EPA610SW 8463510C
 Project: Camp Lejeune-Bldg. 1613

Date Sampled: 12/17/02
 Date Received: 12/21/02
 Percent Solids: n/a

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	U16753.D	1	01/02/03	NJ	12/24/02	OP6638	GIJ798
Run#2							

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

BN PAHs (

CASN o.	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	15.6	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

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	112%		41-139%
84-15-1	o-Terphenyl	100%		46-135%

(a) All results 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

Report of Analysis

Page 1 of 2

Client Sample ID:	UST1613-MW10	Date Sampled:	12/17/02
Lab Sample ID:	F15976-H	Date Received:	12/21/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camp Lejeune-Hldg. 1613		

Run#	FileID	DP	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	QR015399.D	10	12/27/02	RA	n/a	n/a	GQR592
Run#2	QR015435.D	10	12/30/02	RA	n/a	n/a	GQR593

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

VOAPP List

CAS#	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	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	
75-08-3	Chloroethane	ND	10	5.0	ug/l	
110-75-8	2-Chloroethylvinyl ether	ND	10	5.0	ug/l	
67-56-3	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	145	10	5.0	ug/l	
75-09-2	Methylenechloride	ND	50	10	ug/l	
1634-04-4	MethylTertbutyl Ether	177	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	169	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

P = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	UST1613 MW10	Date Sampled:	12/17/02
Lab Sample ID:	F15976-6	Date Received:	12/21/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPA 601/602		
Project:	Camp Lejeune-Bldg. 1613		

VOAPP LLS

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)	998	30	10	ug/l	

CAS No.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	101%	100%	74-127%
352-33-0	1-Chloro-4-fluorobenzene	100%	101%	74-127%
563-58-6	1,1-Dichloropropene	100%	101%	87-120%
563-58-6	1,1-Dichloropropene	100%	101%	87-120%

(a) Results from Run#2

ND=Not detected MDL=Method Detection Limit
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates estimated value
 B=Indicates analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: UST1613-MW10							
Lab Sample ID: F15976-6				Date Sampled: 12/17/02			
Matrix: AQ-Groundwater				Date Received: 12/21/02			
Method: EPA 8160 SW 8463510C				Percent Solids: n/a			
Project: Campbell-Jones-Bldg. 1613							
Run#1	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#2	Q16743.D	1	12/31/02	NJ	12/24/02	OP6638	GL1797
Run#1	Initial Volume	Final Volume					
Run#2	980ml	1.0ml					

BN PAHs

CASN n.	Compound	Result	RI	MDL	Units	Q
83-32-9	Acenaphthene	ND	20	8.2	ug/l	
208-96-8	Acenaphthylene	ND	20	8.2	ug/l	
120-12-7	Anthracene	ND	20	8.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	20	8.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	20	8.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	20	8.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	20	8.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	20	8.2	ug/l	
218-01-9	Chrysene	ND	20	8.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	20	8.2	ug/l	
206-44-0	Fluoranthene	ND	20	8.2	ug/l	
86-73-7	Fluorene	ND	20	8.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	20	8.2	ug/l	
91-20-3	Naphthalene	108	20	8.2	ug/l	
90-12-0	1-Methylnaphthalene	20.5	20	8.2	ug/l	
91-57-6	2-Methylnaphthalene	50.6	20	8.2	ug/l	
85-01-8	Phenanthrene	ND	20	8.2	ug/l	
129-00-0	Pyrene	ND	20	8.2	ug/l	

CASN n.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2 Fluorobiphenyl	111%		41-139%
84-15-1	o Terphenyl	106%		46-135%

(a) All hits confirmed by dual column analysis.

ND= Not detected MDL= Method Detection Limit
 RI= Retention Index
 E= Indicates value exceeds calibration range

I= Indicates non estimated value
 B= Indicates analyte found in associated method blank
 N=I indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	UST1613-MW22	Date Sampled:	12/17/02
Lab Sample ID:	F15976-7	Date Received:	12/21/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPAS 01/602		
Project:	Camille Jeanne Bldg. 1613		

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	Analytical Batch
Run#1	QR015427.D	1	12/30/02	RA	n/a	n/a	GQR593
Run#2							

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

VOAPP List

CASN n.	Compound	Result	RL	MUL	Units	Q
71-43-2	Benzene	11.3	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	
106-90-7	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-Chloroethylvinylether	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	Tolylbenzene	2.0	1.0	0.50	ug/l	
75-09-2	Methylenechloride	ND	5.0	1.0	ug/l	
1634-04-4	MethyltertButyl Ether	62.6	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	25.6	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 MUL=Method Detection Limit

RL=Reporting Limit

E=Indicates value exceeds calibration range

J=Indicates non-estimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	UST1613 MW22	Date Sampled:	12/17/02
Lab Sample ID:	F15976-7	Date Received:	12/21/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPA 8160		
Project:	Camille Jeanne Bldg. 1613		

VOAPP LLIST

CAS No.	Compound	Result	RI	MDL	Units	Q
75-09-4	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)	13.3	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	100%		74-127%
352-33-0	1-Chloro-4-fluorobenzene	103%		74-127%
563-58-6	1,1-Dichloropropene	101%		87-120%
563-58-6	1,1-Dichloropropene	102%		87-120%

ND = Not detected MDL = Method Detection Limit
RI = Retention Index
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: UST1613-MW22		Date Sampled: 12/17/02	
Lab Sample ID: F15976-7		Date Received: 12/21/02	
Matrix: AQ-Group m/W ater		Percent Solids: n/a	
Method: EPA610SW 8463510C			
Project: Camp Lejeune Bldg. 1613			

Run#1	FileID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#2	I16754.D	1	01/02/03	NJ	12/24/02	OP6638	CI1798

Run#1	Initial Volume	Final Volume
Run#2	970ml	1.0ml

BN PAHs L

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	ND	5.2	2.1	ug/l	
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	84%		41-139%
84-15-1	o-Terphenyl	104%		46-135%

ND=Not detected MDL=Method detection limit

RL=Reporting limit

E=Indicates value exceeds calibration range

J=Indicates an estimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	UST1613-MW10D	Date Sampled:	12/17/02
Lab Sample ID:	F15876-8	Date Received:	12/21/02
Matrix:	AQ-Crum and Water	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camp Lejeune-Bldg. 1613		

Run#	FileID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	QR015400.D	10	12/27/02	RA	n/a	n/a	GQR582
Run#2	QR015436.D	10	12/30/02	RA	n/a	n/a	GQR593

	Purge Volume
Run#1	5.0m l
Run#2	5.0m l

VOA PPLI st

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	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	149	10	5.0	ug/l	
75-09-2	Methylenedichloride	ND	50	10	ug/l	
1634-04-4	Methyltertbutyl Ether	187	10	5.0	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	10	2.0	ug/l	
127-18-1	Tetrachloroethene	ND	10	5.0	ug/l	
108-88-3	Toluene	172	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 non-estimated value

B=Indicates analyte found in associated method blank

N=Indicates presence of unapproved compound

Report of Analysis

Page 2 of 2

Client Sample ID:	UST1613-MW10D	Date Sampled:	12/17/02
Lab Sample ID:	F15976-8	Date Received:	12/21/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 601/602		
Project:	Camp Lejeune-Bldg. 1613		

VOAPP List

CASN 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)	1010	30	10	ug/l	

CASN no.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	103%	101%	74-127%
352-33-0	1-Chloro-4-fluorobenzene	101%	101%	74-127%
563-58-6	1,1-Dichloropropene	101%	102%	87-120%
563-58-6	1,1-Dichloropropene	100%	100%	87-120%

(a) Results from Run#2

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

J=Indicates an estimated value
 R=Indicates analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID: UST1613-MW10D							
Lab Sample ID: F15976-8				Date Sampled: 12/17/02			
Matrix: AQ-Group ndW ater				Date Received: 12/21/02			
Method: EPA6 10SW 84635100				Percent Solids: n/a			
Project: Camp Lejeune Bldg. 1613							
Run#1	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#2	IJ16745.D	4	12/31/02	NJ	12/24/02	OP0638	GU797
Run#1	Initial Volume	Final Volume					
Run#2	980ml	1.0ml					

BN PAH List

CASN no.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	20	8.2	ug/l	
208-96-8	Acenaphthylene	ND	20	8.2	ug/l	
120-12-7	Anthracene	ND	20	8.2	ug/l	
56-55-3	Benzo(a)anthracene	ND	20	8.2	ug/l	
50-32-8	Benzo(a)pyrene	ND	20	8.2	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	20	8.2	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	20	8.2	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	20	8.2	ug/l	
218-01-9	Chrysene	ND	20	8.2	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	20	8.2	ug/l	
206-44-0	Fluoranthene	ND	20	8.2	ug/l	
86-73-7	Fluorene	ND	20	8.2	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	20	8.2	ug/l	
91-20-3	Naphthalene	117	20	8.2	ug/l	
90-12-0	1-Methylnaphthalene	20.3	20	8.2	ug/l	
91-57-6	2-Methylnaphthalene	53.0	20	8.2	ug/l	
85-01-8	Phenanthrene	ND	20	8.2	ug/l	
129-00-0	Pyrene	ND	20	8.2	ug/l	
CASN no.	Surrogate Recoveries	Run#1	Run#2	Limits		
321-60-8	2-Fluorobiphenyl	93%		41-139%		
84-15-1	o-Terphenyl	104%		46-135%		

(a) All data 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

Report of Analysis

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ClientSampleID: UST1613 MW16							
LabSampleID: 115976-9				DateSampled: 12/17/02			
Matrix: AQ-Groundwater				DateReceived: 12/21/02			
Method: EPA6 01/602				PercentSolids: n/a			
Project: CampLejeune-Bldg. 1613							
Run#1	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#2	QR015425.D	1	12/30/02	RA	n/a	n/a	QCR593
Run#1	PurgeVolume						
Run#2	5.0mL						

VOAPP Results

CAS#	Compound	Result	RI	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	
56-23-6	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	5.4	1.0	0.50	ug/l	
156-60-5	trans-1,2-Dichloroethene	0.51	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
10061-01-6	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	6.7	1.0	0.50	ug/l	
75-09-2	Methylenechloride	ND	5.0	1.0	ug/l	
1634-04-4	MethyltertButyl 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	6.2	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	26.6	1.0	0.50	ug/l	

ND=Not detected MDL=Method Detection Limit

RL=Reporting Limit

E=Indicates value exceeds calibration range

I=Indicates an estimated value

B=Indicates analyte found in associated method blank

N=Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	UST1613 MW16	Date Sampled:	12/17/02
Lab Sample ID:	F15976-9	Date Received:	12/21/02
Matrix:	AQ-Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Campeche Bldg. 1613		

VOAPP 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)	52.6	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	100%		74-127%
352-33-0	1-Chloro-4-fluorobenzene	100%		74-127%
563-58-6	1,1-Dichloropropene	101%		87-120%
563-58-6	1,1-Dichloropropene	101%		87-120%

(a) Confirmed by GC/MS

ND=Not detected MDL=Method Detection Limit
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates estimated value
 B=Indicates analyte found in associated method blank
 N=Indicates presence of compound

Report of Analysis

Page 1 of 1

Client Sample ID:	UST1613-MW16	Date Sampled:	12/17/02
Lab Sample ID:	F15976-9	Date Received:	12/21/02
Matrix:	AQ-Crown pt Water	Percent Solids:	n/a
Method:	EPA 8160 SW 84635100		
Project:	Camille Jeanne Bldg. J613		

Run#	FileID	DF	Analyzed	By	PrepDate	PrepBatch	AnalyticalBatch
Run#1	J16746.D	1	12/31/02	NJ	12/24/02	OP6638	CIJ797
Run#2							

Run#	Initial Volume	Final Volume
Run#1	970ml	1.0ml
Run#2		

BN PAH List

CAS#	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	ng/l	
207-08-9	Benzo(k)fluoranthene	ND	5.2	2.1	ng/l	
218-01-9	Chrysene	ND	5.2	2.1	ng/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	2.6	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#	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	81%		41-139%
84-15-1	o-Terphenyl	91%		46-135%

(a) All hits confirmed by dual column analysis.

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

J=Indicates an estimated value
 B=Indicates analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	UST1613 ER	Date Sampled:	12/17/02
Lab Sample ID:	U159/6-H	Date Received:	12/21/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camille Jeanne Bldg. 1613		

Run#	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	QR015431.D	1	12/30/02	RA	n/a	n/a	QQR593
Run#2							

Run#	Purge Volume
Run#1	5.0mL
Run#2	

VOAPPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	12.9	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	4.6	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	29.2	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	
10061-02-8	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	Methylenechloride	ND	5.0	1.0	ug/l	
1634-04-4	Methyltertbutyl 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	Tetrachloroethane	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

Report of Analysis

Page 2 of 2

Client Sample ID:	UST1613-103	Date Sampled:	12/17/02
Lab Sample ID:	F15976-10	Date Received:	12/21/02
Matrix:	AQ-Gravel and Water	Percent Solids:	n/a
Method:	EPA 81602		
Project:	Camp Lejeune-Bldg. 1613		

VOAPP List

CASN o.	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

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
352-33-0	1-Chloro-4-fluorobenzene	99%		74-127%
352-33-0	1-Chloro-4-fluorobenzene	97%		74-127%
563-58-6	1,1-Dichloropropene	100%		87-120%
563-58-6	1,1-Dichloropropene	99%		87-120%

(a) Confirmed by GC/MS

ND=Not detected MDL=Method Detection Limit
 RL=Reporting Limit
 E=Indicates value exceeds calibration range

J=Indicates estimated value
 B=Indicates analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	UST1613 EB	Date Sampled:	12/17/02
Lab Sample ID:	F15976 10	Date Received:	12/21/02
Matrix:	AQ Groundwater	Percent Solids:	n/a
Method:	EPA 8160 SW 8463510C		
Project:	Campeche Bldg. 1613		

Run#	FileID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run#1	U16749.D	1	12/31/02	NJ	12/24/02	OP6638	GL797
Run#2							

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

BN PAH List

CASN o.	Compound	Result	RI	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	

CASN o.	Surrogate Recoveries	Run#1	Run#2	Limits
321-60-8	2-Fluorobiphenyl	84%		41-139%
84-15-1	o-Terphenyl	94%		46-135%

ND=Not detected MDL=Method Detection Limit
 RI=Reporting Limit
 B=Indicates value exceeds calibration range

J=Indicates estimated value
 R=Indicates analyte found in associated method blank
 N=Indicates presumptive evidence of a compound

CHAIN-OF-CUSTODY RECORD



COC Number
824603-1613-121702

Shaw Environmental & Infrastructure, Inc.

F15976

Shaw E & I - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390										Receiving LAB: Accutest; Analysis Desired:											
Project Name CAMP LEJEUNE - Bldg 1613					Project Location CAMP LEJEUNE, NC																
Project Number 824603					Contact Mark Martin					P.O. Number 93010					Reviewed by						
Client Rep US NAVY - LANTIV					Project Manager Ron Kenyon / Jim Dunn																
Item No.	Sample Number	Date	Time	Cons	Grab	Sample Description				Number of Containers				VOC 601 / 602				PAH 610			
1	UST1613-MW06	12/17/02	1100		X	UST1613-MW06				5				X X							
2	UST1613-MW11	12/17/02	1200		X	UST1613-MW11				5				X X							
3	UST1613-MW20	12/17/02	1400		X	UST1613-MW20				5				X X							
4	UST1613-MW21	12/17/02	1500		X	UST1613-MW21				5				X X							
5	UST1613-HPGW6	12/17/02	1200		X	UST1613-HPGW6				5				X X							
6	UST1613-MW10	12/17/02	1000		X	UST1613-MW10				5				X X							
7	UST1613-MW22	12/17/02	1400		X	UST1613-MW22				5				X X							
8	UST1613-MW100	12/17/02	1005		X	UST1613-MW100				5				X X							
9	UST1613-MW16	12/17/02	1360		X	UST1613-MW16				5				X X							
10	UST1613-EB	12/17/02	1505		X	Equipment Blank				4				X X							
11	UST1613-TB	12/17/02	---		X	Trip Blank				2				X X							
Transfer Number	Item Number	Transfers Relinquished By		Transfers Accepted By		Date				Time				Remarks							
1	1 -- 11	<i>Mark Martin</i>		FedEx 8369 1400 1550		12/19/02				16:00				PLEASE FAX RESULTS TO 910-451-1809							
2		FED EX		Muna Moshammad		12/21/02				12:15				Dr e-mail, Mark Martin@shawgrp.com							
3						12/20/02				11:00				14 Day TAT							

2.6, 3.4

APPENDIX D

HISTORICAL GROUNDWATER ANALYTICAL RESULTS

Analytical Data Summary
Well ID: HPGW-6

Page 1 of 1

Event	2000-3	2001-2	2001-4	2002-2	2002-4
Data Sampled:	09/26/00	06/13/01	12/11/01	06/25/02	12/11/02
Analyte (ug/l)	Action Level	Result	Result	Result	Result
EPA 601/602/624					
Benzene	1	<40	<10	<20	<10
1,2-Dichlorobenzene	620	<250	<10	<20	<10
1,3-Dichlorobenzene	620	<250	<10	<20	<10
1,4-Dichlorobenzene	75	<250	<10	<20	<10
Ethylbenzene	25	<40	<10	<20	19.5
Methylene chloride		N/A	N/A	<100	N/A
Toluene	100	<40	<10	669	62.1
Methyl tert-butyl ether	200	38.9 J	15.8	<20	2.3
Xylenes (total)	530	<40	<10	<20	412
Total STEL		7186	6144	3206.7	496
EPA 610					
Acetophenone	80	<5.0	<1	<20	<5.3
Acetylstyrene	210	<5.0	<1	<20	<5.3
Anthracene	2100	<5.0	<1	<20	<5.3
Benzo(a)anthracene	0.06	<5.0	<0.1	<20	<5.3
Fluoranthene	250	<5.0	<0.2	<20	<5.3
Fluorene	750	<5.0	1.8 J	<20	<5.3
Naphthalene	210	<5.0	<1	<20	15.9
Phenanthrene	210	<5.0	<1	<20	<5.3
Pyrene	210	<5.0	<0.1	<20	<5.3
Bold type indicates detectable concentrations.					
Standard concentrations are based on EPA Method 8210, 8260, 8310, 8460, 8530, 8539, 8540, 8541, 8542, 8543, 8544, 8545, 8546, 8547, 8548, 8549, 8550, 8551, 8552, 8553, 8554, 8555, 8556, 8557, 8558, 8559, 8560, 8561, 8562, 8563, 8564, 8565, 8566, 8567, 8568, 8569, 8570, 8571, 8572, 8573, 8574, 8575, 8576, 8577, 8578, 8579, 8580, 8581, 8582, 8583, 8584, 8585, 8586, 8587, 8588, 8589, 8590, 8591, 8592, 8593, 8594, 8595, 8596, 8597, 8598, 8599, 8600, 8601, 8602, 8603, 8604, 8605, 8606, 8607, 8608, 8609, 8610, 8611, 8612, 8613, 8614, 8615, 8616, 8617, 8618, 8619, 8620, 8621, 8622, 8623, 8624, 8625, 8626, 8627, 8628, 8629, 8630, 8631, 8632, 8633, 8634, 8635, 8636, 8637, 8638, 8639, 8640, 8641, 8642, 8643, 8644, 8645, 8646, 8647, 8648, 8649, 8650, 8651, 8652, 8653, 8654, 8655, 8656, 8657, 8658, 8659, 8660, 8661, 8662, 8663, 8664, 8665, 8666, 8667, 8668, 8669, 8670, 8671, 8672, 8673, 8674, 8675, 8676, 8677, 8678, 8679, 8680, 8681, 8682, 8683, 8684, 8685, 8686, 8687, 8688, 8689, 8690, 8691, 8692, 8693, 8694, 8695, 8696, 8697, 8698, 8699, 8700, 8701, 8702, 8703, 8704, 8705, 8706, 8707, 8708, 8709, 8710, 8711, 8712, 8713, 8714, 8715, 8716, 8717, 8718, 8719, 8720, 8721, 8722, 8723, 8724, 8725, 8726, 8727, 8728, 8729, 8730, 8731, 8732, 8733, 8734, 8735, 8736, 8737, 8738, 8739, 8740, 8741, 8742, 8743, 8744, 8745, 8746, 8747, 8748, 8749, 8750, 8751, 8752, 8753, 8754, 8755, 8756, 8757, 8758, 8759, 8760, 8761, 8762, 8763, 8764, 8765, 8766, 8767, 8768, 8769, 8770, 8771, 8772, 8773, 8774, 8775, 8776, 8777, 8778, 8779, 8780, 8781, 8782, 8783, 8784, 8785, 8786, 8787, 8788, 8789, 8790, 8791, 8792, 8793, 8794, 8795, 8796, 8797, 8798, 8799, 8800, 8801, 8802, 8803, 8804, 8805, 8806, 8807, 8808, 8809, 8810, 8811, 8812, 8813, 8814, 8815, 8816, 8817, 8818, 8819, 8820, 8821, 8822, 8823, 8824, 8825, 8826, 8827, 8828, 8829, 8830, 8831, 8832, 8833, 8834, 8835, 8836, 8837, 8838, 8839, 8840, 8841, 8842, 8843, 8844, 8845, 8846, 8847, 8848, 8849, 8850, 8851, 8852, 8853, 8854, 8855, 8856, 8857, 8858, 8859, 8860, 8861, 8862, 8863, 8864, 8865, 8866, 8867, 8868, 8869, 8870, 8871, 8872, 8873, 8874, 8875, 8876, 8877, 8878, 8879, 8880, 8881, 8882, 8883, 8884, 8885, 8886, 8887, 8888, 8889, 8890, 8891, 8892, 8893, 8894, 8895, 8896, 8897, 8898, 8899, 8900, 8901, 8902, 8903, 8904, 8905, 8906, 8907, 8908, 8909, 8910, 8911, 8912, 8913, 8914, 8915, 8916, 8917, 8918, 8919, 8920, 8921, 8922, 8923, 8924, 8925, 8926, 8927, 8928, 8929, 8930, 8931, 8932, 8933, 8934, 8935, 8936, 8937, 8938, 8939, 8940, 8941, 8942, 8943, 8944, 8945, 8946, 8947, 8948, 8949, 8950, 8951, 8952, 8953, 8954, 8955, 8956, 8957, 8958, 8959, 8960, 8961, 8962, 8963, 8964, 8965, 8966, 8967, 8968, 8969, 8970, 8971, 8972, 8973, 8974, 8975, 8976, 8977, 8978, 8979, 8980, 8981, 8982, 8983, 8984, 8985, 8986, 8987, 8988, 8989, 8990, 8991, 8992, 8993, 8994, 8995, 8996, 8997, 8998, 8999, 9000, 9001, 9002, 9003, 9004, 9005, 9006, 9007, 9008, 9009, 9010, 9011, 9012, 9013, 9014, 9015, 9016, 9017, 9018, 9019, 9020, 9021, 9022, 9023, 9024, 9025, 9026, 9027, 9028, 9029, 9030, 9031, 9032, 9033, 9034, 9035, 9036, 9037, 9038, 9039, 9040, 9041, 9042, 9043, 9044, 9045, 9046, 9047, 9048, 9049, 9050, 9051, 9052, 9053, 9054, 9055, 9056, 9057, 9058, 9059, 9060, 9061, 9062, 9063, 9064, 9065, 9066, 9067, 9068, 9069, 9070, 9071, 9072, 9073, 9074, 9075, 9076, 9077, 9078, 9079, 9080, 9081, 9082, 9083, 9084, 9085, 9086, 9087, 9088, 9089, 9090, 9091, 9092, 9093, 9094, 9095, 9096, 9097, 9098, 9099, 9100, 9101, 9102, 9103, 9104, 9105, 9106, 9107, 9108, 9109, 9110, 9111, 9112, 9113, 9114, 9115, 9116, 9117, 9118, 9119, 9120, 9121, 9122, 9123, 9124, 9125, 9126, 9127, 9128, 9129, 9130, 9131, 9132, 9133, 9134, 9135, 9136, 9137, 9138, 9139, 9140, 9141, 9142, 9143, 9144, 9145, 9146, 9147, 9148, 9149, 9150, 9151, 9152, 9153, 9154, 9155, 9156, 9157, 9158, 9159, 9160, 9161, 9162, 9163, 9164, 9165, 9166, 9167, 9168, 9169, 9170, 9171, 9172, 9173, 9174, 9175, 9176, 9177, 9178, 9179, 9180, 9181, 9182, 9183, 9184, 9185, 9186, 9187, 9188, 9189, 9190, 9191, 9192, 9193, 9194, 9195, 9196, 9197, 9198, 9199, 9200, 9201, 9202, 9203, 9204, 9205, 9206, 9207, 9208, 9209, 9210, 9211, 9212, 9213, 9214, 9215, 9216, 9217, 9218, 9219, 9220, 9221, 9222, 9223, 9224, 9225, 9226, 9227, 9228, 9229, 9230, 9231, 9232, 9233, 9234, 9235, 9236, 9237, 9238, 9239, 9240, 9241, 9242, 9243, 9244, 9245, 9246, 9247, 9248, 9249, 9250, 9251, 9252, 9253, 9254, 9255, 9256, 9257, 9258, 9259, 9260, 9261, 9262, 9263, 9264, 9265, 9266, 9267, 9268, 9269, 9270, 9271, 9272, 9273, 9274, 9275, 9276, 9277, 9278, 9279, 9280, 9281, 9282, 9283, 9284, 9285, 9286, 9287, 9288, 9289, 9290, 9291, 9292, 9293, 9294, 9295, 9296, 9297, 9298, 9299, 9300, 9301, 9302, 9303, 9304, 9305, 9306, 9307, 9308, 9309, 9310, 9311, 9312, 9313, 9314, 9315, 9316, 9317, 9318, 9319, 9320, 9321, 9322, 9323, 9324, 9325, 9326, 9327, 9328, 9329, 9330, 9331, 9332, 9333, 9334, 9335, 9336, 9337, 9338, 9339, 9340, 9341, 9342, 9343, 9344, 9345, 9346, 9347, 9348, 9349, 9350, 9351, 9352, 9353, 9354, 9355, 9356, 9357, 9358, 9359, 9360, 9361, 9362, 9363, 9364, 9365, 9366, 9367, 9368, 9369, 9370, 9371, 9372, 9373, 9374, 9375, 9376, 9377, 9378, 9379, 9380, 9381, 9382, 9383, 9384, 9385, 9386, 9387, 9388, 9389, 9390, 9391, 9392, 9393, 9394, 9395, 9396, 9397, 9398, 9399, 9400, 9401, 9402, 9403, 9404, 9405, 9406, 9407, 9408, 9409, 9410, 9411, 9412, 9413, 9414, 9415, 9416, 9417, 9418, 9419, 9420, 9421, 9422, 9423, 9424, 9425, 9426, 9427, 9428, 9429, 9430, 9431, 9432, 9433, 9434, 9435, 9436, 9437, 9438, 9439, 9440, 9441, 9442, 9443, 9444, 9445, 9446, 9447, 9448, 9449, 9450, 9451, 9452, 9453, 9454, 9455, 9456, 9457, 9458, 9459, 9460, 9461, 9462, 9463, 9464, 9465, 9466, 9467, 9468, 9469, 9470, 9471, 9472, 9473, 9474, 9475, 9476, 9477, 9478, 9479, 9480, 9481, 9482, 9483, 9484, 9485, 9486, 9487, 9488, 9489, 9490, 9491, 9492, 9493, 9494, 9495, 9496, 9497, 9498, 9499, 9500, 9501, 9502, 9503, 9504, 9505, 9506, 9507, 9508, 9509, 9510, 9511, 9512, 9513, 9514, 9515, 9516, 9517, 9518, 9519, 9520, 9521, 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Analytical Data Summary Well ID: 1613-6

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Event:	1598-3	1999-1	1999-2	1999-3	1999-4	2000-2	2000-3S
Date Sampled:	5/20/98 & 10/3/98	03/05/99	05/12/99	06/10/99	11/21/99	05/23/00	09/24/00
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result
EPA 601/602/624							
Benzene	1	<1.0				<1.0	<1.0
1,2-Dichlorobenzene	520	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	520	0.56 J	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	75	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	25	<1.0	5.5	<1.0	<1.0	<1.0	<1.0
Methylene chloride		0.42 J	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	1000	<1.0	29	<1.0	<1.0	<1.0	<1.0
Methyl tertiary ether	200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Xylenes (total)	530	<1.0	33	<1.0	<1.0	<1.0	<1.0
Total BTEX			71.6	1.1			
EPA 610							
Acetophenone	80	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Acenaphthylene	210	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Anthracene	2100	0.55 J	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)anthracene	0.35	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Fluoranthene	280	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Fluorene	280	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Naphthalene	21	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Phenanthrene	210	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	210	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Bold type indicates detectable concentrations.							
Shaded cells indicate non-detectable concentrations at the detection limit.							

Analytical Data Summary
Well ID: 1613-10

Event	1993-3	1999-1	1999-2	1999-3	1999-4	2000-2	2000-3S
Date Sampled:	9/29/95 & 10/06/95	03/05/99	05/21/99	08/11/99	11/21/99	05/25/00	09/24/00
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result
EPA 601/602/624							
Benzene	1						
1,2-Dichlorobenzene	620	<1.0	<100	<100	<100	<80	<50
1,3-Dichlorobenzene	620	0.22 J	<100	<100	<100	<80	<50
1,4-Dichlorobenzene	75	<1.0	<100	<100	<100	<80	<50
Ethylbenzene	29	26					<50
Methylcyclohexane		<2.0	<500	<500	<500	<400	<250
Toluene	1000	19			870	830	51
Methyl tert-butyl ether	200	<5.0					
Xylenes (total)	530	160					
Total BTEX		214.9	1115.9	9430	5710	3240	441
EPA 610							
Acenaphthene	80	<2.0	<20	<20	<10	<2.0	<2.0
Acenaphthylene	210	<2.0	<20	<20	<10	<2.0	<2.0
Anthracene	2100	0.55 J	<10	<10	<5.0	<1.0	<1.0
Benzo[a]anthracene	0.05	<0.4	<1.0	<1.0	<0.5	<0.1	<0.1
Fluoranthene	250	<0.5	<5.0	<5.0	<2.5	<0.5	<0.5
Fluorene	280	<2.0	<20.0	<20.0	<10.0	<2.0	<2.0
Naphthalene	21	<2.0					15
Phenanthrene	210	<1.0	<10	<10	<5.0	<1.0	<1.0
Pyrene	210	<0.5	<5.0	<5.0	<2.5	<0.5	<0.5
Bold type indicates detectable concentrations.							

Analytical Data Summary

Well ID: 1613-10

Event	2000-3A	2002-7	2001-2	2001-4	2002-2	2002-4
Date Sampled:	09/24/00	12/19/03	06/30/01	12/20/01	06/26/02	12/17/02
Analyte (ug/L)	Action Level	Result	Result	Result	Result	Result
EPA 601/602/624						
Benzene	1	<25	<20	<10	<20	<10
1,2-Dichlorobenzene	620	<25	<20	<10	<20	<10
1,3-Dichlorobenzene	620	<25	<20	<10	<20	<10
1,4-Dichlorobenzene	75	<25	<20	<10	<20	<10
Ethylbenzene	23	<25	<20	<10	<20	<10
Methylene chloride		N/A	N/A	N/A	<100	N/A
Toluene	1000	47.2	270	82	632	169
Methyl tert-butyl ether	200	<100	<20	<10	<20	177
Xylenes (total)	550	424	1500	1932	2200	303
Total BTEX		513.5	1661	932	3254	1512
EPA 610						
Acenaphthene	20	<5.0	<2.0	<1.0	<21	<20
Acenaphthylene	210	<5.0	<2.0	<1.0	8.63	<20
Anthracene	2100	<5.0	<2.0	<1.0	<21	<20
Benzo[a]anthracene	0.05	<5.0	<0.1	<0.1	<21	<20
Fluorene	280	<5.0	<0.5	<0.2	<21	<20
Fluorene	280	<5.0	<2.0	<2.0	<21	<20
Maleic anhydride	21	4.63	<1.0	<1.0	<21	<20
Phenanthrene	210	<5.0	<1.0	<1.0	<21	<20
Pyrene	210	<5.0	<0.5	<0.1	<21	<20
		Bold type indicates detectable concentrations.				
		N/A indicates not analyzed.				

Analytical Data Summary
Well ID: 1613-11

Event		1999-4	2000-3	2001-2	2001-4	2002-2	2002-4
Date Sampled:		11/2/99	09/25/00	05/03/01	12/10/01	06/26/02	12/7/02
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result
EPA 601/602/624							
Benzene	1		0.55 J		<1.0		<1.0
1,2-Dichlorobenzene	520	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	520	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	75	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	9.9	<1.0	1.4	<1.0	0.93 J	<1.0
Methylene chloride		<1.0	N/A	N/A	N/A	<5.0	N/A
Toluene	1000	120	<1.0	17	<1.0	13.9	0.59 J
Methyl tert-butyl ether	200	<1.0	2.4	<5.0	<1.0	1.1	<1.0
Xylenes (total)	530	200	<5.0	27	<3.0	12.3	<1.0
Total BTEX		351.9	0.85	48.4		31.03	0.59
EPA 610							
Acetophenone	50	<2.0	<5.0	<1.0	<5.0	<5.0	<5.1
Acetophenylene	210	<2.0	<5.0	<1.0	<5.0	<5.0	<5.1
Anthracene	2100	<1.0	<5.0	<1.0	<5.0	<5.0	<5.1
Benzo(a)anthracene	0.05	<0.1	<5.0	<0.1	<5.0	<5.0	<5.1
Fluoranthene	260	<0.5	<5.0	<0.2	<5.0	<5.0	<5.1
Fluorene	280	<2.0	<5.0	<2.0	<5.0	<5.0	<5.1
Anthracene	21	<2.0	<5.0	<2.0	<5.0	<5.0	<5.1
Phenanthrene	210	<1.0	<5.0	<1.0	<5.0	<5.0	<5.1
Pyrene	210	<0.5	<5.0	<0.1	<5.0	<5.0	<5.1
Boil type indicates detectable concentrations.							
Boil type indicates detectable concentrations.							

Analytical Data Summary Well ID: 1613-16

Page 1 of 1

Event		2000-3	2001-2	2001-4	2002-2	2002-4
Date Sampled:		06/26/00	08/30/01	12/20/01	06/28/02	12/17/02
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result
EPA 601/602/624						
Benzene	1	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	520	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	520	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	75	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	<1.0	<1.0	<1.0	<1.0	6.7
Methylene chloride		N/A	N/A	N/A	<5.0	N/A
Toluenes	1000	<1.0	1.7	<1.0	<1.0	5.2
Methyl tert-butyl ether	200	<5.0	<5.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<3.0	1.8	<3.0	<3.0	52.8
TOTAL BTEX			3.5			65.5
EPA 810						
Acenaphthene	80	<5.0	<1.0	<5.0	<5.1	<5.2
Acenaphthylene	210	<5.0	<1.0	<5.0	<5.1	<5.2
Anthracene	2000	<5.0	<1.0	<5.0	<5.1	<5.2
Benzo(a)anthracene	505	<5.0	<1.0	<5.0	<5.1	<5.2
Fluoranthene	250	<5.0	<1.0	<5.0	<5.1	<5.2
Fluorene	250	<5.0	<1.0	<5.0	<5.1	<5.2
Naphthalene	21	<5.0	<1.0	<5.0	<5.1	2.6 J
Phenanthrene	200	<5.0	<1.0	<5.0	<5.1	<5.2
Pyrene	210	<5.0	<1.0	<5.0	<5.1	<5.2
Bold type indicates detectable concentrations.						
Shaded cells indicate concentrations above the groundwater quality standards.						

Analytical Data Summary Well ID: 1613-20

Event	2000-5	2001-2	2001-4	2002-2	2002-4
Date Sampled	08/25/00	06/30/01	12/19/01	05/25/02	12/17/02
Analyte (ug/l)	Action Level	Result	Result	Result	Result
EPA 501/502/624					
Benzene	1	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	820	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	920	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	75	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	0.72 J	<1.0	<1.0	<1.0
Methylene chloride		N/A	N/A	<5.0	N/A
Toluene	1000	2.7	5.2	<1.0	0.87 J
Methyl tert-butyl ether	200	83	401	318	127
Xylenes (Total)	530	9.4	12	<5.0	2.7 J
Total BTEX		12.82	18.2	3.57	
EPA 610					
Acenaphthene	30	<5.0	<5.0	<5.0	<5.1
Acenaphthylene	210	<5.0	<5.0	<5.0	<5.1
Anthracene	2100	<5.0	<5.0	<5.0	<5.1
Benzo[a]anthracene	0.5	<5.0	<5.0	<5.0	<5.1
Fluoranthene	280	<5.0	<5.0	<5.0	<5.1
Pyrene	280	<5.0	<5.0	<5.0	<5.1
Naphthalene	21	<5.0	<5.0	<5.0	<5.1
Phenanthrene	210	<5.0	<5.0	<5.0	<5.1
Xylene	210	<5.0	<5.0	<5.0	<5.1
Bold type indicates detectable concentrations.					
Shaded area indicates detection concentrations above the applicable quality standards.					

Analytical Data Summary

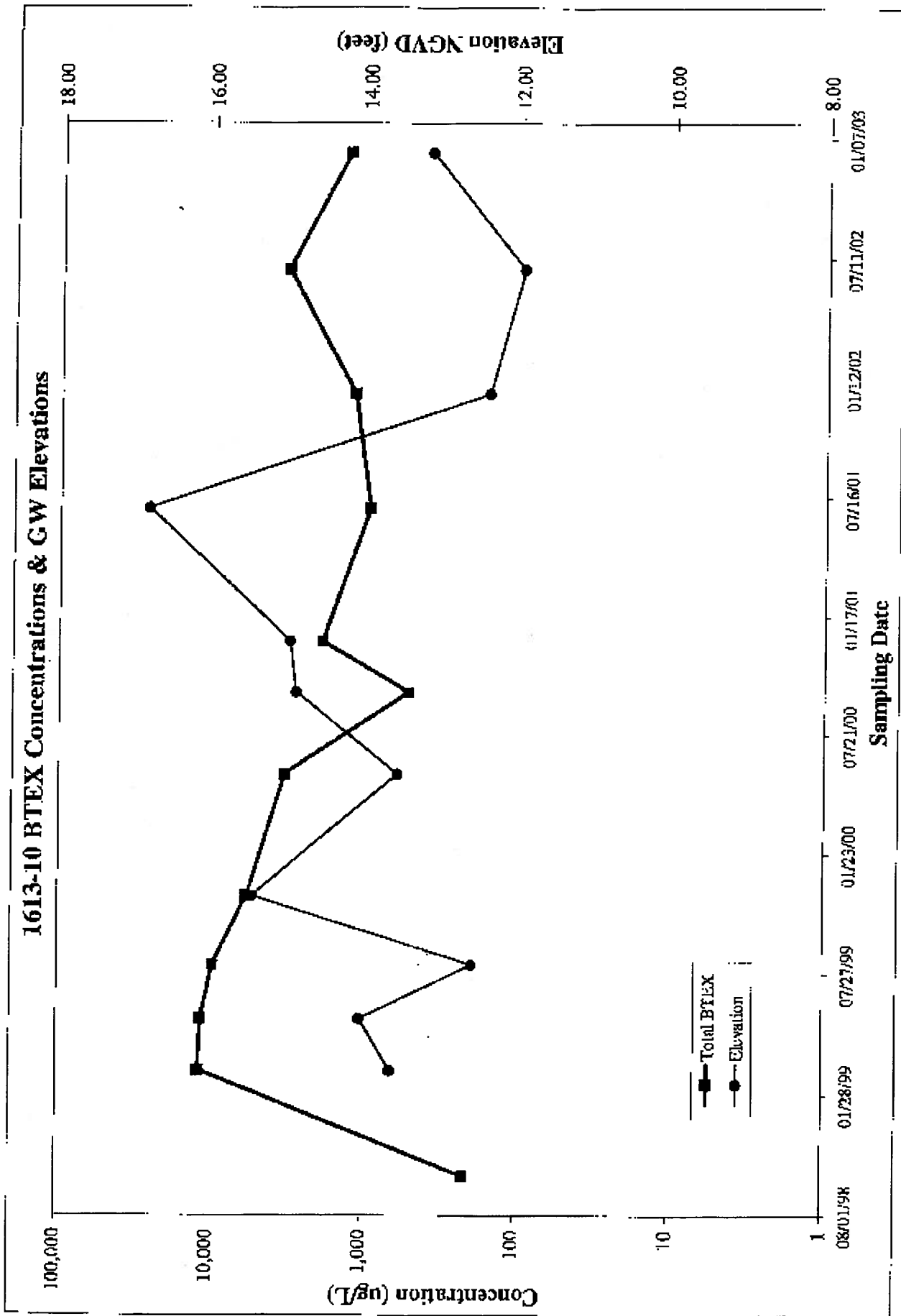
Well ID: 1613-21

Event		2000-3	2001-2	2001-4	2002-2	2002-4
Data Sampled:		05/26/00	06/02/01	12/10/01	06/26/02	12/17/02
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result
EPA 501/502/524						
Benzene		<1.0	1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	520	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	620	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	75	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	22	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene chloride		N/A	N/A	N/A	<5.0	<5.0
Toluene	1000	0.64 J	9.4	<1.0	1.8	<1.0
Methyl tert-butyl ether	200	<1.0	<5.0	<1.0	<1.0	<1.0
Xylenes (total)	530	2.0 J	17	<3.0	4.7	<3.0
Total BTEX		2.66	27.4		6.5	
EPA 510						
Acetophenone	90	<5.0	<1.0	<5.0	<5.0	<5.1
Acetophenone	210	<5.0	<1.0	<5.0	<5.0	<5.1
Anthracene	2100	<5.0	<1.0	<5.0	<5.0	<5.1
Benz[a]anthracene	0.05	<5.0	<0.1	<5.0	<5.0	<5.1
Fluoranthene	280	<5.0	<0.2	<5.0	<5.0	<5.1
Fluorene	280	<5.0	<0.2	<5.0	<5.0	<5.1
Naphthalene	21	<5.0	<0.2	<5.0	<5.0	<5.1
Phenanthrene	210	<5.0	<0.2	<5.0	<5.0	<5.1
Pyrene	210	<5.0	<0.2	<5.0	<5.0	<5.1
Bold type indicates detectable concentrations.						
Shaded areas indicate data is below the groundwater quality standards.						

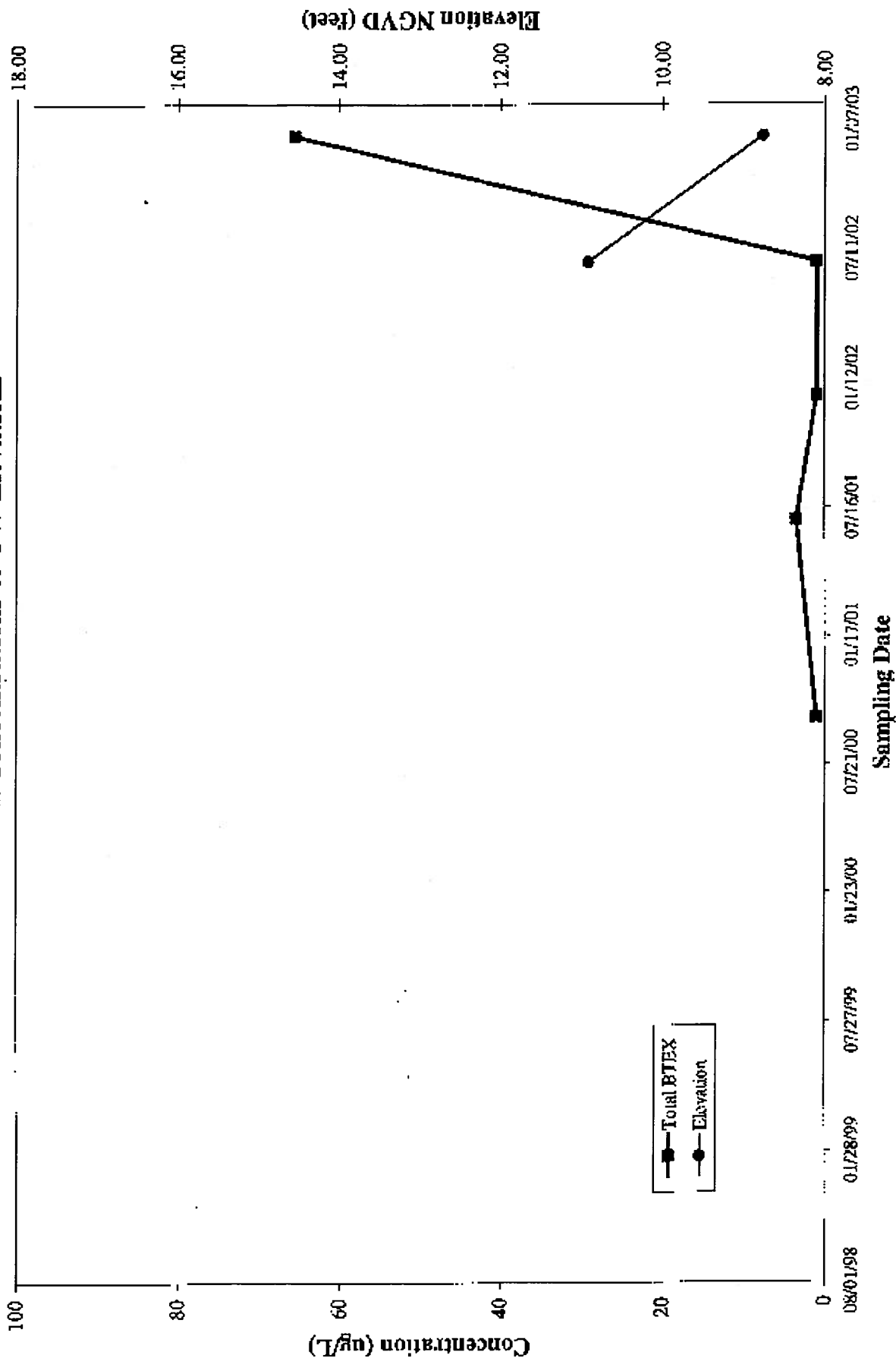
APPENDIX E

GROUNDWATER ELEVATION vs BTEX CONCENTRATION GRAPHS

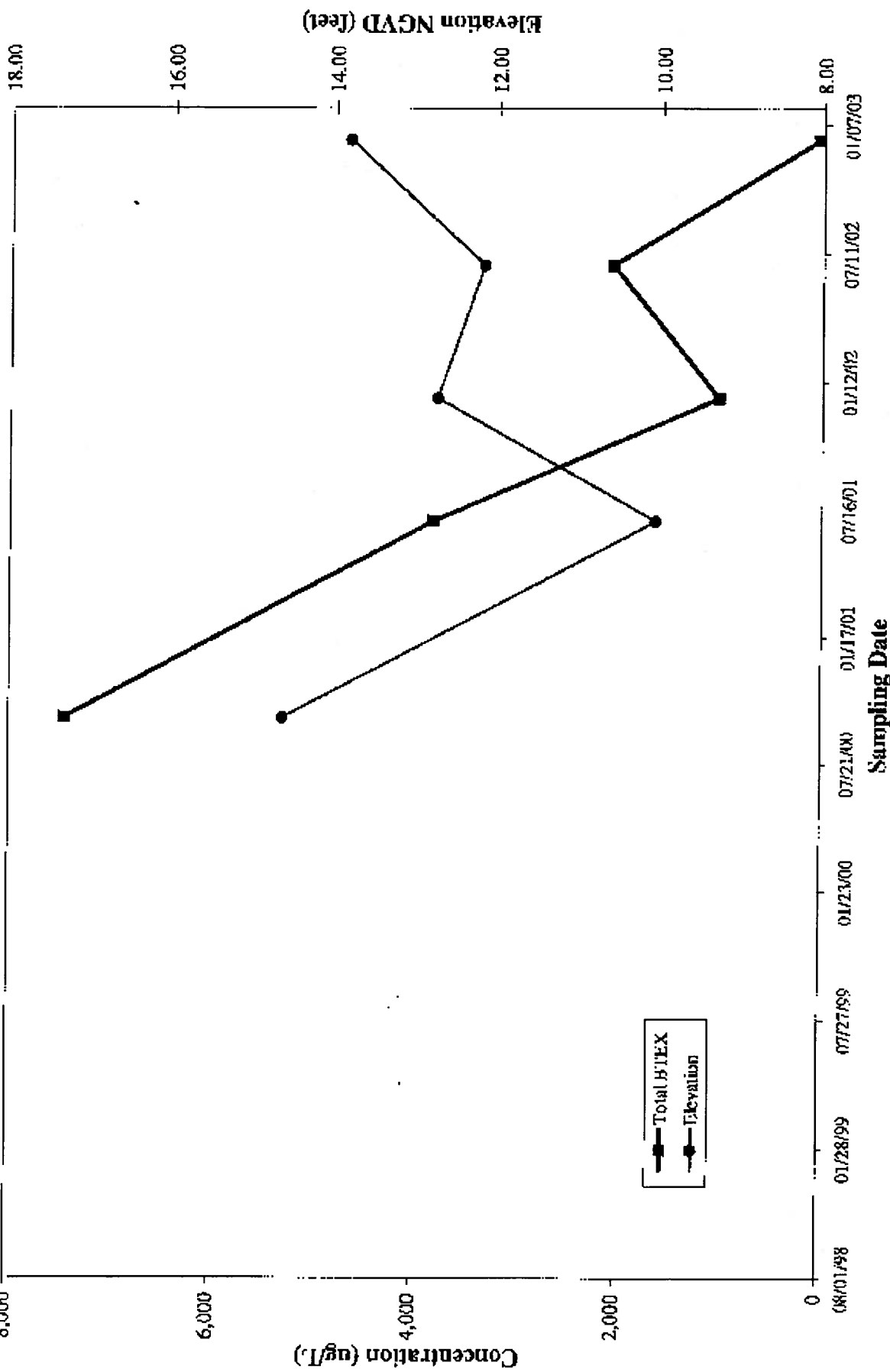
1613-10 BTEX Concentrations & GW Elevations



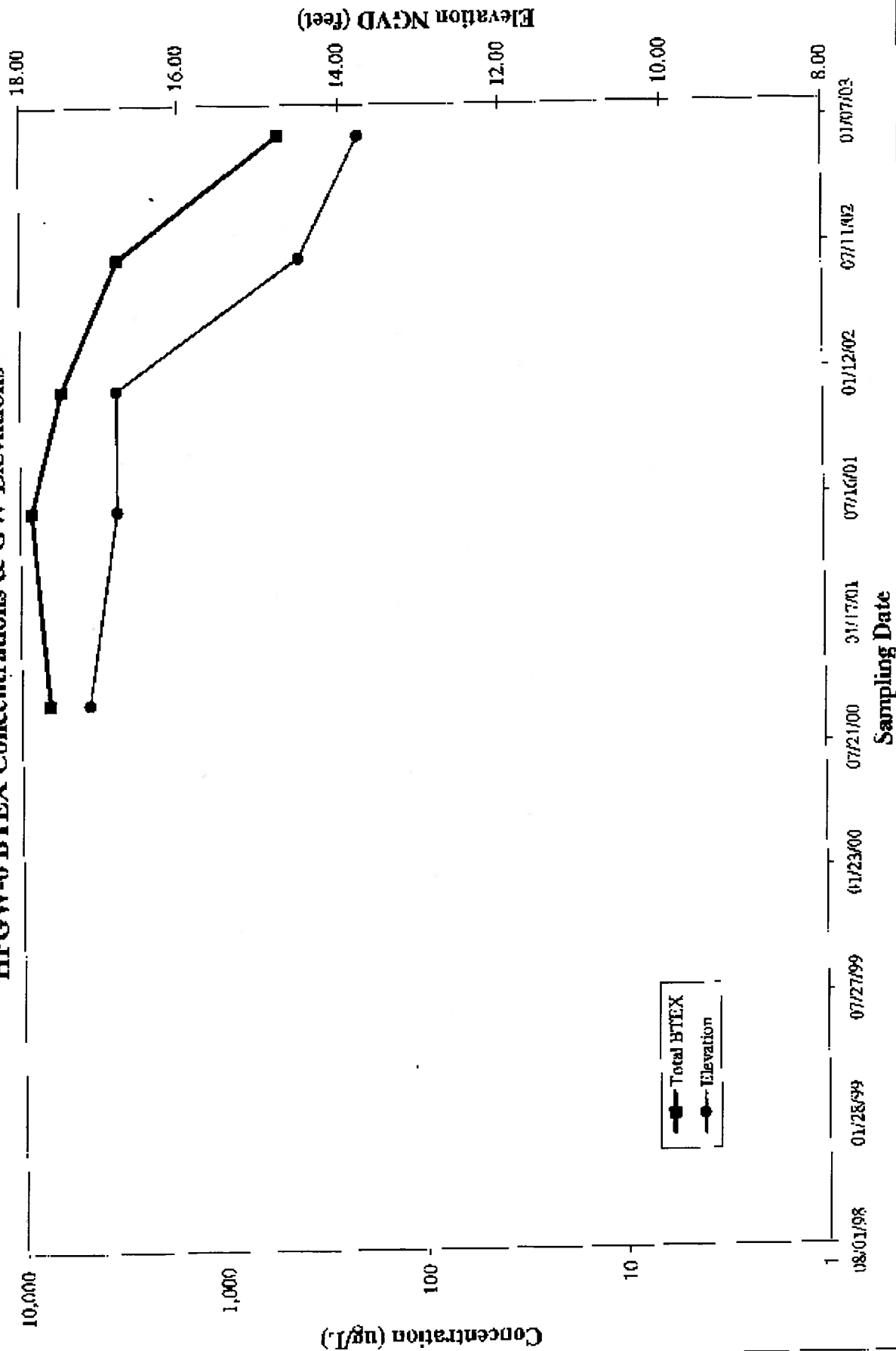
1613-16 BTEX Concentrations & GW Elevations



1613-22 BTEX Concentrations & GW Elevations



HPGW-6 BTEX Concentrations & GW Elevations



1613-11 BTEX Concentrations & GW Elevations

