



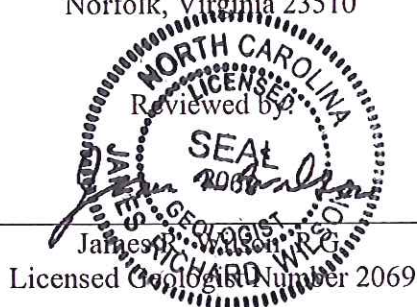
FINAL
2008-2009 ANNUAL MONITORING REPORT


**BUILDING LCH-4015
MARINE CORP BASE, CAMP LEJUENE
ONslow COUNTY, NORTH CAROLINA**

Contract No. N62470-02-D-3260

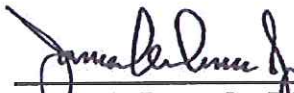
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Task Order 81
Shaw Project No. 125709
June 2009

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ACRONYMS AND ABBREVIATIONS

AS	Air Sparge
AST	Aboveground Storage Tank
bls	below land surface
CAP	Corrective Action Plan
CATLIN	CATLIN Engineers and Scientists
DRO	Diesel Range Organic
DTW	depth to water
EEI	Engineering and Environment, Inc.
GRO	Gasoline Range Organic
J.A. Jones	J. A. Jones Environmental Services, Inc.
Law	Law Engineering and Environmental Services, Inc.
MCB	Marine Corps Base
mg/kg	milligrams per kilogram
MSCC	Maximum Soil Contaminant Concentration
MTBE	Methyl tert-butyl ether
NCGWQS	North Carolina Groundwater Quality Standards
NCDENR	North Carolina Department of Environment and Natural Resources
NORR	Notice of Regulatory Requirements
NOV	Notice of Violation
ppm	parts per million
PID	Photo Ionization Detector
PVC	Polyvinyl chloride
RAO	Remedial Action Optimization
RCAP	Revised Corrective Action Plan
Shaw	Shaw Environmental, Inc
Sovereign	Sovereign Consulting, Inc.
SVE	Soil Vapor Extraction
TPH	Total Petroleum Hydrocarbons
µg/L	micrograms per liter
UST	Underground Storage Tank

TITLE PAGE

DATE OF REPORT: May 2009

Facility I.D.: N/A

NCDENR Incident Number: 85352

Site Name: LCH 4015

Site Location: Marine Corps Base Camp Lejeune, North Carolina

Nearest City/Town: Camp Lejeune County: Onslow

Property Owner: Commanding Officer – MCB Camp Lejeune

I&E/EMD/EOB

PSC Box 20004

Address: MCB Camp Lejeune, NC 28542-0004

Phone: (910) 451-5068

Tank Owner: Same as above

Address: Same as above

Phone: Same as above

Property Occupant: Same as above

Address: MCB Camp Lejeune, NC

Phone: None

Consultant/Contractor: Shaw Environmental, Inc.

Address: 500 East Main St. Suite 1630

Norfolk, VA. 23510

Phone: (757) 640-6200

Release Information

Date Discovered: 1994

Estimated Quantity of Release: Unknown

Cause of Release: Leaking aboveground storage tank system

Source of Release (Piping/AST): AST

Sizes and contents of UST system(s) from which the release occurred: The former system was two 14,000-gallon gasoline aboveground storage tanks, one 14,000-gallon diesel oil aboveground storage tank, one 3,000-gallon No.2 fuel oil aboveground storage tanks, a number of smaller tanks, and associated underground product piping.

I, John A. Wilson, a Professional Geologist for Shaw Environmental Inc., do certify that the information contained in this report is correct and accurate to the best of my knowledge.

1.0 INTRODUCTION

The purpose of this report is to summarize the remediation system performance data, groundwater monitoring well gauging data, and groundwater monitoring well sampling results at the LCH-4015 site aboard MCB Camp Lejeune, North Carolina for the 2008-2009 reporting period covering June 2008 through May 2009. The project's scope of work entailed annual gauging of 23 site monitoring wells (each are preceded by the prefix USTLCH4015) - MW01 through MW24, excluding MW17 due to the unavailable location. Analyses run included EPAMethods 602 + Xylenes, 625 + 10 target non-target peaks, and 3030C for Lead. The results of Shaw's 2008-2009 gauging and sampling events are presented in this report.

1.1 CAMP LEJEUNE SITE LOCATION AND DESCRIPTION

The site is located aboard MCB Camp Lejeune in Onslow County, North Carolina (**Figure 1**). The project site consists of the Community Center Building (LCH-4014), former fueling and maintenance area (LCH-4015, removed), Marine Corps Exchange Convenience Store (LCH-4034), and the former fuel tank farm. The site is located at the intersection of North Carolina Highway 24 and the Butler Drive entrance to Midway Park.

A former aboveground storage tank (AST) system began operation in 1945 at the site. The AST system consisted of two 14,000-gallon gasoline tanks that supplied fuel to four gasoline dispensers located on a pump island to the north of former Building LCH-4015, one 14,000-gallon diesel tank that supplied fuel to a dispenser located on the north side of Building LCH-4015, and one 3,000-gallon Number 2 fuel oil tank that supplied fuel oil to a boiler contained within Building LCH-4014. A number of smaller storage tanks were also located at the site. Fuel was distributed through a number of underground product piping systems. In 1990, the ASTs at former Building LCH-4015 were emptied of product, and the three 14,000-gallon ASTs were removed and relocated for use at other locations on the base.

2.0 CONTAMINATION INVESTIGATION HISTORY

Site assessments were performed from 1994 – 1996 by R.E. Wright Associates, Inc., and Law. Groundwater samples from the monitoring wells and soil samples in the vicinity of the former AST system contained evidence of petroleum impact exceeding NCGWQS.

In 1996, a Corrective Action Plan (CAP) was prepared for the site by Law. The CAP identified target clean-up levels for soil of 40 milligrams per kilogram (mg/kg) for Total Petroleum Hydrocarbons (TPH) Gasoline Range Organics (GRO) and 160 mg/kg for TPH Diesel Range Organic (DRO), Groundwater target clean-up levels were set at the NCGWQS. The CAP recommended installation of an airsparge and soil vapor extraction (AS/SVE) system for the remedial action at the site.

The treatment system was constructed by J.A. Jones and began remediation activities in November 1998. The groundwater treatment system has operated continuously since 1998, with the exception of occasional maintenance repairs and groundwater sampling events. Presently, twenty-three monitoring wells are included in gauging and sampling events. Various remediation contractors have maintained and operated the site since 1998 including J.A. Jones Environmental Services, Inc. (J.A. Jones), Engineering and Environment, Inc. (EEI), Sovereign Consulting Inc. (Sovereign), and Shaw Environmental, Inc. (Shaw).

Additional assessment work has been conducted at the site in the last several years. First, North Carolina Department of Environment and Natural Resources (NCDENR) requested that three intermediate monitoring wells (MW21 to MW23) be installed to further delineate the vertical extent of groundwater contamination. Well installation took place in June 2001. In addition, three underground storage tanks (USTs) were removed from the site in 2002. Subsequent soil and groundwater assessment work in the former UST area concluded that soils did not require remediation as contaminant levels were below residential Maximum Soil Contaminant Concentrations (MSCC). Affected soils were also within the influence of the current SVE system.

Groundwater contamination near the former UST basin was also within the influence of the current system layout; therefore, additional groundwater remediation was not recommended. The former UST basin assessment was conducted as a result of recommendations made in an optimization report conducted by CATLIN Engineers and Scientist (CATLIN) in 2004. Results are contained in the CATLIN “*Report of Findings for Soil and Free Phase Product*”, dated December 2004. The NCDENR requested that groundwater be delineated in a Notice of

Regulatory Requirement (NORR) letter dated June 14, 2004. Data from the CATLIN report was used to evaluate where to install additional monitoring wells that would define the groundwater contamination. As a result, one shallow monitoring well (MW24) was installed in the immediate vicinity of former USTs LCH-4034-1, LCH 4034-2, and LCH 4034-3 in February 2005. The well was subsequently incorporated into the monitoring program. Overall, the 2004 optimization report concluded that the system has been effective in reducing petroleum constituent concentrations in the upper portion of the contaminant plume and should continue operation in order to maintain influence.

Monitoring and maintenance of the groundwater treatment system at the LCH 4015 site has continued from installation in 1998 to the present. The system was temporarily deactivated in early June 2007; but the AS/SVE system was reactivated on August 31, 2007 as a result of the notice of violation (NOV) issued for the site. The August 2007 groundwater sampling event was cancelled and a soil investigation was conducted instead to examine boring locations with historical exceedences of the state action levels of 10 mg/kg for TPH-GRO and 40 mg/kg for TPH-DRO. Three soil boring locations had exceedences of the state action limits. Therefore, soils with contaminant concentrations above state action levels were excavated and disposed of at a licensed disposal facility and replaced with clean backfill.

In January 2009, CATLIN collected two soil samples at the former fuel island associated with the LCH-4015 AST system to determine if soil contamination above the NCDENR action levels was present in this area. This was done in response to a request by NCDENR due to historical data indicating that no samples had ever been collected from beneath the dispensers. The results for both samples indicated TPH GRO and TPH DRO results above the NCDENR action levels. Since this area is within the area of influence of the AS/SVE system, these results support the continued operation of the system and CATLIN recommended that the soil in this area be re-sampled once the groundwater contaminant levels have been reduced to below the 2L NCGWQSs.

Annual sampling (August 2008) and bi-annual gauging (August 2008 and May 2009) for twenty-three monitoring wells was completed at this site, and this report outlines and describes such activities performed by Shaw during the monitoring period of 2008-2009. Petroleum constituent concentrations, while above NCGWQS, have decreased over time, indicating that operation of the AS/SVE system benefited groundwater quality at the site

3.0 REMEDIATION SYSTEM OPERATIONS AND MAINTENANCE

The LCH-4015 remediation system includes thirty-eight vertical AS wells and five SVE wells. The AS wells reportedly were installed with a 1.5 to 3.5 feet screen interval ranging from 4.5 to 8.0 feet below land surface (bls). The SVE wells consist of a two-inch diameter 0.02-inch slot width polyvinyl chloride (PVC) horizontal well screen reportedly to be installed slightly above the shallow groundwater table. The system has been operational since it was installed in 1998. **Figure 2** illustrates the current remedial system layout.

The system generally operated continuously except during equipment servicing/repair, power outages, and high level water alarms. The remediation system was temporarily deactivated prior to each groundwater gauging and sampling event and then re-started following field activities. There were no non-routine service calls made for the system during this monitoring period.

System monitoring and maintenance was performed regularly, with site visits conducted at a minimum of three times per week. Instrument readings conducted during the site visits included AS flow rates, AS/SVE pressures/vacuums, temperatures, tank liquid levels, electricity usage, and motor run times. Servicing (oil changes, belt re-tensioning or replacement, filter changes, etc.) was conducted as per manufacturer's instructions or as needed upon system inspection. Emptying of the polyethylene holding tank was also conducted as needed. Monitoring well purge water, development water, and equipment decontamination water generated during field events were contained in a portable holding tank. Water that accumulated in the SVE system polyethylene hold tank was removed and transported in the portable holding tank and processed through a groundwater treatment system located at Lot 203 on MCB Camp Lejeune.

Operational data collection for the AS/SVE system collected by Shaw began on September 2, 2008, and has continued at regular intervals to the present. Photo Ionization Detector (PID) readings were recorded weekly during the monitoring period. For purposes of this report, system operation data and results have been reviewed from September 2, 2008 through April 30, 2009. Within this period of operation, the system has recovered a cumulative mass of 3,608 pounds of hydrocarbons and had an operational efficiency of 88 percent. Hydrocarbon vapor recovery data and graph is provided in Table 3.1.

During system operation, hydrocarbon recovery rates ranged from 121.6 pounds per day (lbs/day) to <1 lbs/day. The average recovery rate was 17.0 lbs/day observed in 2008-2009. No major changes were made to the system configuration in the 2008-2009 monitoring period.

4.0 GROUNDWATER MONITORING AND SAMPLING RESULTS

The field program for the LCH-4015 site consisted of bi-annual gauging and annual groundwater sampling. Activities were conducted in accordance with NCDENR guidance.

4.1 MONITORING WELL GAUGING

Monitoring wells MW01 through MW24 (excluding MW17) were gauged in August 2008 and May 2009. Gauging data is summarized in **Tables 4.1**. Monitoring wells were gauged using an interface probe to measure the depth to water and depth to product (if present). No measurable free product was detected at any site well designated for gauging during the 2008-2009 monitoring program.

Top of casing elevations and depth to water (DTW) values were used to obtain groundwater elevations at the site, as presented in **Table 4.1** and shown in **Figures 3 through 5**. **Figure 3** presents the groundwater elevation contour map for August 2008 from the Type II (shallow) monitoring wells. Groundwater elevations for the shallow wells ranged from 18.35 feet National Geodetic Vertical Datum (NGVD) in monitoring well MW-05 to 30.38 feet NGVD in monitoring well MW-18. The shallow groundwater flows from a ridge trending southwest to the northeast and then flows to the northwest and southeast at a horizontal hydraulic gradient of 0.016 ft/ft from MW-05 to MW-19. No free phase product was detected in any of the monitoring wells during the August 2008 gauging event. **Figures 4 and 5** present the groundwater elevation contour map for August 2008 from the Type III (intermediate and deep) monitoring wells. Groundwater elevations for the intermediate and deep wells ranged from 7.91 feet NGVD in monitoring well MW-13 to 8.94 feet NGVD in monitoring well MW-21. The intermediate and deep groundwater flows from the northeast to the southwest at a horizontal hydraulic gradient of 0.008 ft/ft for the intermediate wells and 0.001 ft/ft for the deep wells.

4.2 GROUNDWATER SAMPLING

Groundwater sampling was also conducted at the site. Samples were collected from monitoring wells MW01 through MW24 (excluding MW17) during the sampling event conducted in August 2008. Prior to sampling, monitoring wells were purged a minimum of one casing volume, until water quality parameters (pH, temperature, conductivity, oxidation-reduction potential, dissolved oxygen, and turbidity) stabilized. The water quality parameters were then measured and recorded and are presented in **Tables 4.2 and 4.4**. Sampling was conducted using a peristaltic

pump with connected polyethylene discharge tubing and a low flow purging and sampling procedure.

If a monitoring well purged to dryness, the monitoring well was allowed to recharge before sampling. Samples were collected using the laboratory-prepared sample bottles, placed on ice, and shipped under proper chain of custody to Accutest Laboratories Inc., located in Orlando, Florida (NC Certification Number 573). Analyses run included EPA Methods 602 + Xylenes, 625 + 10 largest non-target peaks, and 3030C for Lead. Laboratory reports and chain of custody documentation are included in **Appendix B**.

4.2.1 Groundwater Analytical Results August 2008

Two compounds, lead and benzene, were detected above NCGWQS. Lead concentrations were detected in shallow, intermediate, and deep monitoring wells. Monitoring wells that were detected above the NCGWQS for lead were shallow monitoring wells MW01, MW02, MW06, MW07, MW12, MW14, MW15, MW16 and MW18, intermediate monitoring well MW23, and deep monitoring well MW19. Lead concentrations above NCGWQS ranged from 18.8 µg/L in MW02 to 305 µg/L in MW16. Lead was last detected above the NCGWQS in monitoring well MW21 (November 2005) at 18.8 µg/L.

Benzene concentrations were detected in shallow monitoring wells MW01 and MW02 at concentrations of 4.1 ug/L and 2.2 ug/L, respectively. Benzene was also detected in intermediate monitoring well MW23 at a concentration of 10.9 µg/L. Groundwater at the site also exhibited ethylbenzene, methyl tert-butyl ether (MTBE), toluene, and total xylenes; however, the detected concentrations were all well below the NCGWQS. Analytical results are summarized in Tables 4.3, Table 4.5, and Figures 6 through 8. Field data log sheets for LCH 4015 monitoring wells are provided in Appendix C.

4.3 HISTORICAL DATA SYNOPSIS

Historical information, summarized in the 2004 CATLIN optimization report, coupled with recent (2004-2009) data shows that groundwater contamination continues to decrease at the site. Benzene and lead are present in site groundwater above their applicable standards. In the following tables, maximum contaminant concentrations detected at the site are compared over time. An overall decrease in contaminant concentrations is observed. Note that **BOLD** text indicates NCGWQS exceedences. Historical groundwater quality data is located in **Appendix A**.

**Maximum Concentrations (µg/L)
Type II (Shallow) Monitoring Wells**

Compound	NCG WQS (µg/L)	GCL (µg/L)	1995 (CAP)	2003	2004	2005	2006	2006-2007	2007-2008	2008
Benzene	1	5,000	8,850	297	131	48.1	45.5	12.0	7.75	4.1
Ethylbenzene	550	84,500	2,070	420	439	270	179	118	31.7	8.6
Total Xylenes	530	87,500	9,960	1,070	704	659	370	191.2	39.93	3.3
Toluene	1,000	257,500	256	95.3	27.5	14.8	10.1	5.21	1.30J	0.77J
Naphthalene	21	15,500	677	170	216	165	111	45.5	20.3	8.9
1-Methylnaphthalene	NE	NE	271	36.8	34.5	23.1	7.9 ¹	11.1	BQL	<5.0
2-Methylnaphthalene	14	12,500	345	47	49	34.2	<10 ¹	16.4	BQL	<5.0
Lead	15	15,000	42.7	NA	7.7	<10	0.6	2.33J	1.38	305

¹Note = 2006 data only from MW08 and MW11

**Maximum Concentrations (µg/L)
Type III (Intermediate and Deep) Monitoring Wells**

Compound	NCG WQS (µg/L)	GCL (µg/L)	1995 (CAP)	2003	2004	2005	2006	2006-2007	2007-2008	2008
Benzene	1	5,000	0.4	33.8	73.9	47.1	25.9	122	8.42	<1.0
Ethylbenzene	550	84,500	0.5	505E	5	4.2	3.05	3.51J	BQL	<1.0
Total Xylenes	530	87,500	1.9	16.9	2.7J	<3.0	0.632J	5.74J	BQL	<3.0
Toluene	1,000	257,500	1.0	2.1	2.0	1.1	<1.00	5.17	BQL	<1.0
Naphthalene	21	15,500	ND	<5.1	15.3	32.3	31.7	54.3	44.3	<4.8
1-Methylnaphthalene	NE	NE	3.8	<5.1	<5.1	2.6J	NR	BQL	BQL	<4.8
2-Methylnaphthalene	14	12,500	ND	<5.1	2.1J	2.8J	NR	BQL	BQL	<4.8
Lead	15	15,000	20.6	NA	7.7	18.8	2.28	1.90J	BQL	20.1

1995 and 2003 data from 2004 Catlin optimization report
 2004-2005 data from EEI Annual Monitoring Report
 BQL = Below Quantitation Limit
 ND = Not Detected
 NE = Not Established
 NR = Not Reported
 E = Estimated concentration above the linear quantitation range
 J = Estimated concentration less than reporting limit

4.4 RECEPTOR SURVEY

Shaw reassessed site conditions and concluded that the receptor survey previously completed by CATLIN in the Remedial Action Optimization (RAO) and Revised Corrective Action Plan (RCAP) dated May 6, 2004 still applies. There has been no change in receptor impact, and there have been no changes to land use of the site or the surrounding areas.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Two compounds, lead and benzene, were detected above NCGWQS. Lead concentrations were detected in shallow, intermediate, and deep monitoring wells. Lead concentrations above NCGWQS ranged from 18.8 µg/L in MW02 to 305 µg/L in MW16. Lead was last detected above the NCGWQS in monitoring well MW21 (November 2005) at 18.8 µg/L. Benzene concentrations were detected in shallow monitoring wells MW01 and MW02 at concentrations of 4.1 ug/L and 2.2 ug/L, respectively. Benzene was also detected in intermediate monitoring well MW23 at a concentration of 10.9 µg/L. Groundwater at the site also exhibited ethylbenzene, MTBE, toluene, and total xylenes; however, the detected concentrations were all well below the NCGWQS.

Based on historical data and laboratory analytical data gathered during the 2008-2009 monitoring period, it is recommended to sample the following wells on an annual basis per EPA Methods 602, 625, and 3030C for lead: USTLCH4015-MW01, USTLCH4015-MW02, USTLCH4015-MW21 and USTLCH4015-MW23. In addition during the next annual sampling event the following wells should be analyzed per EPA 3030C for lead only: USTLCH4015-MW06, USTLCH4015-MW07, USTLCH4015-MW12, USTLCH4015-MW14, USTLCH4015-MW15, USTLCH4015-MW16, USTLCH4015-MW18 and USTLCH4015-MW19. If results from the next annual sampling event reveal lead concentrations below the 2L NCGWQS then this analysis should be dropped until site closure sampling is performed. The groundwater samples will continue to be collected utilizing a low-flow sampling approach to minimize the risk of “false-positives”.

In addition, continued operation and optimization of the AS/SVE system is recommended.

6.0 REFERENCES

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TABLES

TABLE 3.1
Cumulative Mass of Volatile Hydrocarbons Recovered
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
Data and Graph
MCB CAMP LEJEUNE - Building LCH 4015
SVE Stack

Date	Time	SVE Valve Hour Meter (Hrs)	TH Conc (PPM _{measured}) (PPMv)	Vapor Velocity (V) (ft/min)	Absolute Pressure (^o Hg)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
09/02/08	0:00	0	0	0	300.92	460	0	0.000	0.0	0.0	
09/03/08	10:45	68534	44	9200	300.92	554	4768	0.234	99.8	142563.1	
09/10/08	10:30	68798	44	9300	300.92	557	4794	0.234	100.4	143665.5	
09/17/08	12:40	69062	53	9300	300.92	554	4820	0.282	121.6	144887.2	
09/24/08	11:15	69327	41	9400	300.92	555	4863	0.218	94.9	146079.3	
09/30/08	15:30	69336	0	8200	300.92	561	4197	0.000	0.0	146097.6	
10/09/08	11:50	69343	0	8400	300.92	575	4194	0.000	0.0	146097.6	
10/17/08	16:50	69543	0	8100	300.92	597	3899	0.000	0.0	146097.6	
10/21/08	14:50	69637	0	9000	300.92	592	4362	0.000	0.0	146097.6	
11/01/07	17:10	69033	0	8500	300.92	587	4159	0.000	0.0	146097.6	
11/10/08	8:55	70067	0	9500	300.92	564	4834	0.000	0.0	146097.6	
11/17/08	10:29	70237	0	9300	300.92	557	4796	0.001	0.5	146099.2	
11/20/08	14:30	70237	0	9000	300.92	560	4612	0.000	0.0	146099.2	
11/24/08	14:20	70236	0	9800	300.92	565	4980	0.000	0.0	146099.2	
12/04/08	12:45	70474	0	11000	300.92	581	5436	0.000	0.0	146099.2	
12/12/08	14:00	70667	0	10584	300.92	573	5305	0.000	0.0	146099.2	
12/19/08	10:03	70832	1	8300	300.92	561	4250	0.003	1.0	146102.7	
12/30/08	9:30	71119	5	9400	300.92	556	4854	0.024	10.4	146171.0	
01/07/09	13:10	71119	0	1100	300.92	587	538	0.000	0.0	146171.0	no meter hour reading 1/7
01/22/09	12:45	71656	0	0	300.92	460	0	0.000	0.0	146171.0	No velocity readings water in line
01/28/09	10:46	71791	0	0	300.92	573	0	0.000	0.0	146171.0	1/16 no readings velocity meter down 01/28
02/06/09	12:30	71920	0	9600	300.92	550	5008	0.000	0.0	146171.0	
02/13/09	11:00	72022	0	1100	300.92	541	584	0.000	0.0	146171.0	
02/19/09	13:00	72150	0	10200	300.92	558	5248	0.000	0.0	146171.0	
02/27/09	13:40	72316	0	99000	300.92	559	50849	0.000	0.0	146171.0	

TABLE 3.1
Cumulative Mass of Volatile Hydrocarbons Recovered
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
Data and Graph
MCB CAMP LEJEUNE - Building LCH 4015
SVE Stack

Date	Time	SVE Valve Hour Meter (Hrs)	TH Conc (PPM _{measured}) (PPMv)	Vapor Velocity (V) (ft/min)	Absolute Pressure (^o Hg)	Absolute Temperature (degrees Rankine)	Calculated Vapor Flowrate (Q) (SCFM)	TH Conc (C) (mg/l)	TH Recovery Rate (M) (lb/day)	Cumulative Mass of Hydrocarbons Recovered (lbs)	Comments
03/06/09	13:00	72484	0	97000	300.92	560	49732	0.000	0.0	146171.0	
03/12/09	13:00	72655	0	1120	300.92	551	584	0.000	0.0	146171.0	
03/19/09	15:30	72842	0	1100	300.92	552	572	0.000	0.0	146171.0	
03/27/09	12:00	72915	0	1680	300.92	582	829	0.000	0.0	146171.0	
04/06/09	10:15	73153	0	1700	300.92	582	839	0.000	0.0	146171.0	
04/23/09	10:30	73415	0	10600	300.92	560	5435	0.000	0.0	146171.0	
04/30/09	10:30	73495	0	6150	300.92	571	3092	0.000	0.0	146171.0	Extrapolated Data

Notes:

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

C: vapor concentration (mg/l)

PPM_{measured}: FID reading (PPM)

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

TH: total hydrocarbons calculated as gasoline
(GRO)

percent water vapor by volume 0.003
SVE Stack pipe diameter 10

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

Q: vapor flowrate (SCFM)

B: percent water vapor in flowstream

V: vapor velocity (ft/min)

A: cross-sectional area (sq. ft)

P: absolute pressure of flowstream (^o Hg)

P_{std}: standard pressure (29.92^o Hg)

T: absolute temperature of flowstream (degrees Rankine)

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

at 68 degrees F (from Perry's handbook)

* Estimated value due to malfunctioning instrument

$$M = Q \times C \times 0.0895$$

M: hydrocarbon recovery rate (lb/day)

Assumptions:

Mg = 128 mg/mg-mole

Kg = 24.07 dsm³/10⁶ gm -mole

B = 0.003 from Perry's Chemical Handbook

A = 0.545 sq. ft

TABLE 3.1
Cumulative Mass of Volatile Hydrocarbons Recovered
Air Sparging (AS) / Soil Vapor Extraction (SVE) System
Data and Graph
MCB Camp Lejeune - Building AS-4015
SVE Stack

Cumulative Mass of Hydrocarbons Recovered

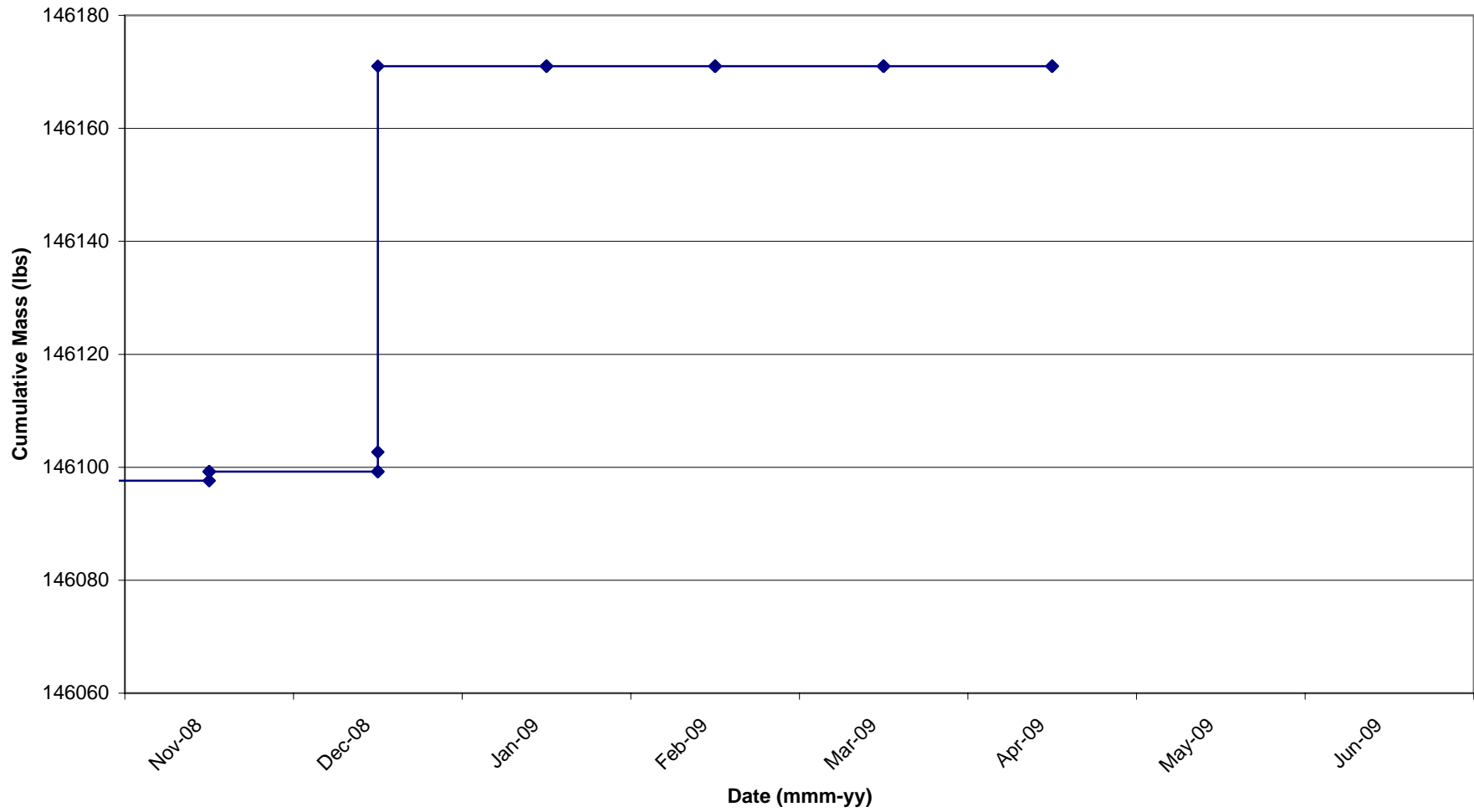


Table 4.1
Groundwater Elevation Table
LCH 4015
Camp LeJeune, North Carolina

Well No.	Well Type (depth)	Well Depth	Top of Casing	Date Measured	Depth (BTC)	Elev. (NGVD)	Date Measured	Depth (BTC)	Elev. (NGVD)	
USTLCH4015-MW01	shallow	14.87	32.52	Aug-08	3.12	29.40	May-09	2.40	30.12	
USTLCH4015-MW02	shallow	12.23	31.68	Aug-08	1.55	30.13	May-09	1.80	29.88	
USTLCH4015-MW03	shallow	15.31	34.70	Aug-08	5.33	29.37	May-09	4.70	30.00	
USTLCH4015-MW04	shallow	15.39	35.29	Aug-08	7.29	28.00	May-09	5.60	29.69	
USTLCH4015-MW05	shallow	11.05	32.25	Aug-08	2.21	30.04	May-09	2.05	30.20	
USTLCH4015-MW06	shallow	12.12	31.99	Aug-08	2.92	29.07	May-09	2.35	29.64	
USTLCH4015-MW07	shallow	12.10	32.38	Aug-08	3.26	29.12	May-09	2.20	30.18	
USTLCH4015-MW08	shallow	12.47	31.37	Aug-08	2.81	28.56	May-09	1.90	29.47	
USTLCH4015-MW09	shallow	12.12	30.91	Aug-08	2.17	28.74	May-09	3.05	27.86	
USTLCH4015-MW10	shallow	12.03	30.89	Aug-08	1.82	29.07	May-09	1.20	29.69	
USTLCH4015-MW11	shallow	12.00	31.76	Aug-08	3.87	27.89	May-09	3.20	28.56	
USTLCH4015-MW12	shallow	11.75	31.86	Aug-08	4.05	27.81	May-09	3.38	28.48	
USTLCH4015-MW13	deep	47.62	32.35	Aug-08	24.06	8.29	May-09	23.90	8.45	
USTLCH4015-MW14	shallow	11.88	32.04	Aug-08	4.51	27.53	May-09	4.38	27.66	
USTLCH4015-MW15	shallow	11.90	31.89	Aug-08	3.55	28.34	May-09	3.15	28.74	
USTLCH4015-MW16	shallow	11.64	32.26	Aug-08	2.55	29.71	May-09	2.10	30.16	
USTLCH4015-MW17	shallow	Well Missing								
USTLCH4015-MW18	shallow	12.03	32.60	Aug-08	2.22	30.38	May-09	1.80	30.80	
USTLCH4015-MW19	deep	51.00	32.61	Aug-08	24.31	8.30	May-09	24.65	7.96	
USTLCH4015-MW20	deep	47.90	32.13	Aug-08	23.69	8.44	May-09	22.90	9.23	
USTLCH4015-MW21	intermediate	30.20	32.64	Aug-08	23.70	8.94	May-09	Not Measured		
USTLCH4015-MW22	intermediate	31.95	32.04	Aug-08	23.55	8.49	May-09	Not Measured		
USTLCH4015-MW23	intermediate	32.05	32.54	Aug-08	24.21	8.33	May-09	24.45	8.09	
USTLCH4015-MW24	shallow	14.40	31.23	Aug-08	1.62	29.61	May-09	1.10	30.13	

** NGVD = National Geodetic Vertical Datum

Table 4.2
Field Data Summary
MCB Camp Lejeune
 LCH 4015 Annual
August 2008 Field Data Shallow

Client Sample ID:		USTLCH4015-MW01	USTLCH4015-MW02	USTLCH4015-MW03	USTLCH4015-MW04	USTLCH4015-MW05	USTLCH4015-MW06	USTLCH4015-MW07	USTLCH4015-MW08
Date Sampled:		08/23/08	08/25/08	8/22/08	08/22/08	08/22/08	08/22/08	08/23/08	08/22/08
Analyte	Unit	Result	Result	Result	Result	Result	Result	Result	Result
Field Parameters									
Depth to Water	feet	3.12	1.55	5.33	7.29	2.21	2.92	3.26	2.81
pH	-	6.00	5.88	6.58	5.40	5.07	4.41	5.51	5.12
Conductivity	mS/m	0.537	0.435	0.650	0.201	0.527	0.561	0.229	0.132
Turbidity	NTU	14.8	0.2	0.0	7.0	47.9	37.6	73.6	63.4
Dissolved Oxygen	mg/L	0.53	0.47	0.43	0.49	0.44	0.41	0.47	0.76
Temperature	°C	28.00	28.31	25.12	24.09	26.41	30.88	30.83	26.13
Oxidation-Reduction Potential	mV	-62.3	-77.7	-91.9	120.0	77.9	82.9	-6.1	-14.7

Table 4.2
Field Data Summary
MCB Camp Lejeune
 LCH 4015 Annual
August 2008 Field Data Shallow

Client Sample ID:		USTLCH4015-MW09	USTLCH4015-MW10	USTLCH4015-MW11	USTLCH4015-MW12	USTLCH4015-MW14	USTLCH4015-MW15	USTLCH4015-MW16	USTLCH4015-MW17
Date Sampled:		8/22/08	08/22/08	08/22/08	08/23/08	08/23/08	08/23/08	08/23/08	08/23/08
Analyte	Unit	Result	Result	Result	Result	Result	Result	Result	Result
Field Parameters									
Depth to Water	feet	2.17	1.82	3.87	4.05	4.54	3.55	2.55	NS
pH	-	6.41	5.19	5.97	6.06	6.14	5.50	5.43	NS
Conductivity	mS/m	0.835	0.195	0.472	0.462	0.321	0.203	0.402	NS
Turbidity	NTU	2.1	15.3	0.2	14.6	0.0	45.4	17.9	NS
Dissolved Oxygen	mg/L	0.51	1.49	0.42	1.75	2.64	0.99	2.91	NS
Temperature	°C	26.11	26.74	28.47	29.39	30.14	30.28	28.41	NS
Oxidation-Reduction Potential	mV	-90.2	66.0	-48.6	-52.6	-42.8	25.6	78.5	NS

Table 4.2
Field Data Summary
MCB Camp Lejeune
 LCH 4015 Annual
August 2008 Field Data Shallow

Client Sample ID:		USTLCH4015-MW18	USTLCH4015-MW24
Date Sampled:		08/25/08	8/22/08
Analyte	Unit	Result	Result
Field Parameters			
Depth to Water	feet	2.22	1.62
pH	-	6.50	6.86
Conductivity	mS/m	0.534	0.793
Turbidity	NTU	29.9	38.0
Dissolved Oxygen	mg/L	0.94	0.29
Temperature	°C	30.25	26.91
Oxidation-Reduction Potential	mV	-58.0	-107.5

Table 4.3
MCB Camp Lejeune
Building LCH-4015
Groundwater Analytical Results
VOC, SVOC (PAHs Only) and Lead

Date: 5/12/2009			Incident Number and Name: 125709 LCH 4015 Wells										625 PAHs																		
Analytical Method: 6010B			602 VOCs										625 PAHs																		
Contaminant of Concern			Lead	Benzene	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Ethylbenzene	Methyl Tert Butyl Ether	Toluene	Xylenes (total)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene	
Sample ID	Date Collected	Sample Depth (ft bgs)																													
USTLCH4015-MW01	8/23/2009 and 08/28/08	N/A	172	4.1	<1.0	<10	<3.0	<2.0	1.1	13	0.77 J	0.93 J	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
USTLCH4015-MW02	8/25/2008	N/A	18.8	2.2	<1.0	<1.0	<1.0	<2.0	0.66 J	4.3	<1.0	3.3	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	8.9	<4.9	<4.9	
USTLCH4015-MW03	8/22/2008 and 08/28/08	N/A	<2.0	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW04	8/22/2008 and 08/28/08	N/A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW05	8/22/2008 and 08/28/08	N/A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW06	8/22/2008 and 08/28/08	N/A	23.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW07	8/23/2009 and 08/28/08	N/A	174	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	
USTLCH4015-MW08	8/22/2008 and 08/28/08	N/A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW09	8/22/2008 and 08/28/08	N/A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW10	8/22/2008 and 08/28/08	N/A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW11	8/22/2008 and 08/28/08	N/A	12.4	<1.0	<1.0	<6.0	<2.0	<2.0	8.6	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW12	8/23/2009 and 08/28/08	N/A	42.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW14	8/23/2009 and 08/28/08	N/A	170	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW15	8/23/2009 and 08/28/08	N/A	112	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	
USTLCH4015-MW16	8/23/2009 and 08/28/08	N/A	305	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW18	8/25/2008	N/A	27.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW24	8/22/2008 and 08/28/08	N/A	<2.0	<1.0	<1.0	<6.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	1.2 J	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
GWQS (ug/L)			15	1	50	NS	NS	NS	550	200	1000	530	80	210	2100	0.0479	0.00479	0.0479	210	0.479	4.79	0.0047	280	280	0.047	NS	14	21	210	210	
GCL (ug/L)			15000	5000	50000	NS	NS	NS	84500	200000	257500	87500	2120	1965	2000000	22	1.5	0.6	210	0.4	0.8	0.25	280	950	31	NS	12500	15500	410	210	

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

Detectable concentration exceeds GWQS

GWQS = Groundwater Quality Standard NC Administrative Code Title 15A Subchapter 2L - Groundwater Classifications and Standards 04/01/05

GCL = Gross Contamination Level

Results must be reported in ug/L

ug/L = micrograms per liter

NA = not applicable

NS = no standard

J Numerical value is an estimate between laboratory reporting limit and laboratory method detection limit

Table 4.4
Field Data Summary
MCB Camp Lejeune
 B-820 Annual
August 2008 Field Data Deep

Client Sample ID:		USTLCH4015-MW13	USTLCH4015-MW19	USTLCH4015-MW20	USTLCH4015-MW21	USTLCH4015-MW22	USTLCH4015-MW23
Date Sampled:		08/23/08	08/25/08	08/25/08	08/25/08	08/25/08	08/25/08
Analyte	Unit	Result	Result	Result	Result	Result	Result
Field Parameters							
Depth to Water	feet	24.06	24.31	23.69	23.70	23.55	24.21
pH	-	6.78	6.95	6.41	6.77	6.83	7.12
Conductivity	mS/m	0.487	0.496	0.496	0.444	0.382	0.308
Turbidity	NTU	0.0	0.0	0.0	0.0	0.0	0.0
Dissolved Oxygen	mg/L	0.48	0.27	0.32	0.44	0.51	0.47
Temperature	°C	24.76	24.39	23.98	24.01	24.37	24.39
Oxidation-Reduction Potential	mV	-36.5	-26.5	-56.9	-38.9	-37.9	-41.9

NS = not sampled

Table 4.5
MCB Camp Lejeune
Building LCH-4015
Groundwater Analytical Results
VOC, SVOC (PAHs Only) and Lead

Date: 5/12/2009			Incident Number and 125709 LCH 4015 Wells																													
Analytical Method: 6010B			602 VOCs										625 PAHs																			
Contaminant of Concern			Lead	Benzene	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Ethylbenzene	Methyl Tert Butyl Ether	Toluene	Xylenes (total)	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene		
Sample ID	Date Collected	Sample Depth (ft bgs)																														
USTLCH4015-MW13	8/23/2009 and 08/28/08	N/A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
USTLCH4015-MW19	8/25/2008	N/A	20.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
USTLCH4015-MW20	8/25/2008	N/A	9.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
USTLCH4015-MW21	8/25/2008	N/A	14.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
USTLCH4015-MW22	8/25/2008	N/A	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9
USTLCH4015-MW23	8/25/2008	N/A	29.3	10.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
GWQS (ug/L)			15	1	50	NS	NS	NS	550	200	1000	530	80	210	2100	0.0479	0.00479	0.0479	210	0.479	4.79	0.0047	280	280	0.047	NS	14	21	210	210		
GCL (ug/L)			15000	5000	50000	NS	NS	NS	84500	200000	257500	87500	2120	1965	2000000	22	1.5	0.6	210	0.4	0.8	0.25	280	950	31	NS	12500	15500	410	210		

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

Detectable concentration exceeds GWQS

GWQS = Groundwater Quality Standard NC Administrative Code Title 15A Subchapter 2L - Groundwater Classifications and Standards 04/01/05

GCL = Gross Contamination Level

Results must be reported in ug/L

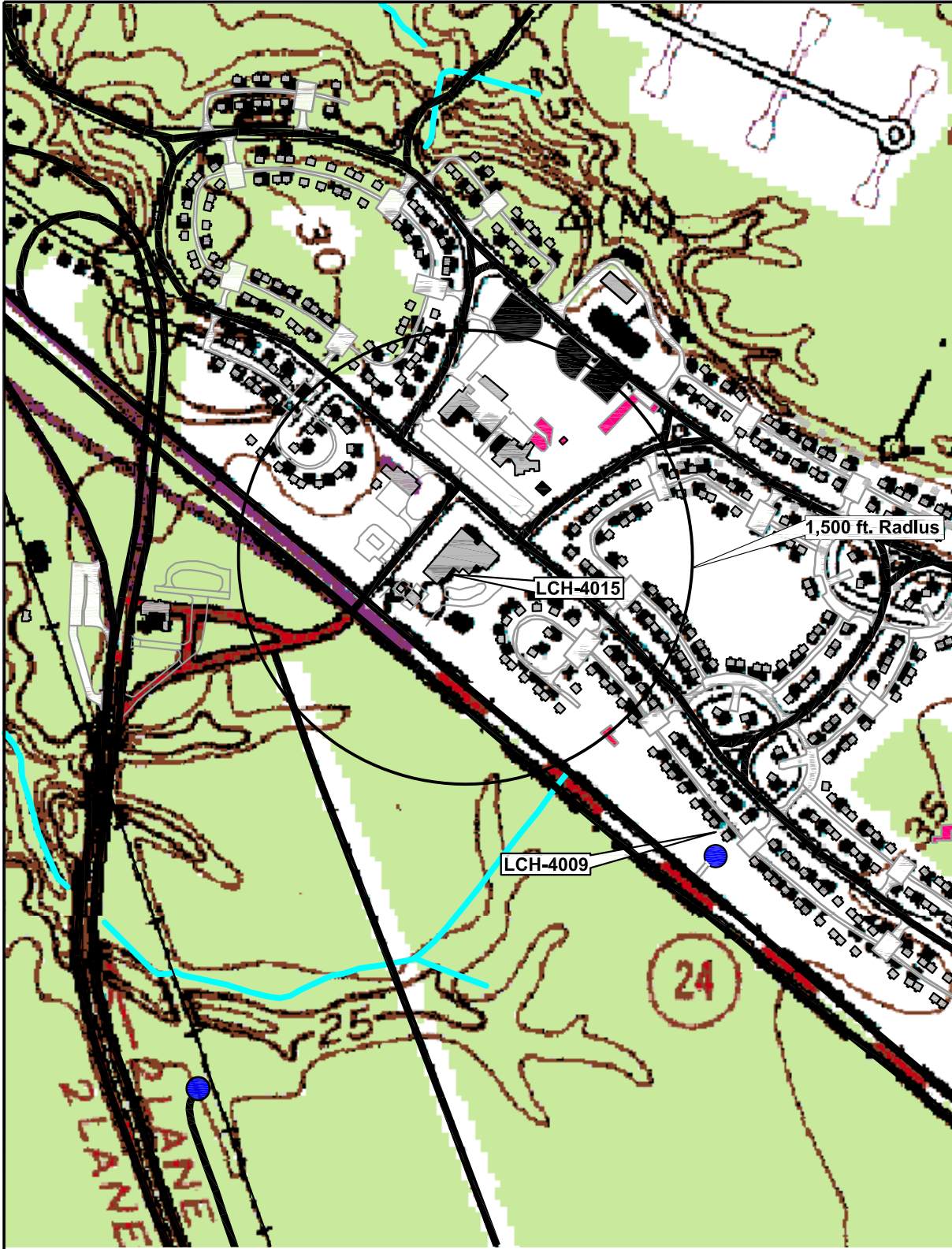
ug/L = micrograms per liter

NA = not applicable

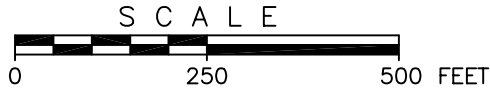
NS = no standard

J Numerical value is an estimate between laboratory reporting limit and laboratory method detection limit

FIGURES



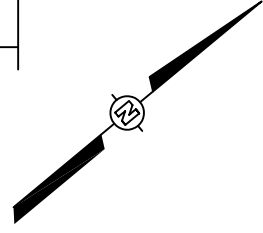
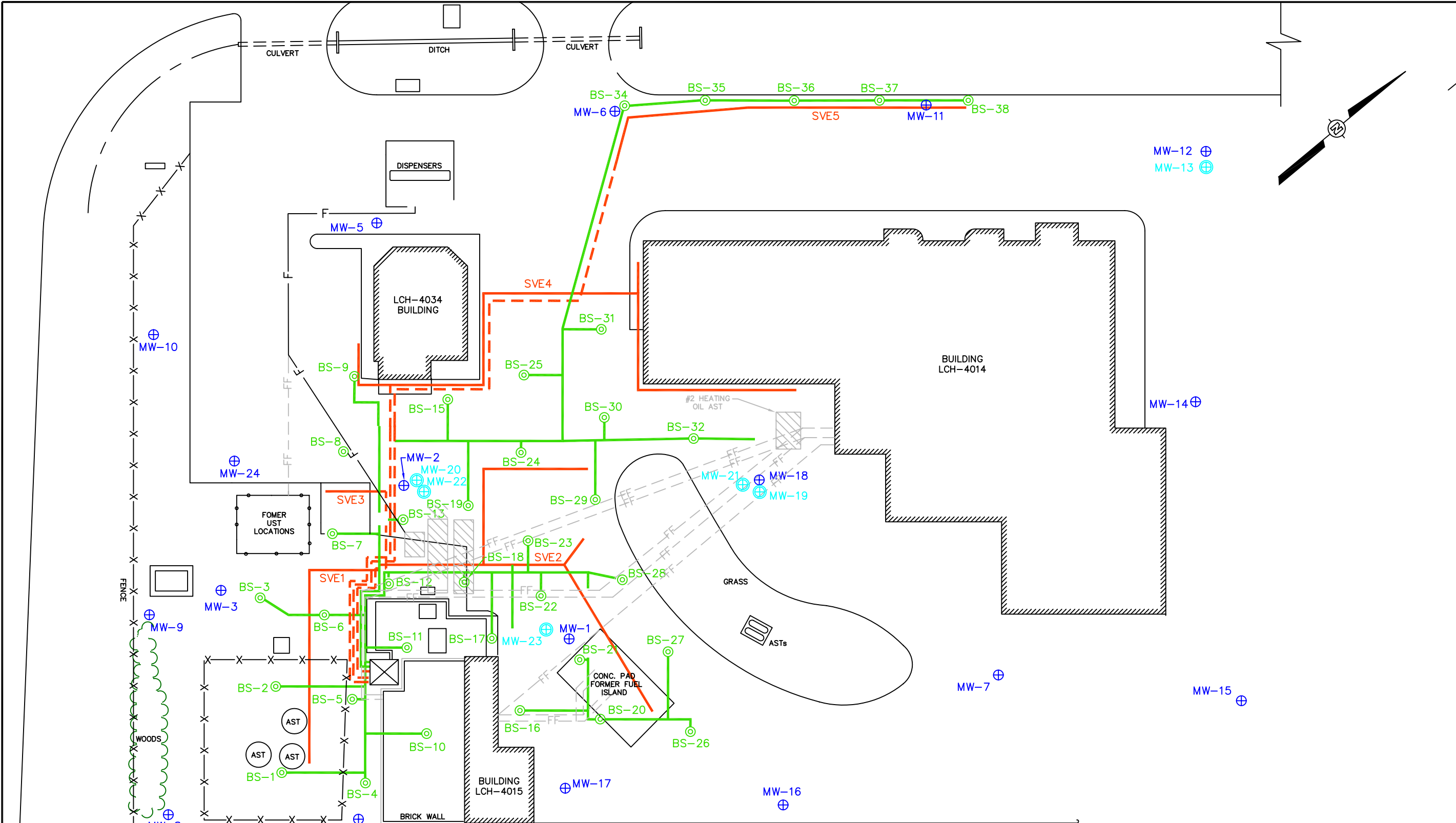
- LEGEND**
- Water Supply Wells
 - Roads
 - +++ Railroads
 - Playgrounds
 - Athletic Fields and Courts
 - Parking Lots and Driveways
 - Buildings
 - Surface Water



Shaw Environmental, Inc.		PROJECT NO. 120985 DESIGNED BY BR 5/14/09 CHECKED BY BR 5/14/09 APPROVED BY TR 5/14/09 DRAWN BY MP 5/14/09
DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION MCB CAMP LEJEUNE NORFOLK, VIRGINIA JACKSONVILLE, N.C.		
BUILDING LCH-4015 ANNUAL REPORT 2008-2009 GENERAL VICINITY TOPOGRAPHIC SITE MAP		
SCALE:	AS SHOWN	SIZE: A
DELIVERY ORDER NO.		
CONSTR. CONTRACT NO.		
NAVFAC DRAWING NO.		
SHEET I.D.		
REVISIONS (Table with columns: REV, DATE, BY, CHK'D APPROV, DESCRIPTION/ISSUE)		

FIGURE 1

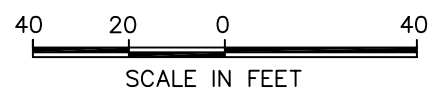
File: Q:\LEJEUNE-6-05\RAC_IV\TO_46_RAPID_FUELER\LCH-4015\Figure 2_Site Map with Monitoring Well locations.dwg
 Plot Date/Time: May 22, 2009 - 9:35am
 Plotted By: teresa.robinson
 Image: 00000001.TIF



LEGEND

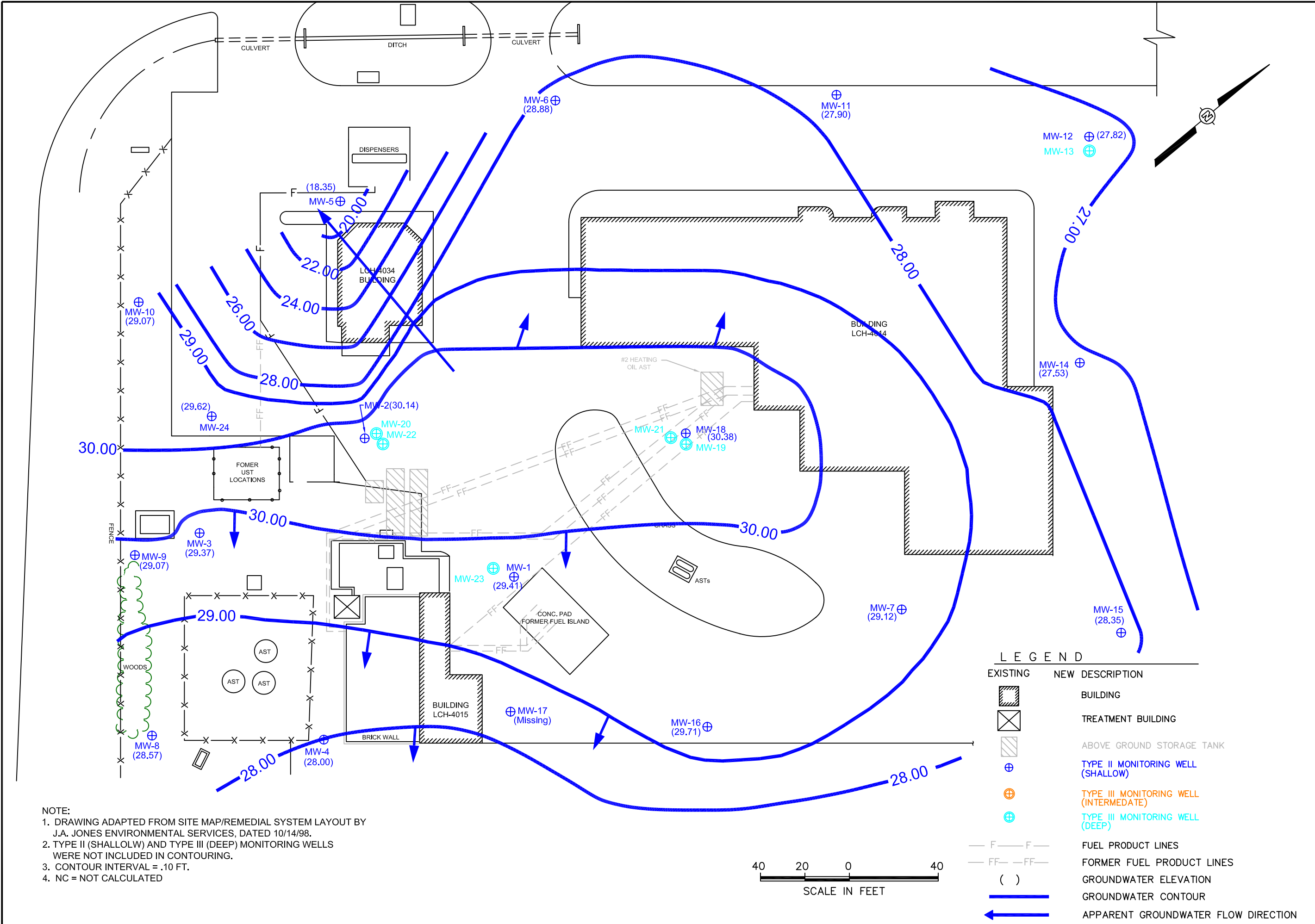
EXISTING	NEW DESCRIPTION		
	BUILDING		SPARGE WELL
	TREATMENT BUILDING		SVE CIRCUMSLOT PVC WELL SCREEN
	ABOVE GROUND STORAGE TANK		SVE SCH. 40 PVC WELL CASING
	TYPE II MONITORING WELL		BIOSPARGE AIR-PRO HDPE COMPRESSED AIR PIPE
	TYPE III MONITORING WELL		FUEL PRODUCT LINES
			FORMER FUEL PRODUCT LINES

NOTE:
 1. DRAWING ADAPTED FROM SITE MAP/REMEDIAL SYSTEM LAYOUT BY J.A. JONES ENVIRONMENTAL SERVICES, DATED 10/14/98.



 Shaw Environmental, Inc.		PROJECT NO. 125709 DESIGNED BY BR 5/14/09 CHECKED BY BR 5/14/09 DRAWN BY TR 5/14/09 APPROVED BY MP 5/14/09	
DEPARTMENT OF THE NAVY NAVAL STATION MCB CAMP LEJEUNE		NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NORFOLK, VIRGINIA JACKSONVILLE, N.C.	
BUILDING LCH-4015 ANNUAL RPT/REPORT 2008-2009		MONITORING WELL LOCATIONS	
SHEET I.D. FIGURE 2		REVISIONS DATE BY REV 5/14/09 MP 5/14/09 5/14/09 BR 5/14/09	

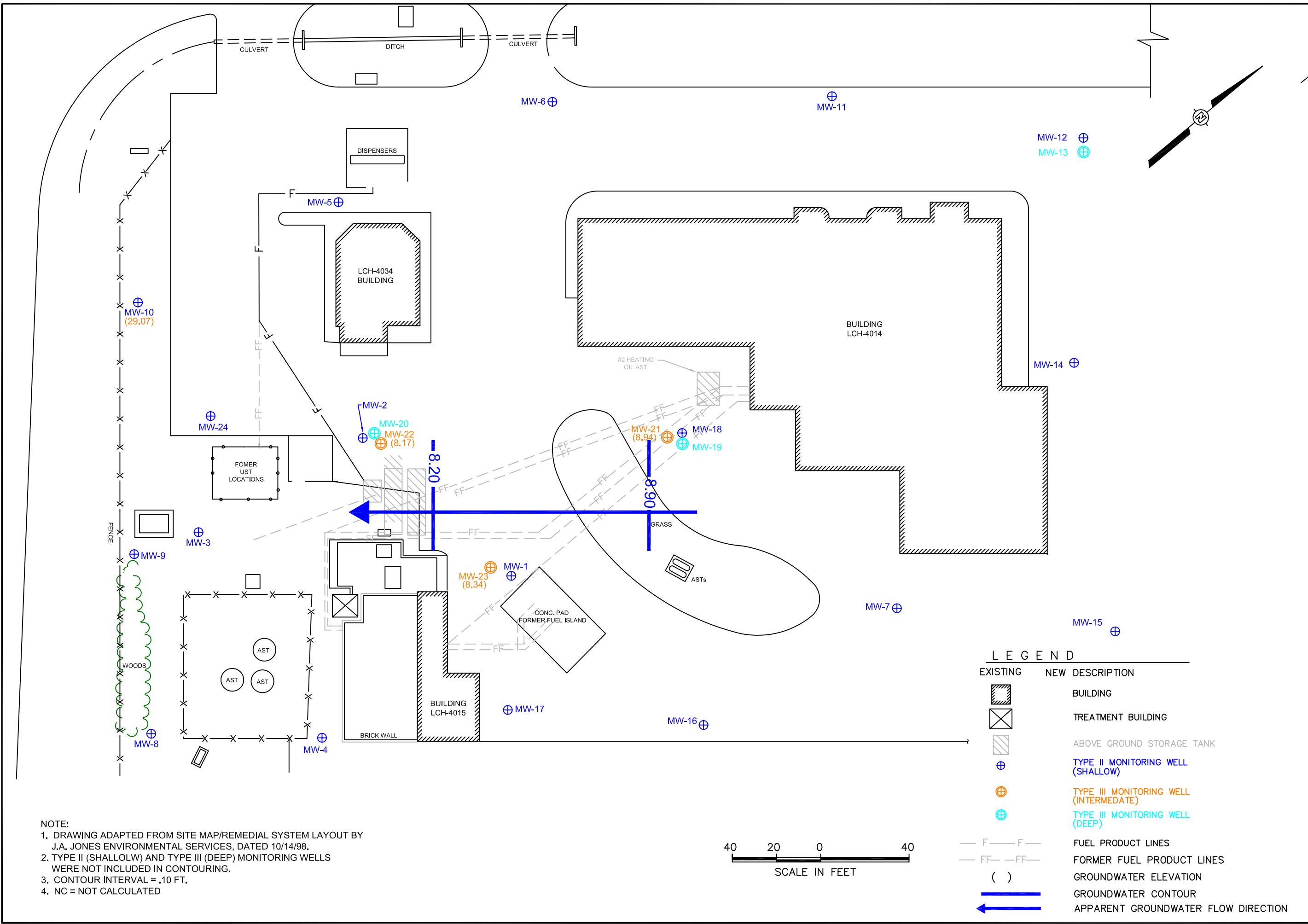
File: O:\LEJEUNE-6-05\RAC_MVTO_46_RAPID_FEFUELER\LCH-4015\Figure 3_Shallow Well GW Elevations_August 2008.dwg
 Plot Date/Time: May 22, 2009 - 9:59am
 Plotted By: teresa.robinson



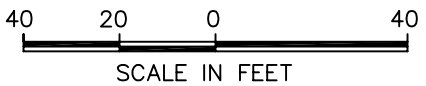
NOTE:
 1. DRAWING ADAPTED FROM SITE MAP/REMEDIAL SYSTEM LAYOUT BY J.A. JONES ENVIRONMENTAL SERVICES, DATED 10/14/98.
 2. TYPE II (SHALLOW) AND TYPE III (DEEP) MONITORING WELLS WERE NOT INCLUDED IN CONTOURING.
 3. CONTOUR INTERVAL = .10 FT.
 4. NC = NOT CALCULATED

DEPARTMENT OF THE NAVY		PROJECT NO. 125709	
NAVAL FACILITIES ENGINEERING COMMAND		DESIGNED BY BR 5/15/09	
ATLANTIC DIVISION		CHECKED BY BR 5/15/09	
NAVAL STATION NORFOLK, VIRGINIA		APPROVED BY MP 5/15/09	
MCS CAMP LEJEUNE JACKSONVILLE, N.C.		REV BY DATE	
BUILDING LCH-4015		REV BY DATE	
ANNUAL RPT REPORT 2008-2009		REV BY DATE	
SHALLOW WELL GROUNDWATER ELEVATIONS-AUGUST 2008		REV BY DATE	
SCALE: AS SHOWN		CHK'D/APP'D	
DELIVERY ORDER NO.		REVISIONS	
CONSTR. CONTRACT NO.			
NAVFAC DRAWING NO.			
SHEET I.D.			
FIGURE 3			

File: Q:\LEJUNE-6-05\RAC_IV\TO_46_RAPID_FEFUELER\LCH-4015\Figure 4_Intermediate Well GW Elevations_August 2008.dwg
 Plot Date/Time: May 22, 2009 - 10:05am
 Plotted By: teresa.robinson



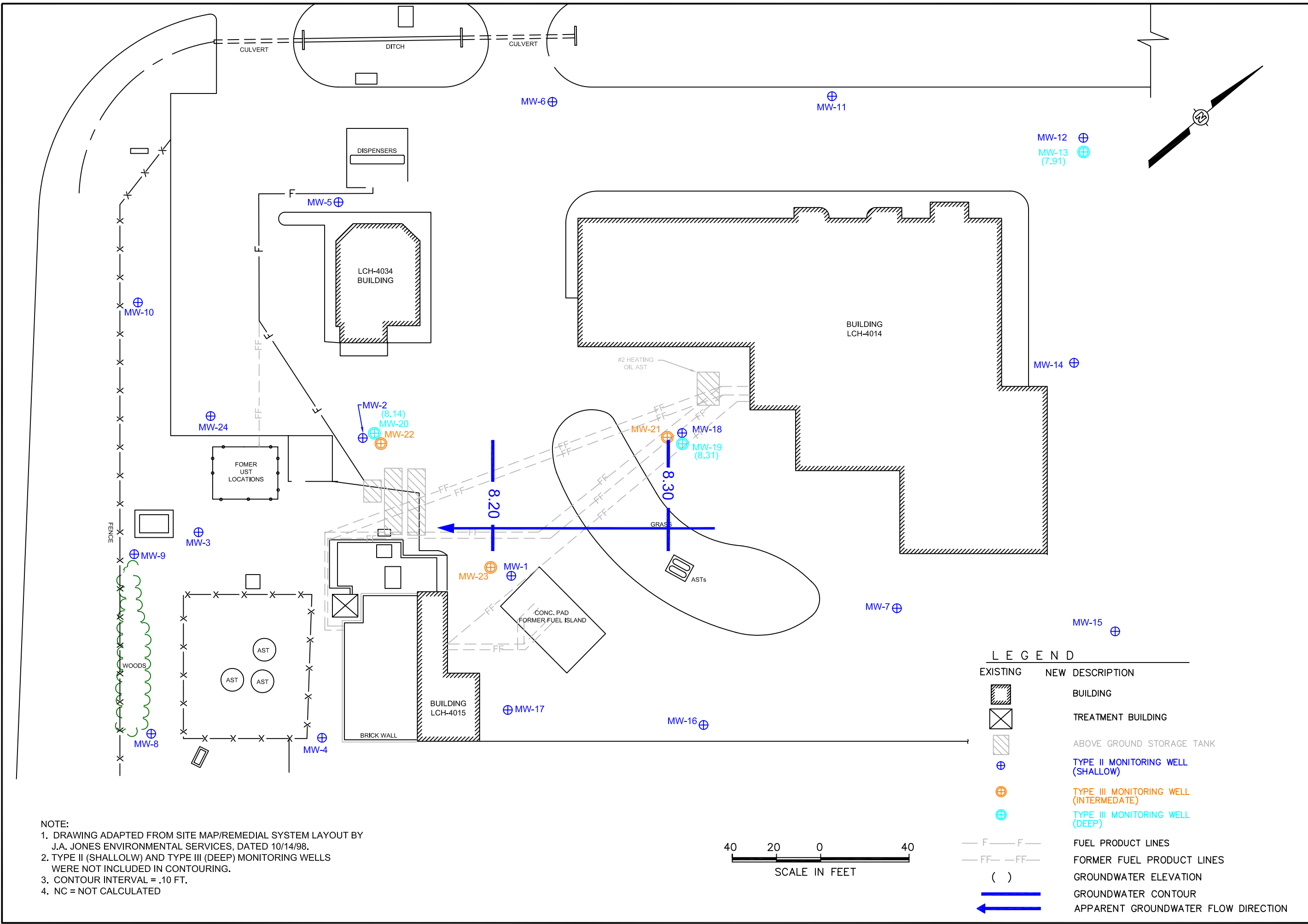
- NOTE:
1. DRAWING ADAPTED FROM SITE MAP/REMEDIAL SYSTEM LAYOUT BY J.A. JONES ENVIRONMENTAL SERVICES, DATED 10/14/98.
 2. TYPE II (SHALLOW) AND TYPE III (DEEP) MONITORING WELLS WERE NOT INCLUDED IN CONTOURING.
 3. CONTOUR INTERVAL = .10 FT.
 4. NC = NOT CALCULATED



LEGEND	
EXISTING	NEW DESCRIPTION
	BUILDING
	TREATMENT BUILDING
	ABOVE GROUND STORAGE TANK
	TYPE II MONITORING WELL (SHALLOW)
	TYPE III MONITORING WELL (INTERMEDIATE)
	TYPE III MONITORING WELL (DEEP)
	FUEL PRODUCT LINES
	FORMER FUEL PRODUCT LINES
	GROUNDWATER ELEVATION
	GROUNDWATER CONTOUR
	APPARENT GROUNDWATER FLOW DIRECTION

DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND	
NAVAL STATION		NORFOLK, VIRGINIA	
MCB CAMP LEJEUNE		JACKSONVILLE, N.C.	
BUILDING LCH-4015		PROJECT NO. 125709	
ANNUAL RPT/PORT 2008-2009		DESIGNED BY	BR 5/15/09
INTERMEDIATE WELL GROUNDWATER ELEVATIONS		CHECKED BY	MP 5/15/09
AUGUST 2008		APPROVED BY	MP 5/15/09
SCALE:		REVISIONS	
AS SHOWN	A	DATE	REV
DELIVERY ORDER NO.		BY	CHK'D/APP'VD
CONSTR. CONTRACT NO.		DATE	REV
NAVFAC DRAWING NO.		DATE	REV
SHEET I.D.		DATE	REV
FIGURE 4		DATE	REV

File: Q:\LEJEUNE-6-05\RAC_INV\TO_46_RAPID_FEFUELER\LCH-4015\Figure 5_Deep Well CW Elevations_August 2008.dwg
 Plot Date/Time: May 22, 2009 - 10:07am
 Plotted By: teresa.robinson
 Image: 00000001.TIF

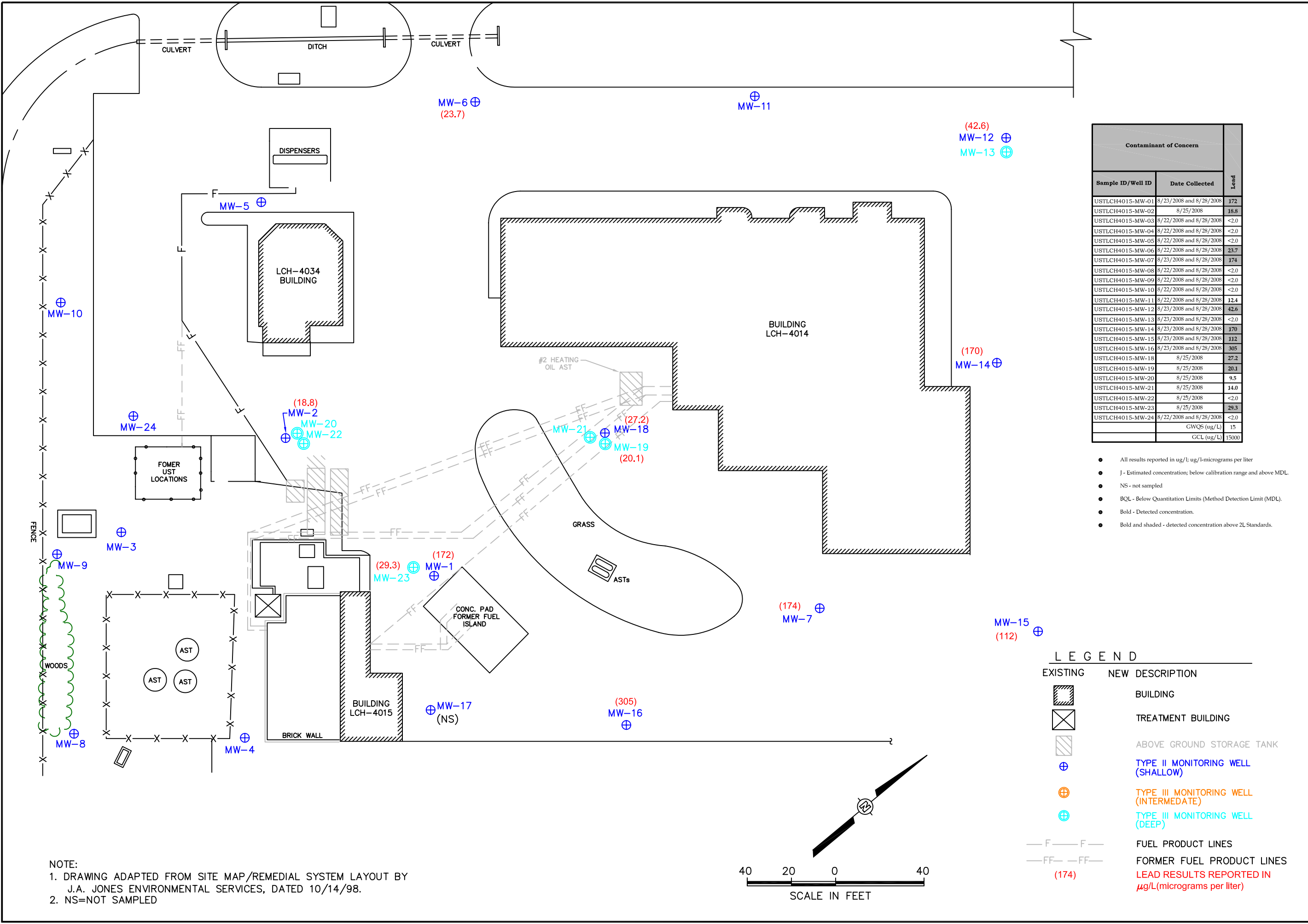


- NOTE:
1. DRAWING ADAPTED FROM SITE MAP/REMEDIAL SYSTEM LAYOUT BY J.A. JONES ENVIRONMENTAL SERVICES, DATED 10/14/98.
 2. TYPE II (SHALLOW) AND TYPE III (DEEP) MONITORING WELLS WERE NOT INCLUDED IN CONTOURING.
 3. CONTOUR INTERVAL = .10 FT.
 4. NC = NOT CALCULATED

DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		PROJECT NO. 125709	
NAVAL STATION		ATLANTIC DIVISION		DESIGNED BY BR 5/15/09	
MCB CAMP LEJEUNE		NORFOLK, VIRGINIA		CHECKED BY BR 5/15/09	
		JACKSONVILLE, N.C.		APPROVED BY MP 5/15/09	
		BUILDING LCH-4015		REV	
		ANNUAL RPT/PORT 2008-2009		DATE	
		DEEP WELL GROUNDWATER ELEVATIONS-AUGUST 2008		BY	
				CHK'D/APP'VD	
				REVISIONS	

FIGURE 5

File: Q:\LEJEUNE-6-05\RAC_IV_TO_46_RAPID_FEFUELER\LCH-4015\Figure 6_LCH-4015 Site Map with August 2008 GW Results-EPA Method 601 Lead.dwg
 Plot Date/Time: May 22, 2009 - 10:17am
 Plotted By: teresa.robinson



NOTE:
 1. DRAWING ADAPTED FROM SITE MAP/REMEDIAL SYSTEM LAYOUT BY J.A. JONES ENVIRONMENTAL SERVICES, DATED 10/14/98.
 2. NS=NOT SAMPLED

Contaminant of Concern		
Sample ID/Well ID	Date Collected	Lead
USTLCH4015-MW-01	8/23/2008 and 8/28/2008	172
USTLCH4015-MW-02	8/25/2008	18.8
USTLCH4015-MW-03	8/22/2008 and 8/28/2008	<2.0
USTLCH4015-MW-04	8/22/2008 and 8/28/2008	<2.0
USTLCH4015-MW-05	8/22/2008 and 8/28/2008	<2.0
USTLCH4015-MW-06	8/22/2008 and 8/28/2008	23.7
USTLCH4015-MW-07	8/23/2008 and 8/28/2008	174
USTLCH4015-MW-08	8/22/2008 and 8/28/2008	<2.0
USTLCH4015-MW-09	8/22/2008 and 8/28/2008	<2.0
USTLCH4015-MW-10	8/22/2008 and 8/28/2008	<2.0
USTLCH4015-MW-11	8/22/2008 and 8/28/2008	12.4
USTLCH4015-MW-12	8/23/2008 and 8/28/2008	42.6
USTLCH4015-MW-13	8/23/2008 and 8/28/2008	<2.0
USTLCH4015-MW-14	8/23/2008 and 8/28/2008	170
USTLCH4015-MW-15	8/23/2008 and 8/28/2008	112
USTLCH4015-MW-16	8/23/2008 and 8/28/2008	305
USTLCH4015-MW-18	8/25/2008	27.2
USTLCH4015-MW-19	8/25/2008	20.1
USTLCH4015-MW-20	8/25/2008	9.5
USTLCH4015-MW-21	8/25/2008	14.0
USTLCH4015-MW-22	8/25/2008	<2.0
USTLCH4015-MW-23	8/25/2008	29.3
USTLCH4015-MW-24	8/22/2008 and 8/28/2008	<2.0
GWQS (ug/L)		15
GCL (ug/L)		15000

- All results reported in ug/L; ug/L-micrograms per liter
- J - Estimated concentration; below calibration range and above MDL
- NS - not sampled
- BQL - Below Quantitation Limits (Method Detection Limit (MDL))
- Bold - Detected concentration.
- Bold and shaded - detected concentration above 2L Standards.

- LEGEND
- | | |
|----------|--|
| EXISTING | NEW DESCRIPTION |
| | BUILDING |
| | TREATMENT BUILDING |
| | ABOVE GROUND STORAGE TANK |
| | TYPE II MONITORING WELL (SHALLOW) |
| | TYPE III MONITORING WELL (INTERMEDIATE) |
| | TYPE III MONITORING WELL (DEEP) |
| | FUEL PRODUCT LINES |
| | FORMER FUEL PRODUCT LINES |
| (174) | LEAD RESULTS REPORTED IN µg/L (micrograms per liter) |

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL DIVISION
 ATLANTIC DIVISION
 NORFOLK, VIRGINIA
 JACKSONVILLE, N.C.

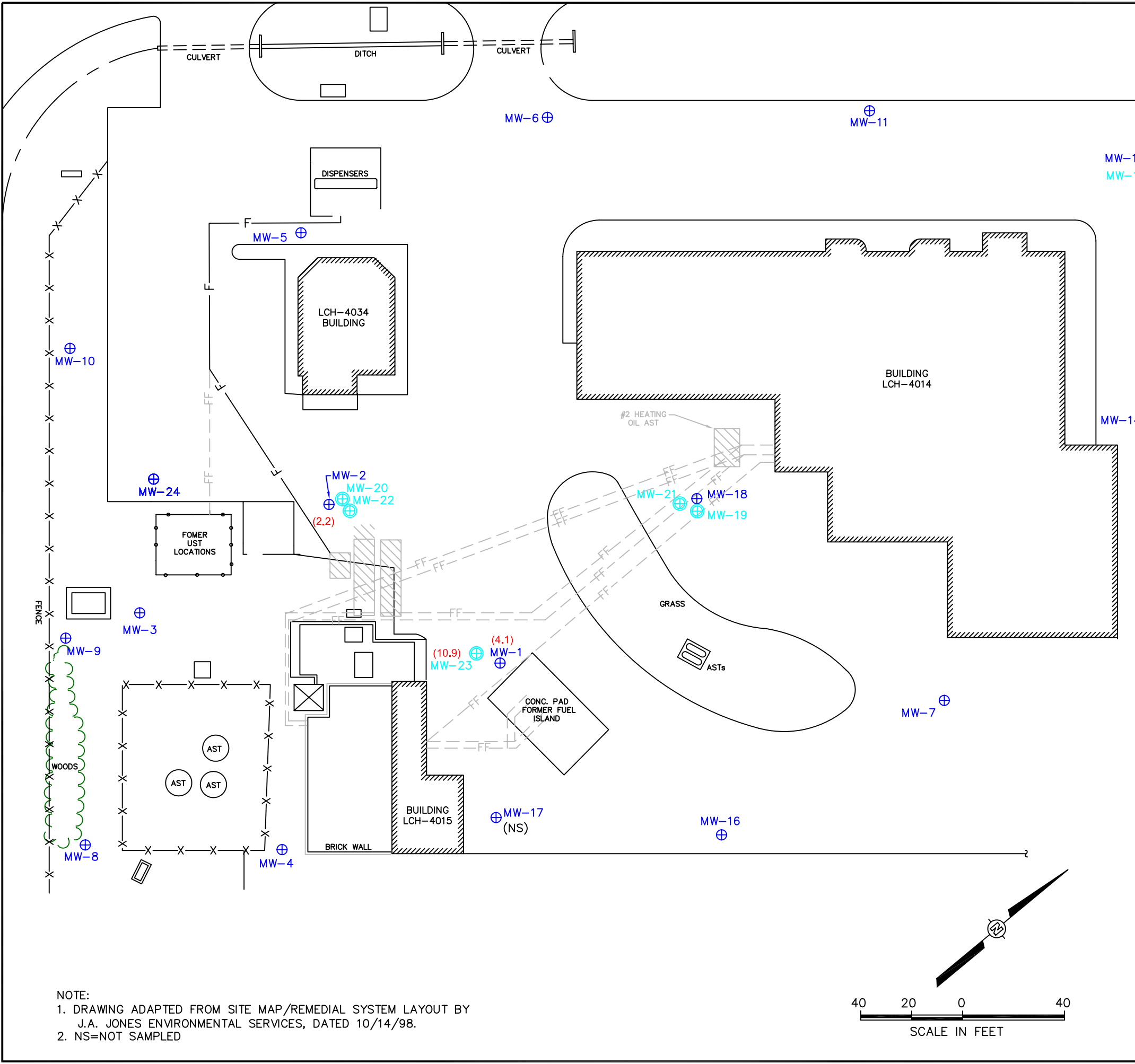
Shaw Environmental, Inc.
 PROJECT NO. 125709

DESIGNED BY: BR 5/17/09
 CHECKED BY: BR 5/17/09
 APPROVED BY: MP 5/17/09
 DRAWN BY: TR 5/17/09

LCH-4015 SITE MAP WITH AUGUST 2008 GROUNDWATER RESULTS-EPA METHOD 601 LEAD

DELIVERY ORDER NO.
 CONSTR. CONTRACT NO.
 NAVFAC DRAWING NO.
 SHEET I.D.
 FIGURE 6

File: Q:\LEJUNE-6-05\RAC_IV_TO_46_RAPID_FUELER\LCH-4015\Figure 7_LCH-4015 Site Map with August 2008 GW Results-EPA Method 602.dwg
 Plot Date/Time: May 22, 2009 - 10:55am
 Plotted By: teresa.robinson



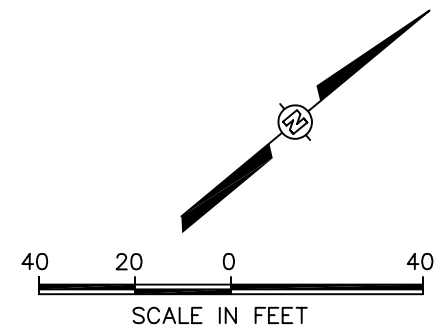
Sample ID/Well ID	Date Collected	Contaminant of Concern									
		Benzene	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Ethylbenzene	Methyl Tert Butyl Ether	Toluene	Xylenes (total)	
USTLCH4015-MW-01	8/23/2008 and 8/28/2008	4.1	<1.0	<1.0	<3.0	<2.0	1.1	13	0.77	0.93	
USTLCH4015-MW-02	8/25/2008	2.2	<1.0	<1.0	<1.0	<2.0	0.66	4.3	<1.0	3.3	
USTLCH4015-MW-03	8/22/2008 and 8/28/2008	<1.0	<1.0	<3.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-04	8/22/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-05	8/22/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-06	8/22/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-07	8/23/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-08	8/22/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-09	8/22/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-10	8/22/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-11	8/22/2008 and 8/28/2008	<1.0	<1.0	<6.0	<2.0	<2.0	8.6	<1.0	<1.0	<3.0	
USTLCH4015-MW-12	8/23/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-13	8/23/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-14	8/23/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-15	8/23/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-16	8/23/2008 and 8/28/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-18	8/25/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-19	8/25/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-20	8/25/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-21	8/25/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-22	8/25/2008	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	
USTLCH4015-MW-23	8/25/2008	10.9	<1.0	<1.0	<1.0	<1.0	15.5	<1.0	<1.0	<3.0	
USTLCH4015-MW-24	8/22/2008 and 8/28/2008	<1.0	<1.0	<6.0	<1.0	<1.0	50.3	<1.0	<1.0	<3.0	
	GWQS (ug/L)	1	50	NS	NS	NS	550	200	1000	530	
	GCL (ug/L)	5000	50000	NS	NS	NS	84500	200000	257500	87500	

- All results reported in ug/l; ug/l-micrograms per liter
- J - Estimated concentration; below calibration range and above MDL
- NS - not sampled
- BQL - Below Quantitation Limits (Method Detection Limit (MDL))
- Bold - Detected concentration.
- Bold and shaded - detected concentration above 2L Standards.

LEGEND

EXISTING	NEW DESCRIPTION
	BUILDING
	TREATMENT BUILDING
	ABOVE GROUND STORAGE TANK
	TYPE II MONITORING WELL (SHALLOW)
	TYPE III MONITORING WELL (INTERMEDIATE)
	TYPE III MONITORING WELL (DEEP)
	FUEL PRODUCT LINES
	FORMER FUEL PRODUCT LINES
(2.2)	BENZENE RESULTS REPORTED IN mg/L(micrograms per liter)

NOTE:
 1. DRAWING ADAPTED FROM SITE MAP/REMEDIAL SYSTEM LAYOUT BY J.A. JONES ENVIRONMENTAL SERVICES, DATED 10/14/98.
 2. NS=NOT SAMPLED



DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL STATION
 MCB CAMP LEJEUNE
 NORFOLK, VIRGINIA
 JACKSONVILLE, N.C.

ATLANTIC DIVISION
 BUILDING LCH-4015
 ANNUAL RPT/REPORT 2008-2009

PROJECT NO. 125709

DESIGNED BY BR 5/17/09 CHECKED BY BR 5/17/09 APPROVED BY MP 5/17/09

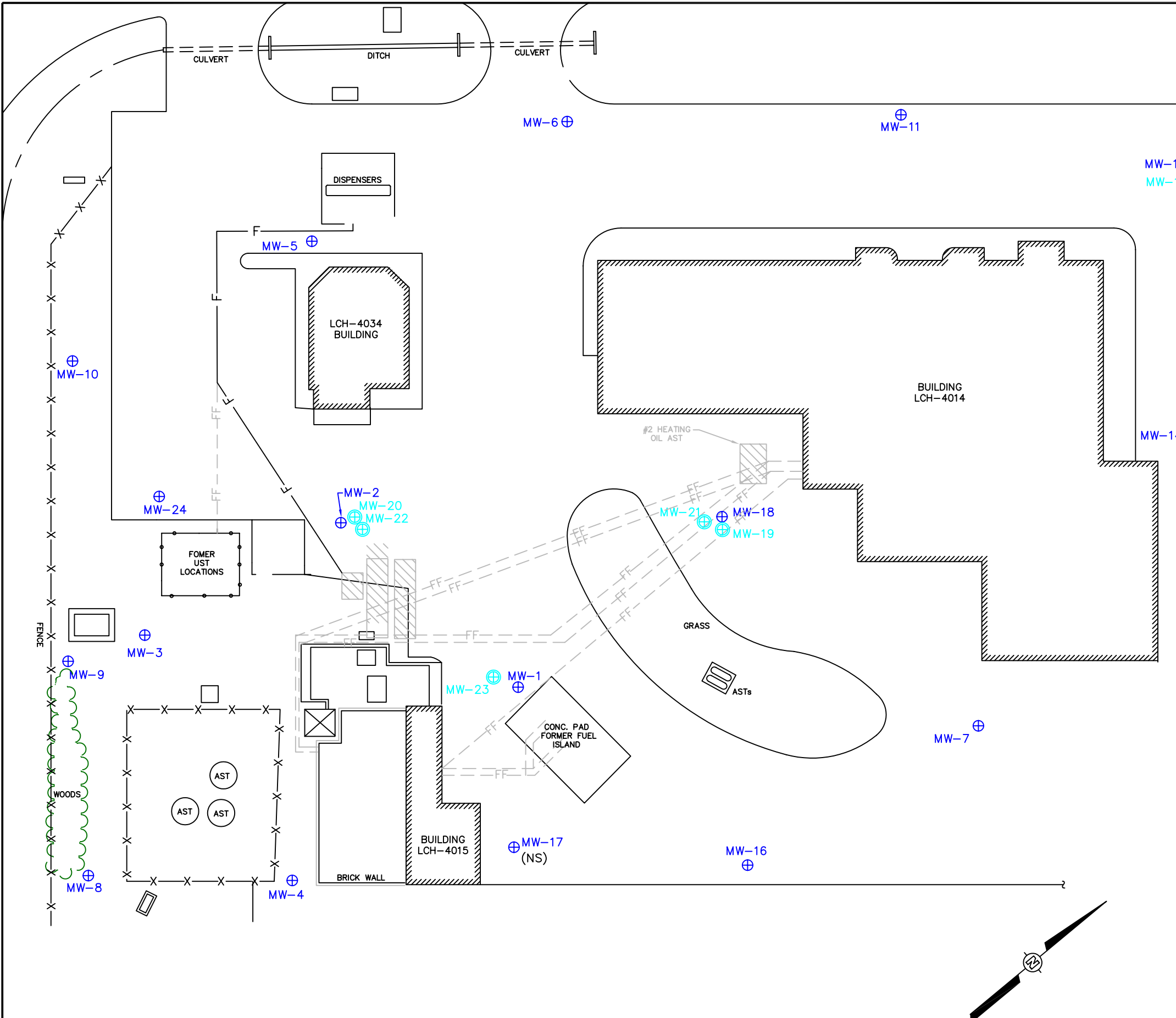
DRAWN BY TR 5/17/09

LCH-4015 SITE MAP WITH AUGUST 2008 GROUNDWATER RESULTS-EPA METHOD 602

SCALE: AS SHOWN
 DELIVERY ORDER NO.
 CONSTR. CONTRACT NO.
 NAVFAC DRAWING NO.
 SHEET I.D.

FIGURE 7

File: Q:\LEJUNE-6-05\RAC_IV\TO_46_RAPID_FEFUELER\LCH-4015\Figure 8_LCH-4015 Site Map with August 2008 GW Results-EPA Method 625.dwg
 Plot Date/Time: May 22, 2009 - 10:58am
 Plotted By: teresa.robinson

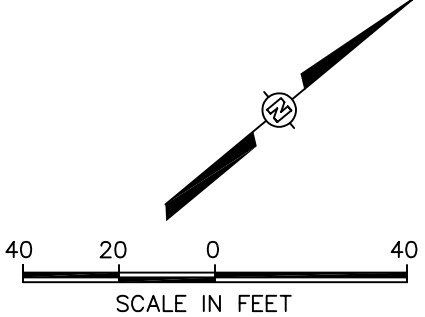


Sample ID/Well ID	Date Collected	Contaminant of Concern								
		Acenaphthene	Acenaphthylene	Chrysene	Fluoranthene	Fluorene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Pyrene
USTLCH4015-MW-01	8/23/2008	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	
USTLCH4015-MW-02	8/25/2008	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	8.9	<4.9	
USTLCH4015-MW-03	8/22/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-04	8/22/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-05	8/22/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-06	8/22/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-07	8/23/2008	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	
USTLCH4015-MW-08	8/22/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-09	8/22/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-10	8/22/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-11	8/22/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-12	8/23/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-13	8/23/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-14	8/23/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-15	8/23/2008	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	
USTLCH4015-MW-16	8/23/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-18	8/25/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-19	8/25/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-20	8/25/2008	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
USTLCH4015-MW-21	8/25/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-22	8/25/2008	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	<4.9	
USTLCH4015-MW-23	8/25/2008	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
USTLCH4015-MW-24	8/22/2008	1.2	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8	
GWQS (ug/L)		80	210	4.79	280	NS	14	21	210	
GCL (ug/L)		2121	1965	0.8	280	950	NS	12500	15500	210

- All results reported in ug/L; ug/l-micrograms per liter
- J - Estimated concentration; below calibration range and above MDL
- NS - not sampled
- BQL - Below Quantitation Limits (Method Detection Limit (MDL))
- Bold - Detected concentration.
- Bold and shaded - detected concentration above 2L Standards.

LEGEND

EXISTING	NEW DESCRIPTION
	BUILDING
	TREATMENT BUILDING
	ABOVE GROUND STORAGE TANK
	TYPE II MONITORING WELL (SHALLOW)
	TYPE III MONITORING WELL (INTERMEDIATE)
	TYPE III MONITORING WELL (DEEP)
	FUEL PRODUCT LINES
	FORMER FUEL PRODUCT LINES



NOTE:
 1. DRAWING ADAPTED FROM SITE MAP/REMEDIAL SYSTEM LAYOUT BY J.A. JONES ENVIRONMENTAL SERVICES, DATED 10/14/98.
 2. NS=NOT SAMPLED

DEPARTMENT OF THE NAVY
 NAVAL FACILITIES ENGINEERING COMMAND
 NAVAL STATION
 MCB CAMP LEJEUNE
 ATLANTIC DIVISION
 NORFOLK, VIRGINIA
 JACKSONVILLE, N.C.

PROJECT NO. 125709
 SHAW ENVIRONMENTAL, INC.
 BUILDING LCH-4015
 ANNUAL RPT/REPORT 2008-2009

LCH-4015 SITE MAP WITH AUGUST 2008 GROUNDWATER RESULTS-EPA METHOD 625

DESIGNED BY	CHECKED BY	APPROVED BY	DATE	REV	DESCRIPTION/ISSUE
BR	5/17/09	MP	5/17/09		
TR	5/17/09	MP	5/17/09		

SCALE: AS SHOWN
 DELIVERY ORDER NO.
 CONSTR. CONTRACT NO.
 NAVFAC DRAWING NO.
 SHEET I.D.
 FIGURE 8

APPENDIX A

HISTORICAL GROUNDWATER QUALITY DATA

Table
Historical Groundwater Analytical Data
September 2003 Sampling Event
LCH4015

Parameter	NCGWQS	GCL	MW-01	Duplicate	MW-02	MW-03	MW-05	MW-09	MW-11
VOCs by EPA Method 6210D (µg/L)									
Benzene	1	5,000	141	138	60.1	1	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	371	368	62.9	0.8 J	1.9	0.63 J	3.6
Toluene	1,000	257,500	17.5	14.8	7.2	<1.0	<1.0	0.66 J	<1.0
Xylenes (total)	530	87,500	269	226	612	<3.0	6.9	<3.0	<3.0
Methyl-tert butyl ether (MTBE)	200		5.8	4.8	7.5	<1.0	3.8	10.7	<1.0
Total BTEX			798.5	746.8	742.2	1.8	8.8	1.29	3.6
SVOCs by EPA Method 610 (µg/L)									
Acenaphthene	80		<5.0	<5.4	<5.7	<5.2	<5.1	<5.0	<5.1
Acenaphthylene	210		<5.0	<5.4	<5.7	<5.2	<5.1	<5.0	<5.1
Anthracene	2100		<5.0	<5.4	<5.7	<5.2	<5.1	<5.0	<5.1
Benzo(a)anthracene	0.05		<5.0	<5.4	<5.7	<5.2	<5.1	<5.0	<5.1
Flouranthene	280		<5.0	<5.4	<5.7	<5.2	<5.1	<5.0	<5.1
Flourene	280		<5.0	<5.4	<5.7	<5.2	<5.1	<5.0	<5.1
1-Methylnaphthalene	RL		29	23.3	7.1	<5.2	<5.1	<5.0	<5.1
2-Methylnaphthalene	14		43.7	36.2	7.6	<5.2	<5.1	<5.0	<5.1
Naphthalene	21		170	138	59.9	<5.2	<5.1	4.2 J	<5.1
Phenanthrene	210		<5.0	<5.4	<5.7	<5.2	<5.1	<5.0	<5.1
Pyrene	210		<5.0	<5.4	<5.7	<5.2	<5.1	<5.0	<5.1

Bold type indicates detectable concentrations

Bold and highlighted indicates detectable concentrations above the GCL

NCGWQS - North Carolina Groundwater Quality Standard

GCL - Gross Contaminant Level

<# - not detected at the indicated reporting limit

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

mg/L - milligrams per liter

ug/L - micrograms per liter

NE - Not established

RL - the NCGWQS for the constituent is the reporting limit

ND - None detected (no summed constituents were detected)

J - estimated concentration between minimum detection limit and reporting limit

NA - Not analyzed; laboratory quantitation for the indicated analyte was not conducted

NS - Not sampled; the indicated location was not designated for sampling during the event

E - estimated concentration above the linear quantitation range

Table
Historical Groundwater Analytical Data
November 2003 Sampling Event
LCH4015

Sample Location	NCGWQS	MW-01 11/19/03	MW-02 11/18/03	MW-03 11/18/03	MW-03D 11/18/03	MW-05 11/18/03	MW-06 11/19/03	MW-07 11/18/03	MW-08 11/18/03	MW-09 11/18/03
EPA 602 (µg/L)										
Benzene	1	139	22.4	1.3	1.5	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	377	31.9	1.3	1.4	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	1000	8.0	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	147	62.5	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	10.1	24.0	2.6	2.7	3.3	<1.0	<1.0	<1.0	7.5
Total BTEX		671	118.7	2.6	2.9	ND	ND	ND	ND	ND
EPA 610 (µg/L)										
Acenaphthene	80	<5.4	<5.4	<5.0	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1
Acenaphthylene	210	<5.4	<5.4	<5.0	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1
Anthracene	2100	<5.4	<5.4	<5.0	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1
Benzo(a)anthracene	0.05	<5.4	<5.4	<5.0	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1
Fluoranthene	280	<5.4	<5.4	<5.0	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1
Fluorene	280	<5.4	<5.4	2.5 J	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1
1-Methylnaphthalene	RL	28.1	5.1 J	<5.0	<5.0	<5.0	<5.1	<5.0	2.9 J	<5.1
2-Methylnaphthalene	14	47.0	2.9 J	<5.0	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1
Naphthalene	21	169	47.8	<5.0	<5.0	<5.0	<5.1	<5.0	2.3 J	<5.1
Phenanthrene	210	<5.4	<5.4	<5.0	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1
Pyrene	210	<5.4	<5.4	<5.0	<5.0	<5.0	<5.1	<5.0	<5.1	<5.1

Sample Location	NCGWQS	MW-10 11/18/03	MW-11 12/11/03	MW-12 11/19/03	MW-14 11/19/03	MW-15 11/18/03	MW-16 11/18/03	MW-18 11/19/03	MW-19 11/19/03
EPA 602 (µg/L)									
Benzene	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	0.86 J	<1.0
Toluene	1000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	5.6	<1.0	<1.0	<1.0	<1.0	2.6	<1.0	<1.0
Total BTEX		ND	2.5	ND	ND	ND	ND	0.86	ND
EPA 610 (µg/L)									
Acenaphthene	80	<5.6	3.1 J	<5.2	<5.1	<5.1	<5.0	<5.2	2.4 J
Acenaphthylene	210	<5.6	<5.2	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1
Anthracene	2100	<5.6	<5.2	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1
Benzo(a)anthracene	0.05	<5.6	<5.2	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1
Fluoranthene	280	<5.6	<5.2	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1
Fluorene	280	<5.6	9.0	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1
1-Methylnaphthalene	RL	<5.6	36.8	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1
2-Methylnaphthalene	14	<5.6	6.3	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1
Naphthalene	21	<5.6	5.8	<5.2	<5.1	<5.1	<5.0	<5.2	3.2 J
Phenanthrene	210	<5.6	5.7	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1
Pyrene	210	<5.6	<5.2	<5.2	<5.1	<5.1	<5.0	<5.2	<5.1

MW-03D is a duplicate sample collected at well MW-03

NCGWQS: North Carolina Groundwater Quality Standard

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: None detected; no benzene, toluene, ethylbenzene, or xylene isomers were detected

µg/L: micrograms per liter

<#: detected at the indicated reporting limit

J: estimated concentration less than reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

Table
 Historical Groundwater Analytical Data
 February 2004 Sampling Event
 LCH4015

Parameter	NCGWQS	GCL	MW-01	MW-02	MW-03	MW-05	Duplicate	MW-09	MW-11
VOCs by EPA Method 621-0D (µg/L)									
Benzene	1	5,000	131	19.1	10.5	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	439	14.5	3.7	<1.0	<1.0	<1.0	3.9
Toluene	1,000	257,500	27.5	1.3	0.68 J	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	87,500	514	76.9	3.6	<3.0	<3.0	<3.0	<3.0
Methyl-tert butyl ether (MTBE)	200		8.1	94.4	7	5.5	5.5	8.0	<1.0
Total BTEX			1111.5	111.8	18.48	ND	ND	ND	3.9
SVOCs by EPA Method 610 (µg/L)									
Acenaphthene	80		<5.2	<5.0	<5.1	<5.0	<5.0	<5.0	<5.1
Acenaphthylene	210		<5.2	<5.0	<5.1	<5.0	<5.0	<5.0	<5.1
Anthracene	2100		<5.2	<5.0	<5.1	<5.0	<5.0	<5.0	<5.1
Benzo(a)anthracene	0.05		<5.2	<5.0	<5.1	<5.0	<5.0	<5.0	<5.1
Flouranthene	280		<5.2	<5.0	<5.1	<5.0	<5.0	<5.0	<5.1
Flourene	280		<5.2	<5.0	<5.1	<5.0	<5.0	<5.0	5.1
1-Methylnaphthalene	RL		26.9	3.5 J	<5.1	<5.0	<5.0	<5.0	4.6 J
2-Methylnaphthalene	14		38.7	<5.0	<5.1	<5.0	<5.0	<5.0	<5.1
Naphthalene	21		15.7	15.7	2.3 J	<5.0	<5.0	<5.0	<5.1
Phenanthrene	210		<5.2	<5.0	<5.1	<5.0	<5.0	<5.0	<5.1
Pyrene	210		<5.2	<5.0	<5.1	<5.0	<5.0	<5.0	<5.1

Bold type indicates detectable concentrations

Bold and highlighted indicates detectable concentrations above the GCL

NCGWQS - North Carolina Groundwater Quality Standard

GCL - Gross Contaminant Level

<# - not detected at the indicated reporting limit

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

mg/L - milligrams per liter

ug/L - micrograms per liter

NE - Not established

RL - the NCGWQS for the constituent is the reporting limit

ND - None detected (no summed constituents were detected)

J - estimated concentration between minimum detection limit and reporting limit

NA - Not analyzed; laboratory quantitation for the indicated analyte was not conducted

NS - Not sampled; the indicated location was not designated for sampling during the event

E - estimated concentration above the linear quantitation range

Table
Historical Groundwater Analytical Data
May 2004 Sampling Event
LCH4015

Parameter	NCGWQS	GCL	MW-01	MW-02	MW-03 ⁽¹⁾	Duplicate	MW-05	MW-06	MW-07	MW-08	MW-09	MW-10	MW-11	MW-12	MW-14	MW-15	MW-16	MW-18 ⁽¹⁾	MW-19
VOCs by EPA Method 6210D (µg/L)																			
Benzene	1	5,000	28.4	30.9	1.6	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	29,000	21.9	14.6	1.7	2	<1.0	<1.0	<1.0	<1.0	3.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	1,000	257,500	13	1.8	<1.0	<1.0	<1.0	<1.0	0.52 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	87,500	704	85.3	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Methyl-tert butyl ether (MTBE)	200		4.0 J	25.9	<1.0	<1.0	2.7	6.2	<1.0	<1.0	<1.0	9.8	<1.0	<1.0	<1.0	<1.0	3.7	<1.0	<1.0
Total BTEX			1064.4	132.6	3.3	3.8	ND	ND	0.52	ND	3.5	ND	ND	ND	ND	ND	ND	ND	ND
SVOCs by EPA Method 610 (µg/L)																			
Acenaphthene	80		<5.1	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	4.3 J	<5.3	<5.1	<5.0	<5.1	<5.1	3.7 J
Acenaphthylene	210		<5.1	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	<5.1	<5.3	<5.1	<5.0	<5.1	<5.1	<5.0
Anthracene	2100		<5.1	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	<5.1	<5.3	<5.1	<5.0	<5.1	<5.1	<5.0
Benzo(a)anthracene	0.05		<5.1	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	<5.1	<5.3	<5.1	<5.0	<5.1	<5.1	<5.0
Flouranthene	280		<5.1	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	<5.1	<5.3	<5.1	<5.0	<5.1	<5.1	<5.0
Flourene	280		<5.1	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	8.0	<5.3	<5.1	<5.0	<5.1	<5.1	<5.0
1-Methylnaphthalene	RL		25.3	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	29.5	<5.3	<5.1	<5.0	<5.1	<5.1	<5.0
2-Methylnaphthalene	14		34.3	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	5.9	<5.3	<5.1	<5.0	<5.1	<5.1	2.1 J
Naphthalene	21		102	15.7	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	3.8 J	<5.3	<5.1	<5.0	<5.1	<5.1	2.1 J
Phenanthrene	210		<5.1	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	<5.1	<5.3	<5.1	<5.0	<5.1	<5.1	<5.0
Pyrene	210		<5.1	<5.1	<5.1	<5.0	<5.1	<5.2	<5.1	<5.0	<5.1	<5.0	<5.1	<5.3	<5.1	<5.0	<5.1	<5.1	<5.0

⁽¹⁾ At well MW-03, 1,3-Dichlorobenzene was reported in the primary and duplicate sample at estimated concentrations of 0.69 µg/L and 0.78 µg/L, respectively, at well MW-18, 1,3-Dichlorobenzene was reported at a concentration of 1.6 µg/L; the NCGWQS for 1,3-Dichlorobenzene is 620 µg/L.

Bold type indicates detectable concentrations

Bold and highlighted indicates detectable concentrations above the GCL

NCGWQS - North Carolina Groundwater Quality Standard

GCL - Gross Contaminant Level

<# - not detected at the indicated reporting limit

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

mg/L - milligrams per liter

ug/L - micrograms per liter

NE - Not established

RL - the NCGWQS for the constituent is the reporting limit

ND - None detected (no summed constituents were detected)

J - estimated concentration between minimum detection limit and reporting limit

NA - Not analyzed; laboratory quantitation for the indicated analyte was not conducted

NS - Not sampled; the indicated location was not designated for sampling during the event

E - estimated concentration above the linear quantitation range

Table
Historical Groundwater Analytical Data
August 2004 Sampling Event
LCH4015

Sample Location	NCGWQS	MW-01	DUP (MW-01)	MW-02	MW-03	MW-05	MW-09	MW-11
Date Sampled		08/11/04	08/11/04	08/11/04	08/11/04	08/11/04	08/11/04	08/11/04
EPA 602 (µg/L)								
Benzene	1	53.3	70.4	0.90 J	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	225	208	2.4	<1.0	<1.0	<1.0	5.4
Toluene	1000	8.6	13.3	<1.0	0.52 J	<1.0	0.50 J	0.63 J
Xylenes (total)	530	314	<3.0	13.3	<3.0	<3.0	<3.0	1.8 J
Methyl Tert Butyl Ether	200	<5.0	317	20.0	1.9	0.76 J	6.9	<1.0
Total BTEX		600.9	291.7	16.6	0.52	ND	0.5	7.83
EPA 610 (µg/L)								
Acenaphthene	80	<48	<48	<4.8	<4.8	<4.8	<4.8	<9.5
Acenaphthylene	210	<48	<48	<4.8	<4.8	<4.8	<4.8	<9.5
Anthracene	2100	<48	<48	<4.8	<4.8	<4.8	<4.8	<9.5
Benzo(a)anthracene	0.05	<48	<48	<4.8	<4.8	<4.8	<4.8	<9.5
Fluoranthene	280	<48	<48	<4.8	<4.8	<4.8	<4.8	<9.5
Fluorene	280	<48	<48	<4.8	3.3 J	<4.8	<4.8	16.4
1-Methylnaphthalene	RL	34.4 J	34.5 J	2.9 J	<4.8	<4.8	<4.8	38.2
2-Methylnaphthalene	14	49.0	48.6	3.2 J	<4.8	<4.8	<4.8	6.6 J
Naphthalene	21	207	216	45.2	<4.8	<4.8	<4.8	3.8 J
Phenanthrene	210	<48	<48	<4.8	<4.8	<4.8	<4.8	6.5 J
Pyrene	210	<48	<48	<4.8	<4.8	<4.8	<4.8	<9.5

DUP is a duplicate sample collected at well MW-01

NCGWQS: North Carolina Groundwater Quality Standard

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: None detected; no benzene, toluene, ethylbenzene, or xylene isomers were detected

µg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

Table
Historical Groundwater Analytical Data
November 2004 Sampling Event
LCH4015

Sample Location	NCGWQS	MW-01	MW-02*	MW-03	DUP (MW-03)	MW-13	MW-18
Date Sampled		11/22/04	11/22/04	11/22/04	11/23/04	11/23/04	11/23/04
EPA 602 (µg/L)							
Benzene	1	29.1	64.5	0.56 J	0.61 J	<1.0	<1.0
Ethylbenzene	29	189	64.0	<1.0	<1.0	<1.0	<1.0
Toluene	1000	4.6 J	6.7	<1.0	<1.0	<1.0	0.51 J
Xylenes (total)	530	390	220	<3.0	<3.0	<3.0	<3.0
Methyl Tert Butyl Ether	200	<5.0	8.3	<1.0	<1.0	<1.0	<1.0
Total BTEX		612.7	375.3	0.56	0.61	ND	0.51
EPA 610 (µg/L)							
Acenaphthene	80	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Acenaphthylene	210	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Anthracene	2100	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Benzo(a)anthracene	0.05	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Fluoranthene	280	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Fluorene	280	<4.8	<4.8	2.3 J	2.1 J	<4.8	5.8
1-Methylnaphthalene	RL	17.3	7.6	<4.8	<4.8	<4.8	<4.8
2-Methylnaphthalene	14	25.7	5.2	<4.8	<4.8	<4.8	<4.8
Naphthalene	21	18.1	94.5	<4.8	<4.8	<4.8	<4.8
Phenanthrene	210	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Pyrene	210	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
MADEP VPH (µg/L)							
C5-C8 Aliphatics	420	296	197	65.7 J	154 J	<190	312
C9-C12 Aliphatics		195	<190	129	<190	<190	<190
C9-C10 Aromatics		<190	<190	106	<190	<190	<190
MADEP EPH (µg/L)							
C9-C18 Aliphatics		925	487	<190	55 J	<75	<75
C19-C36 Aliphatics	42000	2030	363	<190	131	<55	68.4
C11-C22 Aromatics		1150	222	169 J	106	<20	40.9
MADEP VPH + EPH (µg/L)							
C9-C12 + C9-C18 Aliphatics	4200	1120	487	129	55 J	<265	<265
C9-C10 + C11-C22 Aromatics	210	1150	222	275 J	106	<210	40.9
SW 6010B* (µg/L)							
Lead	15	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Sample Location	NCGWQS	MW-19	MW-20	MW-21	MW-22	MW-23
Date Sampled		11/23/04	11/22/04	11/23/04	11/22/04	11/23/04
EPA 602 (µg/L)						
Benzene	1	<1.0	<1.0	20.8	<1.0	73.9
Ethylbenzene	29	<1.0	<1.0	5.2	<1.0	1.3
Toluene	1000	<1.0	<1.0	2.0	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0	2.7 J	<3.0	1.3 J
Methyl Tert Butyl Ether	200	<1.0	<1.0	21.3	<1.0	34.3
Total BTEX		ND	ND	30.7	ND	76.5
EPA 610 (µg/L)						
Acenaphthene	80	<4.8	<4.8	<4.8	<4.8	<4.8
Acenaphthylene	210	<4.8	<4.8	<4.8	<4.8	<4.8
Anthracene	2100	<4.8	<4.8	<4.8	<4.8	<4.8
Benzo(a)anthracene	0.05	<4.8	<4.8	<4.8	<4.8	<4.8
Fluoranthene	280	<4.8	<4.8	<4.8	<4.8	<4.8
Fluorene	280	<4.8	<4.8	<4.8	<4.8	<4.8
1-Methylnaphthalene	RL	<4.8	<4.8	<4.8	<4.8	<4.8
2-Methylnaphthalene	14	<4.8	<4.8	<4.8	<4.8	<4.8
Naphthalene	21	<4.8	14.9	15.3	<4.8	<4.8
Phenanthrene	210	<4.8	<4.8	<4.8	<4.8	<4.8
Pyrene	210	<4.8	<4.8	<4.8	<4.8	<4.8
MADEP VPH (µg/L)						
C5-C8 Aliphatics	420	<190	143 J	<190	<190	149
C9-C12 Aliphatics		<190	<190	<190	<190	<190
C9-C10 Aromatics		<190	<190	<190	<190	<190
MADEP EPH (µg/L)						
C9-C18 Aliphatics		<75	<75	<75	<75	<75
C19-C36 Aliphatics	42000	<55	<55	119	<55	<55
C11-C22 Aromatics		<20	<20	95.8	<20	<20
MADEP VPH + EPH (µg/L)						
C9-C12 + C9-C18 Aliphatics	4200	<265	<265	<265	<265	<265
C9-C10 + C11-C22 Aromatics	210	<210	<210	95.8	<210	<210
SW 6010B/3030C (µg/L)						
Lead	15	<5.0	7.7	<40	<5.0	<50

* At well MW-02, Chlorobenzene was detected at a concentration of 3.0 ug/L (NCGWQS of 50 ug/L)

NCGWQS: North Carolina Groundwater Quality Standard

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: None detected; no benzene, toluene, ethylbenzene, or xylene isomers were detected

µg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

Table
Historical Groundwater Analytical Data
March 2005 Sampling Event
LCH4015

Sample Location	NCGWQS	MW-24
Date Sampled		03/07/05
EPA 602 (µg/L)		
Benzene	1	4.38
Ethylbenzene	29	0.785 J
Toluene	1000	0.418 J
m,p-Xylene (1)		1.11 J
o-Xylene (1)		0.978 J
Total Xylenes (1)	530	2.088 J
1,2-Dichlorobenzene	620	15.8
1,3-Dichlorobenzene	620	<1.00
1,4-Dichlorobenzene	75	0.799 J
Naphthalene	21	19.3
Methyl-tert butyl ether	200	1.89 J
Diisopropyl ether	70	3.97
EPA 610 (µg/L)		
Acenaphthene	80	1.40 J
Bis(2-ethylhexyl)phthalate	3	1.40 J
Dimethylphthalate	RL	1.50 J
Fluorene	280	1.70 J
Naphthalene	21	11.1
TICs (total)		241.21 J
MADEP VPH (µg/L)		
C5-C8 Aliphatics	420	220
C9-C12 Aliphatics		130
C9-C10 Aromatics		300
MADEP EPH (µg/L)		
C9-C18 Aliphatics		<100
C19-C36 Aliphatics	42000	<100
C11-C22 Aromatics		140
MADEP VPH + EPH (µg/L)		
C9-C12 + C9-C18 Aliphatics	4200	130
C9-C10 + C11-C22 Aromatics	210	440
SW 6010B* (µg/L)		
Lead	15	<5.0

* At well MW-02, Chlorobenzene was detected at a concentration
NCGWQS: North Carolina Groundwater Quality Standard

RL: Reporting Limit, no NCGWQS established for the constituent

Total BTEX: Sum of detected concentrations of benzene, toluene

ND: None detected; no benzene, toluene, ethylbenzene, or xylene

µg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the I

Table
Historical Groundwater Analytical Data
May 2005 Sampling Event
LCH4015

Sample Location	NCGWQS	MW-01	MW-02	MW-03	DUP (MW-03)	MW-13	MW-18
Date Sampled		05/10/05	05/10/05	05/10/05	05/10/05	05/11/05	05/11/05
EPA 602 (µg/L)							
Benzene	1	30.1	13.1	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	27.0	13.5	<1.0	<1.0	<1.0	<1.0
Toluene	1000	14.8	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	65.9	32.6	<3.0	<3.0	<3.0	<3.0
Chlorobenzene	50	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	50.7	10.0	7.7	7.0	<1.0	2.4
1,3-Dichlorobenzene	620	<5.0	<1.0	0.83 J	0.59 J	<1.0	1.3
1,4-Dichlorobenzene	75	<5.0	<1.0	0.59 J	<1.0	<1.0	<1.0
Methyl Tert Butyl Ether	200	7.8	52.5	<1.0	<1.0	<1.0	<1.0
Total BTEX		973.9	59.2	ND	ND	ND	ND
EPA 625 (µg/L)							
Acenaphthene	80	<4.9	<4.8	1.3 J	1.2 J	<4.8	2.3 J
Acenaphthylene	210	<4.9	<4.8	<4.8	<5.0	<4.8	<5.0
Anthracene	2100	<4.9	<4.8	<4.8	<5.0	<4.8	<5.0
Benzo(a)anthracene	0.05	<4.9	<4.8	<4.8	<5.0	<4.8	<5.0
Fluoranthene	280	<4.9	<4.8	<4.8	<5.0	<4.8	<5.0
Fluorene	280	<4.9	<4.8	1.4 J	1.2 J	<4.8	3.1 J
1-Methylnaphthalene	RL	23.1	<4.8	<4.8	<5.0	<4.8	<5.0
2-Methylnaphthalene	14	34.2	<4.8	<4.8	<5.0	<4.8	<5.0
Naphthalene	21	165	11.5	1.6 J	<5.0	<4.8	<5.0
Phenanthrene	210	<4.9	<4.8	<4.8	<5.0	<4.8	<5.0
Pyrene	210	<4.9	<4.8	<4.8	<5.0	<4.8	<5.0
SW 6010B* (µg/L)							
Lead	15	<5.0	<10	<5.0	<5.0	<5.0	<5.0
Sample Location	NCGWQS	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24
Date Sampled		05/11/05	05/10/05	05/11/05	05/10/05	05/11/05	05/10/05
EPA 602 (µg/L)							
Benzene	1	<1.0	<1.0	17.5	<1.0	47.1	2.3
Ethylbenzene	29	<1.0	<1.0	4.2	<1.0	0.79 J	<1.0
Toluene	1000	<1.0	<1.0	1.1	0.96 J	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0	1.1 J	<3.0	<3.0	<3.0
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	<1.0	<1.0	<1.0	<1.0	<1.0	22.1
1,3-Dichlorobenzene	620	<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
Methyl Tert Butyl Ether	200	<1.0	<1.0	28.8	1.2	31.9	3.0
Total BTEX		ND	ND	23.9	0.96	47.89	2.3
EPA 625 (µg/L)							
Acenaphthene	80	2.6 J	<4.8	<4.8	<4.8	<4.8	1.5 J
Acenaphthylene	210	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Anthracene	2100	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Benzo(a)anthracene	0.05	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Fluoranthene	280	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Fluorene	280	1.1 J	<4.8	<4.8	<4.8	<4.8	1.8 J
1-Methylnaphthalene	RL	<4.8	<4.8	<4.8	<4.8	<4.8	2.6 J
2-Methylnaphthalene	14	<4.8	<4.8	<4.8	<4.8	<4.8	2.8 J
Naphthalene	21	<4.8	24.8	20.4	<4.8	<4.8	<4.8
Phenanthrene	210	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
Pyrene	210	<4.8	<4.8	<4.8	<4.8	<4.8	<4.8
SW 6010B/3030C (µg/L)							
Lead	15	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

NCGWQS: North Carolina Groundwater Quality Standard

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: None detected; no benzene, toluene, ethylbenzene, or xylene isomers were detected

µg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

Table
 Historical Groundwater Analytical Data
 November 2005 Sampling Event
 LCH4015

Sample Location	NCGWQS	MW-01	MW-02	MW-03	DUP (MW-02)	MW-13	MW-18
Date Sampled		11/14/05	11/14/05	11/14/05	11/14/05	11/14/05	11/14/05
EPA 602 (µg/L)							
Benzene	1	48.1	1.5	<1.0	1.9	<1.0	<1.0
Ethylbenzene	29	143	2.0	<1.0	2.3	<1.0	<1.0
Toluene	1000	4.9	<1.0	<1.0	<1.0	0.54 J	0.59 J
Xylenes (total)	530	268	5.6	<3.0	10.7	<3.0	<3.0
Chlorobenzene	50	2.1	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	<32	<120	<10	<120	<3.0	<3.0
1,3-Dichlorobenzene	620	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	75	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl Tert Butyl Ether	200	7.2	49.6	1.1	50.1	<1.0	<1.0
Total BTEX		464	9.1	ND	14.9	0.54	0.59
EPA 625 (µg/L)							
Acenaphthene	80	<4.9	<5.0	1.6 J	<5.0	<5.3	3 J
Acenaphthylene	210	<4.9	<5.0	<5.0	<5.0	<5.3	<5.3
Anthracene	2100	<4.9	<5.0	<5.0	<5.0	<5.3	<5.3
Benzo(a)anthracene	0.05	<4.9	<5.0	<5.0	<5.0	<5.3	<5.3
Fluoranthene	280	<4.9	<5.0	<5.0	<5.0	<5.3	<5.3
Fluorene	280	<4.9	<5.0	1.6 J	<5.0	<5.3	4.3 J
1-Methylnaphthalene	RL	23.1	15	5.2	<5.0	<4.8	<5.0
2-Methylnaphthalene	14	34.2	5.5	7.9	<5.0	<4.8	<5.0
Naphthalene	21	105	2.3 J	<5.0	2.1 J	<5.3	<5.3
Phenanthrene	210	<4.9	<5.0	<5.0	<5.0	<5.3	<5.3
Pyrene	210	<4.9	<5.0	<5.0	<5.0	<5.3	<5.3
SW 6010B* (µg/L)							
Lead	15	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Sample Location	NCGWQS	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24
Date Sampled		11/14/05	11/14/05	11/14/05	11/14/05	11/14/05	11/14/05
EPA 602 (µg/L)							
Benzene	1	<1.0	<1.0	10.9	<1.0	4.2	1.8
Ethylbenzene	29	<1.0	<1.0	1.9	<1.0	0.66 J	<1.0
Toluene	1000	0.63 J	<1.0	0.7 J	0.89 J	0.71 J	0.57 J
Xylenes (total)	530	<3.0	<3.0	1.3 J	<3.0	1.3 J	<3.0
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	620	<1.0	<1.0	<1.0	<1.0	<1.0	<15
1,3-Dichlorobenzene	620	<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
Methyl Tert Butyl Ether	200	<1.0	<1.0	26.1	1.9	17.9	1.7
Total BTEX		0.63	ND	14.76	0.89	6.87	2.37
EPA 625 (µg/L)							
Acenaphthene	80	<5.0	<4.8	<5.3	<5.3	<4.8	1.9 J
Acenaphthylene	210	<5.0	<4.8	<5.3	<5.3	<4.8	<5.6
Anthracene	2100	<5.0	<4.8	<5.3	<5.3	<4.8	<5.6
Benzo(a)anthracene	0.05	<5.0	<4.8	<5.3	<5.3	<4.8	<5.6
Fluoranthene	280	<5.0	<4.8	<5.3	<5.3	<4.8	<5.6
Fluorene	280	<5.0	<4.8	<5.3	<5.3	<4.8	2.1 J
1-Methylnaphthalene	RL	<4.8	<4.8	<4.8	<4.8	<4.8	2.6 J
2-Methylnaphthalene	14	<4.8	<4.8	<4.8	<4.8	<4.8	2.8 J
Naphthalene	21	<5.0	9.2	32.3	<5.3	<4.8	4.4 J
Phenanthrene	210	<5.0	<4.8	<5.3	<5.3	<4.8	<5.6
Pyrene	210	<5.0	<4.8	<5.3	<5.3	<4.8	<5.6
SW 6010B/3030C (µg/L)							
Lead	15	<5.0	<5.0	18.8	<5.0	10.1	<5.0

NCGWQS: North Carolina Groundwater Quality Standard

RL: Reporting Limit, no NCGWQS established for the constituent; therefore, the NCGWQS for the constituent is the reporting limit

Total BTEX: Sum of detected concentrations of benzene, toluene, ethylbenzene, and xylene isomers

ND: None detected; no benzene, toluene, ethylbenzene, or xylene isomers were detected

µg/L: micrograms per liter

<#: not detected at the indicated reporting limit

J: estimated concentration less than reporting limit

Bold type indicates detectable concentrations.

Shaded area indicates detectable concentration above the North Carolina Groundwater Quality Standards

Table
 Historical Groundwater Analytical Data
 January 2006 Sampling Event
 LCH4015

Parameter	NCGWQS	GCL	MW-01	MW-02	MW-03	MW-13	Duplicate	MW-19	MW-20	MW-21	MW-22	MW-23
VOCS by EPA Method 8210D (ug/L)												
All Compounds	Varies	Varies	<16.0	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Benzene	1	5,000	45.5	3.63	<1.00	<1.00	<1.00	<1.00	<1.00	20.2	<1.00	25.9
Diisopropyl ether (DIPE)			<8.00	<1.00	0.651	<1.00	<1.00	<1.00	<1.00	0.670	<1.00	1.81
Ethylbenzene	29	29,000	179	6.10	<1.00	<1.00	<1.00	<1.00	<1.00	3.05	<1.00	0.400
Methyl-tert butyl ether (MTBE)	200		4.98	16.7	0.949	<2.00	<2.00	<2.00	<2.00	15.4	<2.00	15.0
Toluene	1,000	257,500	10.1	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00
m/p-Xylene			333	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
o-Xylene			37.5	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	0.632	<2.00	<2.00
Xylenes (total)	530	87,500	<32.0	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00	<4.00
SVOCs by EPA Method 625 (ug/L)												
Bis(2-ethylhexyl)phthalate			8.70	<10.0	<10.0	<10.0	<10.0	2.80	<10.0	<10.0	<10.0	4.90
Flourene	280	950	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Naphthalene	21	15,500	111	2.10	<10.0	<10.0	<10.0	<10.0	<10.0	31.7	<10.0	<10.0
Phenol			<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
TICs (total)			835.4	143.25	54.91	<10.0	<10.0	<10.0	<10.0	89.7	<10.0	<10.0
All other Compounds	Varies	Varies	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Metals by EPA Method SW-6010B/3030C (ug/L)												
Lead	15	15,000	0.600	<5.0	<5.0	<5.0	<5.0	0.675	2.28	<5.0	<5.0	<5.0

Bold type indicates detectable concentrations

Bold and highlighted indicates detectable concentrations above the GCL

NCGWQS - North Carolina Groundwater Quality Standard

GCL - Gross Contaminant Level

<# - not detected at the indicated reporting limit

mg/L - milligrams per liter

ug/L - micrograms per liter

NE - Not established

RL - the NCGWQS for the constituent is the reporting limit

ND - None detected (no summed constituents were detected)

J - estimated concentration between minimum detection limit and reporting limit

NA - Not analyzed; laboratory quantitation for the indicated analyte was not conducted

NS - Not sampled; the indicated location was not designated for sampling during the event

E - estimated concentration above the linear quantitation range

Table
Historical Groundwater Analytical Data
October 2006 Sampling Event
LCH4015

Parameter	NCGWQS	MW-01	MW-02	MW-03	MW-13	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	Duplicate
VOCs by EPA Method 602 (ug/L)												
Benzene	1	12	5.70	<1.00	<1.00	0.329 J	0.383 J	13.2	<1.00	116	1.34	6.03
Diisopropyl ether (DIPE)	70	7.23	<1.00	<1.00	<1.00	<1.00	<1.00	0.692 J	<1.00	7.05	1.53	0.602 J
Ethylbenzene	29	118	6.34	0.367 J	0.202 J	0.832 J	0.731 J	2.59	0.705 J	3.51 J	0.760 J	6.06
Toluene	1,000	5.21	1.94	0.831 J	0.785 J	3.76	2.99	3.86	3.09	5.17	2.16	2.13
Xylenes (total)	530	191.20	82.18	0.924 J	<2.00	4.56	4.39	4.80 J	2.57	5.74 J	3.21 J	88.67
Methyl-tert butyl ether (MTBE)	200	21.1	14.1	0.768 J	<2.00	<2.00	<2.00	15.7	9.31	84.4	1.39 J	14.6
Total BTEX		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs by EPA Method 625 (ug/L)												
Acenaphthene	80	<10.0	<10.0	<10.0	<10.0	1.40 J	<10.0	<10.0	<10.0	<10.0	2.10 J	<10.0
Acenaphthylene	210	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Bis(2-ethylhexyl)phthalate	3	10.7	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Diethylphthalate	5,000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Di-n-octylphthalate	140	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Anthracene	2100	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzo(a)anthracene	0.05	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Flouranthene	280	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Flourene	280	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	2.60 J	<10.0
1-Methylnaphthalene	RL	11.1	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Methylnaphthalene	14	16.4	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	21	45.5	9.40 J	<10.0	<10.0	<10.0	<10.0	44.0	<10.0	<10.0	4.80 J	9.80 J
Phenanthrene	210	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TIC's		938.4	395.9	67.74	170.07	78.35	8.01	96.69	9.56	50.0	225.67	187.55
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 200.7 / SM 3030C (ug/L)												
Lead (EPA 6010B / SM 3030C) (ug/L)	15	0.875 J	0.500 J	< 5.0	< 5.0	< 5.0	0.800 J	1.90 J	< 5.0	< 5.0	1.33 J	2.33 J

Bold type indicates detectable contaminant concentrations

Bold and shaded indicates detectable concentrations above the NCGWQS

Bold and shaded indicates detectable concentrations above the GCL

NCGWQS - North Carolina Groundwater Quality Standard

GCL - Gross Contaminant Level

<# - not detected at the indicated reporting limit

ug/L - micrograms per liter

NE - Not established

RL - the NCGWQS for the constituent is the reporting limit

ND - None detected (no summed constituents were detected)

J - estimated concentration between minimum detection limit and reporting limit

B - Amount in prep blank > MDL

Table
 Historical Groundwater Analytical Data
 February 2007 Sampling Event
 LCH4015

Parameter	NCGWQS	MW-01	MW-02	MW-03	MW-13	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	Duplicate
VOCs by EPA Method 602 (ug/L)													
Benzene	1	6.80	<1.00	0.965 J	<1.00	<1.00	<1.00	<1.00	21.1	<1.00	122	<1.00	<1.00
Diisopropyl ether (DIPE)	70	0.809 J	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.513 J	<1.00	4.50	0.770 J	<1.00
Ethylbenzene	29	23.7	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	1.80	<1.00	<1.00	<1.00	<1.00
Toluene	1,000	1.57	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	0.465 J	<1.00	<1.00	<1.00	<1.00
Xylenes (total)	530	26.26	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00	<2.00
Methyl-tert butyl ether (MTBE)	200	19.5	14.2	<2.00	<2.00	<2.00	<2.00	<2.00	21.3	8.34	77.5	<2.00	<2.00
Total BTEX		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
SVOCs by EPA Method 625 (ug/L)													
Acenaphthene	80	<10.0	<10.0	<10.0	<10.0	2.10 J	1.40 J	<10.0	<10.0	<10.0	<10.0	<10.0	1.50 J
Acenaphthylene	210	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Bis(2-ethylhexyl)phthalate	3	55.1	<10.0	5.80 J	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Diethylphthalate	5,000	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Di-n-octylphthalate	140	<10.0	<10.0	20.2	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Anthracene	2100	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Benzo(a)anthracene	0.05	< 4.9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Flouranthene	280	< 4.9	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Flourene	280	<10.0	<10.0	<10.0	<10.0	2.70 J	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
1-Methylnaphthalene	RL	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
2-Methylnaphthalene	14	4.00 J	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Naphthalene	21	17.1	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	54.3	<10.0	<10.0	<10.0	<10.0
Phenanthrene	210	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
TIC's		712.2	125.93	106.39	10.6	16.7	21.9	9.0	111.5	27.7	110.8	213.47	12.3
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 200.7 / SM 3030C (ug/L)													
Lead (EPA 6010B / SM 3030C) (ug/L)	15	1.53 J	0.500 J	< 5.0	< 5.0	1.57 J	0.525 J	1.02 J	0.650 J	< 5.0	< 5.0	<5.0	<5.0

Bold type indicates detectable contaminant concentrations

Bold and shaded indicates detectable concentrations above the NCGWQS

Bold and shaded indicates detectable concentrations above the GCL

NCGWQS - North Carolina Groundwater Quality Standard

GCL - Gross Contaminant Level

<# - not detected at the indicated reporting limit

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ND - None detected (no summed constituents were detected)

J - estimated concentration between minimum detection limit and reporting limit

B - Amount in prep blank > MDL

TABLE
Historical Groundwater Analytical Data 2007-2008

Incident Number and Name: 85352 – Building LCH 4015

Facility ID#: N/A

Analytical Method: EPA Method 602

Contaminant of Concern			Benzene	Diisopropyl ether (DIPE)	Ethylbenzene	Methyl-tert butyl ether (MTBE)	Toluene	Total Xylenes
Well ID	Sample ID	Date Collected						
USTLCH4015-MW01	USTLCH4015-MW01	7/24/2007	9.75	BQL	145	BQL	BQL	293
		1/23/2008	7.75	BQL	31.7	12.6	1.30J	39.93
USTLCH4015-MW02	USTLCH4015-MW02	7/24/2007	3.16	BQL	2.76	BQL	BQL	11.5
		1/24/2008	8.26	BQL	12.3	3.51	1.39	20.5
USTLCH4015-MW03	USTLCH4015-MW03	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL
		1/24/2008	BQL	BQL	BQL	0.707J	BQL	BQL
USTLCH4015-MW04	USTLCH4015-MW04	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW05	USTLCH4015-MW05	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW06	USTLCH4015-MW06	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW07	USTLCH4015-MW07	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW08	USTLCH4015-MW08	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW09	USTLCH4015-MW09	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW10	USTLCH4015-MW10	7/25/2007	BQL	BQL	BQL	0.587	BQL	BQL
USTLCH4015-MW11	USTLCH4015-MW11	7/25/2007	BQL	BQL	5.04	BQL	BQL	BQL
USTLCH4015-MW12	USTLCH4015-MW12	7/23/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW13	USTLCH4015-MW13	7/23/2007	BQL	BQL	BQL	BQL	BQL	BQL
		1/24/2008	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW14	USTLCH4015-MW14	7/23/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW15	USTLCH4015-MW15	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW16	USTLCH4015-MW16	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW18	USTLCH4015-MW18	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW19	USTLCH4015-MW19	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL
		1/24/2008	BQL	BQL	BQL	BQL	BQL	BQL
USTLCH4015-MW20	USTLCH4015-MW20	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL
		1/24/2008	BQL	BQL	BQL	0.812J	BQL	BQL
USTLCH4015-MW21	USTLCH4015-MW21	7/24/2007	21.0	0.378	1.31	19.4	BQL	BQL
		1/24/2008	26.0	1.18J	2.05	19.3	BQL	BQL
USTLCH4015-MW22	USTLCH4015-MW22	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL
		1/24/2008	BQL	BQL	BQL	3.35	BQL	BQL

Contaminant of Concern			Benzene	Diisopropyl ether (DIPE)	Ethylbenzene	Methyl-tert butyl ether (MTBE)	Toluene	Total Xylenes
Well ID	Sample ID	Date Collected						
USTLCH4015-MW23	USTLCH4015-MW23	7/24/2007	46.3	3.24	BQL	42.3	BQL	BQL
		1/23/2008	8.42	4.09	BQL	27.4	BQL	BQL
USTLCH4015-MW24	USTLCH4015-MW24	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL
		1/24/2008	BQL	BQL	BQL	BQL	BQL	BQL
Duplicate	Duplicate	7/24/2007	46.2	3.21	BQL	44.9	BQL	BQL
		1/24/2008	BQL	BQL	BQL	0.850J	BQL	BQL
2L Standard (µg/l)			1	70	550	200	1,000	530

- All results reported in µg/l
- µg/L =micrograms per liter
- GCL = gross contamination level
- BQL = Below Quantitation Limits
- **BOLD** and shaded = detected concentration above applicable standard
- **J** = Detected below quantitation limits

TABLE
Historical Groundwater Analytical Data 2007-2008

Incident Number and Name: 85352 – Building LCH 4015

Facility ID#: N/A

Analytical Method: EPA Method 625

Contaminant of Concern			Acenaphthene	Acenaphthylene	Bis(2-ethylhexyl)phthalate	Diethylphthalate	Di-n-octylphthalate	Fluorene	2,4-Dinitrotoluene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Tentatively Identified Compounds (TICs)	All Other Compounds
Well ID	Sample ID	Date Collected												
USTLCH4015-MW01	USTLCH4015-MW01	7/24/2007 1/23/2008	BQL BQL	BQL BQL	9.90 4.20J	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	100 20.3	882 300.7	BQL BQL
USTLCH4015-MW02	USTLCH4015-MW02	7/24/2007 1/24/2008	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	24.7 23.4	460.1 606	BQL BQL
USTLCH4015-MW03	USTLCH4015-MW03	7/25/2007 1/24/2008	BQL 12.4	BQL BQL	3.26 BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	25.31 18.65	BQL BQL
USTLCH4015-MW04	USTLCH4015-MW04	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	2.33J	22.08	BQL
USTLCH4015-MW05	USTLCH4015-MW05	7/25/2007	BQL	BQL	BQL	4.77J	BQL	BQL	BQL	BQL	BQL	BQL	29.28	BQL
USTLCH4015-MW06	USTLCH4015-MW06	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	13.84	BQL
USTLCH4015-MW07	USTLCH4015-MW07	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	1.20J	22.74	BQL
USTLCH4015-MW08	USTLCH4015-MW08	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	22.26	BQL
USTLCH4015-MW09	USTLCH4015-MW09	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	14.74	BQL
USTLCH4015-MW10	USTLCH4015-MW10	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	48.58	BQL
USTLCH4015-MW11	USTLCH4015-MW11	7/25/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	107.11	BQL
USTLCH4015-MW12	USTLCH4015-MW12	7/23/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	42.42	BQL
USTLCH4015-MW13	USTLCH4015-MW13	7/23/2007 1/24/2008	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	47.71 BQL	BQL BQL
USTLCH4015-	USTLCH4015-	7/23/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	21.88	BQL

Contaminant of Concern			Acenaphthene	Acenaphthylene	Bis(2-ethylhexyl)phthalate	Diethylphthalate	Di-n-octylphthalate	Fluorene	2,4-Dinitrotoluene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Tentatively Identified Compounds (TICs)	All Other Compounds
Well ID	Sample ID	Date Collected												
MW14	MW14													
USTLCH4015-MW15	USTLCH4015-MW15	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	15.97	BQL
USTLCH4015-MW16	USTLCH4015-MW16	7/24/2007	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	34.54	BQL
USTLCH4015-MW18	USTLCH4015-MW18	7/24/2007	BQL	BQL	BQL	BQL	BQL	1.30J	BQL	BQL	BQL	BQL	30.09	BQL
USTLCH4015-MW19	USTLCH4015-MW19	7/24/2007 1/24/2008	2.20J 12.7	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL 20.3	BQL BQL	BQL BQL	BQL BQL	34.47 BQL	BQL BQL
USTLCH4015-MW20	USTLCH4015-MW20	7/24/2007 1/24/2008	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	27.83 BQL	BQL BQL
USTLCH4015-MW21	USTLCH4015-MW21	7/24/2007 1/24/2008	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	41.8 44.3	98.77 97.2	BQL BQL
USTLCH4015-MW22	USTLCH4015-MW22	7/24/2007 1/24/2008	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	32.98 BQL	BQL BQL
USTLCH4015-MW23	USTLCH4015-MW23	7/24/2007 1/23/2008	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	78.4 7.16	BQL BQL
USTLCH4015-MW24	USTLCH4015-MW24	7/25/2007 1/24/2008	BQL 13.1	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL 2.70J	BQL BQL	BQL BQL	BQL BQL	BQL BQL	16.91 131.15	BQL BQL
Duplicate	Duplicate	7/24/2007 1/24/2008	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	BQL BQL	1.20J 45.45	BQL BQL
2L Standard (µg/l)			80	210	2.5	5,000	140	280		NE	14	21	NE	Vari es

- All results reported in µg/l
- µg/L = micrograms per liter
- GCL = gross contamination level
- BQL = Below Quantitation Limits
- NE = Not Established; standard therefore compared to the reporting limit.
- J = Detected below quantitation limits.

TABLE
Historical Groundwater Analytical Data 2007-2008

Incident Number and Name: 85352 – Building LCH 4015

Facility ID#: N/A

Analytical Method: Standard Method 3030C

Contaminant of Concern			Lead
Well ID	Sample ID	Date Collected	
USTLCH4015-MW01	USTLCH4015-MW01	7/24/2007 2/6/2007	BQL BQL
USTLCH4015-MW02	USTLCH4015-MW02	7/24/2007 2/7/2007	BQL BQL
USTLCH4015-MW03	USTLCH4015-MW03	7/25/2007 2/7/2007	BQL BQL
USTLCH4015-MW04	USTLCH4015-MW04	7/25/2007	BQL
USTLCH4015-MW05	USTLCH4015-MW05	7/25/2007	BQL
USTLCH4015-MW06	USTLCH4015-MW06	7/25/2007	4.30J
USTLCH4015-MW07	USTLCH4015-MW07	7/24/2007	BQL
USTLCH4015-MW08	USTLCH4015-MW08	7/25/2007	BQL
USTLCH4015-MW09	USTLCH4015-MW09	7/25/2007	BQL
USTLCH4015-MW10	USTLCH4015-MW10	7/25/2007	BQL
USTLCH4015-MW11	USTLCH4015-MW11	7/25/2007	BQL
USTLCH4015-MW13	USTLCH4015-MW13	7/23/2007 2/6/2007	BQL BQL
USTLCH4015-MW14	USTLCH4015-MW14	7/23/2007	0.775J
USTLCH4015-MW15	USTLCH4015-MW15	7/24/2007	BQL
USTLCH4015-MW16	USTLCH4015-MW16	7/24/2007	BQL
USTLCH4015-MW18	USTLCH4015-MW18	7/24/2007	BQL
USTLCH4015-MW19	USTLCH4015-MW19	7/24/2007 2/6/2007	BQL BQL
USTLCH4015-MW20	USTLCH4015-MW20	7/24/2007 2/7/2007	BQL BQL
USTLCH4015-MW21	USTLCH4015-MW21	7/24/2007 2/6/2007	BQL BQL
USTLCH4015-MW22	USTLCH4015-MW22	7/24/2007 2/7/2007	BQL BQL
USTLCH4015-MW23	USTLCH4015-MW23	7/24/2007 2/6/2007	BQL BQL
USTLCH4015-MW24	USTLCH4015-MW24	7/25/2007 2/7/2007	BQL BQL
Duplicate	Duplicate	7/24/2007 2/6/2007	BQL BQL
2L Standard (µg/l)			15

- All results reported in µg/l
- µg/L =micrograms per liter
- GCL = gross contamination level
- BQL = Below Quantitation Limits; laboratory limit of 5.00 µg/l

APPENDIX B

LABORATORY REPORTS AND CHAIN OF CUSTODY DOCUMENTATION FROM AUGUST 2008 SAMPLING EVENT



Technical Report for

Shaw E & I, Inc.

Camp Lejeune-LCH 4015

125709

Accutest Job Number: F59639

Sampling Dates: 08/22/08 - 08/25/08

Report to:

Shaw E & I, Inc.


natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **86**



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


Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
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Test results relate only to samples analyzed.



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Sample Summary

Shaw E & I, Inc.

Job No: F59639

Camp Lejeune-LCH 4015

Project No: 125709

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
F59639-1	08/22/08	09:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW04
F59639-2	08/22/08	10:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW08
F59639-3	08/22/08	11:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW09
F59639-4	08/22/08	12:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW03
F59639-5	08/22/08	13:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW24
F59639-6	08/22/08	14:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW10
F59639-7	08/22/08	15:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW05
F59639-8	08/22/08	16:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW06
F59639-9	08/22/08	17:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW11
F59639-10	08/23/08	07:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW12
F59639-11	08/23/08	09:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW13
F59639-12	08/23/08	10:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW14
F59639-13	08/23/08	11:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW15



Sample Summary

(continued)

Shaw E & I, Inc.

Job No: F59639

Camp Lejeune-LCH 4015
Project No: 125709

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
F59639-14	08/23/08	12:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW07
F59639-15	08/23/08	13:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW16
F59639-16	08/23/08	14:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW01
F59639-17	08/25/08	08:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW22
F59639-18	08/25/08	09:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW20
F59639-19	08/25/08	10:00 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW02
F59639-20	08/25/08	11:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW23
F59639-21	08/25/08	12:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW18
F59639-22	08/25/08	14:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW19
F59639-23	08/25/08	15:30 MM	08/26/08	AQ	Ground Water	USTLCH4015-MW21
F59639-24	08/25/08	00:00 MM	08/26/08	AQ	Trip Blank Water	USTLCH4015-TB



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: USTLCH4015-MW04	
Lab Sample ID: F59639-1	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15273.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		42-108%
321-60-8	2-Fluorobiphenyl	58%		40-106%
1718-51-0	Terphenyl-d14	72%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW04	
Lab Sample ID: F59639-1	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038820.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		70-120%
98-08-8	aaa-Trifluorotoluene	96%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW08	
Lab Sample ID: F59639-2	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15274.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		42-108%
321-60-8	2-Fluorobiphenyl	66%		40-106%
1718-51-0	Terphenyl-d14	68%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW08	Date Sampled: 08/22/08
Lab Sample ID: F59639-2	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 602	
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038821.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		70-120%
98-08-8	aaa-Trifluorotoluene	96%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW09	Date Sampled: 08/22/08
Lab Sample ID: F59639-3	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 602	
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038822.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		70-120%
98-08-8	aaa-Trifluorotoluene	96%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW03	
Lab Sample ID: F59639-4	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15276.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		42-108%
321-60-8	2-Fluorobiphenyl	66%		40-106%
1718-51-0	Terphenyl-d14	68%		39-121%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW03	Date Sampled: 08/22/08
Lab Sample ID: F59639-4	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 602	
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	QQ038862.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene ^b	ND	3.0	3.0	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	96%		70-120%
98-08-8	aaa-Trifluorotoluene	98%		73-118%

(a) Confirmed by GC/MS.

(b) Elevated reporting limits due to matrix interference.

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW24	
Lab Sample ID: F59639-5	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15277.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	1.2	4.8	0.96	ug/l	J
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		42-108%
321-60-8	2-Fluorobiphenyl	62%		40-106%
1718-51-0	Terphenyl-d14	66%		39-121%

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

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

Report of Analysis

Client Sample ID:	USTLCH4015-MW24	Date Sampled:	08/22/08
Lab Sample ID:	F59639-5	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 602		
Project:	Camp Lejeune-LCH 4015		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	QQ038863.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene ^b	ND	6.0	6.0	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	99%		70-120%
98-08-8	aaa-Trifluorotoluene	100%		73-118%

(a) Confirmed by GC/MS

(b) Elevated reporting limits due to matrix interference.

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW10	
Lab Sample ID: F59639-6	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15278.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		42-108%
321-60-8	2-Fluorobiphenyl	61%		40-106%
1718-51-0	Terphenyl-d14	76%		39-121%

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

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

Report of Analysis

Client Sample ID:	USTLCH4015-MW10	Date Sampled:	08/22/08
Lab Sample ID:	F59639-6	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 602		
Project:	Camp Lejeune-LCH 4015		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038825.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		70-120%
98-08-8	aaa-Trifluorotoluene	96%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW05	
Lab Sample ID: F59639-7	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15279.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		42-108%
321-60-8	2-Fluorobiphenyl	57%		40-106%
1718-51-0	Terphenyl-d14	70%		39-121%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW05	Date Sampled: 08/22/08
Lab Sample ID: F59639-7	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 602	
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038826.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		70-120%
98-08-8	aaa-Trifluorotoluene	95%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW06	
Lab Sample ID: F59639-8	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15280.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		42-108%
321-60-8	2-Fluorobiphenyl	60%		40-106%
1718-51-0	Terphenyl-d14	70%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID:	USTLCH4015-MW06	Date Sampled:	08/22/08
Lab Sample ID:	F59639-8	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 602		
Project:	Camp Lejeune-LCH 4015		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038827.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		70-120%
98-08-8	aaa-Trifluorotoluene	93%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW11	
Lab Sample ID: F59639-9	Date Sampled: 08/22/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15328.D	1	09/02/08	NJ	08/29/08	OP26281	SR714
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		42-108%
321-60-8	2-Fluorobiphenyl	71%		40-106%
1718-51-0	Terphenyl-d14	65%		39-121%

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

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

Report of Analysis

Client Sample ID:	USTLCH4015-MW11	Date Sampled:	08/22/08
Lab Sample ID:	F59639-9	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 602		
Project:	Camp Lejeune-LCH 4015		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	QQ038864.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
95-50-1	1,2-Dichlorobenzene ^b	ND	6.0	6.0	ug/l	
541-73-1	1,3-Dichlorobenzene ^b	ND	2.0	2.0	ug/l	
106-46-7	1,4-Dichlorobenzene ^b	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	8.6	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		70-120%
98-08-8	aaa-Trifluorotoluene	98%		73-118%

(a) All hits confirmed by GC/MS.

(b) Elevated reporting limits due to matrix interference.

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW12	
Lab Sample ID: F59639-10	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15282.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	65%		42-108%
321-60-8	2-Fluorobiphenyl	63%		40-106%
1718-51-0	Terphenyl-d14	65%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW12	
Lab Sample ID: F59639-10	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038831.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		70-120%
98-08-8	aaa-Trifluorotoluene	95%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW13	
Lab Sample ID: F59639-11	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15283.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	62%		42-108%
321-60-8	2-Fluorobiphenyl	62%		40-106%
1718-51-0	Terphenyl-d14	71%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW13	Date Sampled: 08/23/08
Lab Sample ID: F59639-11	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 602	
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038832.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	92%		70-120%
98-08-8	aaa-Trifluorotoluene	95%		73-118%

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

Client Sample ID: USTLCH4015-MW14	
Lab Sample ID: F59639-12	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15284.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		42-108%
321-60-8	2-Fluorobiphenyl	69%		40-106%
1718-51-0	Terphenyl-d14	70%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW14	
Lab Sample ID: F59639-12	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038833.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	90%		70-120%
98-08-8	aaa-Trifluorotoluene	94%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW15	Date Sampled: 08/23/08
Lab Sample ID: F59639-13	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 625 EPA 625	
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15285.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	0.97	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.97	ug/l	
120-12-7	Anthracene	ND	4.9	0.97	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.97	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.97	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.97	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	0.97	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.97	ug/l	
218-01-9	Chrysene	ND	4.9	0.97	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	0.97	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.97	ug/l	
86-73-7	Fluorene	ND	4.9	0.97	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.9	0.97	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.97	ug/l	
91-20-3	Naphthalene	ND	4.9	0.97	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.97	ug/l	
129-00-0	Pyrene	ND	4.9	0.97	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		42-108%
321-60-8	2-Fluorobiphenyl	60%		40-106%
1718-51-0	Terphenyl-d14	65%		39-121%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW15	
Lab Sample ID: F59639-13	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038836.D	1	09/05/08	TD	n/a	n/a	GQQ1467
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		70-120%
98-08-8	aaa-Trifluorotoluene	94%		73-118%

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

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

Report of Analysis

Client Sample ID:	USTLCH4015-MW15	Date Sampled:	08/23/08
Lab Sample ID:	F59639-13	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	5.3	5.0	2.0	ug/l	1	08/26/08	08/26/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6702

(2) Prep QC Batch: MP14988

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: USTLCH4015-MW07	
Lab Sample ID: F59639-14	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15286.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	0.97	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.97	ug/l	
120-12-7	Anthracene	ND	4.9	0.97	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.97	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.97	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.97	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	0.97	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.97	ug/l	
218-01-9	Chrysene	ND	4.9	0.97	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	0.97	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.97	ug/l	
86-73-7	Fluorene	ND	4.9	0.97	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.9	0.97	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.97	ug/l	
91-20-3	Naphthalene	ND	4.9	0.97	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.97	ug/l	
129-00-0	Pyrene	ND	4.9	0.97	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	58%		42-108%
321-60-8	2-Fluorobiphenyl	59%		40-106%
1718-51-0	Terphenyl-d14	61%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW07	Date Sampled: 08/23/08
Lab Sample ID: F59639-14	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 602	
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038849.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	96%		70-120%
98-08-8	aaa-Trifluorotoluene	98%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW16	
Lab Sample ID: F59639-15	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15287.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		42-108%
321-60-8	2-Fluorobiphenyl	60%		40-106%
1718-51-0	Terphenyl-d14	70%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW16	
Lab Sample ID: F59639-15	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038850.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		70-120%
98-08-8	aaa-Trifluorotoluene	98%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW01	
Lab Sample ID: F59639-16	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15288.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	0.97	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.97	ug/l	
120-12-7	Anthracene	ND	4.9	0.97	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.97	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.97	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.97	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	0.97	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.97	ug/l	
218-01-9	Chrysene	ND	4.9	0.97	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	0.97	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.97	ug/l	
86-73-7	Fluorene	ND	4.9	0.97	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.9	0.97	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.97	ug/l	
91-20-3	Naphthalene	ND	4.9	0.97	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.97	ug/l	
129-00-0	Pyrene	ND	4.9	0.97	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		42-108%
321-60-8	2-Fluorobiphenyl	64%		40-106%
1718-51-0	Terphenyl-d14	60%		39-121%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW01	
Lab Sample ID: F59639-16	Date Sampled: 08/23/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	QQ038851.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	4.1	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	1.0	ug/l	
95-50-1	1,2-Dichlorobenzene ^b	ND	10	10	ug/l	
541-73-1	1,3-Dichlorobenzene ^b	ND	3.0	3.0	ug/l	
106-46-7	1,4-Dichlorobenzene ^b	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	1.1	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	13.0	1.0	0.50	ug/l	
108-88-3	Toluene	0.77	1.0	0.50	ug/l	J
1330-20-7	Xylenes (total)	0.93	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	102%		70-120%
98-08-8	aaa-Trifluorotoluene	99%		73-118%

(a) All hits confirmed by GC/MS.

(b) Elevated reporting limits due to matrix interference.

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW22	
Lab Sample ID: F59639-17	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15289.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	0.97	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.97	ug/l	
120-12-7	Anthracene	ND	4.9	0.97	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.97	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.97	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.97	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	0.97	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.97	ug/l	
218-01-9	Chrysene	ND	4.9	0.97	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	0.97	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.97	ug/l	
86-73-7	Fluorene	ND	4.9	0.97	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.9	0.97	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.97	ug/l	
91-20-3	Naphthalene	ND	4.9	0.97	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.97	ug/l	
129-00-0	Pyrene	ND	4.9	0.97	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		42-108%
321-60-8	2-Fluorobiphenyl	63%		40-106%
1718-51-0	Terphenyl-d14	71%		39-121%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW22	
Lab Sample ID: F59639-17	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	QQ038852.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	15.5	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	97%		70-120%
98-08-8	aaa-Trifluorotoluene	101%		73-118%

(a) All hits confirmed by dual column analysis.

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

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

Report of Analysis

Client Sample ID:	USTLCH4015-MW22	Date Sampled:	08/25/08
Lab Sample ID:	F59639-17	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/26/08	08/26/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6702

(2) Prep QC Batch: MP14988

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW20	Date Sampled:	08/25/08
Lab Sample ID:	F59639-18	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 602		
Project:	Camp Lejeune-LCH 4015		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038853.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	103%		70-120%
98-08-8	aaa-Trifluorotoluene	109%		73-118%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	USTLCH4015-MW20	Date Sampled:	08/25/08
Lab Sample ID:	F59639-18	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	9.5	5.0	2.0	ug/l	1	08/26/08	08/26/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6702

(2) Prep QC Batch: MP14988

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: USTLCH4015-MW02	
Lab Sample ID: F59639-19	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15293.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

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

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.9	0.98	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.98	ug/l	
120-12-7	Anthracene	ND	4.9	0.98	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.98	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.98	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.98	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	0.98	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.98	ug/l	
218-01-9	Chrysene	ND	4.9	0.98	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	0.98	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.98	ug/l	
86-73-7	Fluorene	ND	4.9	0.98	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.9	0.98	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.98	ug/l	
91-20-3	Naphthalene	8.9	4.9	0.98	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.98	ug/l	
129-00-0	Pyrene	ND	4.9	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	68%		42-108%
321-60-8	2-Fluorobiphenyl	66%		40-106%
1718-51-0	Terphenyl-d14	63%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW02	
Lab Sample ID: F59639-19	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	QQ038854.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.2	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	1.0	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	0.66	1.0	0.50	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	4.3	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	3.3	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	98%		70-120%
98-08-8	aaa-Trifluorotoluene	96%		73-118%

(a) All hits confirmed by GC/MS.

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW02	Date Sampled: 08/25/08
Lab Sample ID: F59639-19	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	18.8	5.0	2.0	ug/l	1	08/26/08	08/26/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6702

(2) Prep QC Batch: MP14988

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: USTLCH4015-MW23	
Lab Sample ID: F59639-20	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15294.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	61%		42-108%
321-60-8	2-Fluorobiphenyl	59%		40-106%
1718-51-0	Terphenyl-d14	62%		39-121%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW23	Date Sampled: 08/25/08
Lab Sample ID: F59639-20	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: EPA 602	
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	QQ038855.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	10.9	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	50.3	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	98%		70-120%
98-08-8	aaa-Trifluorotoluene	105%		73-118%

(a) All hits confirmed by dual column analysis.

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

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

Report of Analysis

Client Sample ID:	USTLCH4015-MW23	Date Sampled:	08/25/08
Lab Sample ID:	F59639-20	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	29.3	5.0	2.0	ug/l	1	08/26/08	08/26/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6702

(2) Prep QC Batch: MP14988

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: USTLCH4015-MW18	
Lab Sample ID: F59639-21	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15322.D	1	09/01/08	NJ	08/29/08	OP26289	SR714
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	64%		42-108%
321-60-8	2-Fluorobiphenyl	64%		40-106%
1718-51-0	Terphenyl-d14	72%		39-121%

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

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

Report of Analysis

Client Sample ID:	USTLCH4015-MW18	Date Sampled:	08/25/08
Lab Sample ID:	F59639-21	Date Received:	08/26/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 602		
Project:	Camp Lejeune-LCH 4015		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038856.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	96%		70-120%
98-08-8	aaa-Trifluorotoluene	99%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW18	Date Sampled: 08/25/08
Lab Sample ID: F59639-21	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	27.2	5.0	2.0	ug/l	1	08/26/08	08/26/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6702

(2) Prep QC Batch: MP14988

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: USTLCH4015-MW19	
Lab Sample ID: F59639-22	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15325.D	1	09/02/08	NJ	08/29/08	OP26289	SR714
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		42-108%
321-60-8	2-Fluorobiphenyl	69%		40-106%
1718-51-0	Terphenyl-d14	76%		39-121%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

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

Report of Analysis

Client Sample ID: USTLCH4015-MW19	
Lab Sample ID: F59639-22	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038859.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		70-120%
98-08-8	aaa-Trifluorotoluene	103%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW19	Date Sampled: 08/25/08
Lab Sample ID: F59639-22	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	20.1	5.0	2.0	ug/l	1	08/26/08	08/26/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6702

(2) Prep QC Batch: MP14988

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: USTLCH4015-MW21	
Lab Sample ID: F59639-23	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 625 EPA 625	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R15326.D	1	09/02/08	NJ	08/29/08	OP26289	SR714
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	4.8	0.96	ug/l	
208-96-8	Acenaphthylene	ND	4.8	0.96	ug/l	
120-12-7	Anthracene	ND	4.8	0.96	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.8	0.96	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.8	0.96	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.8	0.96	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.8	0.96	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.8	0.96	ug/l	
218-01-9	Chrysene	ND	4.8	0.96	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.8	0.96	ug/l	
206-44-0	Fluoranthene	ND	4.8	0.96	ug/l	
86-73-7	Fluorene	ND	4.8	0.96	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.8	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.8	0.96	ug/l	
91-20-3	Naphthalene	ND	4.8	0.96	ug/l	
85-01-8	Phenanthrene	ND	4.8	0.96	ug/l	
129-00-0	Pyrene	ND	4.8	0.96	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		42-108%
321-60-8	2-Fluorobiphenyl	69%		40-106%
1718-51-0	Terphenyl-d14	74%		39-121%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW21	
Lab Sample ID: F59639-23	Date Sampled: 08/25/08
Matrix: AQ - Ground Water	Date Received: 08/26/08
Method: EPA 602	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038860.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	97%		70-120%
98-08-8	aaa-Trifluorotoluene	104%		73-118%

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

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

Report of Analysis

Client Sample ID: USTLCH4015-MW21	Date Sampled: 08/25/08
Lab Sample ID: F59639-23	Date Received: 08/26/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	14.0	5.0	2.0	ug/l	1	08/26/08	08/26/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6702

(2) Prep QC Batch: MP14988

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: USTLCH4015-TB		Date Sampled: 08/25/08
Lab Sample ID: F59639-24		Date Received: 08/26/08
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: EPA 602		
Project: Camp Lejeune-LCH 4015		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	QQ038861.D	1	09/05/08	TD	n/a	n/a	GQQ1468
Run #2							

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

Purgeable Aromatics, Full List

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		70-120%
98-08-8	aaa-Trifluorotoluene	97%		73-118%

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

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



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

F59639

COC Number:
125709-CH4015-082508-1



Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390 Receiving LAB: ACCUTEST

Project Name		Project Location					Analysis Desired												
CAMP LEJEUNE - LCH 4015		CAMP LEJEUNE, NC																	
Project Number	Contact	P.O. Number		Reviewed by															
125709	Mark Martin																		
Client Rep			Project Manager																
US NAVY - LANTDIV			Joe Colella																
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	601/602	625 SVOCs for PAHs Only	3030C Lead									
21	USTLCH4015-MW18	8/25/08	12:30		X	USTLCH4015-MW18	6	X	X	X									
22	USTLCH4015-MW19	8/25/08	14:30		X	USTLCH4015-MW19	6	X	X	X									
23	USTLCH4015-MW21	8/25/08	15:30		X	USTLCH4015-MW21	6	X	X	X									
24	USTLCH4015-TB	8/25/08	—		X	Trip Blank	2	X											
5																			
6																			
7																			
8																			
9																			
10																			

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 4	<i>[Signature]</i>	FedEx 866 0186 0249	8/25/08	16:00	14 Day TAT Fed Ex 8660 0186 0249, 8660 0186 0260, 8660 0186 0282, 8660 0186 0271, 8660 0186 0260
2		FX	J. Lopez	8-25-08	09:00	
3						

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F59639: Chain of Custody

Page 3 of 4

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F59639 CLIENT: SHAW PROJECT: CAMP LEJEUNE - LCH4015
 DATE/TIME RECEIVED: 8-26-08 ^{09:20} # OF COOLERS RECEIVED: 5 COOLER TEMPS: 1.0 1.2 1.8 2.0 2.4
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: 8660 0186 0250

COOLER INFORMATION

- CUSTODY SEAL NOT PRESENT OR NOT INTACT
- CHAIN OF CUSTODY NOT RECEIVED (COC)
- ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- TEMPERATURE CRITERIA NOT MET
- WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- TRIP BLANK PROVIDED
- TRIP BLANK NOT PROVIDED
- TRIP BLANK NOT ON COC
- TRIP BLANK INTACT
- TRIP BLANK NOT INTACT
- RECEIVED WATER TRIP BLANK
- RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? _____
 NUMBER OF 5035 FIELD KITS ? _____
 NUMBER OF LAB FILTERED METALS ? _____

SUMMARY OF COMMENTS: RECEIVED ONLY 1 AMBER (625) FOR SAMPLE # 5, 20
FOR SAMPLE # 21 COC reads 12:30 LABEL read 13:30 FOR METAL BOTTLE
SAMPLES 1-12 RECEIVED OUT OF HOLD

SAMPLE INFORMATION

- SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- CORRECT NUMBER OF CONTAINERS USED
- SAMPLE RECEIVED IMPROPERLY PRESERVED
- INSUFFICIENT VOLUME FOR ANALYSIS
- TIMES ON COC DOES NOT MATCH LABEL(S)
- ID'S ON COC DOES NOT MATCH LABEL(S)
- VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- UNCLEAR FILTERING INSTRUCTIONS
- UNCLEAR COMPOSITING INSTRUCTIONS
- SAMPLE CONTAINER(S) RECEIVED BROKEN
- % SOLIDS JAR NOT RECEIVED
- 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

TECHNICIAN SIGNATURE/DATE JC 8-26-08 TECHNICIAN SIGNATURE/DATE E.T. 8-26-08 ASBD 12/17/07

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GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP26281-MB	R15272.D	1	09/01/08	NJ	08/29/08	OP26281	SR713

The QC reported here applies to the following samples: **Method:** EPA 625

F59639-1, F59639-2, F59639-3, F59639-4, F59639-5, F59639-6, F59639-7, F59639-8, F59639-9, F59639-10, F59639-11, F59639-12, F59639-13, F59639-14, F59639-15, F59639-16, F59639-17, F59639-18, F59639-19, F59639-20

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	71%	42-108%
321-60-8	2-Fluorobiphenyl	61%	40-106%
1718-51-0	Terphenyl-d14	76%	39-121%

Method Blank Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP26289-MB	R15320.D	1	09/01/08	NJ	08/29/08	OP26289	SR714

The QC reported here applies to the following samples:

Method: EPA 625

F59639-21, F59639-22, F59639-23

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	70%	42-108%
321-60-8	2-Fluorobiphenyl	68%	40-106%
1718-51-0	Terphenyl-d14	85%	39-121%

Method Blank Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP26281-MB	R15327.D	1	09/02/08	NJ	08/29/08	OP26281	SR714

The QC reported here applies to the following samples: **Method:** EPA 625

F59639-1, F59639-2, F59639-3, F59639-4, F59639-5, F59639-6, F59639-7, F59639-8, F59639-9, F59639-10, F59639-11, F59639-12, F59639-13, F59639-14, F59639-15, F59639-16, F59639-17, F59639-18, F59639-19, F59639-20

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	5.0	1.0	ug/l	
208-96-8	Acenaphthylene	ND	5.0	1.0	ug/l	
120-12-7	Anthracene	ND	5.0	1.0	ug/l	
56-55-3	Benzo(a)anthracene	ND	5.0	1.0	ug/l	
50-32-8	Benzo(a)pyrene	ND	5.0	1.0	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	5.0	1.0	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	5.0	1.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	5.0	1.0	ug/l	
218-01-9	Chrysene	ND	5.0	1.0	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	5.0	1.0	ug/l	
206-44-0	Fluoranthene	ND	5.0	1.0	ug/l	
86-73-7	Fluorene	ND	5.0	1.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	5.0	1.1	ug/l	
90-12-0	1-Methylnaphthalene	ND	5.0	1.0	ug/l	
91-57-6	2-Methylnaphthalene	ND	5.0	1.0	ug/l	
91-20-3	Naphthalene	ND	5.0	1.0	ug/l	
85-01-8	Phenanthrene	ND	5.0	1.0	ug/l	
129-00-0	Pyrene	ND	5.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	70%	42-108%
321-60-8	2-Fluorobiphenyl	61%	40-106%
1718-51-0	Terphenyl-d14	77%	39-121%

Blank Spike Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP26281-BS	R15271.D	1	09/01/08	NJ	08/29/08	OP26281	SR713

The QC reported here applies to the following samples:

Method: EPA 625

F59639-1, F59639-2, F59639-3, F59639-4, F59639-5, F59639-6, F59639-7, F59639-8, F59639-9, F59639-10, F59639-11, F59639-12, F59639-13, F59639-14, F59639-15, F59639-16, F59639-17, F59639-18, F59639-19, F59639-20

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	36.2	72	58-106
208-96-8	Acenaphthylene	50	35.0	70	58-105
120-12-7	Anthracene	50	38.8	78	65-108
56-55-3	Benzo(a)anthracene	50	42.0	84	63-111
50-32-8	Benzo(a)pyrene	50	40.5	81	62-106
205-99-2	Benzo(b)fluoranthene	50	41.5	83	63-109
191-24-2	Benzo(g,h,i)perylene	50	41.5	83	61-111
207-08-9	Benzo(k)fluoranthene	50	41.8	84	64-111
218-01-9	Chrysene	50	41.7	83	64-111
53-70-3	Dibenzo(a,h)anthracene	50	43.2	86	62-112
206-44-0	Fluoranthene	50	41.7	83	65-114
86-73-7	Fluorene	50	38.8	78	61-106
193-39-5	Indeno(1,2,3-cd)pyrene	50	43.1	86	61-113
90-12-0	1-Methylnaphthalene	50	27.7	55	52-102
91-57-6	2-Methylnaphthalene	50	31.0	62	56-112
91-20-3	Naphthalene	50	26.1	52	50-104
85-01-8	Phenanthrene	50	40.6	81	65-108
129-00-0	Pyrene	50	41.0	82	60-113

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	74%	42-108%
321-60-8	2-Fluorobiphenyl	67%	40-106%
1718-51-0	Terphenyl-d14	77%	39-121%

Blank Spike Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP26289-BS	R15319.D	1	09/01/08	NJ	08/29/08	OP26289	SR714

The QC reported here applies to the following samples:

Method: EPA 625

F59639-21, F59639-22, F59639-23

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
83-32-9	Acenaphthene	50	37.6	75	58-106
208-96-8	Acenaphthylene	50	36.2	72	58-105
120-12-7	Anthracene	50	38.7	77	65-108
56-55-3	Benzo(a)anthracene	50	41.5	83	63-111
50-32-8	Benzo(a)pyrene	50	39.2	78	62-106
205-99-2	Benzo(b)fluoranthene	50	40.6	81	63-109
191-24-2	Benzo(g,h,i)perylene	50	43.8	88	61-111
207-08-9	Benzo(k)fluoranthene	50	41.5	83	64-111
218-01-9	Chrysene	50	41.6	83	64-111
53-70-3	Dibenzo(a,h)anthracene	50	42.3	85	62-112
206-44-0	Fluoranthene	50	40.8	82	65-114
86-73-7	Fluorene	50	39.7	79	61-106
193-39-5	Indeno(1,2,3-cd)pyrene	50	43.4	87	61-113
90-12-0	1-Methylnaphthalene	50	32.4	65	52-102
91-57-6	2-Methylnaphthalene	50	32.7	65	56-112
91-20-3	Naphthalene	50	30.0	60	50-104
85-01-8	Phenanthrene	50	41.8	84	65-108
129-00-0	Pyrene	50	40.2	80	60-113

CAS No.	Surrogate Recoveries	BSP	Limits
4165-60-0	Nitrobenzene-d5	67%	42-108%
321-60-8	2-Fluorobiphenyl	70%	40-106%
1718-51-0	Terphenyl-d14	78%	39-121%

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Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP26281-MS	R15291.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
OP26281-MSD	R15292.D	1	09/01/08	NJ	08/29/08	OP26281	SR713
F59639-18	R15290.D	1	09/01/08	NJ	08/29/08	OP26281	SR713

The QC reported here applies to the following samples: **Method:** EPA 625

F59639-1, F59639-2, F59639-3, F59639-4, F59639-5, F59639-6, F59639-7, F59639-8, F59639-9, F59639-10, F59639-11, F59639-12, F59639-13, F59639-14, F59639-15, F59639-16, F59639-17, F59639-18, F59639-19, F59639-20

CAS No.	Compound	F59639-18 ug/l	Spike Q	ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	96.2	79.8	83	72.0	75	10	58-106/21	
208-96-8	Acenaphthylene	ND	96.2	76.8	80	70.2	73	9	58-105/21	
120-12-7	Anthracene	ND	96.2	80.6	84	71.9	75	11	65-108/19	
56-55-3	Benzo(a)anthracene	ND	96.2	86.2	90	76.5	80	12	63-111/19	
50-32-8	Benzo(a)pyrene	ND	96.2	84.4	88	74.4	77	13	62-106/20	
205-99-2	Benzo(b)fluoranthene	ND	96.2	87.5	91	77.9	81	12	63-109/20	
191-24-2	Benzo(g,h,i)perylene	ND	96.2	88.7	92	79.1	82	11	61-111/21	
207-08-9	Benzo(k)fluoranthene	ND	96.2	84.8	88	75.4	78	12	64-111/20	
218-01-9	Chrysene	ND	96.2	85.8	89	75.9	79	12	64-111/19	
53-70-3	Dibenzo(a,h)anthracene	ND	96.2	91.2	95	82.5	86	10	62-112/20	
206-44-0	Fluoranthene	ND	96.2	84.3	88	74.8	78	12	65-114/21	
86-73-7	Fluorene	ND	96.2	81.6	85	74.0	77	10	61-106/19	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	96.2	91.5	95	81.8	85	11	61-113/20	
90-12-0	1-Methylnaphthalene	ND	96.2	69.8	73	64.6	67	8	52-102/25	
91-57-6	2-Methylnaphthalene	ND	96.2	72.0	75	65.1	68	10	56-112/26	
91-20-3	Naphthalene	ND	96.2	64.7	67	61.0	63	6	50-104/28	
85-01-8	Phenanthrene	ND	96.2	85.6	89	75.8	79	12	65-108/20	
129-00-0	Pyrene	ND	96.2	81.6	85	76.9	80	6	60-113/20	

CAS No.	Surrogate Recoveries	MS	MSD	F59639-18	Limits
4165-60-0	Nitrobenzene-d5	77%	67%	66%	42-108%
321-60-8	2-Fluorobiphenyl	75%	67%	64%	40-106%
1718-51-0	Terphenyl-d14	75%	72%	73%	39-121%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP26289-MS	R15323.D	1	09/02/08	NJ	08/29/08	OP26289	SR714
OP26289-MSD	R15324.D	1	09/02/08	NJ	08/29/08	OP26289	SR714
F59639-21	R15322.D	1	09/01/08	NJ	08/29/08	OP26289	SR714

The QC reported here applies to the following samples:

Method: EPA 625

F59639-21, F59639-22, F59639-23

CAS No.	Compound	F59639-21 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	96.2	73.9	77	76.9	80	4	58-106/21
208-96-8	Acenaphthylene	ND	96.2	70.5	73	72.9	76	3	58-105/21
120-12-7	Anthracene	ND	96.2	75.4	78	76.5	80	1	65-108/19
56-55-3	Benzo(a)anthracene	ND	96.2	81.8	85	81.6	85	0	63-111/19
50-32-8	Benzo(a)pyrene	ND	96.2	78.3	81	79.4	83	1	62-106/20
205-99-2	Benzo(b)fluoranthene	ND	96.2	80.7	84	81.4	85	1	63-109/20
191-24-2	Benzo(g,h,i)perylene	ND	96.2	85.0	88	84.3	88	1	61-111/21
207-08-9	Benzo(k)fluoranthene	ND	96.2	82.2	85	83.2	87	1	64-111/20
218-01-9	Chrysene	ND	96.2	82.3	86	82.4	86	0	64-111/19
53-70-3	Dibenzo(a,h)anthracene	ND	96.2	84.3	88	86.0	89	2	62-112/20
206-44-0	Fluoranthene	ND	96.2	81.0	84	81.6	85	1	65-114/21
86-73-7	Fluorene	ND	96.2	78.0	81	80.3	84	3	61-106/19
193-39-5	Indeno(1,2,3-cd)pyrene	ND	96.2	85.2	89	84.9	88	0	61-113/20
90-12-0	1-Methylnaphthalene	ND	96.2	63.8	66	66.6	69	4	52-102/25
91-57-6	2-Methylnaphthalene	ND	96.2	63.8	66	66.7	69	4	56-112/26
91-20-3	Naphthalene	ND	96.2	58.1	60	61.4	64	6	50-104/28
85-01-8	Phenanthrene	ND	96.2	80.6	84	81.2	84	1	65-108/20
129-00-0	Pyrene	ND	96.2	79.8	83	82.0	85	3	60-113/20

CAS No.	Surrogate Recoveries	MS	MSD	F59639-21	Limits
4165-60-0	Nitrobenzene-d5	65%	69%	64%	42-108%
321-60-8	2-Fluorobiphenyl	68%	70%	64%	40-106%
1718-51-0	Terphenyl-d14	77%	78%	72%	39-121%



GC Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQQ1467-MB	QQ038819.D 1		09/05/08	TD	n/a	n/a	GQQ1467

The QC reported here applies to the following samples:

Method: EPA 602

F59639-1, F59639-2, F59639-3, F59639-6, F59639-7, F59639-8, F59639-10, F59639-11, F59639-12, F59639-13

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	89%	70-120%
98-08-8	aaa-Trifluorotoluene	94%	73-118%

Method Blank Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQQ1468-MB	QQ038848.D 1		09/05/08	TD	n/a	n/a	GQQ1468

The QC reported here applies to the following samples:

Method: EPA 602

F59639-4, F59639-5, F59639-9, F59639-14, F59639-15, F59639-16, F59639-17, F59639-18, F59639-19, F59639-20, F59639-21, F59639-22, F59639-23, F59639-24

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	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	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Limits	
460-00-4	4-Bromofluorobenzene	94%	70-120%
98-08-8	aaa-Trifluorotoluene	98%	73-118%

Blank Spike Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQQ1467-B5	QQ038818.D1		09/05/08	TD	n/a	n/a	GQQ1467

The QC reported here applies to the following samples:

Method: EPA 602

F59639-1, F59639-2, F59639-3, F59639-6, F59639-7, F59639-8, F59639-10, F59639-11, F59639-12, F59639-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.9	105	80-120
100-41-4	Ethylbenzene	20	20.5	103	79-121
1634-04-4	Methyl Tert Butyl Ether	20	18.4	92	72-113
108-88-3	Toluene	20	19.6	98	79-121
1330-20-7	Xylenes (total)	60	60.4	101	80-119

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	98%	70-120%
98-08-8	aaa-Trifluorotoluene	96%	73-118%

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Blank Spike Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GQQ1468-BS	QQ038847.D 1		09/05/08	TD	n/a	n/a	GQQ1468

The QC reported here applies to the following samples:

Method: EPA 602

F59639-4, F59639-5, F59639-9, F59639-14, F59639-15, F59639-16, F59639-17, F59639-18, F59639-19, F59639-20, F59639-21, F59639-22, F59639-23, F59639-24

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	20.6	103	80-120
108-90-7	Chlorobenzene	20	19.5	98	79-118
95-50-1	1,2-Dichlorobenzene	20	19.5	98	76-117
541-73-1	1,3-Dichlorobenzene	20	19.5	98	78-120
106-46-7	1,4-Dichlorobenzene	20	19.3	97	78-117
100-41-4	Ethylbenzene	20	20.3	102	79-121
1634-04-4	Methyl Tert Butyl Ether	20	19.4	97	72-113
108-88-3	Toluene	20	20.1	101	79-121
1330-20-7	Xylenes (total)	60	59.7	100	80-119

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	70-120%
98-08-8	aaa-Trifluorotoluene	100%	73-118%

5.2
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F59639-12MS	QQ038834.D 1		09/05/08	TD	n/a	n/a	GQQ1467
F59639-12MSD	QQ038835.D 1		09/05/08	TD	n/a	n/a	GQQ1467
F59639-12	QQ038833.D 1		09/05/08	TD	n/a	n/a	GQQ1467

The QC reported here applies to the following samples: **Method:** EPA 602

F59639-1, F59639-2, F59639-3, F59639-6, F59639-7, F59639-8, F59639-10, F59639-11, F59639-12, F59639-13

CAS No.	Compound	F59639-12 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	20.8	104	20.8	104	0	80-120/10
100-41-4	Ethylbenzene	ND	20	20.0	100	20.2	101	1	79-121/9
1634-04-4	Methyl Tert Butyl Ether	ND	20	17.8	89	18.6	93	4	72-113/13
108-88-3	Toluene	ND	20	19.1	96	19.2	96	1	79-121/10
1330-20-7	Xylenes (total)	ND	60	59.4	99	59.6	99	0	80-119/8

CAS No.	Surrogate Recoveries	MS	MSD	F59639-12	Limits
460-00-4	4-Bromofluorobenzene	98%	99%	90%	70-120%
98-08-8	aaa-Trifluorotoluene	96%	96%	94%	73-118%

5.3
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F59639
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F59639-21MS	QQ038865.D 1		09/05/08	TD	n/a	n/a	GQQ1468
F59639-21MSD	QQ038866.D 1		09/05/08	TD	n/a	n/a	GQQ1468
F59639-21	QQ038856.D 1		09/05/08	TD	n/a	n/a	GQQ1468

The QC reported here applies to the following samples:

Method: EPA 602

F59639-4, F59639-5, F59639-9, F59639-14, F59639-15, F59639-16, F59639-17, F59639-18, F59639-19, F59639-20, F59639-21, F59639-22, F59639-23, F59639-24

CAS No.	Compound	F59639-21 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	19.3	97	19.1	96	1	80-120/10
108-90-7	Chlorobenzene	ND	20	19.6	98	19.4	97	1	79-118/10
95-50-1	1,2-Dichlorobenzene	ND	20	19.7	99	19.5	98	1	76-117/18
541-73-1	1,3-Dichlorobenzene	ND	20	19.6	98	19.5	98	1	78-120/13
106-46-7	1,4-Dichlorobenzene	ND	20	19.6	98	19.5	98	1	78-117/11
100-41-4	Ethylbenzene	ND	20	19.8	99	19.5	98	2	79-121/9
1634-04-4	Methyl Tert Butyl Ether	ND	20	18.7	94	18.2	91	3	72-113/13
108-88-3	Toluene	ND	20	19.5	98	19.2	96	2	79-121/10
1330-20-7	Xylenes (total)	ND	60	59.4	99	58.5	98	2	80-119/8

CAS No.	Surrogate Recoveries	MS	MSD	F59639-21	Limits
460-00-4	4-Bromofluorobenzene	101%	101%	96%	70-120%
98-08-8	aaa-Trifluorotoluene	100%	100%	99%	73-118%

5.3
5



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F59639
Account: ITVAVAB - Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

QC Batch ID: MP14988
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/26/08

Metal	RL	IDL	MB raw	final
Aluminum	200	11		
Antimony	6.0	4.5		
Arsenic	10	3.6		
Barium	200	5		
Beryllium	4.0	1		
Cadmium	5.0	1		
Calcium	1000	100		
Chromium	10	1.6		
Cobalt	50	.83		
Copper	25	2.1		
Iron	300	23		
Lead	5.0	2	-3.2	<5.0
Magnesium	5000	100		
Manganese	15	.5		
Molybdenum	50	2.8		
Nickel	40	2.3		
Potassium	10000	100		
Selenium	10	3.1		
Silver	10	1.2		
Sodium	10000	500		
Thallium	10	3.4		
Tin	50	2.8		
Vanadium	50	.66		
Zinc	20	3.8		

Associated samples MP14988: F59639-13, F59639-17, F59639-18, F59639-19, F59639-20, F59639-21, F59639-22, F59639-23

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

6.1.1

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F59639
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-LCH 4015

QC Batch ID: MP14988
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/26/08 08/26/08

Metal	F59639-13 Original DUP		RPD	QC Limits	F59639-13 Original MS		Spikelot MPFLICP1	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	5.3	5.8	9.0	0-20	5.3	503	500	99.5	80-120
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Tin									
Vanadium									
Zinc									

Associated samples MP14988: F59639-13, F59639-17, F59639-18, F59639-19, F59639-20, F59639-21, F59639-22, F59639-23

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

6.1.2
 6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F59639
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-LCH 4015

QC Batch ID: MP14988
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/26/08

Metal	F59639-13 Original MSD	SpikeLot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	5.3	486	500	96.1	3.4 20
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Thallium					
Tin					
Vanadium					
Zinc					

Associated samples MP14988: F59639-13, F59639-17, F59639-18, F59639-19, F59639-20, F59639-21, F59639-22, F59639-23

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

6.1.2
6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F59639
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-LCH 4015

QC Batch ID: MP14988
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/26/08

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	491	500	98.2	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Tin				
Vanadium				
Zinc				

Associated samples MP14988: F59639-13, F59639-17, F59639-18, F59639-19, F59639-20, F59639-21, F59639-22, F59639-23

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

6.1.3
6

SERIAL DILUTION RESULTS SUMMARY

Login Number: F59639
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-LCH 4015

QC Batch ID: MP14988
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/26/08

Metal	F59639-13 Original SDL 1:5	RPD	QC Limits
-------	-------------------------------	-----	--------------

Aluminum			
Antimony			
Arsenic			
Barium			
Beryllium			
Cadmium			
Calcium			
Chromium			
Cobalt			
Copper			
Iron			
Lead	5.34	0.00	100.0(a) 0-10
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium			
Silver			
Sodium			
Thallium			
Tin			
Vanadium			
Zinc			

Associated samples MP14988: F59639-13, F59639-17, F59639-18, F59639-19, F59639-20, F59639-21, F59639-22, F59639-23

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

6.1.4
6



Technical Report for

Shaw E & I, Inc.

Camp Lejeune-LCH 4015

125709

Accutest Job Number: F59746

Sampling Date: 08/28/08

Report to:

Shaw E & I, Inc.


natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: **31**



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


Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
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Test results relate only to samples analyzed.



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Sample Summary

Shaw E & I, Inc.

Job No: F59746

Camp Lejeune-LCH 4015

Project No: 125709

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
F59746-1	08/28/08	13:30 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW04
F59746-2	08/28/08	13:40 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW08
F59746-3	08/28/08	13:50 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW09
F59746-4	08/28/08	14:00 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW03
F59746-5	08/28/08	14:10 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW24
F59746-6	08/28/08	14:20 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW10
F59746-7	08/28/08	14:30 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW05
F59746-8	08/28/08	14:40 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW06
F59746-9	08/28/08	14:50 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW11
F59746-10	08/28/08	15:00 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW12
F59746-11	08/28/08	15:10 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW13
F59746-12	08/28/08	15:20 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW14
F59746-13	08/28/08	15:30 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW15



Sample Summary (continued)

Shaw E & I, Inc.

Job No: F59746

Camp Lejeune-LCH 4015
Project No: 125709

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F59746-14	08/28/08	15:40 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW07
F59746-15	08/28/08	15:50 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW16
F59746-16	08/28/08	16:00 MM	08/29/08	AQ	Ground Water	USTLCH4015-MW01



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	USTLCH4015-MW04	Date Sampled:	08/28/08
Lab Sample ID:	F59746-1	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW08	Date Sampled:	08/28/08
Lab Sample ID:	F59746-2	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW09	Date Sampled:	08/28/08
Lab Sample ID:	F59746-3	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW03	Date Sampled:	08/28/08
Lab Sample ID:	F59746-4	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID: USTLCH4015-MW24	Date Sampled: 08/28/08
Lab Sample ID: F59746-5	Date Received: 08/29/08
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: Camp Lejeune-LCH 4015	

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW10	Date Sampled:	08/28/08
Lab Sample ID:	F59746-6	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW05	Date Sampled:	08/28/08
Lab Sample ID:	F59746-7	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW06	Date Sampled:	08/28/08
Lab Sample ID:	F59746-8	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	23.7	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW11	Date Sampled:	08/28/08
Lab Sample ID:	F59746-9	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	12.4	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW12	Date Sampled:	08/28/08
Lab Sample ID:	F59746-10	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	42.6	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW13	Date Sampled:	08/28/08
Lab Sample ID:	F59746-11	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	2.0 U	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW14	Date Sampled:	08/28/08
Lab Sample ID:	F59746-12	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	170	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW15	Date Sampled:	08/28/08
Lab Sample ID:	F59746-13	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	112	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW07	Date Sampled:	08/28/08
Lab Sample ID:	F59746-14	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	174	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW16	Date Sampled:	08/28/08
Lab Sample ID:	F59746-15	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	305	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	USTLCH4015-MW01	Date Sampled:	08/28/08
Lab Sample ID:	F59746-16	Date Received:	08/29/08
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Project:	Camp Lejeune-LCH 4015		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	172	5.0	2.0	ug/l	1	08/29/08	09/02/08 RS	SW846 6010B ¹	SM 3030C ²

(1) Instrument QC Batch: MA6716

(2) Prep QC Batch: MP15014

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

COC Number:
125709-CH4015-082808-2



CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390										Receiving LAB: ACCUTEST										
Project Name					Project Location					Analysis Desired										
CAMP LEJEUNE - LCH 4015					CAMP LEJEUNE, NC															
Project Number		Contact			P.O. Number			Reviewed by												
125709		Mark Martin																		
Client Rep					Project Manager															
US NAVY - LANTDIV					Joe Colella															
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	601/602	625 SVOCs for PAHs Only	3030C Lead										
1	USTLCH4015-MW13	8/28/08	15:10		X	USTLCH4015-MW13	1			X										
2	USTLCH4015-MW14	8/28/08	15:20		X	USTLCH4015-MW14	1			X										
3	USTLCH4015-MW15	8/28/08	15:30		X	USTLCH4015-MW15	1			X										
4	USTLCH4015-MW07	8/28/08	15:40		X	USTLCH4015-MW07	1			X										
5	USTLCH4015-MW16	8/28/08	15:50		X	USTLCH4015-MW16	1			X										
6	USTLCH4015-MW01	8/28/08	16:00		X	USTLCH4015-MW01	1			X										
7																				
8																				
9																				
10																				

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 10	<i>[Signature]</i>	FedEx 866 0186 0293	8/28/08	16:00	14 Day TAT
2		<i>[Signature]</i>	<i>[Signature]</i>	8/29/08	07:00	
3						

2-2

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3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F59746 CLIENT: Shaw PROJECT: Camp Lejeune - LCH 4015
 DATE/TIME RECEIVED: 8-29-08 09:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2.2
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: 9600 0186 0793

COOLER INFORMATION

- CUSTODY SEAL NOT PRESENT OR NOT INTACT
- CHAIN OF CUSTODY NOT RECEIVED (COC)
- ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- TEMPERATURE CRITERIA NOT MET
- WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- TRIP BLANK PROVIDED
- TRIP BLANK NOT PROVIDED
- TRIP BLANK NOT ON COC
- TRIP BLANK INTACT
- TRIP BLANK NOT INTACT
- RECEIVED WATER TRIP BLANK
- RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 0
 NUMBER OF 5035 FIELD KITS ? 0
 NUMBER OF LAB FILTERED METALS ? 8

SUMMARY OF COMMENTS: _____

SAMPLE INFORMATION

- SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
 - CORRECT NUMBER OF CONTAINERS USED
 - SAMPLE RECEIVED IMPROPERLY PRESERVED
 - INSUFFICIENT VOLUME FOR ANALYSIS
 - TIMES ON COC DOES NOT MATCH LABEL(S)
 - ID'S ON COC DOES NOT MATCH LABEL(S)
 - VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
 - BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
 - NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
 - UNCLEAR FILTERING INSTRUCTIONS
 - UNCLEAR COMPOSITING INSTRUCTIONS
 - SAMPLE CONTAINER(S) RECEIVED BROKEN
 - % SOLIDS JAR NOT RECEIVED
 - 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
 - RESIDUAL CHLORINE PRESENT
- (APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

TECHNICIAN SIGNATURE/DATE E.T. RM-08 TECHNICIAN SIGNATURE/DATE LC 8-29-08 ASBD 12/17/07

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3



Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F59746
Account: ITVAVAB - Shaw E & I, Inc.
Project: Camp Lejeune-LCH 4015

QC Batch ID: MP15014
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 08/29/08

Metal	RL	IDL	MB raw	final
Aluminum	200	11		
Antimony	6.0	4.5		
Arsenic	10	3.6		
Barium	200	5		
Beryllium	4.0	1		
Cadmium	5.0	1		
Calcium	1000	100		
Chromium	10	1.6		
Cobalt	50	.83		
Copper	25	2.1		
Iron	300	23		
Lead	5.0	2	-0.29	<5.0
Magnesium	5000	100		
Manganese	15	.5		
Molybdenum	50	2.8		
Nickel	40	2.3		
Potassium	10000	100		
Selenium	10	3.1		
Silver	10	1.2		
Sodium	10000	500		
Thallium	10	3.4		
Tin	50	2.8		
Vanadium	50	.66		
Zinc	20	3.8		

Associated samples MP15014: F59746-1, F59746-2, F59746-3, F59746-4, F59746-5, F59746-6, F59746-7, F59746-8, F59746-9, F59746-10, F59746-11, F59746-12, F59746-13, F59746-14, F59746-15, F59746-16

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

4.1.1
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F59746
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-LCH 4015

QC Batch ID: MP15014
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/29/08 08/29/08

Metal	F59746-1 Original	DUP	RPD	QC Limits	F59746-1 Original MS	Spikelot MPFLICP1	% Rec	QC Limits	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	0.0	0.0	NC	0-20	0.0	468	500	93.6	80-120
Magnesium									
Manganese									
Molybdenum									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Tin									
Vanadium									
Zinc									

Associated samples MP15014: F59746-1, F59746-2, F59746-3, F59746-4, F59746-5, F59746-6, F59746-7, F59746-8, F59746-9, F59746-10, F59746-11, F59746-12, F59746-13, F59746-14, F59746-15, F59746-16

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

4.1.2
4

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F59746
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-LCH 4015

QC Batch ID: MP15014
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/29/08

Metal	F59746-1 Original MSD	SpikeLot MPFLICP1 % Rec	MSD RPD	QC Limit		
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	0.0	472	500	94.4	0.9	20
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Tin						
Vanadium						
Zinc						

Associated samples MP15014: F59746-1, F59746-2, F59746-3, F59746-4, F59746-5, F59746-6, F59746-7, F59746-8, F59746-9, F59746-10, F59746-11, F59746-12, F59746-13, F59746-14, F59746-15, F59746-16

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

4.1.2
4

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F59746
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-LCH 4015

QC Batch ID: MP15014
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/29/08

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	501	500	100.2	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Tin				
Vanadium				
Zinc				

Associated samples MP15014: F59746-1, F59746-2, F59746-3, F59746-4, F59746-5, F59746-6, F59746-7, F59746-8, F59746-9, F59746-10, F59746-11, F59746-12, F59746-13, F59746-14, F59746-15, F59746-16

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

4.1.3
4

SERIAL DILUTION RESULTS SUMMARY

Login Number: F59746
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-LCH 4015

QC Batch ID: MP15014
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 08/29/08

Metal	F59746-1	Original	SDL 1:5	RPD	QC	Limits
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Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	0.00	0.00		NC		0-10
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Tin						
Vanadium						
Zinc						

Associated samples MP15014: F59746-1, F59746-2, F59746-3, F59746-4, F59746-5, F59746-6, F59746-7, F59746-8, F59746-9, F59746-10, F59746-11, F59746-12, F59746-13, F59746-14, F59746-15, F59746-16


Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

4.1.4
4

APPENDIX C

FIELD DATA

Well Number	DTW
USTLCH4015-MW01	3.12
USTLCH4015-MW02	1.55
USTLCH4015-MW03	5.33
USTLCH4015-MW04	7.29
USTLCH4015-MW05	2.21
USTLCH4015-MW06	2.92
USTLCH4015-MW07	3.26
USTLCH4015-MW08	2.81
USTLCH4015-MW09	2.17
USTLCH4015-MW10	1.82
USTLCH4015-MW11	3.87
USTLCH4015-MW12	4.05
USTLCH4015-MW13	24.06
USTLCH4015-MW14	4.51
USTLCH4015-MW15	3.55
USTLCH4015-MW16	2.55
USTLCH4015-MW17	Missing
USTLCH4015-MW18	2.22
USTLCH4015-MW19	24.31
USTLCH4015-MW20	23.69
USTLCH4015-MW21	23.7
USTLCH4015-MW22	23.55
USTLCH4015-MW23	24.21
USTLCH4015-MW24	1.62

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW01</i>
			SAMPLE NO. USTLCH4015-MW01
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/23/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1400</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80's</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>6.09</i>	<i>6.00</i>	<i>6.00</i>	<i>6.00</i>	(STD)
Specific Conductivity	<i>0.526</i>	<i>0.537</i>	<i>0.537</i>	<i>0.537</i>	(m S/cm ²)
Turbidity (Turb)	<i>14.8</i>	<i>14.8</i>	<i>14.8</i>	<i>14.8</i>	(NTU)
Dissolved Oxygen (DO)	<i>4.12</i>	<i>0.53</i>	<i>0.52</i>	<i>0.53</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>27.77</i>	<i>27.99</i>	<i>28.01</i>	<i>28.00</i>	(°C)
ORP	<i>-28.9</i>	<i>-61.6</i>	<i>-61.9</i>	<i>-62.3</i>	

Depth to Bottom	<i>178.44</i>	(In) (Minus)	Depth to Water	<i>37.44</i>	(In) =	<i>141.00</i>	HT (in)
Depth to Bottom	<i>14.87</i>	(Ft) (Minus)	Depth to Water	<i>3.12</i>	(Ft) =	<i>11.75</i>	HT (ft)


d = *4* 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			<i>141.00</i>	1	3.14	<i>1771</i>	.0043	<i>7.6</i>	<i>22.8</i>	<i>23</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>01</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>01</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>01</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW02</i>
			SAMPLE NO. USTLCH4015-MW02
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/25/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1000</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80'S</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>6.92</i>	<i>5.95</i>	<i>5.90</i>	<i>5.88</i>	(STD)
Specific Conductivity	<i>0.513</i>	<i>0.458</i>	<i>0.446</i>	<i>0.435</i>	(m S/cm ^o)
Turbidity (Turb)	<i>52.0</i>	<i>11.2</i>	<i>9.1</i>	<i>0.2</i>	(NTU)
Dissolved Oxygen (DO)	<i>2.84</i>	<i>0.51</i>	<i>0.48</i>	<i>0.47</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>27.99</i>	<i>28.01</i>	<i>28.20</i>	<i>29.31</i>	(°C)
ORP	<i>-89.3</i>	<i>-79.4</i>	<i>-78.8</i>	<i>-77.7</i>	


Depth to Bottom	<i>147.24</i>	(In) (Minus)	Depth to Water	<i>18.60</i>	(In) =	<i>128.64</i>	HT (in)
Depth to Bottom	<i>12.27</i>	(Ft) (Minus)	Depth to Water	<i>1.55</i>	(Ft) =	<i>10.72</i>	HT (ft)

d = <i>4</i> 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		<i>128.64</i>	1	3.14	<i>1616</i>	.0043	<i>6.9</i>	<i>20.8</i>	<i>21</i>	
	Middle				3.14		.0043				
	Bottom				3.14		.0043				
	Total				3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW02	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW02	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW02	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW03</i>
			SAMPLE NO. USTLCH4015-MW03 03
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/22/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1200</i>
PHONE: 910-451-2390		WEATHER:	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>6.68</i>	<i>6.59</i>	<i>6.58</i>	<i>6.58</i>	(STD)
Specific Conductivity	<i>0.607</i>	<i>0.653</i>	<i>0.650</i>	<i>0.650</i>	(m S/cm ²)
Turbidity (Turb)	<i>17.6</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	(NTU)
Dissolved Oxygen (DO)	<i>2.72</i>	<i>0.46</i>	<i>0.44</i>	<i>0.43</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>24.95</i>	<i>24.98</i>	<i>24.98</i>	<i>25.12</i>	(°C)
ORP	<i>-75.9</i>	<i>-91.0</i>	<i>-91.5</i>	<i>-91.9</i>	

Depth to Bottom	<i>183.72</i>	(In) (Minus)	Depth to Water	<i>63.96</i>	(In) =	<i>119.76</i>	HT (in)
Depth to Bottom	<i>15.31</i>	(Ft) (Minus)	Depth to Water	<i>5.33</i>	(Ft) =	<i>9.98</i>	HT (ft)


d = *4* MEASUREMENTS (IN INCHES)
 r = 1
 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	Π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			<i>119.76</i>	1	3.14	<i>376</i>	.0043	<i>1.6</i>	<i>4.9</i>	<i>5</i>
Middle					3.14	<i>1504</i>	.0043	<i>6.5</i>	<i>19.4</i>	<i>20</i>
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>03</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>03</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>03</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Biosmas (organic growth)*
in well purged out

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW04</i>
			SAMPLE NO. USTLCH4015-MW04
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/22/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>0900</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80's</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS						
PH	<i>6.64</i>	<i>5.61</i>	<i>5.50</i>	<i>5.40</i>		(STD)
Specific Conductivity	<i>0.309</i>	<i>0.242</i>	<i>0.224</i>	<i>0.201</i>		(m S/cm ^o)
Turbidity (Turb)	<i>229.1</i>	<i>11.7</i>	<i>9.9</i>	<i>7.0</i>		(NTU)
Dissolved Oxygen (DO)	<i>4.15</i>	<i>0.59</i>	<i>0.56</i>	<i>0.49</i>		(mg/l)
Dissolved Oxygen (DO)						(%)
Temperature (Temp)	<i>24.34</i>	<i>23.15</i>	<i>23.66</i>	<i>24.04</i>		(°C)
ORP	<i>102.8</i>	<i>150.5</i>	<i>153.7</i>	<i>120.0</i>		


Depth to Bottom	<i>184.68</i>	(In) (Minus)	Depth to Water	<i>87.48</i>	(In) =	<i>97.20</i>	HT (in)
Depth to Bottom	<i>15.39</i>	(Ft) (Minus)	Depth to Water	<i>7.29</i>	(Ft) =	<i>8.10</i>	HT (ft)

d = <u>4</u> 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			<i>97.20</i>	1	3.14	<i>1221</i>	.0043	<i>5.2</i>	<i>15.7</i>	<i>16</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW04	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW04	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW04	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Bio Smag in well purged out.*

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW05</i>
			SAMPLE NO. USTLCH4015-MW05
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/22/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1530</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80's</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:			Sampling Device: Bailer <input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>5.42</i>	<i>5.09</i>	<i>5.07</i>	<i>5.07</i>	(STD)
Specific Conductivity	<i>0.528</i>	<i>0.527</i>	<i>0.527</i>	<i>0.527</i>	(m S/cm ^o)
Turbidity (Turb)	<i>285.5</i>	<i>42.2</i>	<i>48.2</i>	<i>47.9</i>	(NTU)
Dissolved Oxygen (DO)	<i>2.19</i>	<i>0.49</i>	<i>0.45</i>	<i>0.44</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>27.06</i>	<i>27.11</i>	<i>26.34</i>	<i>26.41</i>	(°C)
ORP	<i>102.2</i>	<i>85.1</i>	<i>78.4</i>	<i>77.9</i>	

Depth to Bottom	<i>132.60</i>	(In) (Minus)	Depth to Water	<i>26.52</i>	(In) =	<i>106.08</i>	HT (in)
Depth to Bottom	<i>11.05</i>	(Ft) (Minus)	Depth to Water	<i>2.21</i>	(Ft) =	<i>8.84</i>	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			<i>106.08</i>	1	3.14	<i>333</i>	.0043	<i>1.4</i>	<i>4.3</i>	<i>5</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>05</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>05</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>05</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *ORGANIC GROWTH IN PURGE WATER PURGED CLEAR*

PURGE DISCHARGED: DRUM: DRUM# SITE TREATMENT:

OTHER:

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW06</i>
			SAMPLE NO. USTLCH4015-MW06
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/22/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1630</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80's</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailor	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>5.10</i>	<i>4.41</i>	<i>4.41</i>	<i>4.41</i>	(STD)
Specific Conductivity	<i>0.621</i>	<i>0.565</i>	<i>0.561</i>	<i>0.561</i>	(m S/cm ^o)
Turbidity (Turb)	<i>424.6</i>	<i>50.0</i>	<i>41.8</i>	<i>37.6</i>	(NTU)
Dissolved Oxygen (DO)	<i>4.21</i>	<i>0.44</i>	<i>0.42</i>	<i>0.41</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>28.93</i>	<i>30.88</i>	<i>30.89</i>	<i>30.88</i>	(°C)
ORP	<i>99.0</i>	<i>85.7</i>	<i>83.5</i>	<i>82.9</i>	

Depth to Bottom	<i>145.44</i>	(In) (Minus)	Depth to Water	<i>35.04</i>	(In) =	<i>110.40</i>	HT (in)
Depth to Bottom	<i>12.12</i>	(Ft) (Minus)	Depth to Water	<i>2.82</i>	(Ft) =	<i>9.20</i>	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	Π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			<i>110.40</i>	1	3.14	<i>347</i>	.0043	<i>1.5</i>	<i>4.5</i>	<i>5</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>06</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>06</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>06</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *organic growth in well*
Purged Clean

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			



Shaw Environmental & Infrastructure, Inc.

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 125709
PROJECT NAME: LCH 4015
WELL NO. *LCH4015-MW07*
SAMPLE NO. USTLCH4015-MW07

PROJECT LOCATION: Camp Lejeune LOGGER: Mark Martin DATE *8/23/08*
PROJECT CONTACT: Mark Martin SAMPLER: Mark. Martin TIME *1200*
PHONE: 910-451-2390 WEATHER: *pc 80's*
LEL: _____ Well Locked: Yes
PID: _____ Sampling Device: Bailor No

FIELD MEASUREMENTS

PH	<i>5.73</i>	<i>5.49</i>	<i>5.52</i>	<i>5.51</i>		(STD)
Specific Conductivity	<i>6.246</i>	<i>0.219</i>	<i>0.229</i>	<i>0.229</i>		(m S/cm ²)
Turbidity (Turb)	<i>174.4</i>	<i>74.9</i>	<i>73.7</i>	<i>73.6</i>		(NTU)
Dissolved Oxygen (DO)	<i>3.06</i>	<i>0.52</i>	<i>0.48</i>	<i>0.47</i>		(mg/l)
Dissolved Oxygen (DO)						(%)
Temperature (Temp)	<i>28.40</i>	<i>30.82</i>	<i>30.84</i>	<i>30.85</i>		(°C)
ORP	<i>22.3</i>	<i>0.8</i>	<i>-5.8</i>	<i>-6.1</i>		

Depth to Bottom	<i>145.20</i>	(In) (Minus)	Depth to Water	<i>39.12</i>	(In) =	<i>106.08</i>	HT (in)
Depth to Bottom	<i>12.10</i>	(Ft) (Minus)	Depth to Water	<i>3.24</i>	(Ft) =	<i>8.84</i>	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			<i>106.08</i>	1	3.14	<i>333</i>	.0043	<i>1.4</i>	<i>4.3</i>	<i>5</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW07	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW07	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW07	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED: _____ DRUM: DRUM# _____ SITE TREATMENT:
OTHER:



Shaw Environmental & Infrastructure, Inc.

WELL OR GROUND WATER DATA SHEET

PROJECT NUMBER: 125709

PROJECT NAME: LCH 4015

WELL NO. *LCH4015-MW08*

SAMPLE NO. USTLCH4015-MW08

PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/22/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1000</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80'S</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailor	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>5.82</i>	<i>5.11</i>	<i>5.27</i>	<i>5.12</i>		(STD)
Specific Conductivity	<i>0.313</i>	<i>0.139</i>	<i>0.131</i>	<i>0.132</i>		(m S/cm ²)
Turbidity (Turb)	<i>248.5</i>	<i>59.0</i>	<i>65.3</i>	<i>63.4</i>		(NTU)
Dissolved Oxygen (DO)	<i>6.03</i>	<i>5.09</i>	<i>1.16</i>	<i>0.76</i>		(mg/l)
Dissolved Oxygen (DQ)	<i>;</i>	<i>-</i>				(%)
Temperature (Temp)	<i>23.82</i>	<i>25.97</i>	<i>26.21</i>	<i>26.13</i>		(°C)
ORP	<i>-30.6</i>	<i>143.0</i>	<i>4.4</i>	<i>-14.7</i>		

Depth to Bottom	<i>149.64</i>	(In) (Minus)	Depth to Water	<i>33.72</i>	(In) =	<i>115.92</i>	HT (in)
Depth to Bottom	<i>12.47</i>	(Ft) (Minus)	Depth to Water	<i>2.81</i>	(Ft) =	<i>9.66</i>	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1

Multiply Together


d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	Π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			<i>115.92</i>	1	3.14	<i>364</i>	.0043	<i>1.6</i>	<i>4.7</i>	<i>5</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>08</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>08</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>08</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Extremely Dirty water*
Purged CLEAR

PURGE DISCHARGED: DRUM: DRUM# _____ SITE TREATMENT:

OTHER:

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW 09</i>
			SAMPLE NO. USTLCH4015-MW <i>09</i>
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/22/09</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1100</i>
PHONE: 910-451-2390		WEATHER:	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>6.06</i>	<i>6.42</i>	<i>6.41</i>	<i>6.41</i>	(STD)
Specific Conductivity	<i>0.688</i>	<i>0.819</i>	<i>0.835</i>	<i>0.835</i>	(m S/cm ^o)
Turbidity (Turb)	<i>147.6</i>	<i>14.1</i>	<i>2.3</i>	<i>2.1</i>	(NTU)
Dissolved Oxygen (DO)	<i>4.57</i>	<i>0.55</i>	<i>0.52</i>	<i>0.51</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>24.56</i>	<i>26.02</i>	<i>26.12</i>	<i>26.11</i>	(°C)
ORP	<i>-63.7</i>	<i>-100.4</i>	<i>-93.4</i>	<i>-90.2</i>	

Depth to Bottom	<i>146.04</i>	(In) (Minus)	Depth to Water	<i>26.04</i>	(In) =	<i>120.00</i>	HT (in)
Depth to Bottom	<i>12.17</i>	(Ft) (Minus)	Depth to Water	<i>2.17</i>	(Ft) =	<i>10.00</i>	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)


r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	Π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			<i>120.00</i>	1	3.14	<i>377</i>	.0043	<i>1.6</i>	<i>4.9</i>	<i>5</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>09</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>09</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>09</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW10</i>
			SAMPLE NO. USTLCH4015-MW10
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/22/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1430</i>
PHONE: 910-451-2390		WEATHER: <i>pc 80's</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>7.15</i>	<i>5.20</i>	<i>5.18</i>	<i>5.19</i>	(STD)
Specific Conductivity	<i>0.457</i>	<i>0.193</i>	<i>0.194</i>	<i>0.195</i>	(m S/cm ^o)
Turbidity (Turb)	<i>934.7</i>	<i>21.5</i>	<i>14.9</i>	<i>15.3</i>	(NTU)
Dissolved Oxygen (DO)	<i>3.11</i>	<i>1.05</i>	<i>1.50</i>	<i>1.49</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>25.09</i>	<i>26.41</i>	<i>26.70</i>	<i>26.74</i>	(°C)
ORP	<i>-51.8</i>	<i>65.2</i>	<i>65.9</i>	<i>66.0</i>	


Depth to Bottom	<i>144.36</i>	(In) (Minus)	Depth to Water	<i>21.84</i>	(In) =	<i>122.52</i>	HT (in)
Depth to Bottom	<i>12.03</i>	(Ft) (Minus)	Depth to Water	<i>1.82</i>	(Ft) =	<i>10.21</i>	HT (ft)

d = <u>2</u> 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			<i>122.52</i>	1	3.14	<i>385</i>	.0043	<i>1.7</i>	<i>5.0</i>	<i>5</i>	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>10</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>10</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>10</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Purge water DARK from Biosmas (Organic growth) purged CLEAR*

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO: LCH4015-MW11
			SAMPLE NO. USTLCH4015-MW11
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE 8/22/08
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME 1730
PHONE: 910-451-2390		WEATHER: PC 80'S	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailor	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	5.91	5.99	5.97	5.97	(STD)
Specific Conductivity	0.486	0.471	0.472	0.472	(m S/cm ^o)
Turbidity (Turb)	70.9	13.6	6.9	0.2	(NTU)
Dissolved Oxygen (DO)	2.31	0.45	0.42	0.42	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	26.14	28.13	28.47	28.47	(°C)
ORP	-7.2	-38.4	-48.5	-48.6	


Depth to Bottom	144.00	(In) (Minus)	Depth to Water	46.44	(In) =	97.56	HT (in)
Depth to Bottom	12.00	(Ft) (Minus)	Depth to Water	3.87	(Ft) =	8.13	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			97.56	1	3.14	306	.0043	1.3	4.0	4	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW 11	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW 11	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW 11	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <u>LCH4015-MW12</u>
			SAMPLE NO. USTLCH4015-MW12
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <u>8/23/09</u>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <u>0730</u>
PHONE: 910-451-2390		WEATHER: <u>PC 70'S</u>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<u>6.22</u>	<u>6.05</u>	<u>6.06</u>	<u>6.06</u>	(STD)
Specific Conductivity	<u>0.430</u>	<u>0.454</u>	<u>0.462</u>	<u>0.462</u>	(m S/cm ^o)
Turbidity (Turb)	<u>88.0</u>	<u>14.3</u>	<u>14.7</u>	<u>14.6</u>	(NTU)
Dissolved Oxygen (DO)	<u>4.18</u>	<u>1.68</u>	<u>1.74</u>	<u>1.75</u>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<u>27.26</u>	<u>29.39</u>	<u>29.40</u>	<u>29.39</u>	(°C)
ORP	<u>-45.2</u>	<u>-43.3</u>	<u>-49.8</u>	<u>-52.6</u>	

Depth to Bottom	<u>141.00</u>	(In) (Minus)	Depth to Water	<u>48.60</u>	(In) =	<u>92.40</u>	HT (in)
Depth to Bottom	<u>11.75</u>	(Ft) (Minus)	Depth to Water	<u>4.05</u>	(Ft) =	<u>7.70</u>	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		<u>92.40</u>	1	3.14	<u>290</u>	.0043	<u>1.2</u>	<u>3.9</u>	<u>4</u>	
	Middle				3.14		.0043				
	Bottom				3.14		.0043				
	Total				3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW12	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW12	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW12	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/> X
OTHER: <input type="checkbox"/>			

.mental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW13</i>
			SAMPLE NO. USTLCH4015-MW13
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/23/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>0800</i>
PHONE: 910-451-2390		WEATHER:	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailor	<input type="checkbox"/> No

FIELD MEASUREMENTS					
PH			<i>6.78</i>		(STD)
Specific Conductivity			<i>0.487</i>		(m S/cm ^o)
Turbidity (Turb)			<i>0.0</i>		(NTU)
Dissolved Oxygen (DO)			<i>0.98</i>		(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)			<i>24.76</i>		(°C)
ORP			<i>-36.5</i>		

Depth to Bottom	<i>571.44</i>	(In) (Minus)	Depth to Water	<i>288.72</i>	(In) =	<i>282.72</i>	HT (in)
Depth to Bottom	<i>47.62</i>	(Ft) (Minus)	Depth to Water	<i>24.06</i>	(Ft) =	<i>23.56</i>	HT (ft)


d = <u>2</u> MEASUREMENTS (IN INCHES)										
r = 1 Multiply Together										
d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	Π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			<i>282.72</i>	1	3.14	<i>888</i>	.0043	<i>3.8</i>	<i>11.5</i>	<i>12</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW 13	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW 13	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW 13	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Battery Dies only*
Last readings taken

PURGE DISCHARGED: DRUM: DRUM# SITE TREATMENT:

OTHER:

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW14</i>
			SAMPLE NO. USTLCH4015-MW/14
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/23/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1000</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80's</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>6.89</i>	<i>6.14</i>	<i>6.14</i>	<i>6.14</i>	(STD)
Specific Conductivity	<i>0.339</i>	<i>0.321</i>	<i>0.321</i>	<i>0.321</i>	(m S/cm ²)
Turbidity (Turb)	<i>1052.5</i>	<i>9.5</i>	<i>6.5</i>	<i>0.0</i>	(NTU)
Dissolved Oxygen (DO)	<i>5.56</i>	<i>2.84</i>	<i>2.65</i>	<i>2.64</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>27.38</i>	<i>30.06</i>	<i>30.15</i>	<i>30.14</i>	(°C)
ORP	<i>-35.9</i>	<i>-42.7</i>	<i>42.8</i>	<i>42.8</i>	


Depth to Bottom	<i>142.54</i>	(In) (Minus)	Depth to Water	<i>54.48</i>	(In) =	<i>88.08</i>	HT (in)
Depth to Bottom	<i>11.88</i>	(Ft) (Minus)	Depth to Water	<i>4.54</i>	(Ft) =	<i>7.34</i>	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			<i>88.08</i>	1	3.14	<i>277</i>	.0043	<i>1.2</i>	<i>3.6</i>	<i>4</i>	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>14</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>14</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>14</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. LCH4015-MW15
			SAMPLE NO. USTLCH4015-MW15
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE 8/23/08
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME 1100
PHONE: 910-451-2390		WEATHER: pe 80'S	
LEL:			Well Locked: [X] Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	6.23	5.60	5.53	5.50	(STD)
Specific Conductivity	0.347	0.203	0.203	0.203	(m S/cm ^o)
Turbidity (Turb)	586.3	51.3	44.5	45.4	(NTU)
Dissolved Oxygen (DO)	2.32	2.26	1.27	0.99	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	28.37	30.30	30.28	30.28	(°C)
ORP	-45.4	31.6	28.5	25.6	


Depth to Bottom	142.80	(In) (Minus)	Depth to Water	42.60	(In) =	100.20	HT (in)
Depth to Bottom	11.90	(Ft) (Minus)	Depth to Water	3.55	(Ft) =	8.35	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			100.20	1	3.14	315	.0043	1.4	4.1	5	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW15	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW15	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW15	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Organic growth in well*
Purged out a very dirty Purged out also

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: [X]
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW16</i>
			SAMPLE NO. USTLCH4015-MW16
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/23/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1300</i>
PHONE: 910-451-2390		WEATHER: <i>pc 80's</i>	
LEL:		Well Locked: <input checked="" type="checkbox"/> Yes	
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>6.20</i>	<i>5.50</i>	<i>5.46</i>	<i>5.43</i>	(STD)
Specific Conductivity	<i>0.445</i>	<i>0.388</i>	<i>0.395</i>	<i>0.402</i>	(m S/cm ^o)
Turbidity (Turb)	<i>130.9</i>	<i>36.8</i>	<i>22.2</i>	<i>17.9</i>	(NTU)
Dissolved Oxygen (DO)	<i>4.75</i>	<i>2.96</i>	<i>3.04</i>	<i>2.91</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>28.59</i>	<i>28.64</i>	<i>28.48</i>	<i>28.41</i>	(°C)
ORP	<i>38.7</i>	<i>81.2</i>	<i>80.6</i>	<i>78.5</i>	


Depth to Bottom	<i>139.68</i>	(In) (Minus)	Depth to Water	<i>30.60</i>	(In) =	<i>109.08</i>	HT (in)
Depth to Bottom	<i>11.64</i>	(Ft) (Minus)	Depth to Water	<i>2.55</i>	(Ft) =	<i>9.09</i>	HT (ft)

d = <u>2</u> 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		<i>109.08</i>	1	3.14	<i>343</i>	.0043	<i>1.5</i>	<i>4.4</i>	<i>5</i>	
	Middle				3.14		.0043				
	Bottom				3.14		.0043				
	Total				3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>16</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>16</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>16</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO: <i>LCH 4015-MW18</i>
			SAMPLE NO. USTLCH4015-MW/18
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/25/09</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1230</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80'S</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailor	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH	<i>6.80</i>	<i>6.50</i>	<i>6.50</i>	<i>6.50</i>	(STD)
Specific Conductivity	<i>0.614</i>	<i>0.534</i>	<i>0.534</i>	<i>0.534</i>	(m S/cm ²)
Turbidity (Turb)	<i>206.7</i>	<i>40.6</i>	<i>36.1</i>	<i>27.5</i>	(NTU)
Dissolved Oxygen (DO)	<i>2.45</i>	<i>0.54</i>	<i>0.93</i>	<i>0.54</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>30.12</i>	<i>30.24</i>	<i>30.25</i>	<i>30.25</i>	(°C)
ORP	<i>-88.5</i>	<i>-57.9</i>	<i>-58.0</i>	<i>-58.0</i>	

Depth to Bottom	<i>144.36</i>	(In) (Minus)	Depth to Water	<i>26.64</i>	(In) =	<i>117.72</i>	HT (in)
Depth to Bottom	<i>12.03</i>	(Ft) (Minus)	Depth to Water	<i>2.22</i>	(Ft) =	<i>9.81</i>	HT (ft)


d = <u>2</u> 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		<i>117.72</i>	1	3.14	<i>370</i>	.0043	<i>1.6</i>	<i>4.8</i>	<i>5</i>	
	Middle				3.14		.0043				
	Bottom				3.14		.0043				
	Total				3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW18	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW 18	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW 18	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method

PURGE DISCHARGED: DRUM: DRUM# _____ SITE TREATMENT:

OTHER:

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW19</i>
			SAMPLE NO. <i>USTLCH4015-MW19</i>
PROJECT LOCATION: Camp Lejeune	LOGGER: Mark Martin	DATE <i>9/25/08</i>	
PROJECT CONTACT: Mark Martin	SAMPLER: Mark. Martin	TIME <i>1430</i>	
PHONE: 910-451-2390	WEATHER: <i>PC 80'S</i>		
LEL:	Well Locked: <input checked="" type="checkbox"/> Yes		
PID:	Sampling Device: Bailer	<input type="checkbox"/> No	

FIELD MEASUREMENTS

PH			<i>6.95</i>		(STD)
Specific Conductivity			<i>0.496</i>		(m S/cm ^o)
Turbidity (Turb)			<i>0.0</i>		(NTU)
Dissolved Oxygen (DO)			<i>0.27</i>		(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)			<i>24.35</i>		(°C)
ORP			<i>-26.5</i>		


Depth to Bottom	<i>62.00</i>	(In) (Minus)	Depth to Water	<i>29.72</i>	(In) =	<i>320.28</i>	HT (in)
Depth to Bottom	<i>51.00</i>	(Ft) (Minus)	Depth to Water	<i>24.31</i>	(Ft) =	<i>26.69</i>	HT (ft)

d = <u>2</u> 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			<i>320.28</i>	1	3.14	<i>1006</i>	.0043	<i>4.3</i>	<i>13</i>	<i>13</i>	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>19</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>19</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>19</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *last readings taken*

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW20</i>
			SAMPLE NO. USTLCH4015-MW20
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/25/09</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark Martin	TIME <i>0900</i>
PHONE: 910-451-2390		WEATHER: <i>PC 80's</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailer	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH				<i>6.41</i>		(STD)
Specific Conductivity				<i>0.496</i>		(m S/cm ^o)
Turbidity (Turb)				<i>0.0</i>		(NTU)
Dissolved Oxygen (DO)				<i>0.32</i>		(mg/l)
Dissolved Oxygen (DO)						(%)
Temperature (Temp)				<i>23.98</i>		(°C)
ORP				<i>-56.9</i>		


Depth to Bottom	<i>574.80</i>	(In) (Minus)	Depth to Water	<i>289.28</i>	(In)	=	<i>290.52</i>	HT (in)
Depth to Bottom	<i>47.90</i>	(Ft) (Minus)	Depth to Water	<i>23.69</i>	(Ft)	=	<i>24.21</i>	HT (ft)

d = <u>2</u> 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		<i>290.52</i>	1	3.14	<i>912</i>	.0043	<i>3.9</i>	<i>11.8</i>	<i>12</i>	
	Middle				3.14		.0043				
	Bottom				3.14		.0043				
	Total				3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>20</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>20</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>20</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *past readings taken*
Purging multiple wells.

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW21</i>
			SAMPLE NO. USTLCH4015-MW21
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>15 8/25/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1530</i>
PHONE: 910-451-2390		WEATHER:	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailor	<input type="checkbox"/> No

FIELD MEASUREMENTS						
PH				<i>6.77</i>		(STD)
Specific Conductivity				<i>0.444</i>		(m S/cm ^o)
Turbidity (Turb)				<i>0.0</i>		(NTU)
Dissolved Oxygen (DO)				<i>0.44</i>		(mg/l)
Dissolved Oxygen (DO)				<i>-</i>		(%)
Temperature (Temp)				<i>24.01</i>		(°C)
ORP				<i>-389</i>		


Depth to Bottom	<i>362.40</i>	(In) (Minus)	Depth to Water	<i>284.40</i>	(In) =	<i>78.00</i>	HT (in)
Depth to Bottom	<i>30.20</i>	(Ft) (Minus)	Depth to Water	<i>23.70</i>	(Ft) =	<i>6.50</i>	HT (ft)

d = <u>2</u> 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			<i>78.00</i>	1	3.14	<i>245</i>	.0043	<i>1.1</i>	<i>3.2</i>	<i>✓</i>	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>21</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>~1</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>21</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *last reading taken*

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: <input checked="" type="checkbox"/>
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH4015-MW22</i>
			SAMPLE NO. USTLCH4015-MW22
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/25/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>0800</i>
PHONE: 910-451-2390		WEATHER: <i>PC 70-80</i>	
LEL:			Well Locked: <input checked="" type="checkbox"/> Yes
PID:		Sampling Device: Bailor	<input type="checkbox"/> No

FIELD MEASUREMENTS

PH			<i>6.83</i>		(STD)
Specific Conductivity			<i>0.382</i>		(m S/cm ²)
Turbidity (Turb)			<i>0.0</i>		(NTU)
Dissolved Oxygen (DO)			<i>0.57</i>		(mg/l)
Dissolved Oxygen (DO)			<i>—</i>		(%)
Temperature (Temp)			<i>24.37</i>		(°C)
ORP			<i>-32.9</i>		

Depth to Bottom	<i>383.40</i>	(In) (Minus)	Depth to Water	<i>282.60</i>	(In) =	<i>100.80</i>	HT (in)
Depth to Bottom	<i>31.95</i>	(Ft) (Minus)	Depth to Water	<i>23.55</i>	(Ft) =	<i>9.40</i>	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			<i>100.80</i>	1	3.14	<i>317</i>	.0043	<i>1.4</i>	<i>4.1</i>	<i>5</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>22</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>22</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>22</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Last Readings Taken*
Due to amount of time taken to purge.

PURGE DISCHARGED: DRUM: DRUM# SITE TREATMENT:

OTHER:

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO.
			SAMPLE NO. USTLCH4015-MW <i>23</i>
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/25/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1130</i>
PHONE: 910-451-2390		WEATHER: <i>Pc 80'S</i>	
LEL:		Well Locked: [X] Yes	
PID:	Sampling Device: Bailor		<input type="checkbox"/> No

FIELD MEASUREMENTS

PH				<i>7.12</i>		(STD)
Specific Conductivity				<i>0.308</i>		(m S/cm ^o)
Turbidity (Turb)				<i>0.0</i>		(NTU)
Dissolved Oxygen (DO)				<i>0.47</i>		(mg/l)
Dissolved Oxygen (DO)						(%)
Temperature (Temp)				<i>24.39</i>		(°C)
ORP				<i>-71.9</i>		


Depth to Bottom	<i>384.60</i>	(In) (Minus)	Depth to Water	<i>290.52</i>	(In) =	<i>94.08</i>	HT (in)
Depth to Bottom	<i>32.05</i>	(Ft) (Minus)	Depth to Water	<i>24.21</i>	(Ft) =	<i>7.84</i>	HT (ft)

d = <u>2</u> 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			<i>94.08</i>	1	3.14	<i>295</i>	.0043	<i>1.3</i>	<i>3.8</i>	<i>4</i>	
Middle					3.14		.0043				
Bottom					3.14		.0043				
Total					3.14		.0043				

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Last Readings Taken*

PURGE DISCHARGED:	DRUM: <input type="checkbox"/>	DRUM#	SITE TREATMENT: [X]
OTHER: <input type="checkbox"/>			

 Shaw Environmental & Infrastructure, Inc.	WELL OR GROUND WATER DATA SHEET		PROJECT NUMBER: 125709
			PROJECT NAME: LCH 4015
			WELL NO. <i>LCH 4015-MW24</i>
			SAMPLE NO. USTLCH4015-MW <i>24</i>
PROJECT LOCATION: Camp Lejeune		LOGGER: Mark Martin	DATE <i>8/22/08</i>
PROJECT CONTACT: Mark Martin		SAMPLER: Mark. Martin	TIME <i>1330</i>
PHONE: 910-451-2390		WEATHER: <i>pc 80's</i>	
LEL:		Well Locked: <input checked="" type="checkbox"/> Yes	
PID:		Sampling Device: Bailer <input type="checkbox"/> No	

FIELD MEASUREMENTS

PH	<i>7.36</i>	<i>6.92</i>	<i>6.87</i>	<i>6.86</i>	(STD)
Specific Conductivity	<i>0.794</i>	<i>0.789</i>	<i>0.794</i>	<i>0.793</i>	(m S/cm ²)
Turbidity (Turb)	<i>1035.7</i>	<i>89.4</i>	<i>52.8</i>	<i>38.0</i>	(NTU)
Dissolved Oxygen (DO)	<i>3.80</i>	<i>0.35</i>	<i>0.30</i>	<i>0.29</i>	(mg/l)
Dissolved Oxygen (DO)					(%)
Temperature (Temp)	<i>26.07</i>	<i>26.65</i>	<i>27.03</i>	<i>26.91</i>	(°C)
ORP	<i>-118.9</i>	<i>-121.0</i>	<i>-113.7</i>	<i>-107.5</i>	

Depth to Bottom	<i>172.80</i>	(In) (Minus)	Depth to Water	<i>19.44</i>	(In) =	<i>153.36</i>	HT (in)
Depth to Bottom	<i>14.40</i>	(Ft) (Minus)	Depth to Water	<i>1.62</i>	(Ft) =	<i>12.78</i>	HT (ft)

d = 2 MEASUREMENTS (IN INCHES)

r = 1 Multiply Together

d/2 = 1	BOTTOM	TOP	Layer Thickness	r ²	Π	Cubic in.	Conversion Factor	EST. GALLONS	Purge Vol.	Vol. Purged
TOP			<i>153.36</i>	1	3.14	<i>482</i>	.0043	<i>2.1</i>	<i>6.2</i>	<i>6.5</i>
Middle					3.14		.0043			
Bottom					3.14		.0043			
Total					3.14		.0043			

ANALYTE	CONTAINER NUMBER	SIZE	PRESERVATIVE
VOC 602	USTLCH4015-MW <i>24</i>	3 X 40 ml	HCL
PAH 625	USTLCH4015-MW <i>24</i>	2 X 1 L Amber	4 deg. C.
Lead 3030C	USTLCH4015-MW <i>24</i>	1 X 500 ml HDPE	HNO3

COMMENTS: Well Sampled using Low Flow Purge Method *Purge water started silty and cleared*

PURGE DISCHARGED: DRUM: DRUM# _____ SITE TREATMENT:

OTHER:

Camp Lejeune, NC
Project 125709

LCH-4015 Water Levels

Date: 5-21-09

Well Number	DTW
USTLCH4015-MW01	2.40
USTLCH4015-MW02	1.80
USTLCH4015-MW03	23.90
USTLCH4015-MW04	5.60
USTLCH4015-MW05	2.05
USTLCH4015-MW06	2.35
USTLCH4015-MW07	2.20
USTLCH4015-MW08	1.90
USTLCH4015-MW09	3.05
USTLCH4015-MW10	1.20
USTLCH4015-MW11	3.20
USTLCH4015-MW12	3.38
USTLCH4015-MW13	23.90
USTLCH4015-MW14	4.38
USTLCH4015-MW15	3.15
USTLCH4015-MW16	2.10
USTLCH4015-MW17	
USTLCH4015-MW18	1.80
USTLCH4015-MW19	24.65
USTLCH4015-MW20	22.90
USTLCH4015-MW21	
USTLCH4015-MW22	
USTLCH4015-MW23	24.45
USTLCH4015-MW24	1.10

4.70