



Post Office Box 10279
Wilmington, NC 28404-0279
Telephone: (910) 452-5861
Fax: (910) 452-7563

March 21, 2006

NAVFAC Mid-Atlantic
Marine Corp North Carolina IPT
Environmental Business Line
Attn: Mr. David T. Cleland, P.G.
6506 Hampton Boulevard
Norfolk, VA 23508-1278

Re: **FINAL Remedial Action Optimization & Revised
Corrective Action Plan Addendum Report
Building 820 Site**
Marine Corps Base
Camp Lejeune, North Carolina
Navy Contract No. N62470-05-D-6200
Delivery Order No. 0005
CATLIN Project No. 205-043

Dear Mr. Cleland:

CATLIN Engineers and Scientist is pleased to submit the Final Remedial Action Optimization and Corrective Action Plan Addendum Report for the above referenced site. We have reviewed the remarks to the draft report and offer the following responses to the comments/concerns received on March 16, 2006 and subsequent telephone conversation on March 17, 2006.

Comments from Andrew Smith:

1. **Page 4, last sentence: maybe this sentence should state when the Base submitted the data to WiRO instead.**
The report text has been revised to state that it was submitted to the WiRO in the fall of 2001.

2. **3.3.1: State which MSCC (stgw or res) – or at very least state "most restrictive"**

Sentence was changed to "Laboratory results indicated no contaminants in excess of soil-to-groundwater, residential or Industrial/Commercial MSCCs for EPA Methods 8260..."

3. **3.3.4: Since bis(2-ethylhexyl)phthalate was detected above the groundwater standard, we need to provide a better reason for the presence or none at all (just state result).**

Further explanation for the presence of bis(2-ethylhexyl)phthalate has been included in the Final report.

4. **Section 3.4: Correct spelling of "Remedial" in section title.**

Corrected the spelling of "Remedial" in 3.4 Section title.

5. **4.1.1: Is prior to 2002 correct or should it be since 2002? 6.2.1 says Feb 97. Given the way this reads, verbiage should be included that covers from 2002 to 2004 when RAO/RCAP was submitted.**

No free product has been identified on site since at least 2002. Corrections have been made in Sections 4.1.1 and 6.2.1.

6. **4.2.2.2: MTBE in MW9 has come down over the years however concentrations in mw17 have increased since 01. Any idea why? Remember the letter from Bruce Reed (7/29/03) when he was concerned with the concentrations in the lower regions...I think we need to specifically address MTBE a little more (if not in this section, then at least somewhere in the report) based on his previous letter.**

We do not have a good explanation for the MTBE increases. Verbiage has been added to Section 4.2.2.2 of the Final report addressing the delineation of the MTBE plume at depth.

7. **6.2.1: Second bullet - correct AS/AVE to read AS/SVE**

The sentence has been changed as requested.

8. **6.2.1: Third bullet – might be best to spell out which AS/SVE wells to shut down.**

Text has been revised in accordance with the comment.

9. **7.1 second bullet – again, spell out which wells.**

As discussed in the telephone conference on March 17, 2006, these wells will not be abandoned until the entire shallow contaminant plume has been cleaned up.

Comments from Dave Cleland:

1. **Andrew – I think we're going to need to request an extension on the 820 RAO/RCAP so we can discuss. Basically, I have concerns with implementing bio-pulse at 820. First are we sure we want to recommend something that we're still testing at HPFF? Secondly, there is no way I can meet the Schedule for Implementation (section 7.2).**

We concur with your concerns with pulse sparging at 820. Based on the telephone conversation on March 17, 2006, it was determined that natural attenuation would be the recommended remediation method for the 50-feet deep dissolved contamination. The Final report has been changed to recommend and support this decision.

Also, in accordance with the telephone conference on March 17, 2006, the Schedule for Implementation has been revised to eliminate the immediate abandonment of the inactive portion of the AS/SVE system.

CATLIN Engineers and Scientists appreciate the opportunity to continue to provide services to NAVFAC Mid-Atlantic and the MCAS on your environmental projects.

Sincerely,



Michael E. Mason, P.E.
CATLIN Program Manager



Jason P. Cook, E.I.
Project Engineer

Enclosures

cc: Mr. S. Andrew Smith, MCB Camp Lejeune (w/ two copies)
Ms. Kathy J. Gillespie – NAVFAC Atlantic – Contract Specialist, correspondence only

**REMEDIAL ACTION OPTIMIZATION
&
REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT**

BUILDING 820

**MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

March 20, 2006

**Navy Contract No.: N62470-05-D-6200
Delivery Order No.: 005
CATLIN Project No.: 205-043**



Prepared by:

**CATLIN Engineers and Scientists
P.O. Box 10279
Wilmington, North Carolina 28404-0279
(910) 452-5861**

TABLE OF CONTENTS

	<u>PAGE</u>
LIST OF ACRONYMS	i
EXECUTIVE SUMMARY	1
1.0 BACKGROUND	3
1.1 PURPOSE OF REPORT	3
1.2 SCOPE OF WORK	3
2.0 UPDATED SITE HISTORY	4
3.0 UPDATED REMEDIAL ACTION REVIEW	5
3.1 REMEDIAL SYSTEM OBJECTIVES	5
3.2 RECOMMENDED REMEDIAL SYSTEM	5
3.3 IMPLEMENTED REMEDIAL SYSTEM	6
3.3.1 Soil	6
3.3.2 Shallow Groundwater Conditions (25-Feet)	6
3.3.3 Deep Groundwater Conditions (50-Feet)	6
3.3.4 Deep Groundwater Conditions (100-Feet)	8
3.4 REMEDIAL SYSTEM STATUS	9
3.5 MONITORING STATUS	9
4.0 UPDATED REMEDIATION EFFECTIVENESS EVALUATION	9
4.1 CONTAMINANT LEVELS	9
4.1.1 Free-Phase Product	9
4.2 CONTAMINANT CONCENTRATIONS	10
4.2.1 Soil	10
4.2.2 Groundwater	10
4.2.2.1 Shallow Conditions (25-Feet)	10
4.2.2.2 Deep Conditions (50-Feet)	10
4.2.2.3 Deep Conditions (100-Feet)	11
4.3 SYSTEM SUITABILITY	11
4.3.1 Free-Phase Product	11
4.3.2 Soil	11
4.3.3 Groundwater	11
4.3.3.1 Shallow Conditions (25-Feet)	11
4.3.3.2 Deep Conditions (50-Feet)	12
4.3.3.3 Deep Conditions (100-Feet)	12

5.0	UPDATED REMEDIATION MODIFICATIONS AND ALTERNATIVES	12
5.1	<i>REGULATORY FRAMEWORK EVALUATION</i>	12
5.2	<i>REVISED CONCEPTUAL SITE MODEL</i>	13
5.2.1	Site Hydrogeology	13
5.2.2	Potential Receptors	13
5.2.3	Contaminants of Concern	13
5.3	<i>ALTERNATIVE REGULATORY MECHANISMS</i>	13
5.3.1	Revised Target Cleanup Goals	13
5.3.2	Notice of Residual Petroleum	13
5.4	<i>ALTERNATIVE REMEDIAL TECHNOLOGIES</i>	14
5.4.1	Shallow Groundwater Conditions (25-Feet)	14
5.4.2	Deep Groundwater Conditions (50-Feet)	14
5.5	<i>COST EFFICIENCY EVALUATION</i>	15
6.0	UPDATED OPTIMIZATION RECOMMENDATIONS	15
6.1	<i>SOIL</i>	15
6.2	<i>GROUNDWATER</i>	15
6.2.1	Shallow Conditions (25-Feet)	15
6.2.2	Deep Conditions (50-Feet)	16
7.0	IMPLEMENTATION	17
7.1	<i>IMPLEMENTATION PLAN</i>	17
7.2	<i>SCHEDULE FOR IMPLEMENTATION</i>	17
8.0	LIMITATIONS	17
9.0	REFERENCES	18

TABLES

TABLE 1	WELL CONSTRUCTION DATA
TABLE 2	SUMMARY OF HISTORICAL GROUNDWATER CONTAMINANTS OF CONCERN
TABLE 3	REVISED TARGET CLEANUP CONCENTRATIONS
TABLE 4A	SUMMARY OF GROUNDWATER LABORATORY RESULTS – EPA METHOD 602 FOR DECEMBER 2005 AND JANUARY 2006
TABLE 4B	SUMMARY OF GROUNDWATER LABORATORY RESULTS – EPA METHOD 625 FOR DECEMBER 2005 AND JANUARY 2006
TABLE 4C	SUMMARY OF GROUNDWATER LABORATORY RESULTS – MADEP VPH/EPH AS COMPARED TO NCDENR 2L GWQS FOR DECEMBER 2005 AND JANUARY 2006
TABLE 4D	SUMMARY OF GROUNDWATER LABORATORY RESULTS – EPA METHOD 6010 FOR DECEMBER 2005 AND JANUARY 2006

FIGURES

- FIGURE 1 SITE VICINITY MAP FOR BUILDING 820**
FIGURE 2 SITE MAP WITH CURRENT MONITORING WELL SYSTEM
FIGURE 3 SITE MAP WITH CURRENT REMEDIATION SYSTEM LAYOUT
**FIGURE 4A LABORATORY ANALYTICAL RESULTS -
GROUNDWATER – BENZENE/BTEX AS OF AUGUST 2005 – SHALLOW
CONDITIONS**
**FIGURE 4B LABORATORY ANALYTICAL RESULTS -
GROUNDWATER – BENZENE/BTEX AS OF AUGUST & DECEMBER 2005
– DEEP CONDITIONS (50-FEET)**
**FIGURE 5 LABORATORY ANALYTICAL RESULTS -
GROUNDWATER – NAPHTHALENE AS OF AUGUST 2005 – SHALLOW
CONDITIONS**
FIGURE 6 SITE MAP WITH CROSS SECTION A-A’
FIGURE 7 CROSS SECTION – A-A’

APPENDICES

- APPENDIX A HISTORICAL SOIL LABORATORY RESULTS BY SHAW
ENVIRONMENTAL, INC.**
**APPENDIX B WELL CONSTRUCTION RECORDS AND BORING LOGS FOR
DECEMBER 2005 & JANUARY 2006 CATLIN ACTIVITIES**
**APPENDIX C GROUNDWATER LABORATORY REPORTS FOR DECEMBER
2005 & JANUARY 2006 CATLIN ACTIVITIES**
**APPENDIX D HISTORICAL GROUNDWATER LABORATORY RESULTS BY
SHAW ENVIRONMENTAL, INC.**

LIST OF ACRONYMS

2000 Guidelines	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater
2001 Guidelines	Guidelines for Assessment and Corrective Action, North Carolina Underground Storage Tank Section (Effective July 1, 2001)
2L GWQS	NCAC T15A:02L Groundwater Quality Standards
ARO	Asheville Regional Office
AS	Air Sparge
AST	Aboveground Storage Tank
BDL	Below Detection Limit
BN	Base/Neutral (extractables)
BNA	Base/Neutral/Acid (extractables)
BQL	Below Quantitation Limit
BLS	Below Land Surface
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAP	Corrective Action Plan
CATLIN	CATLIN Engineers and Scientists (Formerly RC&A)
CFR	Code of Federal Regulations
Cr	Chromium
CSA	Comprehensive Site Assessment
CNP	Carbon Nitrogen Phosphorous
CPT	Cone Penetrometer Test
DEM	Division of Environmental Management
DIPE	Diisopropyl Ether
DO	Dissolved Oxygen
DOD	Department of Defense
DPT	Direct Push Technology
DWQ	Division of Water Quality
DWM	Division of Waste Management
DTW	Depth to Water
EAD	Environmental Affairs Department
EDB	Ethylene di-bromide
EMD	Environmental Management Division
EPA	Environmental Protection Agency
EPH	Extractable Petroleum Hydrocarbons
EQB	Environmental Quality Branch
Fe	Iron
FID	Flame Ionization Detector
FOD	Foreign Object Debris
FRO	Fayetteville Regional Office
FT	Feet
GCL	Gross Contaminant Level
GIS	Geographic Information System
GPS	Global Positioning System

Guidelines Vol. I	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, Volume I, Sources Other Than Petroleum Underground Storage Tanks (May 1998)
Guidelines Vol. II	Groundwater Section Guidelines for Investigation and Remediation of Soil and Groundwater, Volume II, Petroleum Underground Storage Tanks (January 2, 1998)
HDPE	High Density Polyethylene
I/C	Industrial/Commercial
ID	Identification
I&E	Installations and Environment Department
IGWQS	Interim Groundwater Quality Standards
IPE	Isopropyl Ether
LANTDIV	Atlantic Division
LSA	Limited Site Assessment
LUST	Leaking Underground Storage Tank
m-	meta
m	meter
MADEP	Massachusetts Department of Environmental Protection
MCALF	Marine Corps Auxiliary Landing Field
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCOLF	Marine Corps Outlying Landing Field
MDL	Method Detection Limit
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
MRO	Mooresville Regional Office
MSCC	Maximum Soil Contaminant Concentration
MSL	Mean Sea Level
MTBE	Methyl tertiary butyl ether
µg/Kg	Micrograms per Kilogram
µg/L	Micrograms per Liter
NA	Not Analyzed
N/A	Not Applicable
NC	North Carolina
NCAC	North Carolina Administrative Code
NCDENR	North Carolina Department of Environment and Natural Resources
NCDOC	North Carolina Department of Corrections
NCDOT	North Carolina Department of Transportation
NCSP	North Carolina State Plane
NCSPA	North Carolina State Ports Authority
NE	None Established
NM	Not Measured
NMT	No Measurable Thickness
NS	Not Sampled
o-	ortho
OVA	Organic Vapor Analyzer

p-	para
PAH	Polynuclear Aromatic Hydrocarbons
Pb	Lead
PPB	Parts Per Billion
PPM	Parts Per Million
PID	Photo Ionization Detector
PQL	Practical Quantitation Limit
PVC	Polyvinyl chloride
RBCA	Risk-Based Corrective Action
RCRA	Resource Conservation and Recovery Act
Res	Residential
ROI	Radius of Influence
RRO	Raleigh Regional Office
SOW	Scope of Work
STGW	Soil-to-Groundwater
SVE	Soil Vapor Extraction
SVOC	Semi Volatile Organic Compound
TDHF	Toxicologically Defined Hydrocarbons Fractions
TCLP	Toxicity Characteristic Leaching Procedure
TIC	Tentatively Identified Compound
TKN	Total Kjeldahl Nitrogen
TOC	Top of Casing
TPH	Total Petroleum Hydrocarbons
US	United States
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compounds
VPH	Volatile Petroleum Hydrocarbons
WaRO	Washington Regional Office
WiRO	Wilmington Regional Office
WSRO	Winston-Salem Regional Office

**REMEDIAL ACTION OPTIMIZATION
&
REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT**

BUILDING 820

**MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

CATLIN PROJECT NO. 205-043

March 20, 2006

EXECUTIVE SUMMARY

The purpose of this report is to provide relevant information to update the Remedial Action Optimization and Revised Corrective Action Plan (RAO & RCAP) and review the effectiveness of current remedial actions being conducted at Building 820. This report also addresses the horizontal and vertical extent of 50-foot deep groundwater contamination at the Building 820 project site. This report also addresses the horizontal extent of 50-foot deep groundwater contamination and the vertical extent up to 100-foot deep groundwater contamination in order to achieve site closure.

Building 820 is currently utilized as a Marine Corps Exchange gas station and is located along Stone Street, in the Berkeley Manor residential area of the Marine Corps Base (MCB), Camp Lejeune, North Carolina. Various site assessments were conducted in the early 1990's to determine the integrity of the Underground Storage Tanks (UST) and to delineate the extent, if applicable, of free-phase product, soil contamination and groundwater contamination in the vicinity of Building 820. The USTs were reportedly upgraded in the late summer of 1995.

LAW Engineering and Environmental Services, Inc. (LAW) prepared and submitted a Corrective Action Plan (CAP) for the subject site dated October 29, 1996. The CAP prepared by LAW identified the presence of free-phase product, soil contamination, shallow groundwater (surficial aquifer) contamination and deeper ($\pm$ 50 feet) groundwater contamination. The recommended remediation strategy proposed in the CAP for site restoration was a treatment system consisting of air sparging coupled with soil vapor extraction (AS/SVE). An optional discriminating pumping system was recommended if the AS/SVE system was insufficient for free-phase product removal. It is our understanding that OHM Remediation Services Corporation, now Shaw Environmental, Inc. (Shaw) installed an AS/SVE treatment system in mid 1997 and began operation of the system in October 1997 and continues to operate the system as of this report.

In 2004, CATLIN prepared a RAO & RCAP that recommended shutting down potable well 623, additional soil assessment, shutting down a portion of the AS/SVE system and evaluating the remediation system in relation to groundwater contamination at 50-feet. It is understood that potable well 623 was shut down on July 14, 2005. Results of the additional soil assessment, performed by

Shaw, indicated that there appeared to be no soil contamination present on-site in excess of the most stringent State Action Level. In areas where the AS/SVE system had met the CAP goals, the system was shut down and a close out monitoring well sampling schedule was implemented. The results of the recommended four quarterly sampling events did not indicate dissolved contamination rebound and it is now recommended that this portion of the AS/SVE system remain inactive. The portion of the AS/SVE system in the core of the dissolved contaminant plume remains active.

As part of the recommendations of the RAO & RCAP, Shaw installed two deep Type III wells to 50-feet below land surface (BLS) and obtained groundwater samples for laboratory analysis in an effort to determine the horizontal extent of contamination at 50-feet deep. The results of the laboratory analysis indicated contaminants in excess of the 2L GWQS. Therefore, CATLIN installed four additional deep Type III monitoring wells (50-feet deep) and one 100-feet deep, Type III monitoring well. Groundwater samples obtained from these wells indicated that the horizontal and vertical extent of dissolved contamination was now contained within the monitoring well network.

Recommendations within this report address the shallow groundwater contamination and the 50-feet groundwater contamination. The following is a brief summary of the recommendations.

- Continue operation of the current AS/SVE system until the remediation end points are met.
- In conjunction with the active AS/SVE system, utilize the natural processes of attenuation and degradation to address dissolved contamination at 50-feet deep. An evaluation of this process will be performed that will involve sampling on a semi-annual basis for two years.
- Monitor both the shallow and deeper groundwater until contaminant concentrations are at or below the 2L GWQS.

**REMEDIAL ACTION OPTIMIZATION
&
REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT**

BUILDING 820

**MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

CATLIN PROJECT NO. 205-043

March 20, 2006

1.0 BACKGROUND

1.1 PURPOSE OF REPORT

The purpose of this report is to provide information appropriate to update the Remedial Action Optimization and Revised Corrective Action Plan (RAO & RCAP) by CATLIN Engineers and Scientists (CATLIN), dated February 26, 2004. This report also addresses the horizontal and vertical extent of 50-foot deep groundwater contamination at the Building 820 project site. This report has been formatted according to the Naval Facilities Engineering Command (NAVFACENGCOM) "Guidance for Optimizing Remedial Action Operation" document prepared by Radian International dated April 2001 with the ultimate purpose to "achieve environmentally protective site closeout at the least cost."

Field work conducted as part of this investigation was conducted in general accordance with the Workplan titled Building 820 Optimization Addendum, dated September 13, 2005. CATLIN was authorized to perform this investigation by the Mid-Atlantic Division (LANTDIV) NAVFACENGCOM in accordance with the Order of Supplies Contract Number N62470-05-D-6200, Delivery Order Number 005.

1.2 SCOPE OF WORK

As previously stated, this report was developed in general accordance with the NAVFACENGCOM "Guidance for Optimizing Remedial Action Operation" document dated April 2001 and the 2001 Guidelines. Specific methods utilized to develop this addendum report included the collection of additional field data in order to update the RAO & RCAP. CATLIN's field activities included the installation and sampling of four additional 50-foot Type III monitoring wells and one additional

100-foot Type III monitoring well. CATLIN also gathered and reviewed additional data provided by others associated with this project.

2.0 UPDATED SITE HISTORY

The Building 820 project site is located along Stone Street, in the Berkeley Manor residential area of the MCB, Camp Lejeune, North Carolina (Figure 1). Building 820 is currently utilized as a Marine Corps Exchange gas station. A UST system consisting of three 10,000-gallon capacity gasoline tanks and one 10,000-gallon capacity diesel tank is located south of the building. The USTs were reportedly upgraded in the late summer of 1995.

Various site assessments were conducted in the early 1990's to determine the integrity of the USTs and to delineate the extent, if applicable, of free-phase product, soil contamination and groundwater contamination in the vicinity of Building 820. The findings of the previous assessments have been summarized in reports submitted to NCDENR, Division of Waste Management (DWM), UST Section in the Wilmington Regional Office (WiRO). Numerous monitoring wells were installed across the site during these assessment activities. A detailed site plan, including monitoring well locations, is presented on Figure 2.

Law Engineering and Environmental Services, Inc. (LAW) utilized the previous reports to develop a Corrective Action Plan (CAP) dated October 29, 1996. The CAP stated that a passive free-phase product recovery system was reportedly in operation since March 1994 at the project site within pumping well PW-1. Shaw stated in their 2002 Annual Monitoring Report that the passive recovery system was in operation until February 1997 and approximately 43 gallons of free-phase product was removed.

The October 1996 CAP identified the presence of free-phase product, soil contamination, shallow groundwater (surficial aquifer) contamination and deep ($\pm$ 50 feet below land surface (BLS)) groundwater contamination. The recommended remediation strategy within the CAP for site restoration was a treatment system consisting of air sparging coupled with soil vapor extraction (AS/SVE). An optional discriminating pumping system was recommended if the AS/SVE system was insufficient for free-phase product removal. It is our understanding that OHM Remediation Services, Inc., now Shaw Environmental & Infrastructure, Inc (Shaw) installed an AS/SVE treatment system in mid 1997 and began operation of the system in October 1997. The air sparge wells were installed with a screen interval at 47 to 50 feet BLS.

As per the request of NCDENR, Shaw collected ten additional soil samples for laboratory analysis on June 8, 2001 in the vicinity of the dispenser island and along the route of the fuel transfer lines at the project site. The additional soil samples were analyzed for TPH-GRO and TPH-DRO. One sample was analyzed for MADEP VPH. Laboratory results from the additional soil samples were below the TPH-GRO and TPH-DRO target concentrations established in the CAP. The MADEP VPH results were below the laboratory quantitation limits. The results of this additional soil sampling were submitted to the Wilmington Regional Office (WiRO) in the fall of 2001.

In February 2004, CATLIN completed the RAO & RCAP, which recommended shutting down potable well 623 and additional soil and groundwater assessment in order to optimize the monitoring and remedial activities at the Building 820 project site.

3.0 UPDATED REMEDIAL ACTION REVIEW

This section has been updated based on the implemented remedial approach after the submittal of the RAO & RCAP to NCDENR DWM – UST Section.

3.1 REMEDIAL SYSTEM OBJECTIVES

The remedial system objectives established within the RAO & RCAP were based on the Intermediate Risk Classification in combination with the deep Coastal Plain aquifer contamination that could be used as a source of drinking water. The objectives were to restore adversely impacted groundwater to a quality consistent with the North Carolina Quality Standards outlined in NCAC, Title 15A, Subchapter 2L or to variances established by NCDENR. These objectives remain applicable.

3.2 RECOMMENDED REMEDIAL SYSTEM

3.2.1 Soil

The RAO & RCAP recommended collecting additional soil samples for Risk Based analysis in areas previously identified with TPH concentrations in excess of the clean up levels established in the CAP.

3.2.2 Shallow Groundwater Conditions

The RAO & RCAP recommended the shut down of a portion of the AS/SVE system were the groundwater quality had been restored to the 2L GWQS and continued operation of the AS/SVE system in the area around wells MW-11 and MW-27 where the dissolved contaminant concentrations still exceeded the 2L GWQS. In addition, a monitoring schedule was proposed for the AS/SVE system monitoring wells to track remediation progress.

3.2.3 Deep Groundwater Conditions (50-Feet)

The RAO & RCAP recommended the shutdown and proper abandonment of potable supply well 623, the installation of two additional monitoring wells to further delineate the 50-foot deep groundwater conditions and to evaluate active remediation of the dissolved contamination.

3.2.4 Deep Groundwater Contamination (100-Feet)

The RAO & RCAP recommended continued monitoring of the 100-foot deep groundwater conditions.

3.3 IMPLEMENTED REMEDIAL SYSTEM

3.3.1 Soil

In April 2005, Shaw collected six soil samples for Risk Based laboratory analysis as recommended in the RAO & RCAP. Laboratory results indicated no contaminants in excess of the Soil-to Groundwater, Residential or Industrial/Commercial MSCC for EPA Methods 8260 and 8270 and MADEP EPH and VPH test methods. A summary of the soil analytical results are indicated in Appendix A. This information was submitted to NCDENR in a Soil Contamination Report prepared by Shaw dated June 2005.

3.3.2 Shallow Groundwater Conditions

On June 11, 2004, Shaw shutdown the AS/SVE wells recommended in the RAO & RCAP. The following AS/SVE wells still remain active; 2, 3, 4, 9, 10, 11, 15, 16, 17, 18, 19, 20, 26, 27, 28, 29, 35, 36, and 37 (see Figure 3). Monitoring wells MW-2 through MW-6, MW-11 through MW-13, MW-15, MW-16 and MW-27 have been sampled as recommended in the RAO & RCAP. The results of the most recent sampling event in August of 2005, indicate contaminants in excess of the 2L GWQS remain in monitoring wells MW-03, MW-6, MW-11, MW-16. These wells are all within the radius of influence of the active AS/SVE system.

Monitoring wells, from the area where the AS/SVE system was shut down, MW-8, MW-10, MW-14, MW-18, MW-20, MW-22, MW-24 and MW-26 have been sampled on a quarterly basis for rebound effects that may have occurred from the shutdown of the AS/SVE wells. Laboratory results indicated no contaminants in exceedance of the 2L GWQS in these wells as of August 2005. A summary of the historical groundwater laboratory results are indicated in Appendix D.

As recommended in the RAO & RCAP, the following AS/SVE wells were shut down; 1, 5 through 8, 12 through 14, 21 through 25, 30 through 34, and 38 through 48. It is recommended that these wells be secured to assure that the integrity of the AS/SVE system is not jeopardized. Abandonment of these AS/SVE wells will be recommended upon achievement of the remediation goals for the entire shallow groundwater contaminant plume.

3.3.3 Deep Groundwater Conditions (50-Feet)

In April 2005, Shaw installed two 50-foot Type III monitoring wells (MW-28 and MW-29) as recommended in the RAO & RCAP. Groundwater laboratory results are as follows:

EPA Method 602

Analytical results from monitoring wells MW-28 and MW-29 exceeded 2L GWQS for the following compounds:

- MW-28: Benzene (1,110 µg/L) and MTBE (3,350 µg/L)
- MW-29: Benzene (29.6 µg/L) and Chloroform (2.6 µg/L)

EPA Method 610

Analytical results from monitoring wells MW-28 and MW-29 did not detect any SVOC compounds above 2L GWQS.

MADEP EPH

Analytical results from monitoring wells MW-28 and MW-29 did not detect MADEP EPH compounds above 2L GWQS.

MADEP VPH

Analytical results from monitoring well MW-28 exceeded 2L GWQS for the following:

- C₅-C₈ range compounds (3.28 mg/L)

Analytical results from monitoring well MW-29 did not detect MADEP VPH compounds above 2L GWQS.

Based on the levels of benzene contamination detected in monitoring wells MW-28 and MW-29, CATLIN proposed and installed four 50-foot deep Type III monitoring wells (MW-30, MW-31, MW-32, and MW-33) and one monitoring well, MW-34, to 100-foot deep to help further delineate the 50-foot deep groundwater contamination. The locations of the wells are illustrated on Figure 2.

During installation of the 50-foot wells, borehole soil samples were obtained at intervals of five feet to boring termination. During installation of monitoring well MW-34, continuous samples were collected from the borehole to boring termination at 100-feet. Soil encountered consisted of mainly very fine to fine grained sand with interlayered clays from land surface to approximately 85-feet BLS. Weathered limestone was encountered below 85-feet to boring termination at 100-feet BLS. The site map with cross-section A-A' is shown in Figure 6 and the cross-section is shown on Figure 7.

Wells MW-30 through MW-33 were installed with 40-feet of 6-inch diameter PVC outer casing, 45-feet of 2-inch diameter PVC inner casing and 5-feet of PVC screen from 45-feet to 50-feet BLS. Well MW-34 was installed with 90-feet of 6-inch diameter PVC outer casing, 95-feet of 2-inch diameter PVC inner casing and 5-feet of PVC screen from 95-feet to 100-feet BLS. The soil boring logs and North Carolina Well Construction Records are included in Appendix B. The wells were installed by a North Carolina licensed well contractor and were installed in accordance with the Workplan Building 820 Optimization Addendum, dated September 13, 2005.

Groundwater samples were collected from monitoring wells MW-30 through MW-33 on December 13 and 14, 2005. The groundwater samples were transported under proper chain-of-custody to Paradigm Analytical Laboratories, Inc in Wilmington, North Carolina for analysis for volatiles per EPA Method 602, semi-volatiles per EPA Method 625, EPH and VPH per the MADEP Method and lead per EPA Method 6020. The analytical results were as follows:

EPA Method 602

No Method 602 compounds were identified in excess of the 2L GWQS from any of the wells sampled.

EPA Method 625

No Method 625 compounds were identified in excess of the method detection limits from any of the wells sampled

MADEP EPH/VPH

No MADEP hydrocarbon fractions were detected in concentrations in excess of the 2L GWQS with the exception of the C₉ – C₂₂ fraction in MW-31. However this concentration <240 µg/L is the sum of the reported quantitation limit of the VPH fraction and the detected concentration of the EPH fraction.

Lead

Lead was not detected in concentrations in excess of the 2L GWQS from any of the wells sampled.

3.3.4 Deep Groundwater Conditions (100-Feet)

No active remediation of the groundwater at 100-feet was recommended in the RAO & RCAP; however, continued monitoring of the 100-feet deep groundwater conditions was implemented by Shaw. Results of laboratory analysis indicated no contaminant concentrations detected above the 2L

GWQS for EPA Method 602, EPA Method 625 for PAH compounds only and Standard Prep Method 3030C for lead. A summary of the historical groundwater laboratory results are included in Appendix D.

In addition, CATLIN sampled monitoring well MW-34 in January of 2005 per EPA Methods 602 and 625, EPH and VPH per MADEPH Method and lead per EPA Method 6010. The results of the laboratory analysis indicated no contaminants were detected per any of the methods with the exception of Bis(2-ethylhexyl)phthalate that was detected in the sample from MW-34 at a concentration of 4.40 µg/L that is above the 2L GWQS of 2.5 µg/L. Bis(2-ethylhexyl)phthalate is commonly used as a plasticizer in the manufacturing of plastics and is not considered a petroleum related contaminant. The occurrence of this compound is likely the result of a sampling/laboratory artifact, resulting from the use of plastic sampling equipment and/or analytical instrument tubing.

3.4 REMEDIAL SYSTEM STATUS

The AS/SVE groundwater remediation system is currently in operation at the project site and will remain in operation until dissolved contaminants are reduced to below 2L GWQS. As previously mentioned, the following AS/SVE wells remain active: 2, 3, 4, 9, 10, 11, 15, 16, 17, 18, 19, 20, 26, 27, 28, 29, 35, 36, and 37. Please refer to Figure 3 for a site map with the current remediation system layout.

3.5 MONITORING STATUS

As of this report, Shaw continues to operate the AS/SVE system and conduct the required gauging and sampling activities at the Building 820 project site.

4.0 UPDATED REMEDIATION EFFECTIVENESS EVALUATION

4.1 CONTAMINANT LEVELS

4.1.1 Free-Phase Product

As stated in the RAO & RCAP, no measurable thickness of free-phase product was identified in monitoring wells at the Building 820 site from 2002 through 2004. CATLIN understands that no free-phase product has been detected in any of the monitoring wells since the submittal of the RAO & RCAP in 2004.

4.2 CONTAMINANT CONCENTRATIONS

4.2.1 Soil

Based on the RAO & RCAP and the additional soil sampling conducted by Shaw in April 2005, it appears that there is no soil contamination at the Building 820 site in excess of the most restrictive MSCC.

4.2.2 Groundwater

Groundwater contamination data collected after submission of the RAO & RCAP is provided in Table 4A, Table 4B and Table 4C and Appendix D. In order to effectively evaluate the current remediation system, a discussion of the shallow groundwater conditions and the deep groundwater conditions at 50-feet and 100-feet deep is provided in the following sections. Please refer to Figures 4A, 4B, and 5 for shallow and deep groundwater contamination above 2L GWQS.

4.2.2.1 Shallow Conditions

The estimated extent of shallow groundwater contamination exceeding 2L GWQS as of August 2005 is illustrated for benzene and naphthalene is shown on Figures 4A and 5. The estimated extent of shallow dissolved benzene groundwater contamination is centered on MW-16, to the south-west of Building 820 and an area around PW-1, MW-3, MW-6 and MW-13 to the south-east of Building 820. Dissolved naphthalene contamination exceeding 2L GWQS is located in two isolated areas around MW-11 and MW-6. Since the RAO & RCAP, naphthalene contamination has not migrated and has been detected in the same monitoring wells. However, in MW-11 naphthalene concentrations have slightly increased from 140 µg/L, as reported in the RAO & RCAP, to 179 µg/L, as indicated in August 2005.

Lead was detected in monitoring well MW-16 at a concentration of 18.7 µg/L that is above the 2L GWQS of 15 µg/L, that may be the result of turbidity in the sample. A previous sample from this well was below detection limit for lead.

4.2.2.2 Deep Conditions (50-Feet)

The estimated extent of 50-feet deep groundwater contamination exceeding the 2L GWQS as of August 2005 and December 2005 sampling events is illustrated for benzene on Figure 4B. The estimated extent of 50-feet deep contamination exceeding the 2L

GWQS is approximately 525-feet by 325-feet surrounding Building 820. Benzene was detected in excess of the 2L GWQS in monitoring wells MW-9, MW-17, MW-28 and MW-29.

MTBE was also detected in the sample from monitoring well MW-17 at a concentration of 4,250 µg/L and MW-9 at a concentration of 2,410 µg/L that is in excess of the 2L GWQS of 200 µg/L. MTBE is the only other contaminant detected in excess of the 2L GWQS and it is delineated within the estimated plume illustrated on Figure 4B.

Lead was detected in monitoring well MW-19 at a concentration of 19.9 µg/L in the May 2005 sampling event that is above the 2L GWQS of 15 µg/L. This may be the result of sample turbidity as previous samples from this well were below detection limit for lead.

4.2.2.3 Deep Conditions (100-Feet)

Laboratory results from the August 2005 and January 2006 sampling events conducted by Shaw and CATLIN indicate that all COCs are below 2L GWQS. No COCs have been detected in the 100-foot deep conditions since the 2002 sampling events.

4.3 SYSTEM SUITABILITY

4.3.1 Free-Phase Product

Free-phase product is currently not an issue at the site.

4.3.2 Soil

The implemented remedial approaches appear to have reduced soil contamination to concentrations below the lowest of the Residential, Industrial/Commercial and Soil-to-Groundwater MSCCs.

4.3.3 Groundwater

In order to effectively evaluate the current remediation system suitability in regards to groundwater quality, a discussion of the shallow and deep conditions is provided in the following sections:

4.3.3.1 Shallow Conditions

In general, shallow groundwater contamination has not migrated and has remained within the same areas of the project site since the RAO & RCAP. Although no significant migration of shallow groundwater contaminants has occurred, naphthalene has slightly increased in

samples from MW-11 from 140 µg/L, as reported in the RAO & RCAP, to 179 µg/L as reported in the August 2005 sampling event. Based on historical data provided by Shaw, there have been fluctuations in contaminant concentrations over time; however, COCs have remained within the same areas or the estimated area of extent of contamination has been slightly reduced. Based on a review of the system performance and modifications to the system, the remediation system appears to have been applicable for reducing the area of extent of contamination in shallow groundwater areas.

4.3.3.2 Deep Conditions (50-Feet)

The well installation activities performed by Shaw and CATLIN since the RAO & RCAP have delineated the horizontal and vertical extent of the dissolved contamination at 50-feet deep. The estimated extent of contamination is not within the influence of the AS/SVE system.

4.3.3.3 Deep Conditions (100-Feet)

The current air sparge wells are located at 50-feet BLS and therefore do not have a significant influence on 100-feet deep groundwater conditions. However; based on the latest sampling events, there is no dissolved contamination in excess of the 2L GWQS.

5.0 UPDATED REMEDIATION MODIFICATIONS AND ALTERNATIVES

5.1 REGULATORY FRAMEWORK EVALUATION

As previously discussed, the remedial goals for the site were based on the regulations current at the time and presented in the CAP. Current applicable remedial requirements for this site are the Risk Based Corrective Action for Petroleum Underground Storage Tanks (RBCA) per 15A NCAC 2L .0106 which became effective on January 2, 1998 and the requirements in the NCDENR 2001 Guidelines. As such, reclassification of the site based on current risk factors was necessary. A Risk Classification and Land Use Form, as presented in the 2001 Guidelines was completed as part of the RAO & RCAP work to present the data necessary to allow NCDENR to assess the site's applicable risk classification.

The completed risk classification form was included in the RAO & RCAP and based on the findings of this Risk Classification and Land Use Form, CATLIN concludes that the subject site met the criteria for classification as an Intermediate Risk and Residential Land Use site. The Intermediate Risk classification was based on the location of the potable water supply well 623 and the deep groundwater contamination (at 50-feet deep) that exists. The MCB Camp Lejeune, Environmental Quality Branch indicated that potable water supply well 623 was shut down on July 14, 2005 and is no longer in use. The subject site still meets the criteria as an

Intermediate Risk and Residential Land Use due to the deep groundwater contamination that remains.

5.2 REVISED CONCEPTUAL SITE MODEL

5.2.1 Site Hydrogeology

The site hydrogeology does not appear to have changed since the RAO & RCAP.

5.2.2 Potential Receptors

As previously stated, potable water supply well 623 was shut down on July 14, 2005. The remaining identified potential receptors appear to be unchanged since the RAO & RCAP.

5.2.3 Contaminants of Concern

The COC in groundwater as established in the CAP are still relevant; however, Shaw has reported additional contaminants since system start-up in their annual monitoring reports above the 2L GWQS. Therefore, the COC have been expanded to include the additional contaminants reported by Shaw. The revised COC have been summarized in Table 2.

5.3 ALTERNATIVE REGULATORY MECHANISMS

5.3.1 Revised Target Cleanup Goals

The remedial approaches implemented appear to have reduced soil contamination to concentrations below Residential, Industrial/Commercial and Soil-to-Groundwater MSCCs. Therefore, no revisions of Target Cleanup Concentrations are needed for soil.

The Revised Target Cleanup Concentrations for the groundwater contamination are the updated North Carolina Groundwater Quality Standards (2L GWQS) in place as of February 1, 2006. These cleanup concentrations are summarized in Table 3.

5.3.2 Notice of Residual Petroleum

As required by the NCDENR, a Notice of Residual Petroleum (NRP) must be prepared and recorded for Low Risk sites eligible for No Further Action (NFA) where contaminants in groundwater remain at concentrations above 2L GWQS or soil contaminant concentrations exceed the Residential MSCCs. At the subject site, the most recent sampling events indicate benzene, benzo(a)anthracene, ethylbenzene, total xylenes, lead, toluene, 1,2

dichlorobenzene, MTBE, 1,4 dichlorobenzene, chrysene and naphthalene concentrations in groundwater exceed the 2L GWQS. Therefore, a NRP would be necessary to obtain site closure upon reclassification of the site as Low Risk.

Marine Corps Base, Camp Lejeune is currently in the process of developing a legal document designated as a Land Use Restriction (LUR) that is being designed as an acceptable document to both State and Federal Government agencies to accomplish the intent of the NRP.

5.4 ALTERNATIVE REMEDIAL TECHNOLOGIES

5.4.1 Shallow Groundwater Conditions

As previously stated, the current AS/SVE remedial system appears to have been applicable for containing and reducing the area of extent of contamination in shallow groundwater. Some contaminant concentrations remain in excess of 2L GWQS in shallow groundwater conditions; however, the current AS/SVE system should remain in operation. The shut down portion of the AS/SVE system should remain shut down and be secured.

5.4.2 Deep Groundwater Conditions (50-Feet)

The deep contamination will have to be remediated to the 2L GWQS and a number of effective remediation strategies are available that include natural attenuation, and pump and treat. The most efficient, as far as initial capital outlay, would be natural attenuation. However, due to the assumed levels of low dissolved oxygen in the 50-foot deep groundwater, the conditions at this depth may not be conducive for natural attenuation.

In order to determine the suitability of the deep groundwater conditions to the processes of natural attenuation, it is recommended that the 50-foot deep monitoring wells be sampled on a semi-annual basis for geochemical parameters as well as dissolved hydrocarbons for a minimum of two years. At the conclusion of the two years the premise that natural attenuation is occurring shall be re-evaluated.

The recommendation for natural attenuation is further justified by the following. The sources of further groundwater contamination (free product and contaminated soils) have been eliminated. In addition, the source of the deep (50-foot deep) contamination is apparently the shallow zone contamination at the site and it is surmised that the contamination may have been drawn downward by the pumping action of potable well 623. Since this potable well has been shut down, there is less risk of contaminant migration into and within the current monitoring well network and with the number of 50-foot deep wells available, plume migration can be easily monitored.

Pump and treat technology would contain and reduce the contaminant concentrations; however, disposal of nuisance water would be difficult. Also, groundwater withdrawal may not reduce the contaminant concentrations below the 2L GWQS.

5.5 COST EFFICIENCY EVALUATION

A detailed cost efficiency evaluation was not deemed necessary for this site since there was an obviously advantageous remediation strategy.

6.0 UPDATED OPTIMIZATION RECOMMENDATIONS

6.1 SOIL

No additional soil remediation activities are recommended at this time.

6.2 GROUNDWATER

6.2.1 Shallow Conditions

Based on the Remedial Effectiveness Evaluation and the Revised Target Cleanup Concentrations discussed within this report, CATLIN recommends the current AS/SVE system remain active to help restore groundwater quality to the 2L GWQS. Specific details to complete this recommendation are as follows:

- Due to no free-phase product present since at least 2002, CATLIN recommends that pumping well PW-1 be scheduled for abandonment upon approval by NCDENR.
- The AS/SVE wells that were shut down as recommended in the RAO & RCAP (1, 5 through 8, 12 through 14, 21 through 25, 30 through 34, and 38 through 48) shall be secured and maintained to ensure their integrity. Abandonment of these wells will be recommended upon achievement of the remedial goals for the entire shallow groundwater contaminant plume.
- Continue to operate the following AS/SVE wells: 2 through 4, 9 through 11, 15 through 20, 26 through 29 and 35 through 37.
- Shallow monitoring wells (MW-2 through MW-6, MW-11 through MW-13, MW-15, MW-16, and MW-27) should be sampled on a semi-annual basis until groundwater concentrations are at or below 2L GWQS for one consecutive year for the COC listed in Table 2 by use of the following methods: EPA Method 602 with xylenes, EPA Method 625 for PAH compounds only. At the conclusion of this one-year time frame, the currently active AS/SVE wells (2 through 4, 9 through 11, 15 through 20, 26 through 29 and 35 through 37) should

be shut down in the area of these shallow monitoring wells. At that time, the shallow monitoring wells should be placed on a quarterly closeout-monitoring schedule for one year and lead per EPA Method 3030C should be added to the analyte list.

- The groundwater samples collected for lead should be collected using low-flow sampling techniques.
- Upon completion of the closeout-monitoring with no exceedances of the 2L GWQS, the AS/SVE system should be evaluated for abandonment.

The results of the sampling should be presented within an Annual Groundwater Monitoring Report. The implemented shut down activities should also be summarized in this report.

6.2.2 Deep Conditions (50-Feet)

Based on the Remedial Effectiveness Evaluation and the Revised Target Cleanup Concentrations discussed within this report, CATLIN recommends initiating an evaluation of the processes of natural attenuation for remediation of the dissolved contamination. Specific details to complete this recommendation are as follows for the 50-feet deep groundwater conditions:

- The 50-feet deep monitoring wells should be sampled on a semi-annual basis for two consecutive years for the COCs listed in Table 2. The samples shall be analyzed using EPA Method 602 and 625 for PAH compounds only. In addition, the wells shall also be analyzed for the following geochemical parameters:

Parameter	Method Number
pH, Standard Units	Field Measurement
Conductivity, ms/cm	Field Measurement
Temperature, °C	Field Measurement
Redox Potential, mv	Field Measurement
Dissolved Oxygen, DO mg/L	Field Measurement
Calcium, Ca mg/L	6010B
Iron, Fe mg/L	6010B
Manganese, Mn mg/L	6010B
Calcium Hardness, as CaCO₃ mg/L	6010B
Total Organic Carbon, TOC mg/L	415.1
Total Plate Count, colonies	9215B
Phosphorus, as P mg/L	365.2
Nitrate Nitrogen, NO₃-N mg/L	353.3
Sulfate, SO₄ mg/L	375.4
Alkalinity, as CaCO₃ mg/L	310.1

The results of the sampling should be presented within an Annual Groundwater Monitoring Report.

7.0 IMPLEMENTATION

7.1 IMPLEMENTATION PLAN

The following is a suggested implementation plan for obtaining site closure:

- Submittal of RAO & RCAP Addendum Report to the UST Section of NCDENR for approval of recommendations.
- Continue operation of the currently active AS/SVE wells in the areas in which groundwater contaminant levels are in excess of the 2L GWQS.
- Continue the recommended sampling of shallow monitoring wells on a semi-annual basis until groundwater contaminant levels are at or below the 2L GWQS for one year for the COC listed in Table 2.
- Implement an evaluation of the processes of natural attenuation for remediation of the 50-foot deep dissolved contamination.
- Conduct a re-evaluation of the dissolved contamination at 50-feet, in two years, after evaluating natural attenuation.
- Preparation of the Annual Groundwater Monitoring Reports.

7.2 SCHEDULE FOR IMPLEMENTATION

The semi-annual sampling activities should continue on the current schedule of October and April. The Annual Monitoring reports should be submitted following the December operation period.

8.0 LIMITATIONS

The field and groundwater data evaluated as part of this report provide isolated data points and may not represent conditions at every location in the project area. Analyses and conclusions of this report, being based on interpolation between data points at the project area, may not be completely representative of all site conditions. Conclusions and recommendations from this report are based on the best available data in an effort to comply with current regulatory requirements.

9.0 REFERENCES

- CATLIN Engineers and Scientists, *Workplan Building 820 Optimization Addendum, Marine Corps Base, Camp Lejeune, North Carolina*. September 13, 2005.
- CATLIN Engineers and Scientists, *Revised Corrective Action Plan For Building 820, Marine Corps Base Camp Lejeune, Onslow County, North Carolina*. February 2004.
- CATLIN Engineers and Scientists, *Revised Corrective Action Plan For Hadnot Point Fuel Farm, Marine Corps Base Camp Lejeune, Onslow County, North Carolina*. June 2003.
- LAW Engineering and Environmental Services, Inc., *Corrective Action Plan for the Recovery of Free Product and the Restoration of Petroleum Contaminated Soil and Groundwater, Berkeley Manor Tank 820, Marine Corps Base, Camp Lejeune, Onslow County, North Carolina*. October 29, 1996.
- North Carolina Department of Environment and Natural Resources, Groundwater Section, 1998, *Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater, Volume II: Petroleum Underground Storage Tanks*, Raleigh, North Carolina, January 2, 1998.
- North Carolina Department of Environment and Natural Resources, Division of Waste Management, UST Section, 2001, *Guidelines for Assessment and Corrective Action*. Effective July 1, 2001.
- North Carolina Department of Environment and Natural Resources, Division of Water Quality, 2002, *Title 15A Subchapter 2L-Classifications and Water Quality Standards Applicable To The Groundwaters of North Carolina*. April 7, 2002.
- OHM Remediation Services Corp., *Soil Sampling Results for POL Site BM 820, Task Order 33, Contract N62470-94-D-5000, MCB Camp Lejeune, NC*. August 24, 2001.
- OHM Remediation Services Corp., *Work Plan for Construction and Operation of Air Sparging and Soil Vapor Extraction Remediation System at Berkeley Manor UST 820, MCB Camp Lejeune, North Carolina*. July 1997.
- Shaw Environmental, Inc., *Final 2002 Annual Monitoring Report Building 820, Marine Corps Base Camp Lejeune, Onslow County, North Carolina*. July 2003.
- Shaw Environmental, Inc., *Soil Contamination Report Building 820, Marine Corps Base Camp Lejeune, Onslow County, North Carolina*. June 2005.

TABLES

TABLE 1

WELL CONSTRUCTION DATA

REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT

BUILDING 820

MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

WELL I.D.	DATE CONSTRUCTED	TOP OF CASING (Feet)	DIAMETER (Inches)	TOTAL DEPTH (Feet Below TOC)	CASING INTERVAL (Feet Below TOC)	SCREEN INTERVAL (Feet Below TOC)
TYPE II MONITORING WELLS						
MW-2	NA					
MW-3	NA					
MW-4	NA	33.35	NA	20	0-5	5-20
MW-5	NA	30.32	NA	25	0-10	10-25
MW-6	NA	32.04	NA	26.5	0-11.5	11.5-26.5
MW-8	NA	27.17	NA	21	0-6	6-21
MW-10	NA	32.62	NA	26	0-11	11-26
MW-11	NA	29.29	NA	25	0-10	10-25
MW-12	3/18/1994	31.73	2	23.5	0-8.5	8.5-23.5
MW-13	4/4/1994	29.15	2	23	0-8	8-23
MW-14	3/18/1994	31.48	2	23.5	0-8.5	8.5-23.5
MW-15	3/18/1994	30.18	2	23.5	0-8.5	8.5-23.5
MW-16	4/4/1994	32.24	2	23	0-8	8-23
MW-18	3/30/1994	31.70	2	23	0-8	8-23
MW-20	3/31/1994	31.63	2	23	0-8	8-23
MW-22	4/20/1994	NA	2	23	0-8	8-23
MW-24	3/30/1994	NA	2	22.5	0-7.5	7.5-22.5
MW-26	4/4/1994	28.72	2	23	0-8	8-23
MW-27	9/21/2001	30.07	2	14	-0.5-4	4-14
50-FOOT TYPE III MONITORING WELLS						
MW-7	NA	27.18	NA	51.8	0-46.8	46.8-51.8
MW-9	NA	31.95	2	51.5	0-46.5	46.5-51.5
MW-17	4/1/1994	32.58	2	49.5	0-44.5	44.5-49.5
MW-19	4/1/1994	31.73	2	49.5	0-44.5	44.5-49.5
MW-21	3/31/1994	31.80	2	49.5	0-44.5	44.5-49.5
MW-23	3/30/1994	NA	2	49.5	0-44.5	44.5-49.5
MW-25	3/30/1994	NA	2	48.5	0-43.5	43.5-48.5
MW-28	4/21/2005	NA	2	50	0-45	45-50
MW-29	4/22/2005	NA	2	50	0-45	45-50
MW-30	11/30/2005	NA	2	50	0-45	45-50
MW-31	11/30/2005	NA	2	50	0-45	45-50
MW-32	11/30/2005	NA	2	50	0-45	45-50
MW-33	11/30/2005	NA	2	50	0-45	45-50
100-FOOT TYPE III MONITORING WELLS						
MW-9D	9/20/2001	32.54	2	98	+2-93	93-98
MW-34	1/9/2006	NA	2	100	0-95	95-100

1. Casing and screen intervals are assumed to be based on measurements from Top of Casing.

2. Total depth based on maximum depth of screen interval.

3. Top of casing provided by SHAW ENVIRONMENTAL, INC.

4. Data for casing and screen intervals obtained from various OHM/SHAW Monitoring Reports.

5. NA = not available

TABLE 2
SUMMARY OF HISTORICAL GROUNDWATER CONTAMINANTS OF CONCERN
REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT
BUILDING 820
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

COMPOUND	2L GWQS (µg/L)	GCL (µg/L)	MAXIMUM CONCENTRATIONS (µg/L)										
			CAP DATA	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
TYPE II MONITORING WELLS													
1,2 Dichlorobenzene	24	24000	NA	<2,000	<500	<100	<20	<100	NA	NA	NA	167	NA
1,3 Dichlorobenzene	170	61500	NA	<1,500	<380	<100	<20	<100	NA	NA	NA	<20	NA
1,4 Dichlorobenzene	1.4	39500	NA	<3,000	<750	<100	<20	<100	NA	NA	65	<20	NA
Dibromochloromethane	0.4	NE	ND	NA	NA	<100	<20	<100	NA	NA	NA	NA	NA
Chloroform	70	70000	39	NA	NA	<100	<20	<100	NA	NA	NA	NA	NA
Chloromethane	2.6	2600	1.9	NA	NA	<100	<20	<100	NA	NA	NA	NA	NA
1,2 Dichloroethane	0.4	380	1.1	NA	NA	<100	<20	<100	NA	NA	NA	NA	NA
Benzene	1	5000	36000	6900	880	3630	1360	700	95.2	84.7	212	150	NA
Chlorobenzene	50	50000	NA	<1,000	<250	<100	<100	<100	<10	<10	<20	<20	NA
MTBE	200	200000	44000	<10,000	<2500	10200	<500	1400	22.5	139	50	71	NA
Ethylbenzene	550	84500	7500	3300	630B	613	1110	9000	481	48.4	1440	1980	NA
Total Xylenes	530	87500	39000	18600	4,400B	3720	7800	11000	3270	1610	2450	3990	NA
Toluene	1000	257500	80000	29000	4,400B	5330	9100	21810	2900	310	722	1478	NA
Chrysene	4.8	0.8	6.2	NA	NA	NA	NA	250	<56	<40	<5.6	<4.9	NA
Naphthalene	21	15500	NA	NA	NA	NA	NA	<5.0	271	140	268	281	NA
Acenaphthene	80	2120	NA	NA	NA	NA	NA	<5.0	<56	<40	<5.6	<3.8	NA
Acenaphthylene	210	1965	NA	NA	NA	NA	NA	<5.0	<56	<40	<5.6	<16	NA
Benzo(a)anthracene	0	22	NA	NA	NA	NA	NA	<0.50	<56	<40	<5.6	<16	NA
Pyrene	210	210	NA	NA	NA	NA	NA	<0.50	<56	<40	<5.6	<4.9	NA
Flourene	280	950	NA	NA	NA	NA	NA	<10	<56	<40	10.0	<4.9	NA
Anthracene	2100	2100	NA	NA	NA	NA	NA	<5.0	<56	<40	<5.6	<4.9	NA
Fluoranthene	280	280	NA	NA	NA	NA	NA	<1.0	<56	<40	<5.6	<4.9	NA
Phenanthrene	210	410	NA	NA	NA	NA	NA	<5.0	<56	<40	<5.6	<4.9	NA
Lead	15	15000	320	NA	NA	NA	NA	NA	0.1	NA	27.0	18.7	NA
50-FOOT TYPE III MONITORING WELLS													
1,2 Dichlorobenzene	24	24,000	NA	<2,000	<500	<200	<5	NA	NA	NA	NA	<4.8	NA
1,3 Dichlorobenzene	170	61,500	NA	<1,500	<380	<200	<5	NA	NA	NA	NA	<1.0	NA
1,4 Dichlorobenzene	1.4	39,500	NA	7400	<750	<200	<5	NA	NA	NA	NA	NA	NA
Dibromochloromethane	0.41	NE	0.5	NA	NA	<200	<5	NA	NA	NA	NA	NA	NA
Chloroform	70	70,000	4.0	NA	NA	<200	<5	NA	NA	NA	NA	NA	NA
Chloromethane	2.6	2,600	NA	NA	NA	<200	<5	NA	NA	NA	NA	NA	NA
1,2 Dichloroethane	0.38	380	NA	NA	NA	<200	<5	NA	NA	NA	NA	NA	NA
Benzene	1	5,000	2,000	8,500	5,000	6,170	3,390	2,700	1,770	2,340	2,360	1,860	NA
Chlorobenzene	50	50,000	NA	<1,000	<250	<200	<50	<200	<50	<50	<20	<50	NA
MTBE	200	200,000	120	<10,000	14,000	16,700	9,260	7,000	4,200	4,530	3,930	4,250	NA
Ethylbenzene	550	84,500	12.0	2,800	740	1,030	291	300	159	241	225	168	NA
Total Xylenes	530	87,500	820	13,300	2,010B	5,990	740	820	447	556	532	297	NA
Toluene	1000	257,500	190	32,000	4,700B	5,480	1,060	1,200B	645	466	428	224	NA
Chrysene	4.79	1	1.9	NA	NA	NA	NA	<0.10	<5.5	<5.6	<5.4	<4.9	NA
Naphthalene	21	15,500	NA	NA	NA	NA	NA	25	<5.5	24.4	16.8	13.9	NA
Acenaphthene	80	2,120	NA	NA	NA	NA	NA	<1.0	<5.5	<5.6	<5.4	<4.8	NA
Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	<1.0	<5.5	<5.6	<5.4	<4.8	NA
Benzo(a)anthracene	0.0479	22	NA	NA	NA	NA	NA	<0.10	<5.5	<5.6	<5.4	<4.8	NA
Pyrene	210	210	NA	NA	NA	NA	NA	<0.25	<5.5	<5.6	<5.4	<4.8	NA
Flourene	280	950	NA	NA	NA	NA	NA	<2.0	<5.5	<5.6	<5.4	<4.8	NA
Anthracene	2100	2,100	NA	NA	NA	NA	NA	<1.0	<5.5	<5.6	<5.4	<4.8	NA
Fluoranthene	280	280	NA	NA	NA	NA	NA	<0.25	<5.5	<5.6	<5.4	<4.8	NA
Phenanthrene	210	410	NA	NA	NA	NA	NA	<1.0	<5.5	<5.6	<5.4	<4.8	NA
Lead	15	15,000	12	NA	NA	NA	NA	<0.01	0.0048B	NA	<15	<100	NA

TABLE 2
SUMMARY OF HISTORICAL GROUNDWATER CONTAMINANTS OF CONCERN
REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT
BUILDING 820
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

COMPOUND	2L GWQS (µg/L)	GCL (µg/L)	MAXIMUM CONCENTRATIONS (µg/L)										
			CAP DATA	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006**
100-FOOT TYPE III MONITORING WELLS													
1,2 Dichlorobenzene	24	24,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.25
1,3 Dichlorobenzene	170	61,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.24
1,4 Dichlorobenzene	1.4	39,500	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.2
Chloroform	70	70,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	2.6	2,600	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2 Dichloroethane	0.38	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1	5,000	NA	NA	NA	NA	NA	<1.0	19.9	<1.0	<1.0	<1.0	<0.316
Chlorobenzene	50	50,000	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	NA
MTBE	200	200,000	NA	NA	NA	NA	NA	<1.0	2.5	<1.0	<1.0	<1.0	<0.588
Ethylbenzene	550	84,500	NA	NA	NA	NA	NA	<1.0	7.8	<1.0	<1.0	<1.0	0.428
Total Xylenes	530	87,500	NA	NA	NA	NA	NA	<2.0	22	<3.0	<3.0	<3.0	<1.906 J
Toluene	1000	257,500	NA	NA	NA	NA	NA	<1.0	17.3	<1.0	<1.0	<1.0	<0.302
Chrysene	4.79	1	NA	NA	NA	NA	NA	<0.10	<5.5	<5.2	<5.4	<1.9	<1.11
Naphthalene	21	15,500	NA	NA	NA	NA	NA	<2.0	<5.5	<5.2	<5.4	<1.9	<1.08
Acenaphthene	80	2,120	NA	NA	NA	NA	NA	<1.0	<5.5	<5.2	<5.4	<3.8	<1.22
Acenaphthylene	210	1,965	NA	NA	NA	NA	NA	<1.0	<5.5	<5.2	<5.4	<3.8	<1.12
Benzo(a)anthracene	0.0479	22	NA	NA	NA	NA	NA	<0.10	<5.5	<5.2	<5.4	<1.9	<1.36
Pyrene	210	210	NA	NA	NA	NA	NA	<0.25	<5.5	<5.2	<5.4	<1.9	<2.08
Flourene	280	950	NA	NA	NA	NA	NA	<2.0	<5.5	<5.2	<5.4	<1.9	<1.22
Anthracene	2100	2,100	NA	NA	NA	NA	NA	<1.0	<5.5	<5.2	<5.4	<1.9	<1.75
Fluoranthene	280	280	NA	NA	NA	NA	NA	<0.25	<5.5	<5.2	<5.4	<1.9	<1.41
Phenanthrene	210	410	NA	NA	NA	NA	NA	<1.0	<5.5	<5.2	<5.4	<1.9	<1.33
Lead	15	15,000	NA	NA	NA	NA	NA	<0.005	<0.0012	NA	<5.0	<5.0	1.82

NE = Not established

ND = Not detected; see laboratory reports for applicable detection limits.

J = Estimated Results

B = Detected in blank

Information obtained from Shaw Environmental, Inc.

CAP DATA is from the 1996 CAP by LAW.

NA= Not Analyzed

BQL = Below Quantitation Limits.

Shading represents concentrations above 2L GWQS.

2003 DATA is based on one sampling event (April), all others data is based on more than one sampling event in per year.

All other compounds analyzed were below laboratory method/quantitation detection limits or historically below 2L GWQS.

* Exceeds calibration curve > 20%.

** Results only for UST820-MW34 installed and sampled by CATLIN

TABLE 3				
REVISED TARGET CLEANUP CONCENTRATIONS				
REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT				
BUILDING 820				
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA				
MEDIUM	CONTAMINANT OF CONCERN	CURRENT CONDITIONS	TARGET CLEANUP	
Free Product	Gasoline/Diesel	NMT	<1/8"	
VADOSE ZONE SOIL	EPA Method 8260, EPA Method 8270, MADEP VPH/EPH	Less than Residential Maximum Soil Contaminant Concentrations	Residential Maximum Soil Contaminant Concentrations	
TYPE II MONITORING WELLS				
GROUNDWATER			GCL	2L GWQS
	1,2 Dichlorobenzene	NA	24,000	24
	1,3 Dichlorobenzene	NA	61,500	170
	1,4 Dichlorobenzene	NA	39,500	1.4
	Chloroform	NA	70,000	70
	Chloromethane	NA	2,600	2.6
	1,2 Dichloroethane	NA	380	0.38
	Benzene	7.5J	5,000	1
	Chlorobenzene	<10	50,000	50
	Methyl Tert-Butyl Ether	139	200,000	200
	Ethylbenzene	37	84,500	550
	Total Xylenes	1,298	87,500	530
	Toluene	284	257,500	1000
	Chrysene	<40	1	4.79
	Naphthalene	140	15,500	21
	Acenaphthene	<40	2,120	80
	Acenaphthylene	<40	1,965	210
	Benzo(a)anthracene	<40	22	0.0479
	Pyrene	<40	210	210
	Flourene	<40	950	280
	Anthracene	<40	2,100	2100
	Fluoranthene	<40	280	280
	Phenanthrene	<40	410	210
	Lead	NA	15,000	15
50 FOOT- TYPE III MONITORING WELLS				
GROUNDWATER			GCL	2L GWQS
	1,2 Dichlorobenzene	NA	24,000	24
	1,3 Dichlorobenzene	NA	61,500	170
	1,4 Dichlorobenzene	NA	39,500	1.4
	Chloroform	NA	70,000	70
	Chloromethane	NA	2,600	2.6
	1,2 Dichloroethane	NA	380	0.38
	Benzene	7.5J	5,000	1
	Chlorobenzene	<10	50,000	50
	Methyl Tert-Butyl Ether	139	200,000	200
	Ethylbenzene	37	84,500	550
	Total Xylenes	1,298	87,500	530
	Toluene	284	257,500	1000
	Chrysene	<40	1	4.79
	Naphthalene	140	15,500	21
	Acenaphthene	<40	2,120	80
	Acenaphthylene	<40	1,965	210
	Benzo(a)anthracene	<40	22	0.0479
	Pyrene	<40	210	210
	Flourene	<40	950	280
	Anthracene	<40	2,100	2100
	Fluoranthene	<40	280	280
	Phenanthrene	<40	410	210
	Lead	NA	15,000	15

TABLE 3
REVISED TARGET CLEANUP CONCENTRATIONS
REMEDIAL ACTION OPTIMIZATION & REVISED CORRECTIVE ACTION PLAN ADDENDUM REPORT
BUILDING 820
MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

MEDIUM	CONTAMINANT OF CONCERN	CURRENT CONDITIONS	TARGET CLEANUP	
Free Product	Gasoline/Diesel	NMT	<1/8"	
VADOSE ZONE SOIL	EPA Method 8260, EPA Method 8270, MADEP VPH/EPH	Less than Residential Maximum Soil Contaminant Concentrations	Residential Maximum Soil Contaminant Concentrations	
100 FOOT- TYPE III MONITORING WELLS				
GROUNDWATER			GCL	2L GWQS
	1,2 Dichlorobenzene	NA	24,000	24
	1,3 Dichlorobenzene	NA	61,500	170
	1,4 Dichlorobenzene	NA	39,500	1.4
	Chloroform	NA	70,000	70
	Chloromethane	NA	2,600	2.6
	1,2 Dichloroethane	NA	380	0.38
	Benzene	7.5J	5,000	1
	Chlorobenzene	<10	50,000	50
	Methyl Tert-Butyl Ether	139	200,000	200
	Ethylbenzene	37	84,500	550
	Total Xylenes	1,298	87,500	530
	Toluene	284	257,500	1000
	Chrysene	<40	1	4.79
	Naphthalene	140	15,500	21
	Acenaphthene	<40	2,120	80
	Acenaphthylene	<40	1,965	210
	Benzo(a)anthracene	<40	22	0.0479
	Pyrene	<40	210	210
	Flourene	<40	950	280
	Anthracene	<40	2,100	2100
	Fluoranthene	<40	280	280
	Phenanthrene	<40	410	210
	Lead	NA	15,000	15

1. NMT = No measurable product thickness.

2. NE = Not established. Therefore, the 2L GWQS for the constituent is the reporting limit.

3. NA = Not Analyzed

4. J = Estimated concentration less than reporting limit.

5. CAP data provided by Baker Environmental, Inc., dated July 22, 1994 and July 29, 1994.

6. Historical data obtained from the Shaw Environmental, Inc. Annual Monitoring Report, dated January 2004.

7. 2003 & 2004 Data provided by Engineering & Environment, Inc.

8. Soil target cleanup concentrations are in mg/kg.

9. Groundwater current conditions and target cleanup concentrations are in ug/L.

TABLE 4A SUMMARY OF GROUNDWATER LABORATORY RESULTS**EPA Method 602 for December 2005 and January 2006**

Well ID	Contaminant of Concern →		Ethylbenzene	Methyl-tert butyl ether (MTBE)	Total Xylenes	All Other 602 Analytes
	Sample ID	Date Collected				
GCL (ug/L) 2L GWQS (ug/L)			84,500 550	200,000 200	87,500 530	Varies Varies
UST820-MW30	820MW30	12/8/2005	<0.299	1.03 J	<1.24	BQL
UST820-MW31	820MW31	12/8/2005	<0.299	<0.588	1.50 J	BQL
UST820-MW32	820MW32	12/8/2005	<0.299	<0.588	<1.24	BQL
UST820-MW33	820MW33	12/8/2005	<0.299	<0.588	4.21	BQL
UST820-MW34	820MW34	1/11/2006	0.428	<2.00	1.31	BQL

All results in ug/L

BQL = Below Quantitation Limits

J = Estimated concentration, below calibration range and above MDL

TABLE 4B SUMMARY OF GROUNDWATER LABORATORY RESULTS

EPA Method 625 for December 2005 and January 2006

Well ID	Contaminant of Concern →		Bis(2-ethylhexyl)phthalate	All Other 625 Analytes
	Sample ID	Date Collected		
GCL (ug/L)			2,500	Varies
2L GWQS (ug/L)			2.5	Varies
UST820-MW30	820MW30	12/8/2005	<1.33	BQL
UST820-MW31	820MW31	12/8/2005	<1.33	BQL
UST820-MW32	820MW32	12/8/2005	<1.33	BQL
UST820-MW33	820MW33	12/8/2005	<1.33	BQL
UST820-MW34	820MW34	1/11/2006	4.40	BQL

All results in ug/L

BQL = Below Quantitation Limits

J = Estimated concentration, below calibration range and above MDL

Shaded concentrations exceed the lowest applicable standard

TABLE 4C SUMMARY OF GROUNDWATER LABORATORY RESULTS

MADEP VPH/EPH As Compared to NCDENR 2L GWQS for December 2005 and January 2006

Sample ID	Contaminant of Concern →	C5-C8 Aliphatics	C9-C18 Aliphatics	C19-C36 Aliphatics	C9-C22 Aromatics
	Date Collected				
GCL (µg/L) 2L GWQS (µg/L)		NE 420	NE 4,200	NE 42,000	NE 210
820-MW30	12/8/2005	<100	<200	<100	<200
820-MW31	12/8/2005	<100	<200	<100	<240*
820-MW32	12/8/2005	<100	<200	<100	<210*
820-MW33	12/8/2005	<100	<200	<100	<200
820-MW34	1/11/2006	<100	<200	<100	<200

All results in µg/L

NE = None Established

* - The result is the sum of the reported quantitation limit of one fraction and the detected concentration of the other fraction.

TABLE 4D SUMMARY OF GROUNDWATER LABORATORY RESULTS**EPA Method 6020 for December 2005 and January 2006**

Well ID	Contaminant of Concern →		Lead
	Sample ID	Date Collected	
GCL (ug/L)			15,000
2L GWQS (ug/L)			15
UST820-MW30	820MW30	12/8/2005	<0.470
UST820-MW31	820MW31	12/8/2005	<0.470
UST820-MW32	820MW32	12/8/2005	<0.470
UST820-MW33	820MW33	12/8/2005	<0.470
UST820-MW34	820MW34	1/11/2006	1.82

All results in ug/L

BQL = Below Quantitation Limits

J = Estimated concentration, below calibration range and above MDL

Shaded concentrations exceed the lowest applicable standard

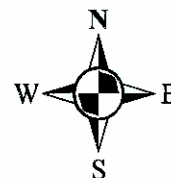
FIGURES



Water Supply Wells

- ACTIVE
- CLOSED
- INACTIVE
- PENDING
- Roads
- Railroads
- Recreational Horse Trail
- Buildings and Structures
- Parking Lots
- Playgrounds
- Driveways
- Athletic Fields
- Athletic Courts
- Surface Water
- Creeks
- Surface Water

500 0 500 Feet
SCALE



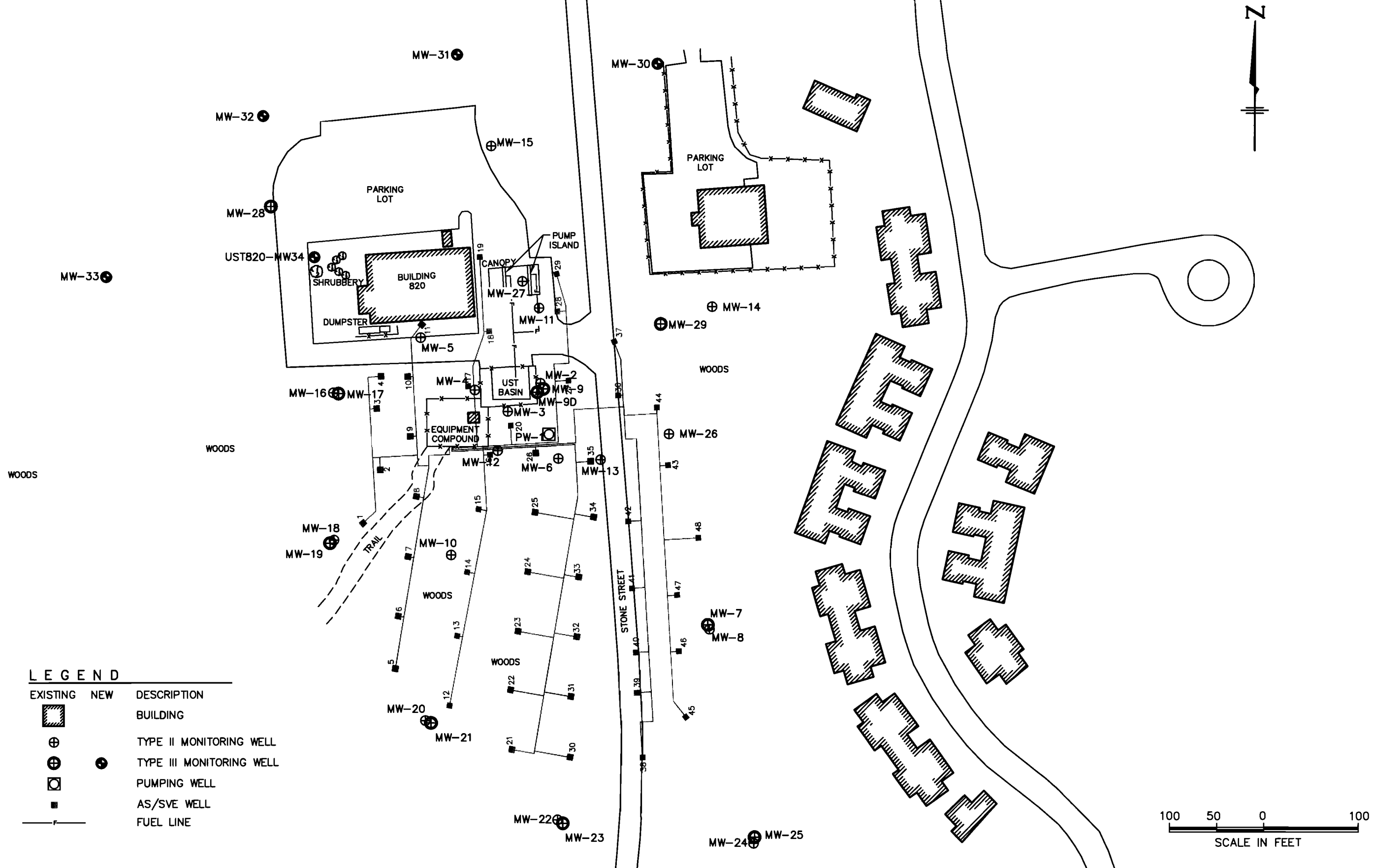
DRAWN BY:	CHECK BY:	APPROVED BY:
THW	JC	MEM
CATLIN PROJECT No.: 205-043		

SITE VICINITY MAP for BUILDING 820 AREA

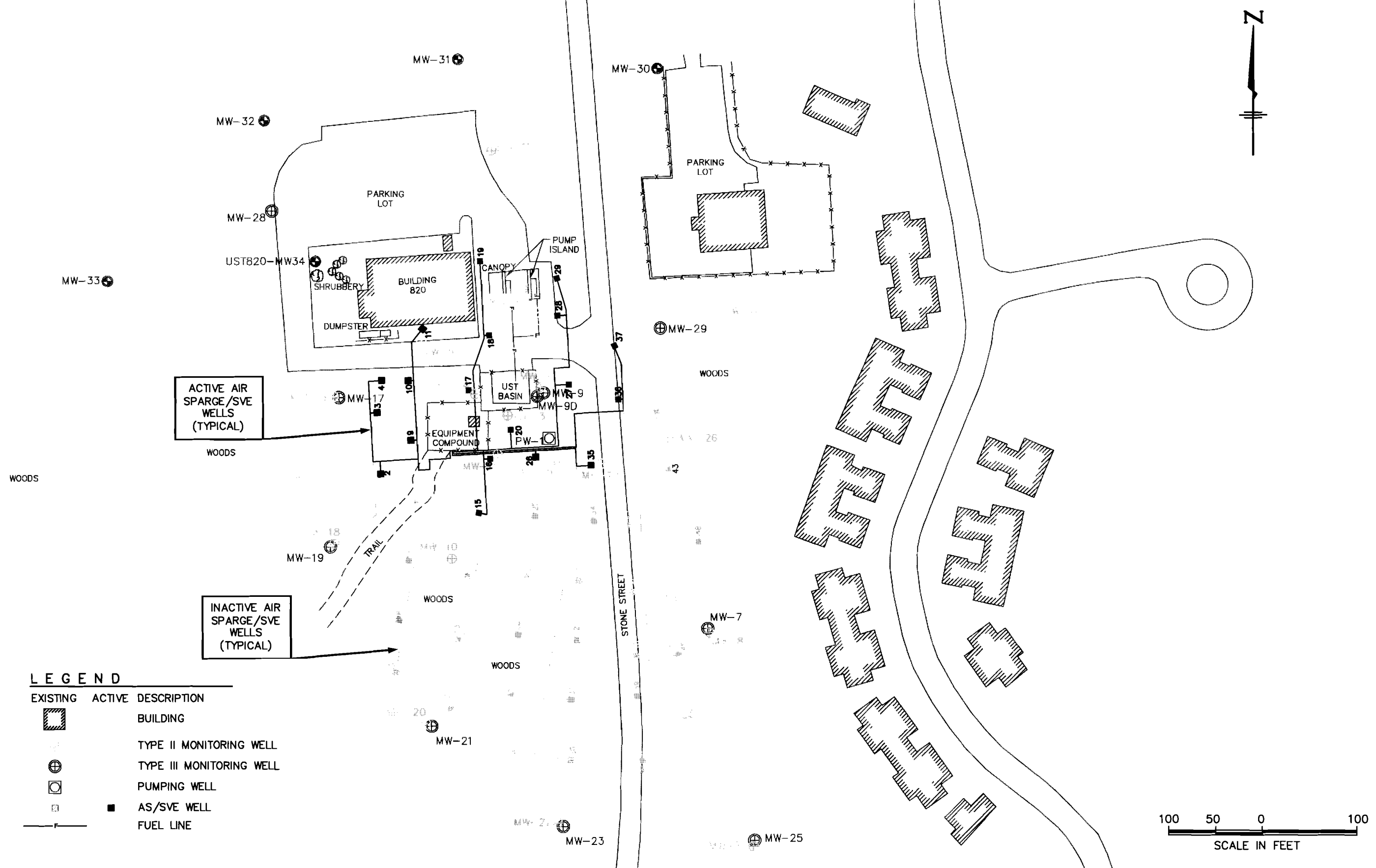
BUILDING 820
1500 ft. RADIUS with RECEPTORS

FIGURE

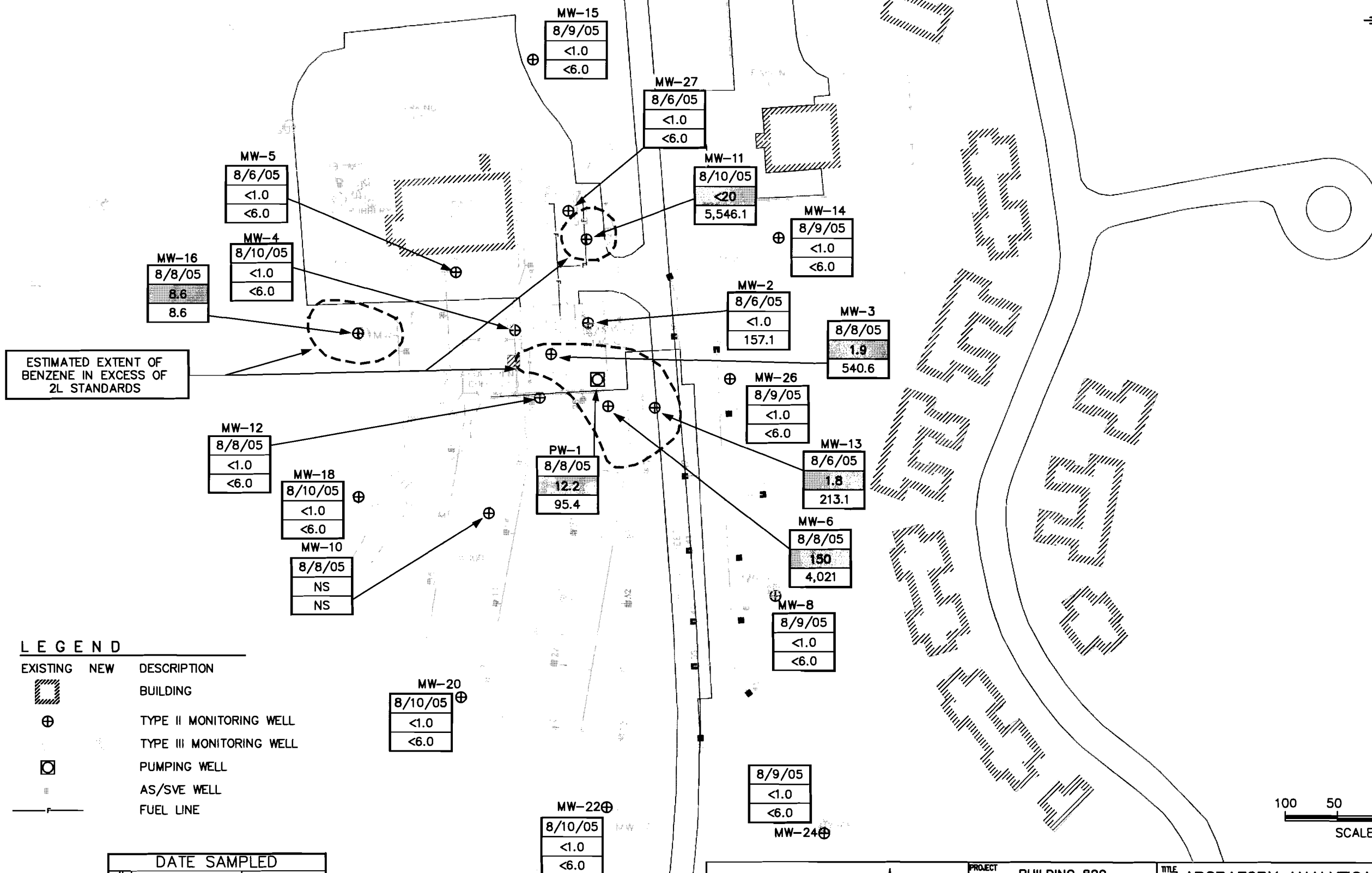
1



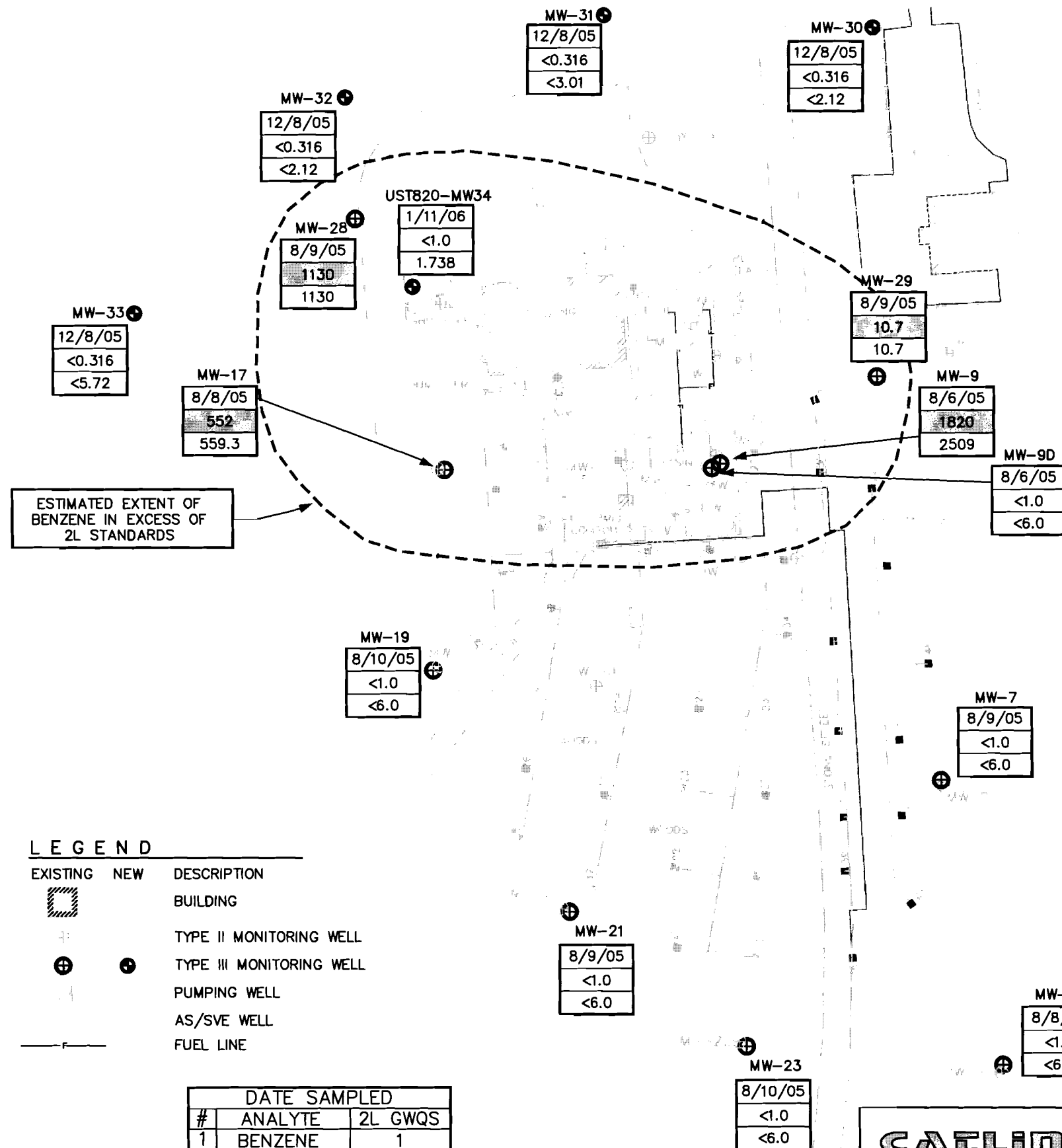
CAELIN ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT: BUILDING 820 OPTIMIZATION PLAN MARINE CORPS BASE CAMP LEJEUNE, N.C.	TITLE: SITE MAP WITH CURRENT MONITORING WELL NETWORK	FIGURE 2
	JOB NO. 205-043 DATE: MAR 2006	SCALE: 1"=100'	DRAWN BY: THW CHECKED BY: MEM



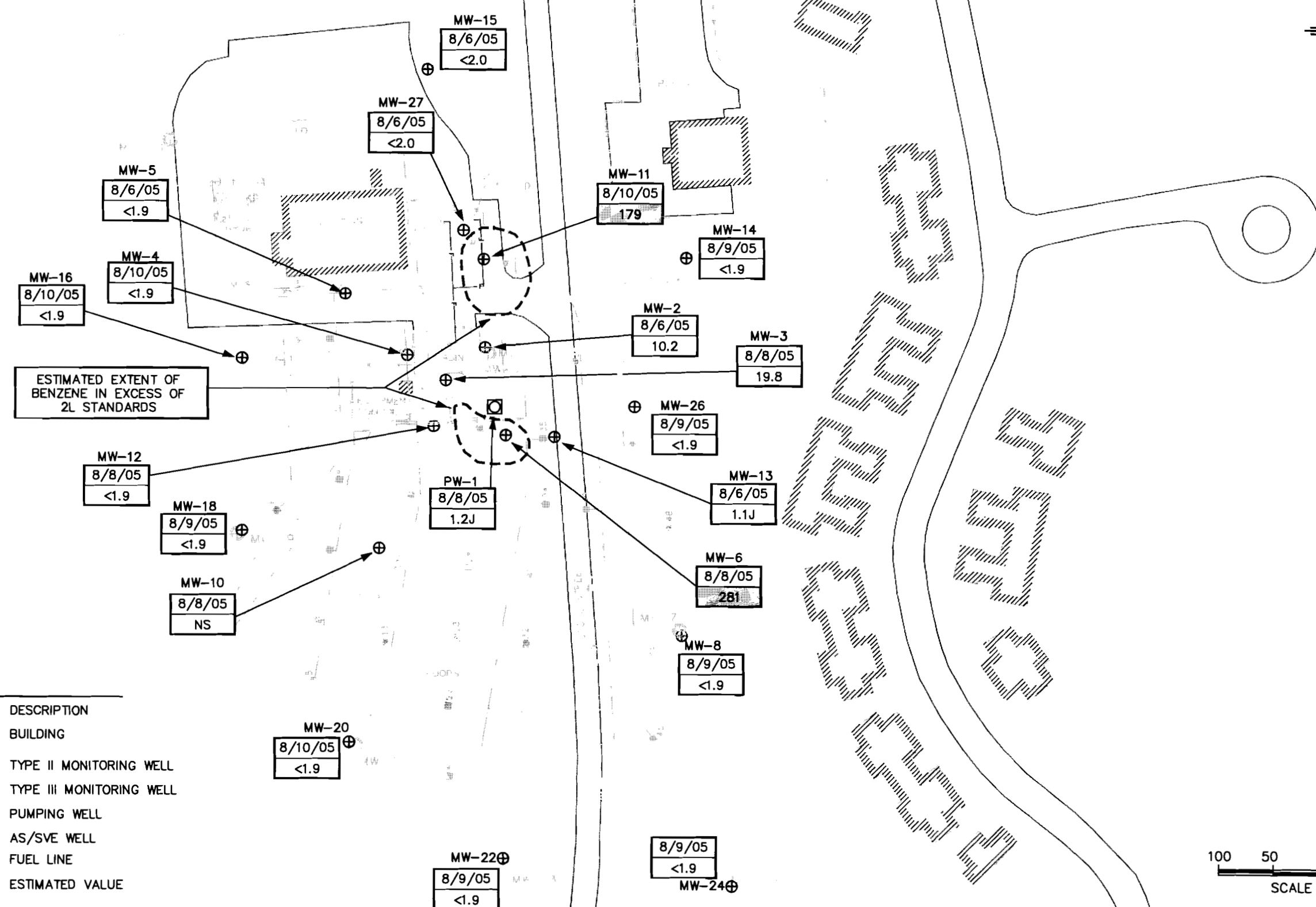
CAELIN ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT BUILDING 820 OPTIMIZATION PLAN MARINE CORPS BASE CAMP LEJEUNE, N.C.	TITLE SITE MAP WITH CURRENT REMEDIATION LAYOUT SYSTEM		FIGURE 3
	JOB NO. 205-043 DATE: MAR 2006	SCALE: 1"=100'	DRAWN BY: HCS	CHECKED BY: MEM



 CAELIN ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT BUILDING 820 OPTIMIZATION PLAN MARINE CORPS BASE CAMP LEJUNE, N.C.	TITLE LABORATORY ANALYTICAL RESULTS- GROUNDWATER - BENZENE/BTEX AS OF AUGUST 2005 - SHALLOW CONDITIONS	FIGURE 4A
	JOB NO. 205-043	DATE MAR 2006	SCALE: 1"=100'
	DRAWN BY: THW	CHECKED BY: MEM	

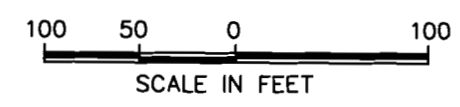


 CAELIN ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT BUILDING 820 OPTIMIZATION PLAN MARINE CORPS BASE CAMP LEJEUNE, N.C.	TITLE LABORATORY ANALYTICAL RESULTS— GROUNDWATER — BENZENE/BTEX AS OF AUGUST & DECEMBER 2005 — DEEP CONDITIONS (50-feet)	FIGURE 4B
	JOB NO. 205-043 DATE: MAR 2006	SCALE: 1"=100'	DRAWN BY: THW CHECKED BY: MEM



- LEGEND**
- | | | |
|----------|-----|--------------------------|
| EXISTING | NEW | DESCRIPTION |
| | | BUILDING |
| | | TYPE II MONITORING WELL |
| | | TYPE III MONITORING WELL |
| | | PUMPING WELL |
| | | AS/SVE WELL |
| | | FUEL LINE |
| J | | ESTIMATED VALUE |

DATE SAMPLED		
#	ANALYTE	2L GWQS
1	NAPHTHALENE	21

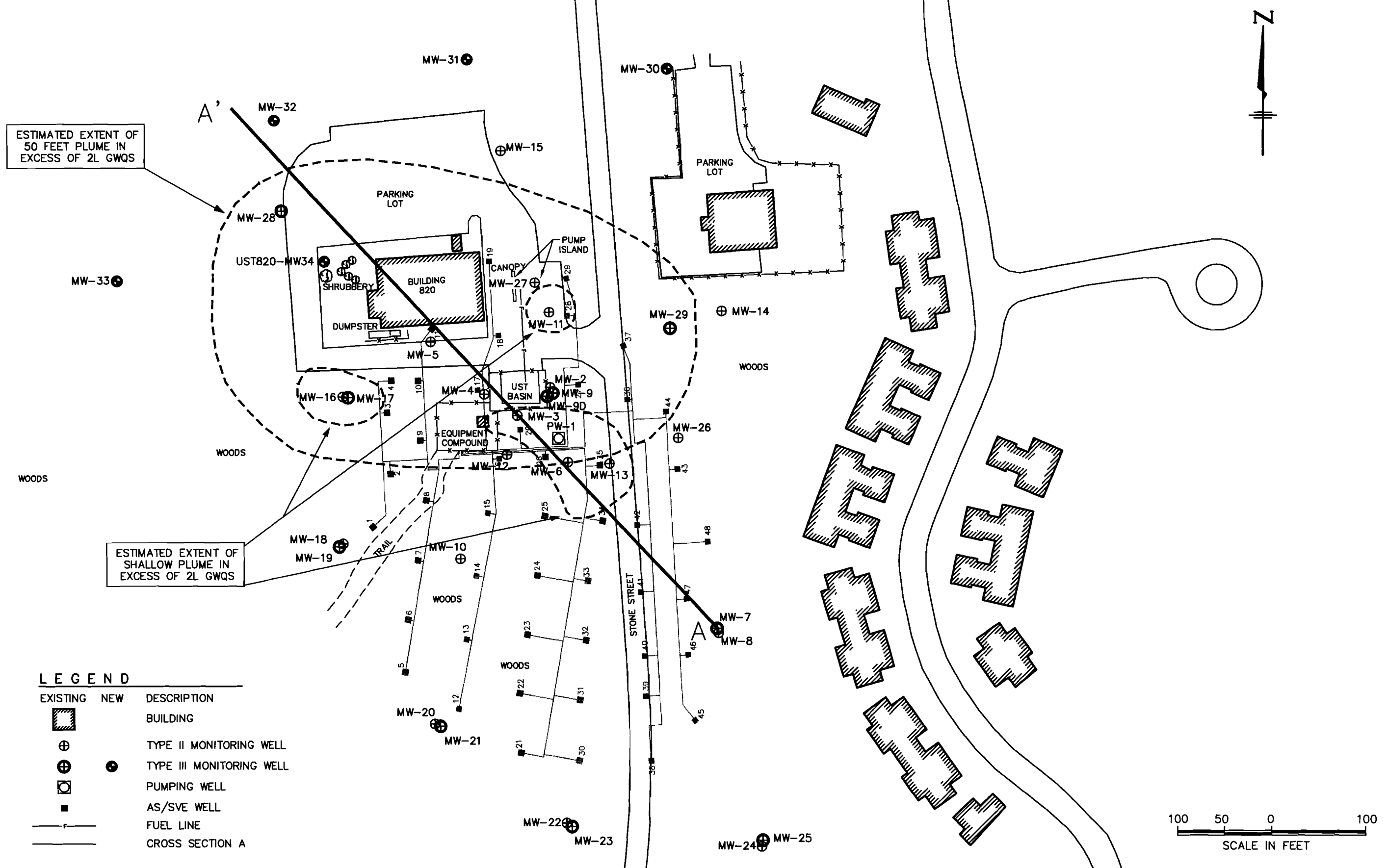


 WILMINGTON, NORTH CAROLINA	PROJECT BUILDING 820 OPTIMIZATION PLAN MARINE CORPS BASE CAMP LEJEUNE, N.C.	TITLE LABORATORY ANALYTICAL RESULTS- GROUNDWATER - NAPHTHALENE AS OF AUGUST 2005 - SHALLOW CONDITIONS	FIGURE 5
	JOB NO. 205-043 DATE: MAR 2006	SCALE: 1"=100'	DRAWN BY: THW CHECKED BY: MEM

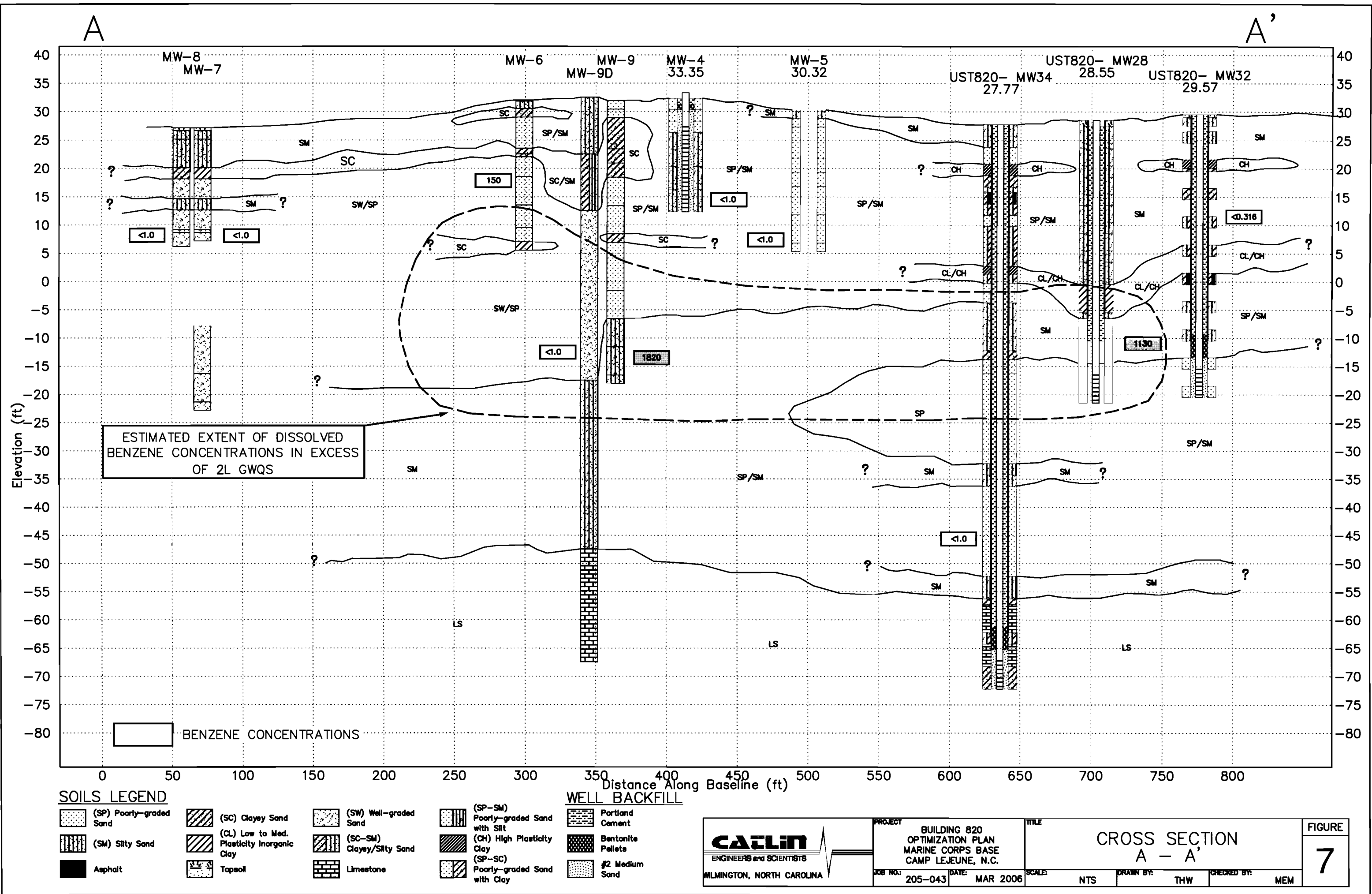
ESTIMATED EXTENT OF
50 FEET PLUME IN
EXCESS OF 2L GWQS

ESTIMATED EXTENT OF
SHALLOW PLUME IN
EXCESS OF 2L GWQS

EXISTING	NEW	DESCRIPTION
		BUILDING
		TYPE II MONITORING WELL
		TYPE III MONITORING WELL
		PUMPING WELL
		AS/SVE WELL
		FUEL LINE
		CROSS SECTION A



CAELIN ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT: BUILDING 820 OPTIMIZATION PLAN MARINE CORPS BASE CAMP LEJEUNE, N.C.	TITLE: SITE MAP WITH CROSS SECTION A-A'		FIGURE 6
	JOB NO. 205-043 DATE: MAR 2006	SCALE: 1"=100'	DRAWN BY: THW	CHECKED BY: MEM



APPENDIX A

HISTORICAL SOIL LABORATORY RESULTS BY SHAW ENVIRONMENTAL, INC.

Table 3.1

**Building 820, Berkely Manor
MADEP-EPH/VPH Summary Confirmation soil Sample Analytical Results**

Sample Information and Analytical Results Building 820, Berkely Manor										
Method for Ranges: MADEP-EPH/VPH		Sample Identification			UST820-SB1	UST820-SB2	UST820-SB3	UST820-SB4	UST820-SB5	UST820-SB6
Hydrocarbon Ranges	Units of Measure	Residential	Industrial	Soil to Water						
C9-C18 Aliphatics	mg/kg	9,386	245,280	3,255	<8.2	<7.7	<7.6	<7.6	<7.9	<7.8
C19-C36 Aliphatics	mg/kg	93,860	#	#	<8.2	<7.7	<7.6	<7.6	<7.9	<7.8
C9-C22 Aromatics (Unadj.)	mg/kg	469	12,264	34	<8.2	<7.7	<7.6	<7.6	<7.9	<7.8
C5-C8 Aliphatics	mg/kg	939	24,528	72	<4.1	<3.6	<3.6	<3.4	<3.6	<3.8

= Health Based Level >100% Solubility

Table B-3
Building 820 UST
VOC and SVOC Confirmation Soil Sample Analytical Results

Date: 5/17/2005			Incident Number and Name: 112768 Building 820 UST																
Analytical Method:			8260B																
Contaminant of Concern			Acetone	Benzene	Bromodichloromethane	Bromoform	Chlorobenzene	Chloroethane	Chloroform	Carbon disulfide	Carbon tetrachloride	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichloropropane	Dibromochloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	trans-1,2-Dichloroethene
Sample ID	Date Collected	Sample Depth (ft bgs)																	
UST820-SB1	4/22/2005	8-10	<0.052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052
UST820-SB2	4/22/2005	8-10	<0.049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049
UST820-SB3	4/22/2005	8-10	<0.046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046
UST820-SB4	4/22/2005	8-10	<0.045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045
UST820-SB5	4/22/2005	8-10	<0.048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048
UST820-SB6	4/22/2005	8-10	<0.055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055
Soil to Groundwater MSCC (mg/kg)			3	0.0056	NS	NS	NS	NS	0.001	4	NS	4	0.045	0.0018	0.0029	0.002	0.35	0.0009	0.38
Residential MSCC (mg/kg)			1564	22	NS	NS	NS	NS	100	1564	NS	1560	1	7	9	7	156	4	320
Industrial/Commercial MSCC (mg/kg)			40800	200	NS	NS	NS	NS	938	40880	NS	40000	10	83	84	88	4000	33	8200

Date: 5/17/2005			Incident Number and Name: 112768 Building 820 UST																
Analytical Method:			8260B																
Contaminant of Concern			trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	4-Methyl-2-pentanone	Methyl bromide	Methyl chloride	Methylene chloride	Methyl ethyl ketone	Styrene	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	Tetrachloroethene	Toluene	Trichloroethene	Vinyl chloride	Xylenes (total)
Sample ID	Date Collected	Sample Depth (ft bgs)																	
UST820-SB1	4/22/2005	8-10	<0.0052	<0.0052	<0.026	<0.026	<0.0052	<0.0052	<0.01	<0.026	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.0052	<0.015
UST820-SB2	4/22/2005	8-10	<0.0049	<0.0049	<0.024	<0.024	<0.0049	<0.0049	<0.0098	<0.024	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.0049	<0.015
UST820-SB3	4/22/2005	8-10	<0.0046	<0.0046	<0.023	<0.023	<0.0046	<0.0046	<0.0093	<0.023	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.0046	<0.014
UST820-SB4	4/22/2005	8-10	<0.0045	<0.0045	<0.022	<0.022	<0.0045	<0.0045	<0.0089	<0.022	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.0045	<0.013
UST820-SB5	4/22/2005	8-10	<0.0048	<0.0048	<0.024	<0.024	<0.0048	<0.0048	<0.0096	<0.024	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.0048	<0.014
UST820-SB6	4/22/2005	8-10	<0.0055	<0.0055	<0.028	<0.028	<0.0055	<0.0055	<0.011	<0.028	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.017
Soil to Groundwater MSCC (mg/kg)			0.0009	0.24	1.9	NS	NS	0.02	0.02	0.7	2.24	NS	0.001	NS	0.0074	7	0.0183	NS	5
Residential MSCC (mg/kg)			4	1560	625	NS	NS	49	85	9385	3128	NS	3	NS	12	3200	58	NS	32000
Industrial/Commercial MSCC (mg/kg)			33	40000	16352	NS	NS	440	763	245280	81780	NS	28	NS	110	82000	520	NS	200000

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)
 List any contaminant detected above the method detection limit
 MSCC = Maximum Soil Contamination Concentration
 # bgs = feet below ground surface
 Results must be reported in mg/kg
 mg/kg = milligrams per kilogram
 NA = not applicable
 NS = no standard

Table B-3
Building 820 UST
VOC and SVOC Confirmation Soil Sample Analytical Results

Date: 5/17/2005	Incident Number and Name: 112788 Building 820 UST																			
Analytical Method:	8270C																			
Contaminant of Concern	Sample ID	Date Collected	Sample Depth (ft bgs)	Benzoic acid	2-Chlorophenol	4-Chloro-3-methylphenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	4,5-Dinitro-o-cresol	2-Methylphenol	3,4-Methylphenol	2-Nitrophenol	4-Nitrophenol	Pentachlorophenol	Phenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	Acenaphthene	Acenaphthylene
	UST820-SB1	4/22/2005	8-10	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21	<1.0	<0.41	<0.21	<0.21	<0.21	<1.0	<0.21	<0.21	<0.21	<0.21	<0.21
	UST820-SB2	4/22/2005	8-10	<0.97	<0.19	<0.19	<0.19	<0.19	<0.19	<0.97	<0.39	<0.19	<0.19	<0.19	<0.97	<0.19	<0.19	<0.19	<0.19	<0.19
	UST820-SB3	4/22/2005	8-10	<0.95	<0.19	<0.19	<0.19	<0.19	<0.19	<0.95	<0.38	<0.19	<0.19	<0.19	<0.95	<0.19	<0.19	<0.19	<0.19	<0.19
	UST820-SB4	4/22/2005	8-10	<0.95	<0.19	<0.19	<0.19	<0.19	<0.19	<0.95	<0.38	<0.19	<0.19	<0.19	<0.95	<0.19	<0.19	<0.19	<0.19	<0.19
	UST820-SB5	4/22/2005	8-10	<0.99	<0.2	<0.2	<0.2	<0.2	<0.99	<0.4	<0.2	<0.2	<0.2	<0.2	<0.99	<0.99	<0.2	<0.2	<0.2	<0.2
UST820-SB6	4/22/2005	8-10	<0.97	<0.19	<0.19	<0.19	<0.19	<0.19	<0.97	<0.39	<0.19	<0.19	<0.19	<0.97	<0.97	<0.19	<0.19	<0.19	<0.19	
Soil to Groundwater MSCC (mg/kg)				NS	NS	NS	NS	0.8	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8	11
Residential MSCC (mg/kg)				NS	NS	NS	NS	312	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	840	488
Industrial/Commercial MSCC (mg/kg)				NS	NS	NS	NS	8176	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	24000	12284

Date:	5/17/2005	Incident Number and Name:	112788 Building 820 UST																
Analytical Method:	8270C																		
Sample ID	Contaminant of Concern		4-Chlorophenyl phenyl ethyl	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dinitrotoluene	2,6-Dinitrotoluene	3,3'-Dichlorobenzidine	Dibenzo(a,h)anthracene	Dibenzofuran	Di-n-butyl phthalate	Di-n-octyl phthalate	Diethyl phthalate	Dimethyl phthalate	Bis(2-ethylhexyl)phthalate	Fluoranthene	Fluorene	Hexachlorobenzene
	Date Collected	Sample Depth (ft bgs)																	
UST820-SB1	4/22/2005	8-10	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.41	<0.21	<0.21	<0.41	<0.41	<0.41	<0.41	<0.41	<0.21	<0.21	<0.21
UST820-SB2	4/22/2005	8-10	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.39	<0.19	<0.19	<0.39	<0.39	<0.39	<0.39	<0.39	<0.19	<0.19	<0.19
UST820-SB3	4/22/2005	8-10	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.19	<0.19	<0.38	<0.38	<0.38	<0.38	<0.38	<0.19	<0.19	<0.19
UST820-SB4	4/22/2005	8-10	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.19	<0.19	<0.38	<0.38	<0.38	<0.38	<0.38	<0.19	<0.19	<0.19
UST820-SB5	4/22/2005	8-10	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.4	<0.4	<0.4	<0.4	<0.4	<0.2	<0.2	<0.2
UST820-SB6	4/22/2005	8-10	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.39	<0.19	<0.19	<0.39	<0.39	<0.39	<0.39	<0.39	<0.19	<0.19	<0.19
Soil to Groundwater MSCC (mg/kg)			NS	7	24	1	NS	NS	NS	0.17	4.7	NS	NS	NS	NS	6.87	278	44	NS
Residential MSCC (mg/kg)			NS	1400	1400	27	NS	NS	NS	0.088	82	NS	NS	NS	NS	48	820	820	NS
Industrial/Commercial MSCC (mg/kg)			NS	36000	36000	240	NS	NS	NS	0.78	1635	NS	NS	NS	NS	410	16400	16400	NS

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0).
List any contaminant detected above the method detection limit.
MSCC = Maximum Soil Contamination Concentration
ft bgs = feet below ground surface
Results must be reported in mg/kg
mg/kg = milligrams per kilogram
NA = not applicable
NS = no standard

Table B-3
Building 820 UST
VOC and SVOC Confirmation Soil Sample Analytical Results

Date: 5/17/2005		Incident Number and Name: 112768 Building 820 UST																	
Analytical Method:		8270C																	
Sample ID	Date Collected	Contaminant of Concern	Sample Depth (ft bgs)	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	4-bromophenyl phenyl ether	Butyl benzyl phthalate	Benzyl alcohol	2-Chloronaphthalene	4-Chloroaniline	Carbazole	Chrysene	Bis(2-chloroethoxy)methyl ether	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl)ethyl ether
UST820-SB1	4/22/2005	8-10	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.41	<0.21	<0.21	<0.41	<0.21	<0.21	<0.21	<0.21	<0.21
UST820-SB2	4/22/2005	8-10	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.39	<0.19	<0.19	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19
UST820-SB3	4/22/2005	8-10	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.19	<0.19	<0.38	<0.19	<0.19	<0.19	<0.19	<0.19
UST820-SB4	4/22/2005	8-10	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.19	<0.19	<0.38	<0.19	<0.19	<0.19	<0.19	<0.19
UST820-SB5	4/22/2005	8-10	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2
UST820-SB6	4/22/2005	8-10	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.39	<0.19	<0.19	<0.77	<0.19	<0.19	<0.19	<0.19	<0.19
Soil to Groundwater MSCC (mg/kg)			895	0.34	0.091	1	8720	12	NS	NS	NS	NS	NS	NS	NS	36	NS	0.0002	NS
Residential MSCC (mg/kg)			4600	0.88	0.048	0.88	469	0	NS	NS	NS	NS	NS	NS	NS	85	NS	0.58	NS
Industrial/Commercial MSCC (mg/kg)			122000	8	0.78	8	12284	78	NS	NS	NS	NS	NS	NS	NS	780	NS	5.2	NS

Date: 5/17/2005		Incident Number and Name: 112768 Building 820 UST																	
Analytical Method:			8270C																
Sample ID	Date Collected	Sample Depth (ft bgs)	Contaminant of Concern	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	2-Methylnaphthalene	2-Nitroaniline	3-Nitroaniline	4-Nitroaniline	Naphthalene	Nitrobenzene	N-Nitroso-di-n-propylamine	N-Nitrosodiphenylamine	Phenanthrene	Pyrene	1,2,4-Trichlorobenzene
UST820-SB1	4/22/2005	8-10		<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.41	<0.41	<0.41	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
UST820-SB2	4/22/2005	8-10		<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.39	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
UST820-SB3	4/22/2005	8-10		<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.38	<0.38	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
UST820-SB4	4/22/2005	8-10		<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.38	<0.38	<0.38	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
UST820-SB5	4/22/2005	8-10		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.4	<0.4	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
UST820-SB6	4/22/2005	8-10		<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.39	<0.39	<0.39	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Soil to Groundwater MSCC (mg/kg)			0.28	NS	NS	3	NS	3	NS	NS	NS	NS	0.58	NS	NS	NS	90	206	2.6
Residential MSCC (mg/kg)			3.1	NS	NS	0.88	NS	NS	63	NS	NS	NS	63	NS	NS	NS	469	469	156
Industrial/Commercial MSCC (mg/kg)			73	NS	NS	8	NS	NS	1835	NS	NS	NS	1835	NS	NS	NS	12264	12264	4088

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)
LUL any contaminant detected above this method detection limit
MSCC = Maximum Soil Contamination Concentration
ft bgs = feet below ground surface
Results must be reported in mg/kg
mg/kg = milligrams per kilogram
NS = not applicable
NS = no standard

APPENDIX B

WELL CONSTRUCTION RECORDS AND BORING LOGS FOR DECEMBER 2005 & JANUARY 2006 CATLIN ACTIVITIES

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WO PERMIT # N/A
(if applicable) (if applicable)

UST820-MW30

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____
2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Camp Lejeune County: Onslow
(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)
3. OWNER: Commanding General MCB
Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)
Camp Lejeune NC 28542-0004
City or Town State Zip Code
Area code - Phone number
4. DATE DRILLED: 11/30/2005
5. TOTAL DEPTH: 50
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing 7.11 FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS 0 FT. Above Land Surface*
* Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C.0118
9. YIELD (gpm): N/A METHOD OF TEST N/A
10. WATER ZONES (depth): Surficial Aquifer
12. DISINFECTION: Type N/A Amount N/A
13. CASING:

Depth	Diameter	Wall Thickness or Weight/Ft.	Material
From <u>0</u> To <u>45</u> ft.	<u>2</u> in.	<u>Sch. 40</u>	<u>PVC</u>
From <u>0</u> To <u>40</u> ft.	<u>6</u> in.	<u>Sch. 40</u>	<u>PVC</u>
From _____ To _____ ft.	_____ in.	_____	_____

14. GROUT:

Depth	Material	Method
From <u>0</u> To <u>39</u> ft.	<u>Portland Cement</u>	<u>Tremie</u>
From <u>39</u> To <u>43</u> ft.	<u>Bent. Pellets</u>	<u>Surface Pour</u>

15. SCREEN:

Depth	Diameter	Slot Size	Material
From <u>45</u> To <u>50</u> ft.	<u>2</u> in.	<u>Slot .010</u> in.	<u>PVC</u>
From _____ To _____ ft.	_____ in.	_____ in.	_____

16. SAND/GRAVEL PACK:

Depth	Size	Material
From <u>43</u> To <u>50</u> ft.	<u>#2 Medium</u>	<u>Torpedo Sand</u>
From _____ To _____ ft.	_____	_____

17. REMARKS: in light-brown SAND

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)
Northing/Easting of well location
350153.641/2494822.938

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)
DEPTH DRILLING LOG
From To Formation Description

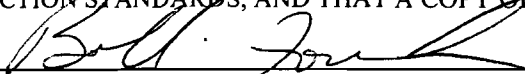
SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least two State Roads or County Roads. Include road numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.



SIGNATURE OF PERSON CONSTRUCTING THE WELL

12-27-05
DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS

205-043
Wilmington, North Carolina

SHEET 1 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW30	
	DRILLER: Bobbie Fowler		
NORTHING: 350153.6	EASTING: 2494822.9	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Next to library book return box	T.O.C. ELEV.: 30.39	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/08/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in								
0.0									0.0	LAND SURFACE	30.4	0.0
									0.3	TOPSOIL	30.1	0.0
	3	4	4	4	0		SM			Dark brown to tan, silty, f. to vf. SAND. Moist. No HCO.		
									2.0		28.4	
3.0									3.0		27.4	
	2	4	8	11	0		SP			Tan, vf. SAND. Moist. No HCO.		
									5.0		25.4	
8.0									8.0		22.4	
	2	3	4	4	0		SM			Tan, clayey to silty, f. to vf. SAND. Dominantly sand. Saturated. No HCO.		
									10.0		20.4	
13.0									13.0		17.4	
	6	10	11	10	4.8		SP/SC			Tan to orange-tan, vf. SAND with trace interlayered sandy CLAY (up to 1" in thickness). Saturated. No HCO.		
									15.0		15.4	
18.0									18.0		12.4	
	2	5	8	6	28.4		SP			Light gray, vf. SAND. Trace very thinly interlayered clay. Saturated. No HCO.		
									20.0		10.4	



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST GDT 03/20/06

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 2 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW30	
NORTHING: 350153.6	EASTING: 2494822.9	DRILLER: Bobbie Fowler	
		CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Next to library book return box	T.O.C. ELEV.: 30.39	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/08/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in								
23.0									23.0		7.4	2" Sch. 40 PVC 6" Sch. 40 PVC
	4	4	4	4	0.7		SP/SC		25.0	Light gray, f. to vf. SAND with interlayered light gray CLAY. Clay-rich layering up to 4" in thickness. Saturated. No HCO.	5.4	
									28.0		2.4	
28.0							SP/SC		29.0	Same as above.	1.4	
	3	5	8	6	0		SP		30.0	Orange-brown, f. to vf. SAND. Trace interlayered clay layers from 0.5" to 2" thick. Saturated. No HCO.	0.4	
									33.0		-2.6	
33.0							SP/SC		35.0	Same as above. Orange-brown, f. to vf. SAND. Trace interlayered clays (up to 2" in thickness). Saturated. No HCO. Dominantly sand.	-4.6	
									38.0		-7.6	
38.0							SP		40.0	Orange-brown, f. to vf. SAND. No clay. Saturated. No HCO.	-9.6	

Portland Cement
 Bentonite Pellets
 #2 Medium Sand

CATLIN BORING LOG, 205-043, LEJEUNE BUILDING 820, GPJ, TEST, GDT, 03/20/06

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS

205-043
Wilmington, North Carolina

SHEET 3 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820		LOGGED BY: Tom Stetler	WELL ID: UST820-MW30
		DRILLER: Bobbie Fowler	
NORTHING: 350153.6	EASTING: 2494822.9	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)		BORING LOCATION: Next to library book return box	T.O.C. ELEV.: 30.39
DRILL MACHINE: Diedrich D-50		METHOD:	BORING DEPTH: 50.0
START DATE: 11/08/05		FINISH DATE: 11/30/05	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	U S C S	L O G	SOIL AND ROCK DESCRIPTION		ELEVATION	WELL DETAIL	
	6in	6in	6in	6in					DEPTH				
43.0									43.0		-12.6		41.5
	1	1	1	1	0		SP		Orange-brown, m. to vf. SAND. Trace silt. Moderate sorting. Saturated. No HCO.		-14.6		45.0
48.0									48.0		-17.6		
	5	7	10	14	0		SP		Light brown, f. to vf. SAND. Moderate sorting. Saturated. No HCO.		-19.6		50.0
									50.0		-19.6		50.0
Boring Terminated at Elevation -19.6 ft in light-brown SAND													

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WO PERMIT # N/A
(if applicable) (if applicable)

UST820-MW31

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____
2. WELL LOCATION: (Show sketch of the location below)
Nearest Town: Camp Lejeune County: Onslow
(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)
3. OWNER: Commanding General MCB
Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)
Camp Lejeune NC 28542-0004
City or Town State Zip Code
Area code - Phone number _____
4. DATE DRILLED: 11/30/2005
5. TOTAL DEPTH: 50
6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒
7. STATIC WATER LEVEL Below Top of Casing 9.47 FT.
(Use "+" if Above Top of Casing)
8. TOP OF CASING IS 0 FT. Above Land Surface*
* Top of casing terminated at/or below land surface requires a variance in accordance with 15A NCAC 2C.0118
9. YIELD (gpm): N/A METHOD OF TEST N/A
10. WATER ZONES (depth): Surficial Aquifer
12. DISINFECTION: Type N/A Amount N/A
13. CASING: Depth Diameter Wall Thickness or Weight/Ft. Material
From 0 To 45 ft. 2 in. Sch. 40 PVC
From 0 To 40 ft. 6 in. Sch. 40 PVC
From _____ To _____ ft. _____ in. _____
14. GROUT: Depth Material Method
From 0 To 39 ft. Portland Cement Tremie
From 39 To 43 ft. Bent. Pellets Surface Pour
15. SCREEN: Depth Diameter Slot Size Material
From 45 To 50 ft. 2 in. Slot .010 in. PVC
From _____ To _____ ft. _____ in. _____
16. SAND/GRAVEL PACK: Depth Size Material
From 43 To 50 ft. #2 Medium Torpedo Sand
From _____ To _____ ft. _____
17. REMARKS: in SAND

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)
Northing/Easting of well location
350154.717/2494610.498

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)
DEPTH DRILLING LOG
From To Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least two State Roads or County Roads. Include road numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Bobbie Fowler

SIGNATURE OF PERSON CONSTRUCTING THE WELL

12-27-05

DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC 27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 1 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW31	
	DRILLER: Bobbie Fowler		
NORTHING: 350154.7	EASTING: 2494610.5	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Near parking entrance at woodline	T.O.C. ELEV.: 30.16	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/08/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
6in	6in	6in	6in									
0.0									0.0	LAND SURFACE	30.2	0.0
									0.4	TOPSOIL	29.8	0.0
2.0	2	3	4	4	0		SM		2.0	Gray to light brown, silty, vf. SAND. Trace organic material (roots). Moist. No HCO.	28.2	
4.0	2	3	4	4	0.9		SP/SM		4.0	Tan, vf. SAND. Trace silt along isolated layering up to 2" in thickness. Moist. No HCO.	26.2	
6.0	3	7	10	13	3.1		SP					
8.0	5	7	9	7	7.4				8.5	Tan to grayish-tan, vf. SAND. Moist to wet. No HCO.	21.7	
10.0	1	2	3	3	0.5		CH		10.5	Light gray to tan, fat CLAY. Trace vf. SAND. No HCO.	19.7	
12.0	2	2	5	8	1.8							
14.0	3	6	4	6	4.6		SP			Light gray, f. to vf. SAND with trace interlayered sandy CLAY. Saturated. No HCO.		
16.0	2	2	5	6	4.3				16.0		14.2	
18.0	3	5	9	10	5.6		SP			Light orange-tan vf. SAND. Trace interlayered clay layers from 0.5"-2" in thickness. Saturated. No HCO.		
	4	6	11	10	12.1							

Portland Cement
 Bentonite Pellets
 #2 Medium Sand

CATLIN BORING LOG 205-043 LEJUNE BUILDING 820.GPJ TEST.GDT 03/20/06

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 2 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW31	
	DRILLER: Bobbie Fowler		
NORTHING: 350154.7	EASTING: 2494610.5	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Near parking entrance at woodline	T.O.C. ELEV.: 30.16	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/08/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	LOG	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in						
20.0	11	7	11	10	9.9		SP	Light orange-tan vf. SAND. Trace interlayered clay layers from 0.5"-2" in thickness. Saturated. No HCO.	21.5	8.7
22.0	3	3	5	7	4.1		SP/SC	Gray, interlayered vf. SAND and sandy CLAY. Clay-rich layering up to 2" in thickness. Saturated. No HCO.	26.0	4.2
24.0	2	2	6	5	7.4		CH	Gray, fat CLAY. High plasticity. Saturated. No HCO.	27.0	3.2
26.0	1	3	6	10	2.1		SP/SC	Gray, interlayered vf. SAND and sandy CLAY. Same as 21.5 to 26' BLS. Saturated. No HCO. Very dark gray in color at 28' BLS.	28.0	2.2
28.0	4	7	10	11	5.9		SM	Dark gray, silty, f. to vf. SAND. Slight odor (not HCO). Saturated.	32.0	-1.8
30.0	3	5	9	13	2.8					
32.0	1	3	5	8	1.7					
34.0	2	4	8	10	1.3					
36.0	2	3	5	7	0.9		SP	Dark gray, f. to vf. SAND. Trace silt. No HCO. Trace bluish quartz grains between 40 and 42' BLS. Saturated.		
38.0	4	6	10	13	2.4					
40.0	3	2	2	3	0.3					

Portland Cement
 Bentonite Pellets
 #2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST GDT 03/20/06

WELL LOG

CATLIN

ENGINEERS and SCIENTISTS

205-043
Wilmington, North Carolina

SHEET 3 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW31	
	DRILLER: Bobbie Fowler		
NORTHING: 350154.7	EASTING: 2494610.5	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Near parking entrance at woodline	T.O.C. ELEV.: 30.16	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/08/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	U S C S	L O G	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
6in	6in	6in	6in									
42.0							SP		42.0		-11.8	
	1	2	4	6	0.6		SC		43.5	Dark greenish-gray, clayey to silty, f. to vf. SAND. Moderately stiff. Saturated. No HCO.	-13.3	43.0
44.0												
	2	3	5	13	3.7		SP			Gray, f. to vf. SAND. Well sorted. Saturated. No HCO.		45.0
46.0												
	3	5	9	11	3.2							
48.0							SP		48.0		-17.8	
	4	7	10	10	3.5					Orange to tan, f. to vf. SAND. Well sorted. Saturated. No HCO.		
									50.0		-19.8	50.0
										Boring Terminated at Elevation -19.8 ft in SAND		



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST.GDT 03/20/06

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WO PERMIT # N/A
(if applicable) (if applicable)

UST820-MW32

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____

2. WELL LOCATION: (Show sketch of the location below)

Nearest Town: Camp Lejeune County: Onslow

(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)

3. OWNER: Commanding General MCB

Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)

Camp Lejeune NC 28542-0004
City or Town State Zip Code

Area code - Phone number

4. DATE DRILLED: 11/30/2005

5. TOTAL DEPTH: 50

6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

7. STATIC WATER LEVEL Below Top of Casing 13.75 FT.
(Use "+" if Above Top of Casing)

8. TOP OF CASING IS 0 FT. Above Land Surface*

* Top of casing terminated at/or below land surface requires
a variance in accordance with 15A NCAC 2C.0118

9. YIELD (gpm): N/A METHOD OF TEST N/A

10. WATER ZONES (depth): Surficial Aquifer

12. DISINFECTION: Type N/A Amount N/A

13. CASING:

Depth	Diameter	Wall Thickness or Weight/Ft.	Material
From <u>0</u> To <u>45</u> ft.	<u>2</u> in.	<u>Sch. 40</u>	<u>PVC</u>
From <u>0</u> To <u>40</u> ft.	<u>6</u> in.	<u>Sch. 40</u>	<u>PVC</u>
From _____ To _____ ft.	_____ in.	_____	_____

14. GROUT: Depth Material Method
From 0 To 39 ft. Portland Cement Tremie
From 39 To 43 ft. Bent. Pellets Surface Pour

15. SCREEN:

Depth	Diameter	Slot Size	Material
From <u>45</u> To <u>50</u> ft.	<u>2</u> in.	<u>Slot .010 in.</u>	<u>PVC</u>
From _____ To _____ ft.	_____ in.	_____ in.	_____

16. SAND/GRAVEL PACK:

Depth	Size	Material
From <u>43</u> To <u>50</u> ft.	<u>#2 Medium</u>	<u>Torpedo Sand</u>
From _____ To _____ ft.	_____	_____

17. REMARKS: in vf. SAND

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location
350082.028/2494408.845

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least
two State Roads or County Roads. Include road
numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL
CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF PERSON CONSTRUCTING THE WELL

DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC
27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS

205-043
Wilmington, North Carolina

SHEET 1 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW32	
	DRILLER: Bobbie Fowler		
NORTHING: 350082.0	EASTING: 2494408.8	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Corner of parking area	T.O.C. ELEV.: 29.57	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/07/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
6in	6in	6in	6in									
0.0									0.0	LAND SURFACE	29.6	0.0
									0.5	TOPSOIL	29.1	
	D	P	D	P	1.4		SM		2.0	Dark brown to brown, silty, vf. SAND. Moist. No HCO.	27.6	
3.0									3.0		26.6	
	6	8	12	15	10.4		SP/SM		5.0	Tan, vf. SAND. Trace silty. Wet. No HCO.	24.6	
8.0									8.0		21.6	
	0	1	0	1	12.4		CH		9.5	Dark gray, fat CLAY. Saturated. Very soft. High plasticity. No HCO.	20.1	
							SC		10.0	Dark gray, f. to vf. sandy CLAY. Saturated. Very soft. No HCO.	19.6	
13.0									13.0		16.6	
	2	2	2	4	5.3		SC		15.0	Gray, interlayered clayey vf. SAND and sandy CLAY. Soft. Saturated. No HCO.	14.6	
18.0									18.0		11.6	
	3	5	8	4	9.6		SP/SC		20.0	Gray, vf. SAND and thinly interlayered vf. sandy CLAY (high plasticity). Clay layering up to 3" in thickness, but more commonly 1.0" in thickness. Saturated. No HCO.	9.6	



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG - 205-043 LEJEUNE BUILDING 820.GPJ TEST GDT 03/20/06

WELL LOG

CATLIN

ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 2 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820		LOGGED BY: Tom Stetler	WELL ID: UST820-MW32
		DRILLER: Bobbie Fowler	
NORTHING: 350082.0	EASTING: 2494408.8	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Corner of parking area		T.O.C. ELEV.: 29.57
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/07/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	SOIL AND ROCK DESCRIPTION		ELEVATION	WELL DETAIL	
	6in	6in	6in	6in									
23.0											6.6	2" Sch. 40 PVC	6" Sch. 40 PVC
	4	2	2	5	0		SP/SC		Same as above. Clay-rich layering up to 6" in thickness. Saturated. No HCO.		4.6		
											1.6		
28.0											28.0		
	4	4	5	6	0.9		SC/SM		Dark gray, silty, f. to vf. SAND. Trace interlayered gray CLAY. Saturated. No HCO.		-0.4		
											33.0		
33.0											-3.4		
	6	9	10	14	2.9		SM		Dark gray, silty, f. to vf. SAND. Saturated. No HCO.		-5.4		
											38.0		
38.0											-8.4		
	3	3	3	5	0		SM		Same as above. Dark gray, silty, f. to vf. SAND. Saturated. Slight odor (Not HCO).		-10.4		
											40.0		



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST GDT 03/20/06

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS

205-043
Wilmington, North Carolina

SHEET 3 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW32	
	DRILLER: Bobbie Fowler		
NORTHING: 350082.0	EASTING: 2494408.8	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Corner of parking area	T.O.C. ELEV.: 29.57	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/07/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	U S C S	L O G	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
6in	6in	6in	6in								
43.0										-13.4	43.0
4	8	13	14	2.7		SP			Gray, vf. SAND. Well sorted. Saturated. No HCO.	-15.4	45.0
48.0										-18.4	
6	11	19	19	4.6		SP			Same as above. Gray, vf. SAND. Well sorted. Saturated. No HCO.	-20.4	50.0
									Boring Terminated at Elevation -20.4 ft in vf. SAND		

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST.GDT 03/20/06

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WO PERMIT # N/A
(if applicable) (if applicable)

UST820-MW33

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____

2. WELL LOCATION: (Show sketch of the location below)

Nearest Town: Camp Lejeune County: Onslow

(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)

3. OWNER: Commanding General MCB

Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)

Camp Lejeune NC 28542-0004
City or Town State Zip Code

Area code - Phone number

4. DATE DRILLED: 11/30/2005

5. TOTAL DEPTH: 50

6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

7. STATIC WATER LEVEL Below Top of Casing 13.59 FT.
(Use "+" if Above Top of Casing)

8. TOP OF CASING IS 2.5 FT. Above Land Surface*

* Top of casing terminated at/or below land surface requires
a variance in accordance with 15A NCAC 2C.0118

9. YIELD (gpm): N/A METHOD OF TEST N/A

10. WATER ZONES (depth): Surficial Aquifer

12. DISINFECTION: Type N/A Amount N/A

13. CASING:

Depth	Diameter	Wall Thickness or Weight/Ft.	Material
From <u>0</u> To <u>45</u> ft.	<u>2</u> in.	<u>Sch. 40</u>	<u>PVC</u>
From <u>0</u> To <u>40</u> ft.	<u>6</u> in.	<u>Sch. 40</u>	<u>PVC</u>
From _____ To _____ ft.	_____ in.	_____	_____

14. GROUT: Depth Material Method
From 0 To 39 ft. Portland Cement Tremie
From 39 To 43 ft. Bent. Pellets Surface Pour

15. SCREEN:

Depth	Diameter	Slot Size	Material
From <u>45</u> To <u>50</u> ft.	<u>2</u> in.	<u>Slot .010 in.</u>	<u>PVC</u>
From _____ To _____ ft.	_____ in.	_____ in.	_____

16. SAND/GRAVEL PACK:

Depth	Size	Material
From <u>43</u> To <u>50</u> ft.	<u>#2 Medium</u>	<u>Torpedo Sand</u>
From _____ To _____ ft.	_____	_____

17. REMARKS: in gray vf. SAND

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location

349905.246/2494249.213

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least
two State Roads or County Roads. Include road
numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL
CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

Bobbie Fowler
SIGNATURE OF PERSON CONSTRUCTING THE WELL

12-27-05
DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC
27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

WELL LOG

CATLIN

ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 1 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW33	
	DRILLER: Bobbie Fowler		
NORTHING: 349905.2	EASTING: 2494249.2	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: In woods off back of building	T.O.C. ELEV.: 31.65	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/10/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in							
0.0									LAND SURFACE	29.2	2.5
											0.0
0.0	5	8	8	3	4.2		SM		Organic-rich, dark brown, silty, vf. SAND. Moist. No HCO.	27.7	
2.0										1.5	
	4	4	5	6	3.0						
4.0							SP/SM		Light brown to tan, silty, f. to vf. SAND. Moist. Saturated at 4' BLS. No HCO.		
	4	2	2	2	2.3						
6.0											
	2	4	0	1	1.5						
8.0										8.0	
	0	1	0	1	12.7		CH		Gray, fat CLAY. Very soft. High plasticity. Trace vf. sand. Wet. No HCO.	21.2	
10.0										10.5	
	1	2	3	4	41.8						
12.0											
	1	3	4	4	30.8						
14.0							SP/SC		Gray, interlayered vf. SAND and gray sandy CLAY. Clay-rich layering ranging from 0.5"- 3" in thickness. Saturated. No HCO. Dominantly sand.		
	2	5	8	6	9.4						
16.0											
	3	6	6	5	4.6						
18.0											
	4	4	5	4	4.5						



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST GDT 03/20/06

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 2 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW33	
	DRILLER: Bobbie Fowler		
NORTHING: 349905.2	EASTING: 2494249.2	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: In woods off back of building	T.O.C. ELEV.: 31.65	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/10/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in								
20.0												
	5	3	5	4	7.9		SP/SC			Gray, interlayered vf. SAND and gray sandy CLAY. Clay-rich layering ranging from 0.5"- 3" in thickness. Saturated. No HCO. Dominantly sand.	6.7	2" Sch. 40 PVC
22.0									22.5			6" Sch. 40 PVC
	4	6	6	8	0		SP/SM			Dark gray to very dark gray, silty, vf. SAND. Wet to saturated. Slight odor (not HCO).		
24.0												
	5	6	8	9	3.4				26.0		3.2	
26.0												
	5	7	5	6	3.1							
28.0												
	2	3	3	4	0.5							
30.0												
	1	2	4	4	0							
32.0							SP			Dark gray, f. to vf. SAND. Trace silt (silt content increasing with depth). Trace bluish quartz grains between 36' and 38' BLS. Saturated. No HCO.		
	1	3	3	4	0.6							
34.0												
	1	1	2	2	0							
36.0												
	2	3	4	4	0.2							
38.0												
	1	2	1	2	0				39.0		-9.9	39.0
40.0							SC			Light gray, clayey f. to vf. SAND with highly weathered limestone fragments (up to 1" in diameter). Saturated. No HCO. Trace white shell fragments.		40.0
	4	2	5	7	0				41.0		-11.9	

Portland Cement
 Bentonite Pellets
 #2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST GDT 03/20/06

WELL LOG

CATLIN

ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 3 OF 3

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW33	
	DRILLER: Bobbie Fowler		
NORTHING: 349905.2	EASTING: 2494249.2	CREW: John Wood	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: In woods off back of building	T.O.C. ELEV.: 31.65	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 50.0
START DATE: 11/10/05	FINISH DATE: 11/30/05	24 HOUR DTW:	WELL DEPTH: 50.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in								
42.0												
	2	3	7	9	0							43.0
44.0												
	4	6	8	10	0.2							45.0
46.0												
	3	4	5	7	0.3							
48.0												
	5	7	9	10	5.8							
									50.0		-20.9	50.0
										Boring Terminated at Elevation -20.9 ft in gray vf. SAND		50.0

SP

Greenish-gray, vf. SAND. Saturated. No HCO.

2" Slot .010 Sch. 40 PVC



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST.GDT 03/20/06

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources - Division of Water Quality - Groundwater Section

WELL CONTRACTOR (INDIVIDUAL) NAME (print) Bobbie Fowler CERTIFICATION # 2869
WELL CONTRACTOR COMPANY NAME CATLIN Engineers & Scientists PHONE # (910) 452-5861
STATE WELL CONSTRUCTION PERMIT # _____ ASSOCIATED WO PERMIT # N/A
(if applicable) (if applicable)

UST820- MW34

1. WELL USE (Check Applicable Box): Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
Monitoring ☒ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use _____

2. WELL LOCATION: (Show sketch of the location below)

Nearest Town: Camp Lejeune County: Onslow

(Road Name and Numbers, Community, Subdivision, Lot No., Zip Code)

3. OWNER: Commanding General MCB

Address: Attn: I&E/ EMD/ EQB/ PSC Box 20004
(Street or Route No.)

Camp Lejeune NC 28542-0004
City or Town State Zip Code

Area code - Phone number

4. DATE DRILLED: 1/9/2006

5. TOTAL DEPTH: 100

6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒

7. STATIC WATER LEVEL Below Top of Casing 15.32 FT.
(Use "+" if Above Top of Casing)

8. TOP OF CASING IS 0 FT. Above Land Surface*

* Top of casing terminated at/or below land surface requires
a variance in accordance with 15A NCAC 2C.0118

9. YIELD (gpm): N/A METHOD OF TEST N/A

10. WATER ZONES (depth): Surficial Aquifer

12. DISINFECTION: Type N/A Amount N/A

13. CASING:

Depth	Diameter	Wall Thickness or Weight/Ft.	Material
From <u>0</u> To <u>95</u> ft.	<u>2</u> in.	<u>Sch. 40</u>	<u>PVC</u>
From <u>0</u> To <u>90</u> ft.	<u>6</u> in.	<u>Sch. 40</u>	<u>PVC</u>
From _____ To _____ ft.	_____ in.	_____	_____

14. GROUT: Depth Material Method

From <u>0</u> To <u>89</u> ft.	<u>Portland Cement</u>	<u>Tremie</u>
From <u>89</u> To <u>93</u> ft.	<u>Bent. Pellets</u>	<u>Surface Pour</u>

15. SCREEN:

Depth	Diameter	Slot Size	Material
From <u>95</u> To <u>100</u> ft.	<u>2</u> in.	<u>Slot .010 in.</u>	<u>PVC</u>
From _____ To _____ ft.	_____ in.	_____ in.	_____

16. SAND/GRAVEL PACK:

Depth	Size	Material
From <u>93</u> To <u>100</u> ft.	<u>#2 Medium</u>	<u>Torpedo Sand</u>
From _____ To _____ ft.	_____	_____

17. REMARKS: _____

Topographic/Land Setting
☐ Ridge ☐ Slope ☐ Valley ☒ Flat
(check appropriate box)

Northing/Easting of well location

349942.1/2494465.22

NCSP NAD 83 (USft)

Latitude/longitude source: ☒ GPS ☐ Topo. map
(check box)

DEPTH
From To

DRILLING LOG
Formation Description

SEE
ATTACHED

LOCATION SKETCH

Show direction and distance in miles from at least
two State Roads or County Roads. Include road
numbers and common road names.

SEE
ATTACHED

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL
CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF PERSON CONSTRUCTING THE WELL

DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center - Raleigh, NC
27699-1636 Phone No. (919) 733-3221, within 30 days.

Modified from:
GW-1 REV.07/2001

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS

205-043
Wilmington, North Carolina

SHEET 1 OF 4

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW34	
	DRILLER: Bobbie Fowler		
NORTHING: 349942.1	EASTING: 2494465.2	CREW: Sam Chance	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Grass near picnic tables	T.O.C. ELEV.: 27.77	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 100.0
START DATE: 01/05/06	FINISH DATE: 01/09/06	24 HOUR DTW:	WELL DEPTH: 100.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in								
0.0									0.0	LAND SURFACE	27.8	0.0
2.0	HP	HP	HP	HP	0		SM		2.0	Dark grayish-brown, organic-rich, silty, vf. SAND. Moist. No odor. Organic debris and roots at top of spoon.	25.8	
4.0	2	3	4	5	0.2		SM		4.0	Grayish-tan, silty vf. SAND. Moist to wet. No HCO.	23.8	
6.0	5	7	10	10	11.2		SP			Light gray, vf. SAND. Trace orange staining. Wet. No HCO.		
8.0	6	4	1	1	21.6				7.0		20.8	
10.0	1	1	1	3	38.3		CH		9.0	Gray, highly plastic, fat CLAY. Very soft. No HCO.	18.8	
12.0	2	5	7	8	4.4		SC		11.0	Gray, vf., sandy, highly plastic CLAY. In gradational contact with above. Soft. Sat. No HCO.	16.8	
14.0	2	4	4	4	7.3		SM		12.0	Dark brownish-gray, silty, vf. SAND. Sat. No HCO.	15.8	
16.0	3	5	6	7	8.6		SC/SM		14.0	Same as above, interlayered with gray, silty, vf. SAND and gray CLAY. Clay layering up to 1" in thickness. Slight organic odor. Sat.	13.8	
18.0	8	9	7	9	0		SP/SC		16.0	Interlayered, gray, silty, vf. SAND and gray CLAY. Clay layering up to 1" in thickness. This interval is largely SAND. Sat. No HCO.	11.8	
20.0	2	4	7	10	5.8		SP		18.0	Gray, vf. SAND. Trace interlayered clay-rich horizons up to 0.5-inches in thickness. Sat. No HCO.	9.8	
22.0	3	5	5	6	6.1							
24.0	2	3	3	5	4.6		SP/SC			Gray, vf. SAND with few interlayered clay horizons, up to 1-inch in thickness. Sat. No HCO.		
	1	2	3	4	0.6				25.0		2.8	
							CH			Gray, highly plastic, fat CLAY. Soft. No HCO. Sat.		



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG - 205-043 LEJEUNE BUILDING 820.GPJ TEST.GDT 03/20/06

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 2 OF 4

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW34	
	DRILLER: Bobbie Fowler		
NORTHING: 349942.1	EASTING: 2494465.2	CREW: Sam Chance	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Grass near picnic tables	T.O.C. ELEV.: 27.77	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 100.0
START DATE: 01/05/06	FINISH DATE: 01/09/06	24 HOUR DTW:	WELL DEPTH: 100.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in								
26.0									26.5		1.3	
	4	6	6	8	1.5		SP/SC			Interlayered, tan to dark gray, vf. SAND and sandy CLAY. Slight organic odor. Clay layering up to 0.5-inches in thickness. Majority sand.	-0.2	
28.0									28.0			
	4	6	7	11	7.5		SP			Light brown, f. to vf. SAND. Slight organic odor. Sat.		
30.0									31.5		-3.7	
	4	6	8	10	1.3							
32.0												
	3	3	5	7	0.3		SM			Same as above, but dark gray in color with trace silt. Dark gray, silty, vf. SAND. Slight organic odor. Sat.		
34.0												
	2	3	7	9	0							
36.0												
	4	4	6	7	0.6							
38.0												
	3	3	3	5	0							
40.0									40.0		-12.2	
	0	0	1	1	0		SC		41.5	Dark greenish-gray, moderate to high plasticity, clayey to silty, vf. SAND to sandy CLAY. Same as above, but high percentage of fines. Soft. Sat. No odor.	-13.7	
42.0												
	2	3	3	4	14.4		SP			Brown, vf. SAND. Trace silt. Trace orange, iron-oxide stained banding. Sat. No odor.		
44.0									44.0		-16.2	
	2	3	7	8	17.1							
46.0												
	2	5	8	10	9.3							
48.0												
	4	4	7	8	8.8		SP			Gray, clayey to silty, vf. SAND. Sat. No odor.		
50.0												
	4	8	10	14	12.0							
52.0												
	4	7	14	14	13.4							

 Portland Cement
  Bentonite Pellets
  #2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST GDT 03/20/06

2" Sch. 40 PVC

6" Sch. 40 PVC

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 3 OF 4

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW34	
	DRILLER: Bobbie Fowler		
NORTHING: 349942.1	EASTING: 2494465.2	CREW: Sam Chance	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Grass near picnic tables	T.O.C. ELEV.: 27.77	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 100.0
START DATE: 01/05/06	FINISH DATE: 01/09/06	24 HOUR DTW:	WELL DEPTH: 100.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	U S C S	L O G	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
6in	6in	6in	6in								
54.0											
4	11	23	32		34.7						
56.0									Gray, clayey to silty, vf. SAND. Sat. No odor.		
7	20	33	38		81.9		SP				
58.0											
14	21	22	21		32.4						
60.0										60.0	-32.2
6	4	7	8		10.3		SP/ SM		Same as above, but slight increase in fines with depth. Dark gray (to greenish-gray) vf. SAND. Trace silt. Sat. No HCO, but slight organic odor.		
62.0										62.0	-34.2
6	3	3	4		3.9		SM		Dark gray-green, silty, vf. SAND. Sat. No HCO. In gradational contact with above.		
64.0										64.0	-36.2
3	10	20	24		4.6						
66.0											
4	10	17	22		8.0						
68.0											
13	29	32	31		32.5						
70.0											
12	18	28	30		17.3						
72.0									Dark gray, vf. SAND. Trace silt. Sat. No HCO.		
8	16	32	33		18.7		SP				
74.0											
9	14	16	24		4.8						
76.0											
12	18	20	23		13.1						
78.0											
12	18	23	27		7.8						
80.0										80.0	-52.2
8	9	15	18		5.6		SP/ SM		Dark gray to green-gray, vf. SAND with trace silt. Sat. No HCO.		

 Portland Cement
  Bentonite Pellets
  #2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820.GPJ TEST.GDT 03/20/06

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
205-043
Wilmington, North Carolina

SHEET 4 OF 4

PROJECT NO.: 205-043	STATE: NC	COUNTY: Onslow	LOCATION: Camp Lejeune
PROJECT NAME: Building 820	LOGGED BY: Tom Stetler	WELL ID: UST820-MW34	
	DRILLER: Bobbie Fowler		
NORTHING: 349942.1	EASTING: 2494465.2	CREW: Sam Chance	
SYSTEM: NCSP NAD 83 (USft)	BORING LOCATION: Grass near picnic tables	T.O.C. ELEV.: 27.77	
DRILL MACHINE: Diedrich D-50	METHOD:	0 HOUR DTW:	BORING DEPTH: 100.0
START DATE: 01/05/06	FINISH DATE: 01/09/06	24 HOUR DTW:	WELL DEPTH: 100.0

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	SOIL AND ROCK DESCRIPTION	ELEVATION	WELL DETAIL
	6in	6in	6in	6in							
82.0									Dark gray to green-gray, vf. SAND with trace silt. Sat. No HCO.		
	4	9	12	17	2.8		SP/SM			84.0 -56.2	
84.0							SC		Same as above, but high silt-clay content. Dark greenish-gray, silty to clayey, vf. SAND.	85.0 -57.2	
86.0											
	11	18	16	23	0.5		GW		Light gray, very poorly sorted, calcareous SAND and GRAVEL (weathered limestone). Poorly indurated. Saturated. Few shell fragments.		
88.0											
	7	12	8	27	1.2					90.0 -62.2	
90.0							GW/GC		Same as above, but higher clay component. Light gray, clayey, calcareous SAND w/ few gravels and shell fragments. Sat. No HCO.	92.0 -64.2	
92.0											
	18	25	10	18	2.9		GW		Light gray to white, very poorly sorted, calcareous SAND and GRAVEL. Trace shell fragments. Poorly indurated. Highly weathered limestone. Clasts upto 0.25-inches in diameter. Sat. No HCO.		
94.0											
	5	13	10	14	2.2					96.0 -68.2	
96.0											
	7	4	8	29	3.4		GW/GC		Light brown, clayey, calcareous, cse. to vf. SAND. Trace gravel-sized clasts. Higher component of fines than above. Saturated. No HCO.		
98.0											
	8	7	9	22	1.3					100.0 -72.2	
									Boring Terminated at Elevation -72.2 ft in clayey, calcareous SAND		



Portland Cement



Bentonite Pellets



#2 Medium Sand

CATLIN BORING LOG 205-043 LEJEUNE BUILDING 820 G.P.L. TEST G.D.T. 03/20/06

APPENDIX C

GROUNDWATER LABORATORY REPORTS FOR DECEMBER 2005 AND JANUARY 2006 CATLIN ACTIVITIES

Mr. Jeff Becken
Richard Catlin & Associates
P.O. Box 10280
Wilmington NC 28404-0280

Report Number: G128-1651

Client Project: 205-043

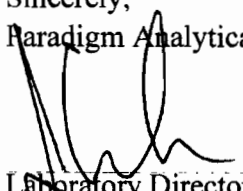
Dear Mr. Becken:

Enclosed are the results of the analytical services performed under the referenced project. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or the services performed during this project, please call Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using Paradigm Analytical Labs for your analytical services. We look forward to working with you again on any additional analytical needs which you may have.

Sincerely,
Paradigm Analytical Laboratories, Inc.


Laboratory Director
J. Patrick Weaver

12/19/05
Date

Results for Volatiles

by GC 602

Client Sample ID: 820MW33

Analyzed By: MJC

Client Project ID: 205-043

Date Collected: 12/8/05 15:54

Lab Sample ID: G128-1651-1A

Date Received: 12/9/05

Lab Project ID: G128-1651

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	12/13/05	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	12/13/05	
Ethylbenzene	BQL	1.00	0.299	1	12/13/05	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	12/13/05	
Toluene	BQL	1.00	0.302	1	12/13/05	
m/p-Xylene	4.21	2.00	0.608	1	12/13/05	
o-Xylene	BQL	2.00	0.596	1	12/13/05	

Surrogate Spike Recoveries**Spike
Added****Spike
Result****Percent
Recovery**

Trifluorotoluene

40

39.7

99.4

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Results for Volatiles

by GC 602

Client Sample ID: 820MW33D

Analyzed By: MJC

Client Project ID: 205-043

Date Collected: 12/8/05 15:54

Lab Sample ID: G128-1651-2A

Date Received: 12/9/05

Lab Project ID: G128-1651

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	12/13/05	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	12/13/05	
Ethylbenzene	BQL	1.00	0.299	1	12/13/05	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	12/13/05	
Toluene	BQL	1.00	0.302	1	12/13/05	
m/p-Xylene	3.91	2.00	0.608	1	12/13/05	
o-Xylene	BQL	2.00	0.596	1	12/13/05	

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	39.7	99.3

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Results for Volatiles

by GC 602

Client Sample ID: 820MW31

Analyzed By: MJC

Client Project ID: 205-043

Date Collected: 12/8/05 16:50

Lab Sample ID: G128-1651-3A

Date Received: 12/9/05

Lab Project ID: G128-1651

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	12/13/05	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	12/13/05	
Ethylbenzene	BQL	1.00	0.299	1	12/13/05	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	12/13/05	
Toluene	BQL	1.00	0.302	1	12/13/05	
m/p-Xylene	1.50	2.00	0.608	1	12/13/05	J
o-Xylene	BQL	2.00	0.596	1	12/13/05	

Surrogate Spike Recoveries

	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	39.5	98.8

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Reviewed By: 

GC_LIMS_v2.0.XLS

Results for Volatiles

by GC 602

Client Sample ID: 820MW30

Analyzed By: MJC

Client Project ID: 205-043

Date Collected: 12/8/05 16:30

Lab Sample ID: G128-1651-4A

Date Received: 12/9/05

Lab Project ID: G128-1651

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	12/14/05	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	12/14/05	
Ethylbenzene	BQL	1.00	0.299	1	12/14/05	
Methyl-tert butyl ether (MTBE)	1.03	2.00	0.588	1	12/14/05	J
Toluene	BQL	1.00	0.302	1	12/14/05	
m/p-Xylene	BQL	2.00	0.608	1	12/14/05	
o-Xylene	BQL	2.00	0.596	1	12/14/05	

Surrogate Spike Recoveries**Spike
Added****Spike
Result****Percent
Recovery**

Trifluorotoluene

40

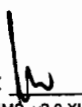
39.6

99.1

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Reviewed By: 

GC_LIMS_v2.0.XLS

Results for Volatiles

by GC 602

Client Sample ID: 820MW32

Analyzed By: MJC

Client Project ID: 205-043

Date Collected: 12/8/05 16:20

Lab Sample ID: G128-1651-5A

Date Received: 12/9/05

Lab Project ID: G128-1651

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	12/14/05	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	12/14/05	
Ethylbenzene	BQL	1.00	0.299	1	12/14/05	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	12/14/05	
Toluene	BQL	1.00	0.302	1	12/14/05	
m/p-Xylene	BQL	2.00	0.608	1	12/14/05	
o-Xylene	BQL	2.00	0.596	1	12/14/05	

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	39.7	99.3

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Reviewed By: 

GC_LIMS_v2.0.XLS

Results for Volatiles

by GC 602

Client Sample ID: Method Blank

Analyzed By: MJC

Client Project ID:

Date Collected:

Lab Sample ID: VBLK3121305B

Date Received:

Lab Project ID:

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	12/14/05	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	12/14/05	
Ethylbenzene	BQL	1.00	0.299	1	12/14/05	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	12/14/05	
Toluene	BQL	1.00	0.302	1	12/14/05	
m/p-Xylene	BQL	2.00	0.608	1	12/14/05	
o-Xylene	BQL	2.00	0.596	1	12/14/05	

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	39.7	99.3

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

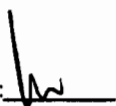
Control Limits for QC Check / Laboratory Control Spike

Method: 602 Spike[ppb]: 10
 Instrument : gc3
 Filename : 121305\028r0101.txt

Compound	ppb	Q(%)	QC Limits		P _s (%)	LCS Limits	
			Lower	Upper		Lower	Upper
Benzene	10.9	109.2	77.0	123.0	109	39	150
Chlorobenzene	10.6	106.9	80.5	119.5	106	55	135
1,2-Dichlorobenzene	10.4	103.9	88.0	132.0	104	37	164
1,3-Dichlorobenzene	10.3	103.5	72.5	127.5	103	50	141
1,4-Dichlorobenzene	10.5	104.6	69.5	130.5	105	42	143
• Diisopropyl ether	10.2	102.5	43.1	156.9	102	30	170
Ethylbenzene	11.0	110.2	63.0	137.0	110	32	180
• MTBE	10.8	105.8	46.8	153.2	106	35	185
Toluene	10.9	108.8	77.5	127.0	109	46	148
• m,p-Xylene	22.1	110.3	11.2	188.8	110	D	239
• o-Xylene	10.8	107.8	47.6	152.4	108	36	164

Flags :

- + = out of QC limits.
- = lab generated limits.
- D = Detected

Reviewed by: 

Control Limits for MS-MSD

Method: 602 Spike[ppb]: 10
 Instrument: gc3
 Sample: 121305\044r0101.txt
 MS: 121305\045r0101.txt
 MSD: 121305\046r0101.txt

Compound	µg/L			P(%)		P Limits	
	Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	ND	10.1	10.4	101	104	39	160
Chlorobenzene	ND	9.8	10.1	98	101	66	136
1,2-Dichlorobenzene	ND	9.7	10.0	97	100	37	164
1,3-Dichlorobenzene	ND	9.6	10.0	96	100	60	141
1,4-Dichlorobenzene	ND	9.1	9.6	91	96	42	143
• Diisopropyl ether	ND	9.6	10.0	96	100	30	170
Ethylbenzene	8.8	19.6	19.7	108	109	32	160
• MTBE	ND	9.8	10.1	98	101	36	166
Toluene	ND	10.0	10.3	100	103	48	148
• m,p-Xylene	66.4	85.9	85.0	97	93	D	239
• o-Xylene	ND	10.1	10.3	101	103	36	164

Flags:

+ = out of QC limits.
 • = lab generated limits.
 D = Detected
 ND = None Detected

Reviewed by: 

Results for Volatiles

by GC 602

Client Sample ID: Method Blank

Analyzed By: MJC

Client Project ID:

Date Collected:

Lab Sample ID: VBLK4121305A

Date Received:

Lab Project ID:

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	12/13/05	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	12/13/05	
Ethylbenzene	BQL	1.00	0.299	1	12/13/05	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	12/13/05	
Toluene	BQL	1.00	0.302	1	12/13/05	
m/p-Xylene	BQL	2.00	0.608	1	12/13/05	
o-Xylene	BQL	2.00	0.596	1	12/13/05	

Surrogate Spike Recoveries**Spike
Added****Spike
Result****Percent
Recovery**

Trifluorotoluene

40

39.9

99.6

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Control Limits for QC Check / Laboratory Control Spike

Method: 602 Spike[ppb]: 10
 Instrument : gc3
 Filename : 121305\005r0101.txt

Compound	ppb	Q(%)	QC Limits		P _s (%)	LCS Limits	
			Lower	Upper		Lower	Upper
Benzene	10.4	103.6	77.0	123.0	104	39	160
Chlorobenzene	9.9	99.3	80.6	119.6	99	66	136
1,2-Dichlorobenzene	9.9	99.3	68.0	132.0	99	37	164
1,3-Dichlorobenzene	9.7	96.6	72.6	127.6	97	60	141
1,4-Dichlorobenzene	9.8	98.4	69.6	130.6	98	42	143
• Diisopropyl ether	9.6	96.2	43.1	166.9	96	30	170
Ethylbenzene	10.4	103.9	63.0	137.0	104	32	160
• MTBE	10.0	100.2	46.8	163.2	100	36	166
Toluene	10.3	102.6	77.6	127.0	103	46	148
• m,p-Xylene	20.8	104.2	11.2	188.8	104	D	239
• o-Xylene	10.1	101.0	47.6	162.4	101	36	164

Flags :

- + = out of QC limits.
- = lab generated limits.
- D = Detected

 Reviewed by: 

Control Limits for MS-MSD

Method: 602 Spike[ppb]: 10
 Instrument: gc3
 Sample: 121305\023r0101.txt
 MS: 121305\024r0101.txt
 MSD: 121305\025r0101.txt

Compound	µg/L			P(%)		P Limits	
	Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	ND	10.4	10.6	104	106	39	160
Chlorobenzene	ND	10.0	10.2	100	102	56	136
1,2-Dichlorobenzene	ND	10.0	10.1	100	101	37	164
1,3-Dichlorobenzene	ND	9.8	10.1	98	101	60	141
1,4-Dichlorobenzene	ND	9.4	9.6	94	96	42	143
• Diisopropyl ether	ND	9.9	10.2	99	102	30	170
Ethylbenzene	6.8	16.8	16.8	109	110	32	160
• MTBE	ND	10.2	10.3	102	103	36	166
Toluene	ND	10.3	10.4	103	104	46	148
• m,p-Xylene	61.1	70.9	71.2	99	100	D	239
• o-Xylene	ND	10.1	10.3	101	103	36	164

Flags:

+ = out of QC limits.
 • = lab generated limits.
 D = Detected
 ND = None Detected

Reviewed by: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: 205-043

Sample Information and Analytical Results	
Sample Identification	820MW33
Sample Matrix	Water
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/12/05
Date Analyzed	12/15/05
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	64
Aromatic Surrogate % Recovery	66
Fractionation Surrogate 1 % Recovery	57

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1651-1M

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: 205-043

Sample Information and Analytical Results	
Sample Identification	820MW31
Sample Matrix	Water
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/12/05
Date Analyzed	12/15/05
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	140 (ug/L)
Aliphatic Surrogate % Recovery	54
Aromatic Surrogate % Recovery	68
Fractionation Surrogate 1 % Recovery	71

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1651-3K

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

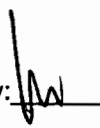
Client Name: Richard Catlin & AssociatesProject Name: 205-043

Sample Information and Analytical Results	
Sample Identification	820MW30
Sample Matrix	Water
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/12/05
Date Analyzed	12/15/05
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₈ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	< 100 (ug/L)
Aliphatic Surrogate % Recovery	61
Aromatic Surrogate % Recovery	65
Fractionation Surrogate 1 % Recovery	88

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1651-4K

Reviewed By: 

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

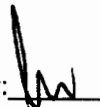
Client Name: Richard Catlin & AssociatesProject Name: 205-043

Sample Information and Analytical Results	
Sample Identification	820MW32
Sample Matrix	Water
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/12/05
Date Analyzed	12/16/05
Dry Weight	
Dilution Factor	1:1
C ₉ -C ₁₈ Aliphatics*	< 100 (ug/L)
C ₁₉ -C ₃₆ Aliphatics*	< 100 (ug/L)
C ₁₁ -C ₂₂ Aromatics*	110 (ug/L)
Aliphatic Surrogate % Recovery	72
Aromatic Surrogate % Recovery	66
Fractionation Surrogate 1 % Recovery	86

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-1651-5M

Reviewed By: 

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 09/13/05

Calibration Ranges and Limits

Range	MDL (2/2004) (µg/L)	ML (µg/L)	RL (µg/L)	RL (mg/Kg)
C ₉ -C ₁₈ Aliphatics	3.84	12.2	100	10
C ₁₉ -C ₃₆ Aliphatics	0.57	1.8	100	10
C ₁₁ -C ₂₂ Aromatics	4.54	14.4	100	10

Calibration Concentration Levels

Range	Levels (µg/mL)	%RSD or CCC	Method of Quantitation
C ₉ -C ₁₈ Aliphatics	6	3.80	Calibration Factor
	30		
	60		
	120		
	240		
C ₁₉ -C ₃₆ Aliphatics	8	3.8	Calibration Factor
	40		
	80		
	160		
	320		
C ₁₁ -C ₂₂ Aromatics	17	7.9	Calibration Factor
	85		
	170		
	340		
	680		

Calibration Check Date: 12/15/05

Calibration Check

Range	Levels (µg/mL)	RPD
C ₉ -C ₁₈ Aliphatics	120	4.9
C ₁₉ -C ₃₆ Aliphatics	160	10.9
C ₁₁ -C ₂₂ Aromatics	340	0.2

MDL = Method Detection Limit
 ML = Minimum Limit
 RL = Reportable Limit

RPD = Relative Percent Difference
 %RSD = Percent Relative Standard Deviation
 CCC = Correlation Coefficient of Curve

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: 205-043

Sample Information and Analytical Results	
Sample Identification	820MW33
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/14/05
Date Analyzed	12/14/05
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

Lab Info: g128-1651-1d

Reviewed By: 

VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: 205-043

Sample Information and Analytical Results	
Sample Identification	820MW31
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/14/05
Date Analyzed	12/14/05
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

Lab Info: g128-1651-3d

Reviewed By: 

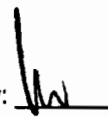
VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: 205-043

Sample Information and Analytical Results	
Sample Identification	820MW30
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/14/05
Date Analyzed	12/14/05
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

Lab Info: g128-1651-4d

Reviewed By: 

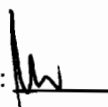
VPH (Aliphatics/Aromatics) Laboratory Reporting FormClient Name: Richard Catlin & AssociatesProject Name: 205-043

Sample Information and Analytical Results	
Sample Identification	820MW32
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	12/08/05
Date Received	12/09/05
Date Extracted	12/14/05
Date Analyzed	12/14/05
Dry Weight	
Dilution Factor	1
C ₅ -C ₈ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₂ Aliphatics**	< 100 (µg/L)
C ₉ -C ₁₀ Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	100
Surrogate % Recovery - FID	100

* = Option 1 = Established fill line on vial, Option 2 = Sampling Device/Brand, or Option 3 = Field weight of soil.

** = Excludes any surrogates or internal standards.

Lab Info: g128-1651-5d

Reviewed By: 

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 10/31/05PID Initial Calibration Date: 10/31/05

Calibration Ranges and Limits

Range	MDL (07/15/2004) (µg/L)	ML (µg/L)	RL (µg/L) (mg/Kg)	
C ₅ -C ₈ Aliphatics	4.4	14	100	10
C ₉ -C ₁₂ Aliphatics	3.4	11	100	10
C ₉ -C ₁₀ Aromatics	0.13	0.41	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	%RSD or CCC	Method of Quantitation
C ₅ -C ₈ Aliphatics	40	7.9	Calibration Factor
	1000		
	2000		
	3000		
	4000		
C ₉ -C ₁₂ Aliphatics	10	1.00	Linear Regression
	250		
	500		
	750		
	1000		
C ₉ -C ₁₀ Aromatics	10	16.20	Calibration Factor
	250		
	500		
	750		
	1000		

Calibration Check Date: 12/13/05

Calibration Check

Range	Levels (µg/L) (mg/Kg)		RPD
C ₅ -C ₈ Aliphatics	2000	200	3.8
C ₉ -C ₁₂ Aliphatics	500	50	-6.3
C ₉ -C ₁₀ Aromatics	500	50	5.7

MDL = Method Detection Limit

ML = Minimum Limit

RL = Reportable Limit

RPD = Relative Percent Difference

%RSD = Percent Relative Standard Deviation

CCC = Correlation Coefficient of Curve

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: 820MW33
Client Project ID: 205-043
Lab Sample ID: G128-1651-1J
Lab Project ID: G128-1651

Analyzed By: MRC
Date Collected: 12/8/2005 15:54
Date Received: 12/9/2005
Date Extracted: 12/12/2005
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	12/14/2005	
Acenaphthylene	BQL	10.0	1.12	1	12/14/2005	
Anthracene	BQL	10.0	1.75	1	12/14/2005	
Benzo[a]anthracene	BQL	10.0	1.36	1	12/14/2005	
Benzo[a]pyrene	BQL	10.0	1.27	1	12/14/2005	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	12/14/2005	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	12/14/2005	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	12/14/2005	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	12/14/2005	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	12/14/2005	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	12/14/2005	
Butylbenzylphthalate	BQL	10.0	1.53	1	12/14/2005	
2-Chloronaphthalene	BQL	10.0	1.25	1	12/14/2005	
2-Chlorophenol	BQL	10.0	4.22	1	12/14/2005	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	12/14/2005	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	12/14/2005	
Chrysene	BQL	10.0	1.11	1	12/14/2005	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	12/14/2005	
Di-n-Butylphthalate	BQL	10.0	1.65	1	12/14/2005	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	12/14/2005	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	12/14/2005	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	12/14/2005	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	12/14/2005	
2,4-Dichlorophenol	BQL	10.0	3.75	1	12/14/2005	
Diethylphthalate	BQL	10.0	1.48	1	12/14/2005	
Dimethylphthalate	BQL	10.0	1.04	1	12/14/2005	
2,4-Dimethylphenol	BQL	10.0	9.25	1	12/14/2005	
Di-n-octylphthalate	BQL	10.0	1.16	1	12/14/2005	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	12/14/2005	
2,4-Dinitrophenol	BQL	50.0	4.20	1	12/14/2005	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	12/14/2005	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	12/14/2005	
Diphenylamine *	BQL	10.0	1.53	1	12/14/2005	
Fluoranthene	BQL	10.0	1.41	1	12/14/2005	
Fluorene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobenzene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobutadiene	BQL	10.0	1.58	1	12/14/2005	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	12/14/2005	
Hexachloroethane	BQL	10.0	1.58	1	12/14/2005	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	12/14/2005	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: 820MW33
 Client Project ID: 205-043
 Lab Sample ID: G128-1651-1J
 Lab Project ID: G128-1651

Analyzed By: MRC
 Date Collected: 12/8/2005 15:54
 Date Received: 12/9/2005
 Date Extracted: 12/12/2005
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	12/14/2005	
Naphthalene	BQL	10.0	1.08	1	12/14/2005	
Nitrobenzene	BQL	10.0	1.32	1	12/14/2005	
2-Nitrophenol	BQL	10.0	3.52	1	12/14/2005	
4-Nitrophenol	BQL	50.0	3.17	1	12/14/2005	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	12/14/2005	
Pentachlorophenol	BQL	50.0	2.83	1	12/14/2005	
Phenanthrene	BQL	10.0	1.38	1	12/14/2005	
Phenol	BQL	10.0	3.38	1	12/14/2005	
Pyrene	BQL	10.0	2.08	1	12/14/2005	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	12/14/2005	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	12/14/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.5	75
2-Fluorophenol	10	7.1	71
Nitrobenzene-d5	10	7.2	72
Phenol-d6	10	6.8	68
2,4,6-Tribromophenol	10	7.2	73
4-Terphenyl-d14	10	9.7	97

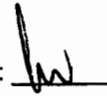
Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: 820MW31
Client Project ID: 205-043
Lab Sample ID: G128-1651-3J
Lab Project ID: G128-1651

Analyzed By: MRC
Date Collected: 12/8/2005 16:50
Date Received: 12/9/2005
Date Extracted: 12/12/2005
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	12/14/2005	
Acenaphthylene	BQL	10.0	1.12	1	12/14/2005	
Anthracene	BQL	10.0	1.75	1	12/14/2005	
Benzo[a]anthracene	BQL	10.0	1.36	1	12/14/2005	
Benzo[a]pyrene	BQL	10.0	1.27	1	12/14/2005	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	12/14/2005	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	12/14/2005	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	12/14/2005	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	12/14/2005	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	12/14/2005	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	12/14/2005	
Butylbenzylphthalate	BQL	10.0	1.53	1	12/14/2005	
2-Chloronaphthalene	BQL	10.0	1.25	1	12/14/2005	
2-Chlorophenol	BQL	10.0	4.22	1	12/14/2005	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	12/14/2005	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	12/14/2005	
Chrysene	BQL	10.0	1.11	1	12/14/2005	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	12/14/2005	
Di-n-Butylphthalate	BQL	10.0	1.65	1	12/14/2005	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	12/14/2005	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	12/14/2005	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	12/14/2005	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	12/14/2005	
2,4-Dichlorophenol	BQL	10.0	3.75	1	12/14/2005	
Diethylphthalate	BQL	10.0	1.48	1	12/14/2005	
Dimethylphthalate	BQL	10.0	1.04	1	12/14/2005	
2,4-Dimethylphenol	BQL	10.0	9.25	1	12/14/2005	
Di-n-octylphthalate	BQL	10.0	1.16	1	12/14/2005	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	12/14/2005	
2,4-Dinitrophenol	BQL	50.0	4.20	1	12/14/2005	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	12/14/2005	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	12/14/2005	
Diphenylamine *	BQL	10.0	1.53	1	12/14/2005	
Fluoranthene	BQL	10.0	1.41	1	12/14/2005	
Fluorene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobenzene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobutadiene	BQL	10.0	1.58	1	12/14/2005	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	12/14/2005	
Hexachloroethane	BQL	10.0	1.58	1	12/14/2005	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	12/14/2005	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: 820MW31
 Client Project ID: 205-043
 Lab Sample ID: G128-1651-3J
 Lab Project ID: G128-1651

Analyzed By: MRC
 Date Collected: 12/8/2005 16:50
 Date Received: 12/9/2005
 Date Extracted: 12/12/2005
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	12/14/2005	
Naphthalene	BQL	10.0	1.08	1	12/14/2005	
Nitrobenzene	BQL	10.0	1.32	1	12/14/2005	
2-Nitrophenol	BQL	10.0	3.52	1	12/14/2005	
4-Nitrophenol	BQL	50.0	3.17	1	12/14/2005	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	12/14/2005	
Pentachlorophenol	BQL	50.0	2.83	1	12/14/2005	
Phenanthrene	BQL	10.0	1.38	1	12/14/2005	
Phenol	BQL	10.0	3.38	1	12/14/2005	
Pyrene	BQL	10.0	2.08	1	12/14/2005	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	12/14/2005	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	12/14/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7	70
2-Fluorophenol	10	5.8	58
Nitrobenzene-d5	10	6.4	64
Phenol-d6	10	6.2	62
2,4,6-Tribromophenol	10	7	70
4-Terphenyl-d14	10	9.1	91

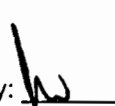
Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: 820MW30
Client Project ID: 205-043
Lab Sample ID: G128-1651-4J
Lab Project ID: G128-1651

Analyzed By: MRC
Date Collected: 12/8/2005 16:30
Date Received: 12/9/2005
Date Extracted: 12/12/2005
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	12/14/2005	
Acenaphthylene	BQL	10.0	1.12	1	12/14/2005	
Anthracene	BQL	10.0	1.75	1	12/14/2005	
Benzo[a]anthracene	BQL	10.0	1.36	1	12/14/2005	
Benzo[a]pyrene	BQL	10.0	1.27	1	12/14/2005	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	12/14/2005	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	12/14/2005	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	12/14/2005	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	12/14/2005	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	12/14/2005	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	12/14/2005	
Butylbenzylphthalate	BQL	10.0	1.53	1	12/14/2005	
2-Chloronaphthalene	BQL	10.0	1.25	1	12/14/2005	
2-Chlorophenol	BQL	10.0	4.22	1	12/14/2005	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	12/14/2005	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	12/14/2005	
Chrysene	BQL	10.0	1.11	1	12/14/2005	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	12/14/2005	
Di-n-Butylphthalate	BQL	10.0	1.65	1	12/14/2005	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	12/14/2005	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	12/14/2005	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	12/14/2005	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	12/14/2005	
2,4-Dichlorophenol	BQL	10.0	3.75	1	12/14/2005	
Diethylphthalate	BQL	10.0	1.48	1	12/14/2005	
Dimethylphthalate	BQL	10.0	1.04	1	12/14/2005	
2,4-Dimethylphenol	BQL	10.0	9.25	1	12/14/2005	
Di-n-octylphthalate	BQL	10.0	1.16	1	12/14/2005	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	12/14/2005	
2,4-Dinitrophenol	BQL	50.0	4.20	1	12/14/2005	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	12/14/2005	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	12/14/2005	
Diphenylamine *	BQL	10.0	1.53	1	12/14/2005	
Fluoranthene	BQL	10.0	1.41	1	12/14/2005	
Fluorene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobenzene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobutadiene	BQL	10.0	1.58	1	12/14/2005	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	12/14/2005	
Hexachloroethane	BQL	10.0	1.58	1	12/14/2005	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	12/14/2005	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: 820MW30
Client Project ID: 205-043
Lab Sample ID: G128-1651-4J
Lab Project ID: G128-1651

Analyzed By: MRC
Date Collected: 12/8/2005 16:30
Date Received: 12/9/2005
Date Extracted: 12/12/2005
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	12/14/2005	
Naphthalene	BQL	10.0	1.08	1	12/14/2005	
Nitrobenzene	BQL	10.0	1.32	1	12/14/2005	
2-Nitrophenol	BQL	10.0	3.52	1	12/14/2005	
4-Nitrophenol	BQL	50.0	3.17	1	12/14/2005	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	12/14/2005	
Pentachlorophenol	BQL	50.0	2.83	1	12/14/2005	
Phenanthrene	BQL	10.0	1.38	1	12/14/2005	
Phenol	BQL	10.0	3.38	1	12/14/2005	
Pyrene	BQL	10.0	2.08	1	12/14/2005	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	12/14/2005	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	12/14/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.3	73
2-Fluorophenol	10	6.4	64
Nitrobenzene-d5	10	6.8	68
Phenol-d6	10	6.6	66
2,4,6-Tribromophenol	10	6.8	68
4-Terphenyl-d14	10	9.1	91

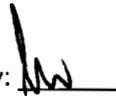
Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: 820MW32
Client Project ID: 205-043
Lab Sample ID: G128-1651-5L
Lab Project ID: G128-1651

Analyzed By: MRC
Date Collected: 12/8/2005 16:20
Date Received: 12/9/2005
Date Extracted: 12/12/2005
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	12/14/2005	
Acenaphthylene	BQL	10.0	1.12	1	12/14/2005	
Anthracene	BQL	10.0	1.75	1	12/14/2005	
Benzo[a]anthracene	BQL	10.0	1.36	1	12/14/2005	
Benzo[a]pyrene	BQL	10.0	1.27	1	12/14/2005	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	12/14/2005	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	12/14/2005	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	12/14/2005	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	12/14/2005	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	12/14/2005	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	12/14/2005	
Butylbenzylphthalate	BQL	10.0	1.53	1	12/14/2005	
2-Chloronaphthalene	BQL	10.0	1.25	1	12/14/2005	
2-Chlorophenol	BQL	10.0	4.22	1	12/14/2005	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	12/14/2005	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	12/14/2005	
Chrysene	BQL	10.0	1.11	1	12/14/2005	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	12/14/2005	
Di-n-Butylphthalate	BQL	10.0	1.65	1	12/14/2005	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	12/14/2005	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	12/14/2005	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	12/14/2005	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	12/14/2005	
2,4-Dichlorophenol	BQL	10.0	3.75	1	12/14/2005	
Diethylphthalate	BQL	10.0	1.48	1	12/14/2005	
Dimethylphthalate	BQL	10.0	1.04	1	12/14/2005	
2,4-Dimethylphenol	BQL	10.0	9.25	1	12/14/2005	
Di-n-octylphthalate	BQL	10.0	1.16	1	12/14/2005	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	12/14/2005	
2,4-Dinitrophenol	BQL	50.0	4.20	1	12/14/2005	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	12/14/2005	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	12/14/2005	
Diphenylamine *	BQL	10.0	1.53	1	12/14/2005	
Fluoranthene	BQL	10.0	1.41	1	12/14/2005	
Fluorene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobenzene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobutadiene	BQL	10.0	1.58	1	12/14/2005	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	12/14/2005	
Hexachloroethane	BQL	10.0	1.58	1	12/14/2005	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	12/14/2005	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: 820MW32
 Client Project ID: 205-043
 Lab Sample ID: G128-1651-5L
 Lab Project ID: G128-1651

Analyzed By: MRC
 Date Collected: 12/8/2005 16:20
 Date Received: 12/9/2005
 Date Extracted: 12/12/2005
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	12/14/2005	
Naphthalene	BQL	10.0	1.08	1	12/14/2005	
Nitrobenzene	BQL	10.0	1.32	1	12/14/2005	
2-Nitrophenol	BQL	10.0	3.52	1	12/14/2005	
4-Nitrophenol	BQL	50.0	3.17	1	12/14/2005	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	12/14/2005	
Pentachlorophenol	BQL	50.0	2.83	1	12/14/2005	
Phenanthrene	BQL	10.0	1.38	1	12/14/2005	
Phenol	BQL	10.0	3.38	1	12/14/2005	
Pyrene	BQL	10.0	2.08	1	12/14/2005	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	12/14/2005	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	12/14/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8	80
2-Fluorophenol	10	7.3	73
Nitrobenzene-d5	10	7.5	75
Phenol-d6	10	7	70
2,4,6-Tribromophenol	10	7.1	71
4-Terphenyl-d14	10	8.9	89

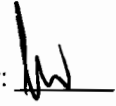
Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB4157
Lab Project ID:

Analyzed By: MRC
Date Collected:
Date Received:
Date Extracted: 12/12/2005
Matrix: WATER

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	12/14/2005	
Acenaphthylene	BQL	10.0	1.12	1	12/14/2005	
Anthracene	BQL	10.0	1.75	1	12/14/2005	
Benzo[a]anthracene	BQL	10.0	1.36	1	12/14/2005	
Benzo[a]pyrene	BQL	10.0	1.27	1	12/14/2005	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	12/14/2005	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	12/14/2005	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	12/14/2005	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	12/14/2005	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	12/14/2005	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	12/14/2005	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	12/14/2005	
Butylbenzylphthalate	BQL	10.0	1.53	1	12/14/2005	
2-Chloronaphthalene	BQL	10.0	1.25	1	12/14/2005	
2-Chlorophenol	BQL	10.0	4.22	1	12/14/2005	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	12/14/2005	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	12/14/2005	
Chrysene	BQL	10.0	1.11	1	12/14/2005	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	12/14/2005	
Di-n-Butylphthalate	BQL	10.0	1.65	1	12/14/2005	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	12/14/2005	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	12/14/2005	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	12/14/2005	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	12/14/2005	
2,4-Dichlorophenol	BQL	10.0	3.75	1	12/14/2005	
Diethylphthalate	BQL	10.0	1.48	1	12/14/2005	
Dimethylphthalate	BQL	10.0	1.04	1	12/14/2005	
2,4-Dimethylphenol	BQL	10.0	9.25	1	12/14/2005	
Di-n-octylphthalate	BQL	10.0	1.16	1	12/14/2005	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	12/14/2005	
2,4-Dinitrophenol	BQL	50.0	4.20	1	12/14/2005	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	12/14/2005	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	12/14/2005	
Diphenylamine *	BQL	10.0	1.53	1	12/14/2005	
Fluoranthene	BQL	10.0	1.41	1	12/14/2005	
Fluorene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobenzene	BQL	10.0	1.22	1	12/14/2005	
Hexachlorobutadiene	BQL	10.0	1.58	1	12/14/2005	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	12/14/2005	
Hexachloroethane	BQL	10.0	1.58	1	12/14/2005	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	12/14/2005	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB4157
Lab Project ID:

Analyzed By: MRC
Date Collected:
Date Received:
Date Extracted: 12/12/2005
Matrix: WATER

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	12/14/2005	
Naphthalene	BQL	10.0	1.08	1	12/14/2005	
Nitrobenzene	BQL	10.0	1.32	1	12/14/2005	
2-Nitrophenol	BQL	10.0	3.52	1	12/14/2005	
4-Nitrophenol	BQL	50.0	3.17	1	12/14/2005	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	12/14/2005	
Pentachlorophenol	BQL	50.0	2.83	1	12/14/2005	
Phenanthrene	BQL	10.0	1.38	1	12/14/2005	
Phenol	BQL	10.0	3.38	1	12/14/2005	
Pyrene	BQL	10.0	2.08	1	12/14/2005	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	12/14/2005	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	12/14/2005	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	6.7	67
2-Fluorophenol	10	6.6	66
Nitrobenzene-d5	10	6.8	68
Phenol-d6	10	6.7	67
2,4,6-Tribromophenol	10	6.8	68
4-Terphenyl-d14	10	8.7	87

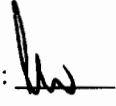
Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

Results For Matrix Spike / Matrix Spike Duplicate and Laboratory Control Standard (MS/MSD/LCS)
by GCMS

Client Sample ID: Batch QC

Date Collected:

Client Sample ID:

Date Received:

Lab Sample ID: Batch-4157-MS/MSD/LCS

Date Extracted: 12/12/05

Lab Project ID:

Date Analyzed: 12/14/05

Matrix: WATER

Analyzed By: MRC

Prep Method: 3520

Dilution: 1

	Sample Amount (µg/L)	MS Spike (µg/L)	MS Conc. (µg/L)	MS Spike % Rec.	MSD Spike (µg/L)	MSD Conc. (µg/L)	MSD Conc. % Rec.	RPD	QC Limits	
									RPD	% Rec.
Acenaphthylene	BQL	200	170	85.1	200	201	101.0	16.8	30	62.0-119
4-Chloro-3-methylphenol	BQL	200	129	64.5*	200	162	80.8	22.4	30	67.0-109
2-Chlorophenol	BQL	200	121	60.6	200	145	72.6	18.0	30	59.0-95.0
1,4-Dichlorobenzene	BQL	200	103	51.7	200	114	57.3	10.3	30	29.0-86.0
2,4-Dinitrotoluene	BQL	200	145	72.6	200	183	91.5	23.0	30	63.0-103
N-Nitrosodi-n-propylamine	BQL	200	115	57.4*	200	138	68.9	18.2	30	67.0-107
4-Nitrophenol	BQL	200	131	65.4	200	143	71.4	8.77	30	49.0-146
Pentachlorophenol	BQL	200	114	56.9	200	149	74.3	26.5	30	43.0-106
Phenol	BQL	200	125	62.4	200	151	75.3	18.7	30	61.0-100
Pyrene	BQL	200	167	83.3	200	170	85.1	2.14	30	41.0-123
1,2,4-Trichlorobenzene	BQL	200	118	58.8	200	143	71.4	19.4	30	41.0-96.0

	Spiked Amount (µg/L)	LCS Conc. (µg/L)	LCS Spike %	QC Limits
				% Rec.
Acenaphthylene	100	88.8	88.8	66.1-116
4-Chloro-3-methylphenol	100	70.7	70.7	64.3-128
2-Chlorophenol	100	86.2	86.2	56.9-93.4
1,4-Dichlorobenzene	100	39.0	39.0	20.6-82.8
2,4-Dinitrotoluene	100	78.3	78.3	63.7-116
N-Nitrosodi-n-propylamine	100	72.5	72.5	62.6-108
4-Nitrophenol	100	85.6	85.6	53.7-143
Pentachlorophenol	100	67.9	67.9	31.0-102
Phenol	100	58.9	58.9	57.4-99.5
Pyrene	100	80.7	80.7	44.1-124
1,2,4-Trichlorobenzene	100	54.6	54.6	37.6-97.9

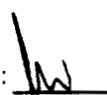
Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.

NA = Not applicable.

Reviewed By: 

Results for Metals

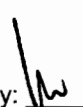
Client Sample ID: 820MW33
Client Project ID: 205-043
Lab Sample ID: G128-1651-1
Lab Project ID: G128-1651
Batch ID: 4155

Analyzed By: RML
Date Collected: 12/8/2005 15:54
Date Received: 12/9/05
Matrix: WATER

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	BQL	5.00	0.470	25	UG/L	6020	12/12/05	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: 
MET_LIMS_3 9b

Results for Metals

Client Sample ID: 820MW31
Client Project ID: 205-043
Lab Sample ID: G128-1651-3
Lab Project ID: G128-1651
Batch ID: 4155

Analyzed By: RML
Date Collected: 12/8/2005 16:50
Date Received: 12/9/05
Matrix: WATER

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	BQL	5.00	0.470	25	UG/L	6020	12/12/05	

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

B= Amount in Prep Blank > MDL

Reviewed By: 
MET_LIMS_3 9b

Results for Metals

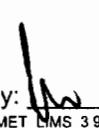
Client Sample ID: 820MW30
Client Project ID: 205-043
Lab Sample ID: G128-1651-4
Lab Project ID: G128-1651
Batch ID: 4155

Analyzed By: RML
Date Collected: 12/8/2005 16:30
Date Received: 12/9/05
Matrix: WATER

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	BQL	5.00	0.470	25	UG/L	6020	12/12/05	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: 
MET_LMS_3 9b

Results for Metals

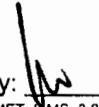
Client Sample ID: 820MW32
Client Project ID: 205-043
Lab Sample ID: G128-1651-5
Lab Project ID: G128-1651
Batch ID: 4155

Analyzed By: RML
Date Collected: 12/8/2005 16:20
Date Received: 12/9/05
Matrix: WATER

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	BQL	5.00	0.470	25	UG/L	6020	12/12/05	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > MDL

Reviewed By: 
MET_LMS_3 9b

Results for Metals

Client Sample ID: Lab Blank

Analyzed By: RML

Client Project ID:

Date Collected:

Lab Sample ID: pb4155

Date Received:

Lab Project ID:

Matrix: WATER

Batch ID: 4155

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	BQL	5.00	0.470	25	UG/L	6020	12/12/05	

Comments

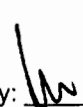
BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

B= Amount in Prep Blank > RL

Samples Prepared by 3030C

Reviewed By: 
PrepBlank

MS/MSD Results for METALS

Lab ID: G128-1651-5
 MS Lab ID: G128-1651-5
 MSD Lab ID: G128-1651-5
 ICP Batch: 4155
 HG Batch:
 Other:

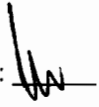
Analyzed By: RML
 Matrix: Water
 Units: MG/L

Analyte	Sample Result	SA MS	MS Result	MS %REC	SA MSD	MSD Result	MSD %REC	Limit		RPD	RPD Limit
								Lower	Upper		
Lead	BQL	0.400	0.365	91.3	0.400	0.392	98.0	75	125	7.13	20

Comments

*=Out of Limits

NA = Not applicable, due to sample concentration greater than three times spike concentration

Reviewed By: 

METALS Results for LCS/LCD

ICP Batch: 4155

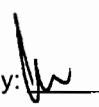
HG Batch:

Other:

Matrix: WATER

Units: MG/L

Analyte	TRUE Value	LCS	LCS %REC	LCD	LCD %REC	Limit		RPD	RPD Limit
						Lower	Upper		
Lead	0.400	0.361	90.2	0.354	88.5	80	120	1.96	20

Reviewed By: 

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

Results for Volatiles

by GC 602

Client Sample ID: UST820-MW34

Analyzed By: MJC

Client Project ID: Bldg 820

Date Collected: 1/11/06 13:30

Lab Sample ID: G128-1671-1A

Date Received: 1/12/06

Lab Project ID: G128-1671

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	1/13/06	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	1/13/06	
Ethylbenzene	0.428	1.00	0.299	1	1/13/06	J
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	1/13/06	
Toluene	BQL	1.00	0.302	1	1/13/06	
m/p-Xylene	1.31	2.00	0.608	1	1/13/06	J
o-Xylene	BQL	2.00	0.596	1	1/13/06	

Surrogate Spike Recoveries**Spike
Added****Spike
Result****Percent
Recovery**

Trifluorotoluene

40

39.2

98

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Reviewed By: 
GC_LIMS_v2.0.XLS

Results for Volatiles

by GC 602

Client Sample ID: Method Blank

Analyzed By: MJC

Client Project ID:

Date Collected:

Lab Sample ID: VBLK3011306A

Date Received:

Lab Project ID:

Matrix: Water

Analyte	Result ug/L	RL ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flags
Benzene	BQL	1.00	0.316	1	1/13/06	
Diisopropyl ether (DIPE)	BQL	1.00	0.294	1	1/13/06	
Ethylbenzene	BQL	1.00	0.299	1	1/13/06	
Methyl-tert butyl ether (MTBE)	BQL	2.00	0.588	1	1/13/06	
Toluene	BQL	1.00	0.302	1	1/13/06	
m/p-Xylene	BQL	2.00	0.608	1	1/13/06	
o-Xylene	BQL	2.00	0.596	1	1/13/06	

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovery
Trifluorotoluene	40	39.3	98.3

Comments:

All values corrected for dilution.

BQL = Below quantitation limit.

Reviewed By: 
GC_LIMS_v2.0.XLS

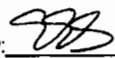
Control Limits for QC Check / Laboratory Control Spike

Method: 602 Spike[ppb]: 10
 Instrument : gc3
 Filename : 011306\004r0101.txt

Compound	ppb	Q(%)	QC Limits		P _s (%)	LCS Limits	
			Lower	Upper		Lower	Upper
Benzene	9.9	99.0	77.0	123.0	99	39	160
Chlorobenzene	9.6	94.9	80.6	119.6	95	66	136
1,2-Dichlorobenzene	9.7	96.9	68.0	132.0	97	37	164
1,3-Dichlorobenzene	9.4	93.6	72.6	127.6	94	60	141
1,4-Dichlorobenzene	9.6	95.1	69.6	130.6	96	42	143
• Diisopropyl ether	9.2	91.7	43.1	158.9	92	30	170
Ethylbenzene	10.0	100.0	63.0	137.0	100	32	160
• MTBE	9.7	96.8	46.8	163.2	97	35	166
Toluene	9.8	98.0	77.5	127.0	98	46	148
• m,p-Xylene	20.0	100.1	11.2	188.8	100	D	239
• o-Xylene	9.6	96.0	47.6	162.4	96	36	164

Flags :

- + = out of QC limits.
- = lab generated limits.
- D = Detected

Reviewed by: 

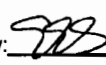
Control Limits for MS-MSD

Method: 602 Spike[ppb]: 10
 Instrument: gc3
 Sample: 011306\019r0101.txt
 MS: 011306\020r0101.txt
 MSD: 011306\021r0101.txt

Compound	µg/L			P(%)		P Limits	
	Sam.	MS	MSD	MS	MSD	Lower	Upper
Benzene	ND	10.0	10.1	100	101	39	160
Chlorobenzene	ND	9.6	9.7	90	92	55	135
1,2-Dichlorobenzene	ND	9.7	9.9	96	97	37	154
1,3-Dichlorobenzene	ND	9.5	9.6	95	96	50	141
1,4-Dichlorobenzene	ND	9.6	9.8	96	98	42	143
• Diisopropyl ether	ND	9.3	9.6	93	96	30	170
Ethylbenzene	ND	10.1	10.1	101	101	32	160
• MTBE	ND	9.7	10.0	97	100	35	165
Toluene	ND	9.9	10.0	99	100	46	148
• m,p-Xylene	ND	20.3	20.3	102	101	D	239
• o-Xylene	ND	9.6	9.6	96	96	36	164

Flags:

+ = out of QC limits.
 ♦ = lab generated limits.
 D = Detected
 ND = None Detected

Reviewed by: 

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: UST820-MW34
Client Project ID: Bldg 820
Lab Sample ID: G128-1671-1I
Lab Project ID: G128-1671

Analyzed By: MRC
Date Collected: 1/11/2006 13:30
Date Received: 1/12/2006
Date Extracted: 1/12/2006
Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	1/14/2006	
Acenaphthylene	BQL	10.0	1.12	1	1/14/2006	
Anthracene	BQL	10.0	1.75	1	1/14/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/14/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/14/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/14/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/14/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/14/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/14/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/14/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/14/2006	
Bis(2-ethylhexyl)phthalate	4.40	10.0	1.33	1	1/14/2006	J
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/14/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/14/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/14/2006	
2-Chlorophenol	BQL	10.0	4.22	1	1/14/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/14/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/14/2006	
Chrysene	BQL	10.0	1.11	1	1/14/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/14/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/14/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/14/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/14/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/14/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/14/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/14/2006	
Diethylphthalate	BQL	10.0	1.48	1	1/14/2006	
Dimethylphthalate	BQL	10.0	1.04	1	1/14/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/14/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/14/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/14/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/14/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/14/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/14/2006	
Diphenylamine *	BQL	10.0	1.53	1	1/14/2006	
Fluoranthene	BQL	10.0	1.41	1	1/14/2006	
Fluorene	BQL	10.0	1.22	1	1/14/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	1/14/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/14/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/14/2006	
Hexachloroethane	BQL	10.0	1.58	1	1/14/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/14/2006	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: UST820-MW34
 Client Project ID: Bldg 820
 Lab Sample ID: G128-1671-11
 Lab Project ID: G128-1671

Analyzed By: MRC
 Date Collected: 1/11/2006 13:30
 Date Received: 1/12/2006
 Date Extracted: 1/12/2006
 Matrix: Water

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	1/14/2006	
Naphthalene	BQL	10.0	1.08	1	1/14/2006	
Nitrobenzene	BQL	10.0	1.32	1	1/14/2006	
2-Nitrophenol	BQL	10.0	3.52	1	1/14/2006	
4-Nitrophenol	BQL	50.0	3.17	1	1/14/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/14/2006	
Pentachlorophenol	BQL	50.0	2.83	1	1/14/2006	
Phenanthrene	BQL	10.0	1.38	1	1/14/2006	
Phenol	BQL	10.0	3.38	1	1/14/2006	
Pyrene	BQL	10.0	2.08	1	1/14/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/14/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/14/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.4	84
2-Fluorophenol	10	8.2	82
Nitrobenzene-d5	10	7.9	79
Phenol-d6	10	8.1	81
2,4,6-Tribromophenol	10	7	70
4-Terphenyl-d14	10	11.7	117

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

Results of Library Search for Semivolatile Compounds
by GCMS

Client Sample ID: UST820-MW34
Client Project ID: Bldg 820
Lab Sample ID: G128-1671-1I
Lab Project ID: G128-1671
Sample Wt/Vol: 500 ML
Dilution: 1

Analyzed By: MRC
Date Collected: 1/11/2006 13:30
Date Received: 1/12/2006
Date Extracted: 1/12/2006
Date Analyzed: 1/14/2006
Matrix: Water

No.	Compound	Retention Time	CAS#	Match Probability	Result (ug/L)
1	No library search compounds detected.				
2					
3					
4					
5					
6					
7					
8					
9					
10					

Comment:

Tentatively Identified Compound (TIC) refers to substances which are not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist.

Quantitation is accomplished by relative peak area of the compound compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is equal to or greater than 10% of that of the nearest internal standard. Quantitation provided is an estimate.

Reviewed by: 

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB4321
Lab Project ID:

Analyzed By: MRC
Date Collected:
Date Received:
Date Extracted: 1/12/2006
Matrix: WATER

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Acenaphthene	BQL	10.0	1.22	1	1/13/2006	
Acenaphthylene	BQL	10.0	1.12	1	1/13/2006	
Anthracene	BQL	10.0	1.75	1	1/13/2006	
Benzo[a]anthracene	BQL	10.0	1.36	1	1/13/2006	
Benzo[a]pyrene	BQL	10.0	1.27	1	1/13/2006	
Benzo[b]fluoranthene	BQL	10.0	1.43	1	1/13/2006	
Benzo[g,h,i]perylene	BQL	10.0	4.57	1	1/13/2006	
Benzo[k]fluoranthene	BQL	10.0	1.09	1	1/13/2006	
Bis(2-chloroethoxy)methane	BQL	10.0	1.11	1	1/13/2006	
Bis(2-chloroethyl)ether	BQL	10.0	1.09	1	1/13/2006	
Bis(2-chloroisopropyl)ether	BQL	10.0	1.57	1	1/13/2006	
Bis(2-ethylhexyl)phthalate	BQL	10.0	1.33	1	1/13/2006	
4-bromophenyl phenyl ether	BQL	10.0	1.99	1	1/13/2006	
Butylbenzylphthalate	BQL	10.0	1.53	1	1/13/2006	
2-Chloronaphthalene	BQL	10.0	1.25	1	1/13/2006	
2-Chlorophenol	BQL	10.0	4.22	1	1/13/2006	
4-Chloro-3-methylphenol	BQL	10.0	3.26	1	1/13/2006	
4-Chlorophenyl phenyl ether	BQL	10.0	1.42	1	1/13/2006	
Chrysene	BQL	10.0	1.11	1	1/13/2006	
Dibenzo[a,h]anthracene	BQL	10.0	4.87	1	1/13/2006	
Di-n-Butylphthalate	BQL	10.0	1.65	1	1/13/2006	
1,2-Dichlorobenzene	BQL	10.0	1.25	1	1/13/2006	
1,3-Dichlorobenzene	BQL	10.0	1.24	1	1/13/2006	
1,4-Dichlorobenzene	BQL	10.0	1.20	1	1/13/2006	
3,3'-Dichlorobenzidine	BQL	20.0	4.10	1	1/13/2006	
2,4-Dichlorophenol	BQL	10.0	3.75	1	1/13/2006	
Diethylphthalate	BQL	10.0	1.48	1	1/13/2006	
Dimethylphthalate	BQL	10.0	1.04	1	1/13/2006	
2,4-Dimethylphenol	BQL	10.0	9.25	1	1/13/2006	
Di-n-octylphthalate	BQL	10.0	1.16	1	1/13/2006	
4,6-Dinitro-2-methylphenol	BQL	50.0	3.71	1	1/13/2006	
2,4-Dinitrophenol	BQL	50.0	4.20	1	1/13/2006	
2,4-Dinitrotoluene	BQL	10.0	1.52	1	1/13/2006	
2,6-Dinitrotoluene	BQL	10.0	1.41	1	1/13/2006	
Diphenylamine *	BQL	10.0	1.53	1	1/13/2006	
Fluoranthene	BQL	10.0	1.41	1	1/13/2006	
Fluorene	BQL	10.0	1.22	1	1/13/2006	
Hexachlorobenzene	BQL	10.0	1.22	1	1/13/2006	
Hexachlorobutadiene	BQL	10.0	1.58	1	1/13/2006	
Hexachlorocyclopentadiene	BQL	20.0	20.0	1	1/13/2006	
Hexachloroethane	BQL	10.0	1.58	1	1/13/2006	
Indeno(1,2,3-c,d)pyrene	BQL	10.0	4.57	1	1/13/2006	

**Results for Semivolatiles
by GCMS 625**

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: PB4321
Lab Project ID:

Analyzed By: MRC
Date Collected:
Date Received:
Date Extracted: 1/12/2006
Matrix: WATER

Compound	Result ug/L	Quantitation Limit ug/L	MDL ug/L	Dilution Factor	Date Analyzed	Flag
Isophorone	BQL	10.0	1.27	1	1/13/2006	
Naphthalene	BQL	10.0	1.08	1	1/13/2006	
Nitrobenzene	BQL	10.0	1.32	1	1/13/2006	
2-Nitrophenol	BQL	10.0	3.52	1	1/13/2006	
4-Nitrophenol	BQL	50.0	3.17	1	1/13/2006	
N-Nitrosodi-n-propylamine	BQL	10.0	1.87	1	1/13/2006	
Pentachlorophenol	BQL	50.0	2.83	1	1/13/2006	
Phenanthrene	BQL	10.0	1.38	1	1/13/2006	
Phenol	BQL	10.0	3.38	1	1/13/2006	
Pyrene	BQL	10.0	2.08	1	1/13/2006	
1,2,4-Trichlorobenzene	BQL	10.0	1.33	1	1/13/2006	
2,4,6-Trichlorophenol	BQL	10.0	2.92	1	1/13/2006	

	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	7.6	76
2-Fluorophenol	10	7.6	76
Nitrobenzene-d5	10	7.7	77
Phenol-d6	10	7.5	75
2,4,6-Tribromophenol	10	5.7	57
4-Terphenyl-d14	10	11.5	115

Comments:

* N-Nitrosodiphenylamine is reported as the breakdown product Diphenylamine.

Flags:

BQL = Below Quantitation Limits.

J = Detected below the quantitation limit.

Reviewed By: 

Results For Matrix Spike / Matrix Spike Duplicate and Laboratory Control Standard (MS/MSD/LCS)
by GCMS

Client Sample ID: Batch QC

Date Collected:

Client Project ID:

Date Received:

Lab Sample ID: Batch-4321-MS/MSD/LCS

Date Extracted: 01/12/06

Lab Project ID:

Date Analyzed: 01/14/06

Matrix: WATER

Analyzed By: MRC

Prep Method: 3520

Dilution: 1

	Sample Amount (µg/L)	MS Spike (µg/L)	MS Conc. (µg/L)	MS Spike % Rec.	MSD Spike (µg/L)	MSD Conc. (µg/L)	MSD Conc. % Rec.	RPD	QC Limits	
									RPD	% Rec.
Acenaphthylene	BQL	222	209	93.9	250	226	90.4	3.80	30	62.0-119
4-Chloro-3-methylphenol	BQL	222	205	92.4	250	221	88.4	4.42	30	67.0-109
2-Chlorophenol	BQL	222	178	80.3	250	191	76.5	4.85	30	59.0-95.0
1,4-Dichlorobenzene	BQL	222	123	55.4	250	128	51.4	7.49	30	29.0-86.0
2,4-Dinitrotoluene	BQL	222	210	94.6	250	232	93.0	1.70	30	63.0-103
N-Nitrosodi-n-propylamine	BQL	222	201	90.3	250	221	88.5	2.01	30	67.0-107
4-Nitrophenol	BQL	222	214	96.3	250	216	86.6	10.6	30	49.0-146
Pentachlorophenol	BQL	222	143	64.2	250	155	61.9	3.65	30	43.0-106
Phenol	BQL	222	182	81.9	250	197	78.9	3.73	30	61.0-100
Pyrene	BQL	222	223	100	250	244	97.8	2.52	30	41.0-123
1,2,4-Trichlorobenzene	BQL	222	160	72.1	250	172	68.9	4.54	30	41.0-96.0

	Spiked Amount (µg/L)	LCS Conc. (µg/L)	LCS Spike %	QC Limits
				% Rec.
Acenaphthylene	100	82.2	82.2	66.1-116
4-Chloro-3-methylphenol	100	81.3	81.3	64.3-128
2-Chlorophenol	100	63.5	63.5	56.9-93.4
1,4-Dichlorobenzene	100	38.1	38.1	20.6-82.8
2,4-Dinitrotoluene	100	85.6	85.6	63.7-116
N-Nitrosodi-n-propylamine	100	77.8	77.8	62.6-108
4-Nitrophenol	100	65.7	65.7	53.7-143
Pentachlorophenol	100	46.8	46.8	31.0-102
Phenol	100	68.0	68.0	57.4-99.5
Pyrene	100	91.6	91.6	44.1-124
1,2,4-Trichlorobenzene	100	52.4	52.4	37.6-97.9

Comments:

Concentrations reflect the spiked sample amounts.

Flags:

* = Out of limits.

NA = Not applicable.

Reviewed By: 

Results for Metals

Client Sample ID: UST820-MW34

Analyzed By: RML

Client Project ID: Bldg 820

Date Collected: 1/11/2006 13:30

Lab Sample ID: G128-1671-1

Date Received: 1/12/06

Lab Project ID: G128-1671

Matrix: WATER

Batch ID: 4326

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	1.82	5.00	0.470	25	UG/L	6020	1/18/06	J

Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

B= Amount in Prep Blank > MDL

Samples Prepared by 3030C

Reviewed By: 
MET_LIMS_4 0

Results for Metals

Client Sample ID: Lab Blank
Client Project ID:
Lab Sample ID: pb4326
Lab Project ID:
Batch ID: 4326

Analyzed By: RML
Date Collected:
Date Received:
Matrix: WATER

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	BQL	5.00	0.470	25	UG/L	6020	1/18/06	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > RL
Samples Prepared by 3030C

Reviewed By: 

PrepBlank

METALS Results for LCS/LCD

ICP Batch: 4326

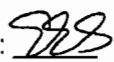
Matrix: WATER

HG Batch:

Units: MG/L

Other:

Analyte	TRUE Value	LCS	LCS %REC	LCD	LCD %REC	Limit		RPD	RPD Limit
						Lower	Upper		
Lead	0.400	0.366	91.5	0.377	94.3	80	120	2.96	20

Reviewed By: 

MS/MSD Results for METALS

Lab ID: G128-1671-1
 MS Lab ID: G128-1671-1
 MSD Lab ID: G128-1671-1
 ICP Batch: 4326
 HG Batch:
 Other:

Analyzed By: RML
 Matrix: Water
 Units: MG/L

Analyte	Sample Result	SA MS	MS Result	MS %REC	SA MSD	MSD Result	MSD %REC	Limit		RPD	RPD Limit
								Lower	Upper		
Lead	BQL	0.400	0.378	94.5	0.400	0.374	93.5	75	125	1.06	20

Comments

*=Out of Limits

NA = Not applicable, due to sample concentration greater than three times spike concentration

Reviewed By: 

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: UST820-CRO
Client Project ID: Bldg 820
Lab Sample ID: G128-1671-2
Lab Project ID: G128-1671
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 1/11/06 14:00
Date Received: 1/12/06
Matrix: Soil
Solids 75.31

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	7.59	5035	1	01/12/06
Diesel Range Organics	BQL	8.12	3545	1	01/13/06

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: Trip Blank
Client Project ID: Bldg 820
Lab Sample ID: G128-1671-4
Lab Project ID: G128-1671
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected: 1/11/06 0:00
Date Received: 1/12/06
Matrix: Soil
Solids 100.00

Analyte	Result MG/KG	Report Limit MG/KG	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6	5035	1	01/12/06

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: Method Blank
Client Project ID:
Lab Sample ID: VBLK4011206A
Lab Project ID:
Report Basis: Dry Weight

Analyzed By: MJC
Date Collected:
Date Received:
Matrix: Soil
Solids 100.00

Analyte	Result mg/kg	Report Limit mg/kg	Prep Method	Dilution Factor	Date Analyzed
Gasoline Range Organics	BQL	6	5035	1	01/12/06

QC Results for Total Petroleum Hydrocarbons by GC/FID

Client Sample ID: Batch QC

Analyzed By: MJC

Lab Sample ID: g122-2699-2a

Matrix: Soil

LCS ID: LCS4011206A / VP011206

Solids 89.58

MS/MSD

Analyte	Sample MG/KG	Spiked MG/KG	MS MG/KG	REC %	Spiked MG/KG	MSD MG/KG	REC % (70-130)	RPD %
GRO	BQL	33.2	34.2	103	33.2	35.1	106	2.87

LCS

Analyte		Spiked MG/KG	Result MG/KG	REC %	LIMITS	
					Lower	Upper
GRO		40	38	94.7	70	130

Comments:

Reviewed By: 

Results for Total Petroleum Hydrocarbons
by GC/FID 8015

Client Sample ID: Method Blank

Analyzed By: DCS

Client Project ID:

Date Collected:

Lab Sample ID: PB4325

Date Received:

Lab Project ID:

Matrix: SOIL

Report Basis: Dry Weight

Solids 100.00

Analyte	Result mg/KG	Report Limit mg/KG	Prep Method	Dilution Factor	Date Analyzed
Diesel Range Organics	BQL	6.25	3545	1	01/13/06

QC Results for Total Petroleum Hydrocarbons
by GC/FID

Client Sample ID: Batch QC

Lab Sample ID: G122-2699-4E

Batch ID: 4325

Analyzed By: DCS

Matrix: Soil

Solids 88.32

MS/MSD

Analyte units	Sample MG/KG	Spiked MG/KG	MS MG/KG	REC %	Spiked MG/KG	MSD MG/KG	REC %	RPD %
DRO	58.7	69	129	102	68.7	144	124	19.5

LCS

Analyte units	Spiked MG/KG	Result MG/KG	REC %	LIMITS	
				Lower	Upper
DRO	62.5	63.7	102	40	140

Comments:Reviewed By: 

Results for Metals

Client Sample ID: UST820-CRO
Client Project ID: Bldg 820
Lab Sample ID: G128-1671-3
Lab Project ID: G128-1671
Batch ID: 4341

Analyzed By: PSW
Date Collected: 1/11/2006 14:00
Date Received: 1/12/2006
Matrix: LEACHATE

Metals TCLP	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	0.0266	0.100	0.0121	1	MG/L	6010B	1/18/2006	J

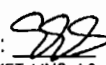
Comments

BQL = Below Quantitation Limits

DF = Dilution Factor

J = Between MDL and RL

B= Amount in Prep Blank > MDL

Reviewed By: 
MET_LIMS_4.0

Results for Metals

Client Sample ID: Lab Blank
Client Project ID:
Lab Sample ID: pb4341
Lab Project ID:
Batch ID: 4341

Analyzed By: PSW
Date Collected:
Date Received:
Matrix: WATER

Metals	Result	RL	MDL	DF	Units	Method	Date Analyzed	Flags
Lead	BQL	0.0100	0.00121	1	MG/L	6010B	1/18/2006	

Comments

BQL = Below Quantitation Limits
DF = Dilution Factor
J = Between MDL and RL
B= Amount in Prep Blank > RL

Reviewed By: 
PrepBlank

METALS Results for LCS/LCD

ICP Batch: 4341

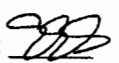
HG Batch:

Other:

Matrix: WATER

Units: MG/L

Analyte	TRUE Value	LCS	LCS %REC	LCD	LCD %REC	Limit		RPD	RPD Limit
						Lower	Upper		
Lead	0.400	0.375	93.8	0.385	96.2	80	120	2.63	20

Reviewed By: 

MS/MSD Results for METALS

Lab ID: G363-27-2
 MS Lab ID: G363-27-2
 MSD Lab ID: G363-27-2
 ICP Batch: 4341
 HG Batch:
 Other:

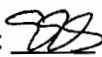
Analyzed By: PSW
 Matrix: Leachate
 Units: MG/L

Analyte	Sample Result	SA MS	MS Result	MS %REC	SA MSD	MSD Result	MSD %REC	Limit		RPD	RPD Limit
								Lower	Upper		
Lead	0.0148	4.00	3.59	89.4	4.00	3.50	87.1	75	125	2.54	20

Comments

*=Out of Limits

NA = Not applicable, due to sample concentration greater than three times spike concentration

Reviewed By: 

List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit

DF = Dilution Factor

Dup = Duplicate

D = Detected, but RPD is > 40% between results in dual column method.

E = Estimated concentration, exceeds calibration range.

J = Estimated concentration, below calibration range and above MDL

LCS(D) = Laboratory Control Spike (Duplicate)

MDL = Method Detection Limit

MS(D) = Matrix Spike (Duplicate)

PQL = Practical Quantitation Limit

RL = Reporting Limit

RPD = Relative Percent Difference

mg/kg = milligram per kilogram, ppm, parts per million

ug/kg = micrograms per kilogram, ppb, parts per billion

mg/L = milligram per liter, ppm, parts per million

ug/L = micrograms per liter, ppb, parts per billion

% Rec = Percent Recovery

% solids = Percent Solids

Special Notes:

- 1) Metals and mercury samples are digested with a hot block, see the standard operating procedure document for details.
- 2) Uncertainty for all reported data is less than or equal to 30 percent.

APPENDIX D

HISTORICAL GROUNDWATER LABORATORY RESULTS BY SHAW ENVIRONMENTAL, INC.

Analytical Data Summary
Type II Well: **MW-2**

Client Sample ID:		UST820-MW02-02B	UST820-MW02-02C	UST820-MW02	UST820-MW02	UST820-MW02	UST820-MW02
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result
EPA 602							
Benzene	1	19.4	95.2	0.84 J	<1.0	<1.0	0.7 J
Chlorobenzene	50	<10	<10	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<10	22.5	<5.0	<1.0	<1.0	2.3
Ethylbenzene	29	34.9	212	21.1	5.4	0.83 J	14.8
Xylenes (total)	530	285	778	100	31.6	9.1	116
Toluene	1000	402	966	82	8.6	1.2	66.9
Total BTEX		741.3	2051.2	203.94	45.6	11.13	198.4
EPA 610							
Chrysene	5	<50	<56	<5.4	<5.0	<5.4	<4.8
Naphthalene	21	52.9	167	<5.4	3.2 J	3.4 J	11.1
Acenaphthene	80	<50	<56	<5.4	<5.0	<5.4	<4.8
Acenaphthylene	210	<50	<56	<5.4	<5.0	<5.4	<4.8
Benzo(a)anthracene	0.05	<50	<56	<5.4	<5.0	<5.4	<4.8
Pyrene	210	<50	<56	<5.4	<5.0	<5.4	<4.8
Fluorene	280	<50	<56	<5.4	<5.0	<5.4	<4.8
Anthracene	2100	<50	<56	<5.4	<5.0	<5.4	<4.8
Fluoranthene	280	<50	<56	<5.4	<5.0	<5.4	<4.8
Phenanthrene	210	<50	<56	<5.4	<5.0	<5.4	<4.8
SW846-3010A							
Lead	15	NA	NA	NA	NA	NA	<5.0
Bold type indicates detectable concentrations.							
Shaded area indicates detectable concentrations above the groundwater quality standards.							

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-3**

Client Sample ID:			UST820-MW03	UST820-MW03
Date Sampled:			11/03/04	08/08/05
Analyte (ug/l)	Action Level	Result	Result	Result
EPA 602				
Benzene	1	42.4	1.9	
Chlorobenzene	50	<1.0	<1.0	
Methyl tert-butyl ether	210	4.8	7.1	
Ethylbenzene	29	7.4	71	
Xylenes (total)	530	52.5	407 J	
Toluene	1000	19.4	60.7	
Total BTEX		121.7	540.6	
EPA 610				
Chrysene	5	<4.8	<1.9	
Naphthalene	21	<4.8	19.8	
Acenaphthene	80	<4.8	<3.8	
Acenaphthylene	210	<4.8	<3.8	
Benzo(a)anthracene	0.05	<4.8	<0.19	
Pyrene	210	<4.8	<1.9	
Fluorene	280	<4.8	<1.9	
Anthracene	2100	<4.8	<1.9	
Fluoranthene	280	<4.8	<1.9	
Phenanthrene	210	<4.8	<1.9	
SW846-3010A				
Lead	15	<5.0	<5.0	
Bold type indicates detectable concentrations.				
Shaded area indicates detectable concentrations above the groundwater quality standards.				

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

[illegible]

J= estimated

P = >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Printed: 2/27/2006
Samples analyzed by Compuchem, STL, or Accutest

Analytical Data Summary
Type II Well: **MW-4**

Client Sample ID:	143GW202	
Date Sampled:		08/29/00
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<2
1,3-Dichlorobenzene	620	<2
1,4-Dichlorobenzene	75	<2
Dibromochloromethane	0.41	<2
Chloroform	0.19	<2
Chloromethane	2.6	<2
1,2-Dichloroethane	0.38	<2
EPA 602		
Benzene	1	<1
Chlorobenzene	50	<2
Methyl tert-butyl ether	210	0.79 J
Ethylbenzene	29	<2
Xylenes (total)	530	<6
Toluene	1000	<2
Total BTEX		
EPA 610		
Chrysene	5	NA
Naphthalene	21	NA
Acenaphthene	80	NA
Acenaphthylene	210	NA
Benzo(a)anthracene	0.05	NA
Pyrene	210	NA
Fluorene	280	NA
Anthracene	2100	NA
Fluoranthene	280	NA
Phenanthrene	210	NA
SW846-3010A		
Lead	15	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type II Well: **MW-4**

Client Sample ID:		UST820-MW04
Date Sampled:		08/10/05
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<1.0
1,3-Dichlorobenzene	620	<1.0
1,4-Dichlorobenzene	75	<1.0
Dibromochloromethane	0.41	NA
Chloroform	0.19	NA
Chloromethane	2.6	NA
1,2-Dichloroethane	0.38	NA
EPA 602		
Benzene	1	<1.0
Chlorobenzene	50	<1.0
Methyl tert-butyl ether	210	<1.0
Ethylbenzene	29	<1.0
Xylenes (total)	530	<3.0
Toluene	1000	<1.0
Total BTEX		
EPA 610		
Chrysene	5	<1.9
Naphthalene	21	<1.9
Acenaphthene	80	<3.9
Acenaphthylene	210	<3.9
Benzo(a)anthracene	0.05	<0.19
Pyrene	210	<1.9
Fluorene	280	<1.9
Anthracene	2100	<1.9
Fluoranthene	280	<1.9
Phenanthrene	210	<1.9
SW846-3010A		
Lead	15	9.5

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type II Well: **MW-5**

Client Sample ID:		143GW024	143GW046	143GW077	143GW107	143GW134	143GW145	143GW164	143GW177	143GW200
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 601										
1,2-Dichlorobenzene	620	0.52 J	<5	<2	<1	<1	<1	<1	<5	<1
1,3-Dichlorobenzene	620	<0.8	<3.8	<1.5	<0.8	<1	<1	<1	<5	<1
1,4-Dichlorobenzene	75	<1.5	<7.5	<3	0.18 JB	<1	<1	<1	<5	<1
Dibromochloromethane	0.41	NA	NA	NA	NA	NA	<1	<1	<5	<1
Chloroform	0.19	NA	NA	NA	NA	NA	<1	<1	<5	<1
Chloromethane	2.6	NA	NA	NA	NA	NA	<1	<1	<5	<1
1,2-Dichloroethane	0.38	NA	NA	NA	NA	NA	<1	<1	<5	<1
EPA 602										
Benzene	1	<0.5	21 P	2.2 P	1.9	<1	<1	<1	47.2	6.1
Chlorobenzene	50	<0.5	<2.5	<1	<0.5	<1	<1	<1	<5	<1
Methyl tert-butyl ether	210	0.17 J	280	88 P	17	266	69.9	21	100	6.4
Ethylbenzene	29	0.066 J	1.8 J	<1.5	0.14 J	<1	<1	<1	41.1	4.9
Xylenes (total)	530	0.064 J	8.7 JBP	0.64 J	0.82 J	<3	<3	<3	269	23.9
Toluene	1000	0.054 J	8.1 JBP	0.29 JBP	0.21 J	<1	<1	<1	270	36.2
Total BTEX		0.184	39.6	3.13	3.07	0.3			627	71.1
EPA 610										
Chrysene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW646-3010A										
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Bold type indicates detectable concentrations.								
		Shaded area indicates detectable concentrations above the groundwater quality standards.								

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Analytical Data Summary
Type II Well: **MW-5**

Client Sample ID:		143GW210
Date Sampled:		08/29/00
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<2
1,3-Dichlorobenzene	620	<2
1,4-Dichlorobenzene	75	<2
Dibromochloromethane	0.41	<2
Chloroform	0.19	<2
Chloromethane	2.6	<2
1,2-Dichloroethane	0.38	<2
EPA 602		
Benzene	1	216
Chlorobenzene	50	<2
Methyl tert-butyl ether	210	20
Ethylbenzene	29	11.1
Xylenes (total)	530	6.8
Toluene	1000	46.4
Total BTEX		280.3
EPA 610		
Chrysene	5	NA
Naphthalene	21	NA
Acenaphthene	80	NA
Acenaphthylene	210	NA
Benzo(a)anthracene	0.05	NA
Pyrene	210	NA
Fluorene	280	NA
Anthracene	2100	NA
Fluoranthene	280	NA
Phenanthrene	210	NA
SW846-3010A		
Lead	15	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary

Type II Well: **MW-5**

Client Sample ID:		UST820-MW05
Date Sampled:		08/06/05
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<1.0
1,3-Dichlorobenzene	620	<1.0
1,4-Dichlorobenzene	75	<1.0
Dibromochloromethane	0.41	NA
Chloroform	0.19	NA
Chloromethane	2.6	NA
1,2-Dichloroethane	0.38	NA
EPA 602		
Benzene	1	<1.0
Chlorobenzene	50	<1.0
Methyl tert-butyl ether	210	<1.0
Ethylbenzene	29	<1.0
Xylenes (total)	530	<3.0
Toluene	1000	<1.0
Total BTEX		
EPA 610		
Chrysene	5	<1.9
Naphthalene	21	<1.9
Acenaphthene	80	<3.9
Acenaphthylene	210	<3.9
Benzo(a)anthracene	0.05	0.078 J
Pyrene	210	<1.9
Fluorene	280	<1.9
Anthracene	2100	<1.9
Fluoranthene	280	<1.9
Phenanthrene	210	<1.9
SW846-3010A		
Lead	15	<5.0

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-6**

Client Sample ID:		UST820-MW06	UST820-MW06
Date Sampled:		11/06/04	08/08/05
Analyte (ug/l)	Action Level	Result	Result
EPA 602			
Benzene	1	212	150
Chlorobenzene	50	<20	2.9
Methyl tert-butyl ether	210	12.1 J	31.7
Ethylbenzene	29	1400	1980
Xylenes (total)	530	906	1480
Toluene	1000	217	411
Total BTEX		2735	4021
EPA 610			
Chrysene	5	<4.8	<1.9
Naphthalene	21	268	281
Acenaphthene	80	<4.8	<3.8
Acenaphthylene	210	<4.8	<15
Benzo(a)anthracene	0.05	<4.8	<0.19
Pyrene	210	<4.8	<1.9
Fluorene	280	<4.8	<1.9
Anthracene	2100	<4.8	<1.9
Fluoranthene	280	<4.8	<1.9
Phenanthrene	210	<4.8	<1.9
SW846-3010A			
Lead	15	<5.0	<5.0
Bold type indicates detectable concentrations.			
Shaded area indicates detectable concentrations above the groundwater quality standards.			

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type III Well: **MW-7**

Client Sample ID:		143GW027	143GW053	143GW084	143GW108		143GW142	143GW153	143GW163	143GW181	143GW199
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 601											
1,2-Dichlorobenzene	620	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	620	<0.8	<0.8	<0.8	<0.8	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75	<1.5	0.12 J	0.34 J	1.2 JB	0.82 J	<1	<1	<1	<1	<1
Dibromochloromethane	0.41	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1
Chloroform	0.19	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1
Chloromethane	2.6	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.38	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1
EPA 602											
Benzene	1	<0.5	0.1 J	<0.5	0.11 J	<1	7.5	36.6	47.9	7.1	4.7
Chlorobenzene	50	<0.5	<0.5	<0.5	<0.5	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether	210	0.82 J	0.67 J	0.21 J	1.8 J	1.2 J	8.3	19	4.2	8.6	91.4
Ethylbenzene	29	<0.8	0.15 JB	<0.8	<0.8	<1	3.3	12.6	11.3	12.8	<1
Xylenes (total)	530	<3	0.95 JB	0.26 J	<3	<3	7.4	51.3	43.5	77.4	<3
Toluene	1000	<2	1.2 JB	0.79 JB	<2	0.26 J	24.9	59.6	39.5	42.8	<1
Total BTEX			2.4	1.05	0.11	0.26	43.1	160.1	142.2	140.1	4.7
EPA 610											
Chrysene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW846-3010A											
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Bold type indicates detectable concentrations.									
		Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type III Well: **MW-7**

Client Sample ID:	143GW209	143GW220
Date Sampled:	08/29/00	12/13/00
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<2
1,3-Dichlorobenzene	620	<2
1,4-Dichlorobenzene	75	<2
Dibromochloromethane	0.41	<2
Chloroform	0.19	<2
Chloromethane	2.6	<2
1,2-Dichloroethane	0.38	<2
EPA 602		
Benzene	1	46
Chlorobenzene	50	<2
Methyl tert-butyl ether	210	86.9
Ethylbenzene	29	7.8
Xylenes (total)	530	14.7
Toluene	1000	25.8
Total BTEX		94.3
EPA 610		
Chrysene	5	NA
Naphthalene	21	NA
Acenaphthene	80	NA
Acenaphthylene	210	NA
Benzo(a)anthracene	0.05	NA
Pyrene	210	NA
Fluorene	280	NA
Anthracene	2100	NA
Fluoranthene	280	NA
Phenanthrene	210	NA
SW846-3010A		
Lead	15	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type III Well: **MW-7**

Client Sample ID:	UST820-MW07	UST820-MW07
Date Sampled:	5/31/05	8/9/05
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	NA
1,3-Dichlorobenzene	620	NA
1,4-Dichlorobenzene	75	NA
Dibromochloromethane	0.41	NA
Chloroform	0.19	NA
Chloromethane	2.6	NA
1,2-Dichloroethane	0.38	NA
EPA 602		
Benzene	1	<1.0
Chlorobenzene	50	<1.0
Methyl tert-butyl ether	210	<1.0
Ethylbenzene	29	<1.0
Xylenes (total)	530	<3.0
Toluene	1000	<1.0
Total BTEX		
EPA 610		
Chrysene	5	<4.8
Naphthalene	21	<4.8
Acenaphthene	80	<4.8
Acenaphthylene	210	<4.8
Benzo(a)anthracene	0.05	<4.8
Pyrene	210	<4.8
Fluorene	280	<4.8
Anthracene	2100	<4.8
Fluoranthene	280	<4.8
Phenanthrene	210	<4.8
SW846-3010A		
Lead	15	6.3
		9.0

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type II Well: **MW-8**

Client Sample ID:		GW-238	UST820-MW08-01C3	UST820-MW08-02B	UST820-MW08-02C	UST820-MW08	UST820-MW08	UST820-MW08	UST820-MW08	UST820-MW08	UST820-MW08
Date Sampled:		06/26/01	09/27/01	04/26/02	10/30/02	04/18/03	10/23/03	04/20/04	11/20/04	03/01/05	05/31/05
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602											
Benzene	1	3.2 J	5.4	<1.0	<1.0	<1.0	12.9	1.4	1.3	<1.0	<1.0
Chlorobenzene	50	<5.0	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	180	140	172	95.8	2.7	33.2	50.2	15.1	5.4	3.0
Ethylbenzene	29	<5.0	<5.0	<1.0	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<5.0	<5.0	<3.0	<3.0	<3.0	12.2	<3.0	<3.0	<3.0	<3.0
Toluene	1000	1.6 J	<5.0	1.3	<1.0	<1.0	6.7	<1.0	<1.0	<1.0	<1.0
Total BTEX		4.8	5.4	1.3			33.9	1.4	1.3		
EPA 610											
Chrysene	5	<0.10	<0.10	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Naphthalene	21	<2.0	<2.0	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Acenaphthene	80	<1.0	<1.0	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Acenaphthylene	210	<1.0	<1.0	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Benzo(a)anthracene	0.05	<0.10	<0.10	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Pyrene	210	<0.10	<0.25	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Fluorene	280	<2.0	<2.0	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Anthracene	2100	<1.0	<1.0	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Fluoranthene	280	<0.20	<0.25	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
Phenanthrene	210	<1.0	<1.0	<5.5	<5.2	<5.1	<5.1	<5.3	<4.8	<4.8	<4.9
SW846-3010A											
Lead	15	NA	NA	NA	NA	NA	NA	NA	27	<5.0	8.5
		Bold type indicates detectable concentrations.									
		Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-8**

Client Sample ID:		UST820-MW08
Date Sampled:		08/09/05
Analyte (ug/l)	Action Level	Result
EPA 602		
Benzene	1	<1.0
Chlorobenzene	50	<1.0
Methyl tert-butyl ether	210	2.0
Ethylbenzene	29	<1.0
Xylenes (total)	530	<3.0
Toluene	1000	<1.0
Total BTEX		
EPA 610		
Chrysene	5	<1.9
Naphthalene	21	<1.9
Acenaphthene	80	<3.8
Acenaphthylene	210	<3.8
Benzo(a)anthracene	0.05	<0.19
Pyrene	210	<1.9
Fluorene	280	<1.9
Anthracene	2100	<1.9
Fluoranthene	280	<1.9
Phenanthrene	210	<1.9
SW846-3010A		
Lead	15	<5.0

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type III Well: **MW-9**

Client Sample ID:		143GW207
Date Sampled:		08/29/00
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<2
1,3-Dichlorobenzene	620	<2
1,4-Dichlorobenzene	75	<2
Dibromochloromethane	0.41	<2
Chloroform	0.19	<2
Chloromethane	2.6	<2
1,2-Dichloroethane	0.38	<2
EPA 602		
Benzene	1	3390
Chlorobenzene	50	<2
Methyl tert-butyl ether	210	9260
Ethylbenzene	29	291
Xylenes (total)	530	735
Toluene	1000	1060
Total BTX		5476
EPA 610		
Chrysene	5	NA
Naphthalene	21	NA
Acenaphthene	80	NA
Acenaphthylene	210	NA
Benzo(a)anthracene	0.05	NA
Pyrene	210	NA
Fluorene	280	NA
Anthracene	2100	NA
Fluoranthene	280	NA
Phenanthrene	210	NA
SW846-3010A		
Lead	15	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type III Well: **MW-9**

Client Sample ID:		UST820-MW09
Date Sampled:		8/6/05
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	4.8
1,3-Dichlorobenzene	620	<1.0
1,4-Dichlorobenzene	75	<1.0
Dibromochloromethane	0.41	NA
Chloroform	0.19	NA
Chloromethane	2.6	NA
1,2-Dichloroethane	0.38	NA
EPA 602		
Benzene	1	1820
Chlorobenzene	50	<1.0
Methyl tert-butyl ether	210	2410
Ethylbenzene	29	168
Xylenes (total)	530	297
Toluene	1000	224
Total BTEX		2509
EPA 610		
Chrysene	5	<2.0
Naphthalene	21	13.9
Acenaphthene	80	<3.9
Acenaphthylene	210	<3.9
Benzo(a)anthracene	0.05	<0.2
Pyrene	210	<2.0
Fluorene	280	<2.0
Anthracene	2100	<2.0
Fluoranthene	280	<2.0
Phenanthrene	210	<2.0
SW846-3010A		
Lead	15	<20

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type III Well: **MW-9D**

Client Sample ID:		UST820-MW19D 01C3	UST820-MW09D 02B	UST820-MW09D 02C	UST820-MW09D	UST820-MW09D	UST820-MW09D	UST820-MW09D	UST820-MW09D
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602									
Benzene	1	<1.0	2	19.9	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<1.0	1.2	2.5	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	<1.0	0.73 J	7.8	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<2.0	1.8 J	22	<3.0	<3.0	<3.0	<3.0	<3.0
Toluene	1000	<1.0	1.7	17.3	<1.0	<1.0	<1.0	<1.0	<1.0
Total BTEX			6.23	67					
EPA 610									
Chrysene	5	<0.10	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<1.9
Naphthalene	21	<2.0	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<1.9
Acenaphthene	80	<1.0	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<3.8
Acenaphthylene	210	<1.0	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<3.8
Benzo(a)anthracene	0.05	<0.10	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<0.19
Pyrene	210	<0.25	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<1.9
Fluorene	280	<2.0	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<1.9
Anthracene	2100	<1.0	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<1.9
Fluoranthene	280	<0.25	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<1.9
Phenanthrene	210	<1.0	<5.5	<5.2	<5.2	<5.1	<5.4	<4.8	<1.9
SW846-3010A									
Lead	15	NA	NA	NA	NA	NA	NA	<5.0	<5.0
Bold type indicates detectable concentrations.									
Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-10**

Client Sample ID:	143GW205	
Date Sampled:		08/29/00
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<2
1,3-Dichlorobenzene	620	<2
1,4-Dichlorobenzene	75	<2
Dibromochloromethane	0.41	<2
Chloroform	0.19	<2
Chloromethane	2.6	<2
1,2-Dichloroethane	0.38	<2
EPA 602		
Benzene	1	<1
Chlorobenzene	50	<2
Methyl tert-butyl ether	210	5.5
Ethylbenzene	29	<2
Xylenes (total)	530	<6
Toluene	1000	<2
Total BTEX		
EPA 610		
Chrysene	5	NA
Naphthalene	21	NA
Acenaphthene	80	NA
Acenaphthylene	210	NA
Benzo(a)anthracene	0.05	NA
Pyrene	210	NA
Fluorene	280	NA
Anthracene	2100	NA
Fluoranthene	280	NA
Phenanthrene	210	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type II Well: **MW-10**

Client Sample ID:		No Sample
Date Sampled:		8/8/2005
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	
1,3-Dichlorobenzene	620	
1,4-Dichlorobenzene	75	
Dibromochloromethane	0.41	
Chloroform	0.19	
Chloromethane	2.6	
1,2-Dichloroethane	0.38	
EPA 602		
Benzene	1	
Chlorobenzene	50	
Methyl tert-butyl ether	210	
Ethylbenzene	29	
Xylenes (total)	530	
Toluene	1000	
Total BTEX		
EPA 610		
Chrysene	5	
Naphthalene	21	
Acenaphthene	80	
Acenaphthylene	210	
Benzo(a)anthracene	0.05	
Pyrene	210	
Fluorene	280	
Anthracene	2100	
Fluoranthene	280	
Phenanthrene	210	

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-11**

Client Sample ID:		143GW211
Date Sampled:		08/29/00
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<20
1,3-Dichlorobenzene	620	<20
1,4-Dichlorobenzene	75	<20
Dibromochloromethane	0.41	<20
Chloroform	0.19	<20
Chloromethane	2.6	<20
1,2-Dichloroethane	0.38	<20
EPA 602		
Benzene	1	647
Chlorobenzene	50	<20
Methyl tert-butyl ether	210	117
Ethylbenzene	29	881
Xylenes (total)	530	6140
Toluene	1000	6690
Total BTEX		14358
EPA 610		
Chrysene	5	NA
Naphthalene	21	NA
Acenaphthene	80	NA
Acenaphthylene	210	NA
Benzo(a)anthracene	0.05	NA
Pyrene	210	NA
Fluorene	280	NA
Anthracene	2100	NA
Fluoranthene	280	NA
Phenanthrene	210	NA
SW846-3010A		
Lead	15	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-11**

Client Sample ID:		UST820-MW11
Date Sampled:		08/10/05
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	167
1,3-Dichlorobenzene	620	<20
1,4-Dichlorobenzene	75	<20
Dibromochloromethane	0.41	NA
Chloroform	0.19	NA
Chloromethane	2.6	NA
1,2-Dichloroethane	0.38	NA
EPA 602		
Benzene	1	<20
Chlorobenzene	50	<20
Methyl tert-butyl ether	210	<20
Ethylbenzene	29	78
Xylenes (total)	530	3990
Toluene	1000	1478
Total BTEX		5546.1
EPA 610		
Chrysene	5	<1.9
Naphthalene	21	179
Acenaphthene	80	<16
Acenaphthylene	210	<16
Benzo(a)anthracene	0.05	<0.19
Pyrene	210	1.6 J
Fluorene	280	<1.9
Anthracene	2100	<1.9
Fluoranthene	280	1.6 J
Phenanthrene	210	<1.9
SW846-3010A		
Lead	15	<5.0

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type II Well: **MW-12**

Client Sample ID:		143GW020	143GW050	143GW079	143GW113	143GW136	143GW148	143GW157	143GW174	143GW193
Date Sampled:		08/19/97	02/11/98	05/12/98	08/15/98	11/17/98	05/18/99	09/10/99	11/17/99	05/18/00
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 601										
1,2-Dichlorobenzene	620	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	620	<0.8	<0.8	<0.8	<0.8	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75	<1.5	<1.5	<1.5	<1.5	0.36 J	<1	<1	<1	<1
Dibromochloromethane	0.41	NA	NA	NA	NA	NA	<1	<1	<1	<1
Chloroform	0.19	NA	NA	NA	NA	NA	<1	<1	<1	<1
Chloromethane	2.6	NA	NA	NA	NA	NA	<1	<1	<1	<1
1,2-Dichloroethane	0.38	NA	NA	NA	NA	<1	<1	<1	<1	<1
EPA 602										
Benzene	1	0.13 J	<0.5	0.17 J	1.2	0.21 J	12.6	9.2	14.7	<1
Chlorobenzene	50	<0.5	1.1	<0.5	<0.5	<1	<1	<1	<1	<1
Methyl tert-butyl ether	210	0.27 J	11	0.75 J	1.4 J	1 J	5	10.3	2	<1
Ethylbenzene	29	0.075 J	0.17 JB	<0.8	0.49 J	0.29 J	4.4	10.3	28	<1
Xylenes (total)	530	0.216 J	0.74 JBP	0.43 J	2.08 J	<3	9.6	102	106	<3
Toluene	1000	0.2 J	0.34 JBP	0.91 JB	2.9 B	0.85 J	8.4	114	57.6	<1
Total BTEX		0.621	1.25	1.51	6.67	1.15	35	235.5	206.3	
EPA 610										
Chrysene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW846-3010A										
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Bold type indicates detectable concentrations.								
		Shaded area indicates detectable concentrations above the groundwater quality standards.								

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-12**

Client Sample ID:		143GW206
Date Sampled:		08/29/00
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<2
1,3-Dichlorobenzene	620	<2
1,4-Dichlorobenzene	75	<2
Dibromochloromethane	0.41	<2
Chloroform	0.19	<2
Chloromethane	2.6	<2
1,2-Dichloroethane	0.38	<2
EPA 602		
Benzene	1	<1
Chlorobenzene	50	<2
Methyl tert-butyl ether	210	2.5
Ethylbenzene	29	<2
Xylenes (total)	530	<6
Toluene	1000	<2
Total BTEX		
EPA 610		
Chrysene	5	NA
Naphthalene	21	NA
Acenaphthene	80	NA
Acenaphthylene	210	NA
Benzo(a)anthracene	0.05	NA
Pyrene	210	NA
Fluorene	280	NA
Anthracene	2100	NA
Fluoranthene	280	NA
Phenanthrene	210	NA
SW846-3010A		
Lead	15	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-12**

Client Sample ID:		UST820-MW12
Date Sampled:		08/08/05
Analyte (ug/l)	Action Level	Result
EPA 601		
1,2-Dichlorobenzene	620	<1.0
1,3-Dichlorobenzene	620	<1.0
1,4-Dichlorobenzene	75	<1.0
Dibromochloromethane	0.41	NA
Chloroform	0.19	NA
Chloromethane	2.6	NA
1,2-Dichloroethane	0.38	NA
EPA 602		
Benzene	1	<1.0
Chlorobenzene	50	<1.0
Methyl tert-butyl ether	210	<1.0
Ethylbenzene	29	<1.0
Xylenes (total)	530	<3.0
Toluene	1000	<1.0
Total BTEX		
EPA 610		
Chrysene	5	<1.9
Naphthalene	21	<1.9
Acenaphthene	80	<3.8
Acenaphthylene	210	<3.8
Benzo(a)anthracene	0.05	<0.19
Pyrene	210	<1.9
Fluorene	280	<1.9
Anthracene	2100	<1.9
Fluoranthene	280	<1.9
Phenanthrene	210	<1.9
SW846-3010A		
Lead	15	<5.0

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-13**

Client Sample ID:		GW-236	UST820-MW13-01C3	UST820-MW13-02B	UST820-MW13-02C	UST820-MW13	UST820-MW13	UST820-MW13	UST820-MW13
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602									
Benzene	1	40	24	0.63 J	<1.0	0.55 J	4.3	12.5	2.8
Chlorobenzene	50	<10	<10	<1.0	<1.0	<1.0	<1.0	<10	<1.0
Methyl tert-butyl ether	210	260	350	18.3	6.7	4.4	<1.0	<10	1.5
Ethylbenzene	29	52	110	5	0.73 J	3.9	48.4	145	19.5
Xylenes (total)	530	550	590	24.8	7.2	103	531	1290	63.6
Toluene	1000	920 B	68	17.5	2.1	62.5	53.3	474	19.1
Total BTEX		1562	792	47.93	10.03	169.95	637	1922	105
EPA 610									
Chrysene	5	<0.10	<0.10	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
Naphthalene	21	11	6	<5.0	<5.4	7.2	34.2	48.4	3.2 J
Acenaphthene	80	<1.0	1 P	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
Acenaphthylene	210	<1.0	3.6	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
Benzo(a)anthracene	0.05	<0.10	0.15 P	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
Pyrene	210	<0.10	<0.25	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
Fluorene	280	<2.0	<2.0	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
Anthracene	2100	<1.0	<1.0	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
Fluoranthene	280	<0.20	<0.25	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
Phenanthrene	210	<1.0	<1.0	<5.0	<5.4	<5.1	<5.1	<5.2	<4.8
SW846-3010A									
Lead	15	NA	NA	NA	NA	NA	NA	NA	<5.0
									7.3
Bold type indicates detectable concentrations.									
Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type II Well: **MW-14**

Client Sample ID:		GW-237	UST820-MW14-01C3	UST820-MW14-02B	UST820-MW14-02C	UST820-MW14	UST820-MW14	UST820-MW14	UST820-MW14	UST820-MW14
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602										
Benzene	1	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	0.93 J	<1.0
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	2.1 J	<1.0	0.53 J	<1.0	<1.0	<1.0	<1.0	2.6	3.5
Ethylbenzene	29	<1.0	<1.0	7.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<1.0	<2.0	37.2	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Toluene	1000	0.36 J	<1.0	89.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total BTEX		0.36		134.9					0.93	
EPA 610										
Chrysene	5	<0.10	<0.10	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Naphthalene	21	<2.0	<2.0	2.9	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Acenaphthene	80	<1.0	<1.0	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Acenaphthylene	210	<1.0	<1.0	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Benzo(a)anthracene	0.05	<0.10	<0.10	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Pyrene	210	<0.10	<0.25	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Fluorene	280	<2.0	<2.0	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Anthracene	2100	<1.0	<1.0	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Fluoranthene	280	<0.20	<0.25	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
Phenanthrene	210	<1.0	<1.0	<5.0	<5.1	<5.1	<5.1	<5.2	<4.8	<4.8
SW846-3010A										
Lead	15	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.0
Bold type indicates detectable concentrations.										
Shaded area indicates detectable concentrations above the groundwater quality standards.										

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-14**

Client Sample ID:		UST820-MW14
Date Sampled:		8/9/05
Analyte (ug/l)	Action Level	Result
EPA 602		
Benzene	1	<1.0
Chlorobenzene	50	<1.0
Methyl tert-butyl ether	210	<1.0
Ethylbenzene	29	<1.0
Xylenes (total)	530	<3.0
Toluene	1000	<1.0
Total BTEX		
EPA 610		
Chrysene	5	<1.9
Naphthalene	21	<1.9
Acenaphthene	80	<3.8
Acenaphthylene	210	<3.8
Benzo(a)anthracene	0.05	<0.19
Pyrene	210	<1.9
Fluorene	280	<1.9
Anthracene	2100	<1.9
Fluoranthene	280	<1.9
Phenanthrene	210	<1.9
SW846-3010A		
Lead	15	<5.0
Bold type indicates detectable concentration:		
Shaded area indicates detectable concentration:		

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-15**

Client Sample ID:		GW-235	UST820-MW15-01C3	UST820-MW15-02B	UST820-MW15-02C	UST820-MW15	UST820-MW15	UST820-MW15	UST820-MW15
Date Sampled:		06/26/01	10/01/01	04/26/02	10/29/02	04/08/03	10/17/03	04/13/04	11/06/04
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602									
Benzene	1	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.1
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	0.67 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.65 J
Xylenes (total)	530	3.1	<2.0	<3.0	<3.0	<3.0	<3.0	<3.0	1.4 J
Toluene	1000	3.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.89 J
Total BTEX		8.97							5.04
EPA 610									
Chrysene	5	<0.10	<0.10	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Naphthalene	21	<2.0	<2.0	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Acenaphthene	80	<1.0	<1.0	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Acenaphthylene	210	<1.0	<1.0	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Benzo(a)anthracene	0.05	<0.10	<0.10	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Pyrene	210	<0.10	<0.25	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Fluorene	280	<2.0	<2.0	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Anthracene	2100	<1.0	<1.0	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Fluoranthene	280	<0.20	<0.25	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
Phenanthrene	210	<1.0	<1.0	<5.0	<5.2	<5.1	<5.1	<5.2	<4.8
SW846-3010A									
Lead	15	NA	NA	NA	NA	NA	NA	NA	<5.0
Bold type indicates detectable concentrations.									
Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-16**

Client Sample ID:		GW-234	UST820-MW16-01C3	UST820-MW16-02B	UST820-MW16-02C	UST820-MW16	UST820-MW16	UST820-MW16	UST820-MW16
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602									
Benzene	1	8.2	<1.0	<1.0	<1.0	<1.0	2.4	2.6	8.6
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	1.8 J	<1.0	<1.0	<1.0	<1.0	<1.0	0.6 J	2.7
Ethylbenzene	29	2.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	9.6	<2.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Toluene	1000	12 B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total BTEX		32.1					2.4	2.6	8.6
EPA 610									
Chrysene	5	<2.5	<0.10	<5.5	<5.1	<5.1	<5.2	<4.8	<1.9
Naphthalene	21	<50	<2.0	<5.5	<5.1	<5.1	<5.2	<4.8	<1.9
Acenaphthene	80	<25	2.4	<5.5	<5.1	<5.1	<5.2	<4.8	<3.8
Acenaphthylene	210	<25	4	<5.5	<5.1	<5.1	<5.2	<4.8	<3.8
Benzo(a)anthracene	0.05	<2.5	<0.10	<5.5	<5.1	<5.1	<5.2	<4.8	<0.19
Pyrene	210	<2.5	<0.25	<5.5	<5.1	<5.1	<5.2	<4.8	<1.9
Fluorene	280	<50	<2.0	<5.5	<5.1	<5.1	<5.2	<4.8	<1.9
Anthracene	2100	<25	<1.0	<5.5	<5.1	<5.1	<5.2	<4.8	<1.9
Fluoranthene	280	<5	<0.25	<5.5	<5.1	<5.1	<5.2	<4.8	<1.9
Phenanthrene	210	<25	1.3	<5.5	<5.1	<5.1	<5.2	<4.8	<1.9
SW846-3010A									
Lead	15	NA	NA	NA	NA	NA	NA	<5.0	18.7
Bold type indicates detectable concentrations.									
Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type III Well: **MW-17**

Client Sample ID:		GW-240	UST820-MW17-01C3	UST820-MW17-02B	UST820-MW17-02C	UST820-MW17	UST820-MW17	UST820-MW17	UST820-MW17
Date Sampled:		06/22/01	09/27/01	04/25/02	10/29/02	04/18/03	10/07/03	04/15/04	11/20/04
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602									
Benzene	1	19	18	17.4	<1.0	45.8	364	181	242
Chlorobenzene	50	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	56	<2.0	61	12.4	148	1860	1500	1760
Ethylbenzene	29	2.2	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	10	<4.0	<3.0	<3.0	1.9 J	3.3	<30	2.3 J
Toluene	1000	12 B	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Total BTEX		43.2	18	17.4		47.7	367.3	181	244.3
EPA 610									
Chrysene	5	<0.10	<0.10	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Naphthalene	21	<2.0	<2.0	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Acenaphthene	80	<1.0	<1.0	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Acenaphthylene	210	<1.0	<1.0	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Benzo(a)anthracene	0.05	<0.10	<0.10	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Pyrene	210	<0.10	<0.25	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Fluorene	280	<2.0	<2.0	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Anthracene	2100	<1.0	<1.0	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Fluoranthene	280	<0.20	<0.25	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
Phenanthrene	210	<1.0	<1.0	<5.5	<5.1	<5.1	<5.2	<5.1	<4.8
SW846-3010A									
Lead	15	NA	NA	NA	NA	NA	NA	NA	<15
									<20
Bold type indicates detectable concentrations.									
Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Analytical Data Summary
Type II Well: **MW-18**

Client Sample ID:	UST820-MW18	UST820-MW18	UST820-MW18	UST820-MW18
Date Sampled:	11/20/04	2/26/05	5/31/05	8/10/05
Analyte (ug/l)	Action Level	Result	Result	Result
EPA 602				
Benzene	1	<1.0	1.2	<1.0
Chlorobenzene	50	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<1.0	<1.0	<1.0
Ethylbenzene	29	<1.0	5.0	<1.0
Xylenes (total)	530	<3.0	13.2	<3.0
Toluene	1000	<1.0	10.5	<1.0
Total BTEX			29.9	
EPA 610				
Chrysene	5	<4.9	<4.8	<1.9
Naphthalene	21	<4.9	<4.8	<1.9
Acenaphthene	80	<4.9	<4.8	<3.8
Acenaphthylene	210	<4.9	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.9	<4.8	<0.19
Pyrene	210	<4.9	<4.8	<1.9
Fluorene	280	<4.9	<4.8	<1.9
Anthracene	2100	<4.9	<4.8	<1.9
Fluoranthene	280	<4.9	<4.8	<1.9
Phenanthrene	210	<4.9	<4.8	<1.9
SW846-3010A				
Lead	15	<5.0	<100	<5.0
Bold type indicates detectable concentrations.				
Shaded area indicates detectable concentrations above the groundwater quality standards.				

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Analytical Data Summary
Type III Well: **MW-19**

Client Sample ID:		GW-229	UST820-MW19-01C3	UST820-MW19-02B	UST820-MW19-02C	UST820-MW19	UST820-MW19	UST820-MW19	UST820-MW19	UST820-MW19
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602										
Benzene	1	1.5	<1.0	1.4	<1.0	0.87 J	0.76 J	0.79 J	0.57 J	4.1
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	12	<1.0	8.2	5.1	4.4	3.0	4.5	4.7	8.0
Ethylbenzene	29	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.0	8.3
Xylenes (total)	530	0.56 J	<2.0	<3.0	<3.0	<3.0	<3.0	1.8 J	<1.0	21.8
Toluene	1000	0.66 J	<1.0	0.75 J	<1.0	<1.0	<1.0	1.3	<1.0	23.1
Total BTEX		2.72		2.15		0.87	0.76	3.89	0.57	57.3
EPA 610										
Chrysene	5	<0.10	<0.10	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
Naphthalene	21	<2.0	<2.0	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	1.5 J
Acenaphthene	80	<1.0	<1.0	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
Acenaphthylene	210	<1.0	<1.0	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
Benzo(a)anthracene	0.05	<0.10	<0.10	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
Pyrene	210	<0.10	<0.25	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
Fluorene	280	<2.0	<2.0	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
Anthracene	2100	<1.0	<1.0	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
Fluoranthene	280	<0.20	<0.25	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
Phenanthrene	210	<1.0	<1.0	<5.5	<5.3	<5.1	<5.4	<5.3	<4.8	<4.8
SW846-3010A										
Lead	15	NA	NA	NA	NA	NA	NA	NA	<5.0	<5.0
Bold type indicates detectable concentrations.										
Shaded area indicates detectable concentrations above the groundwater quality standards.										
										19.9

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type III Well: **MW-19**

Client Sample ID:		UST820-MW19
Date Sampled:		8/8/05
Analyte (ug/l)	Action Level	Result
EPA 602		
Benzene	1	<1.0
Chlorobenzene	50	<1.0
Methyl tert-butyl ether	210	8.0
Ethylbenzene	29	<1.0
Xylenes (total)	530	<3.0
Toluene	1000	<1.0
Total BTEX		
EPA 610		
Chrysene	5	<1.9
Naphthalene	21	<1.9
Acenaphthene	80	<3.8
Acenaphthylene	210	<3.8
Benzo(a)anthracene	0.05	<0.19
Pyrene	210	<1.9
Fluorene	280	<1.9
Anthracene	2100	<1.9
Fluoranthene	280	<1.9
Phenanthrene	210	<1.9
SW846-3010A		
Lead	15	<100
Bold type indicates detectable concentration:		
Shaded area indicates detectable concentration:		

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-20**

Client Sample ID:	UST820-MW20	UST820-MW20	UST820-MW20	UST820-MW20
Date Sampled:	11/20/04	3/1/05	5/31/05	8/9/05
Analyte (ug/l)	Action Level	Result	Result	Result
EPA 602				
Benzene	1	<1.0	1.0	<1.0
Chlorobenzene	50	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<1.0	<1.0	0.53 J
Ethylbenzene	29	<1.0	3.5	<1.0
Xylenes (total)	530	<3.0	8.6	<3.0
Toluene	1000	<1.0	6.1	<1.0
Total BTEX			19.2	
EPA 610				
Chrysene	5	<4.8	<4.8	<1.9
Naphthalene	21	<4.8	<4.8	<1.9
Acenaphthene	80	<4.8	<4.8	<3.9
Acenaphthylene	210	<4.8	<4.8	<3.9
Benzo(a)anthracene	0.05	<4.8	<4.8	<0.19
Pyrene	210	<4.8	<4.8	<1.9
Fluorene	280	<4.8	<4.8	<1.9
Anthracene	2100	<4.8	<4.8	<1.9
Fluoranthene	280	<4.8	<4.8	<1.9
Phenanthrene	210	<4.8	<4.8	<1.9
SW846-3010A				
Lead	15	<5.0	<5.0	6.1
Bold type indicates detectable concentrations.				
Shaded area indicates detectable concentrations above the groundwater quality standards.				

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type III Well: **MW-21**

Client Sample ID:		143GW026	143GW052	143GW082	143GW114	143GW138	143GW149	143GW159	143GW171	143GW195
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 601										
1,2-Dichlorobenzene	620	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	620	<0.8	<0.8	<0.8	<0.8	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75	<1.5	<1.5	<1.5	0.56 JB	0.44 J	<1	<1	<1	<1
Dibromochloromethane	0.41	NA	NA	NA	NA	NA	<1	<1	<1	<1
Chloroform	0.19	NA	NA	NA	NA	NA	<1	<1	<1	<1
Chloromethane	2.6	NA	NA	NA	NA	NA	<1	<1	<1	<1
1,2-Dichloroethane	0.38	NA	NA	NA	NA	<1	<1	<1	<1	<1
EPA 602										
Benzene	1	<0.5	<0.5	<0.5	0.49 J	3.8	50.4	2.2	1.9	<1
Chlorobenzene	50	<0.5	0.085 J	<0.5	<0.5	<1	<1	<1	<1	<1
Methyl tert-butyl ether	210	<5	1.3 J	<5	<5	8.3	3.6	<1	<1	<1
Ethylbenzene	29	<0.8	<0.8	0.42 J	0.29 J	<1	8.8	4.5	5.5	<1
Xylenes (total)	530	<3	0.51 JB	1.48 J	0.95 J	<3	20	44	24.9	<3
Toluene	1000	<2	0.23 JB	1.9 J	<2	<1	26	36.7	10.8	<1
Total BTEX			0.74	3.8	1.73	5.2	105.2	87.4	43.1	
EPA 610										
Chrysene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW846-3010A										
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Bold type indicates detectable concentrations.								
		Shaded area indicates detectable concentrations above the groundwater quality standards.								

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type III Well: **MW-21**

Client Sample ID:		143GW203	143GW214
Date Sampled:		08/29/00	12/13/00
Analyte (ug/l)	Action Level	Result	Result
EPA 601			
1,2-Dichlorobenzene	620	<2	<1
1,3-Dichlorobenzene	620	<2	<1
1,4-Dichlorobenzene	75	<2	<1
Dibromochloromethane	0.41	<2	<1
Chloroform	0.19	<2	<1
Chloromethane	2.6	<2	<1
1,2-Dichloroethane	0.38	<2	<1
EPA 602			
Benzene	1	<1	<1
Chlorobenzene	50	<2	<1
Methyl tert-butyl ether	210	<2	<5
Ethylbenzene	29	<2	<1
Xylenes (total)	530	<6	<1
Toluene	1000	<2	<1
Total BTEX			
EPA 610			
Chrysene	5	NA	NA
Naphthalene	21	NA	NA
Acenaphthene	80	NA	NA
Acenaphthylene	210	NA	NA
Benzo(a)anthracene	0.05	NA	NA
Pyrene	210	NA	NA
Fluorene	280	NA	NA
Anthracene	2100	NA	NA
Fluoranthene	280	NA	NA
Phenanthrene	210	NA	NA
SW846-3010A			
Lead	15	NA	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type III Well: **MW-21**

Client Sample ID:		UST820-MW21	UST820-MW21
Date Sampled:		5/31/05	8/9/05
Analyte (ug/l)	Action Level	Result	Result
EPA 601			
1,2-Dichlorobenzene	620	NA	<1.0
1,3-Dichlorobenzene	620	NA	<1.0
1,4-Dichlorobenzene	75	NA	<1.0
Dibromochloromethane	0.41	NA	NA
Chloroform	0.19	NA	NA
Chloromethane	2.6	NA	NA
1,2-Dichloroethane	0.38	NA	NA
EPA 602			
Benzene	1	<1.0	<1.0
Chlorobenzene	50	<1.0	<1.0
Methyl tert-butyl ether	210	0.87 J	0.85 J
Ethylbenzene	29	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0
Toluene	1000	<1.0	<1.0
Total BTEX			
EPA 610			
Chrysene	5	<4.8	<1.9
Naphthalene	21	<4.8	<1.9
Acenaphthene	80	<4.8	<3.9
Acenaphthylene	210	<4.8	<3.9
Benzo(a)anthracene	0.05	<4.8	<0.19
Pyrene	210	<4.8	<1.9
Fluorene	280	<4.8	<1.9
Anthracene	2100	<4.8	<1.9
Fluoranthene	280	<4.8	<1.9
Phenanthrene	210	<4.8	<1.9
SW846-3010A			
Lead	15	<5.0	<10

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-22**

Client Sample ID:	UST820-MW22	UST820-MW22	UST820-MW22	UST820-MW22	UST820-MW22
Date Sampled:	11/30/04	3/1/05	5/31/05	8/10/05	
Analyte (ug/l)	Action Level	Result	Result	Result	Result
EPA 602					
Benzene	1	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0	<3.0	<3.0
Toluene	1000	<1.0	<1.0	<1.0	<1.0
Total BTEX					
EPA 610					
Chrysene	5	<4.8	<4.8	<4.8	<1.9
Naphthalene	21	<4.8	<4.8	<4.8	<1.9
Acenaphthene	80	<4.8	<4.8	<4.8	<3.8
Acenaphthylene	210	<4.8	<4.8	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<4.8	<4.8	<0.19
Pyrene	210	<4.8	<4.8	<4.8	<1.9
Fluorene	280	<4.8	<4.8	<4.8	<1.9
Anthracene	2100	<4.8	<4.8	<4.8	<1.9
Fluoranthene	280	<4.8	<4.8	<4.8	<1.9
Phenanthrene	210	<4.8	<4.8	<4.8	<1.9
SW846-3010A					
Lead	15	<5.0	<5.0	<5.0	<5.0
Bold type indicates detectable concentrations.					
Shaded area indicates detectable concentrations above the groundwater quality standards.					

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type III Well: **MW-23**

Client Sample ID:	UST820-MW23	UST820-MW23	UST820-MW23	UST820-MW23
Date Sampled:	11/30/04	3/1/05	5/31/05	8/10/05
Analyte (ug/l)	Action Level	Result	Result	Result
EPA 602				
Benzene	1	<1.0	<1.0	<1.0
Chlorobenzene	50	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<1.0	2.2	2.7
Ethylbenzene	29	<1.0	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0	<3.0
Toluene	1000	<1.0	<1.0	<1.0
Total BTEX				
EPA 610				
Chrysene	5	<4.8	<4.8	<1.9
Naphthalene	21	<4.8	<4.8	<1.9
Acenaphthene	80	<4.8	<4.8	<3.8
Acenaphthylene	210	<4.8	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<4.8	<0.19
Pyrene	210	<4.8	<4.8	<1.9
Fluorene	280	<4.8	<4.8	<1.9
Anthracene	2100	<4.8	<4.8	<1.9
Fluoranthene	280	<4.8	<4.8	<1.9
Phenanthrene	210	<4.8	<4.8	<1.9
SW846-3010A				
Lead	15	5.4	<5.0	8.2
Bold type indicates detectable concentrations.				
Shaded area indicates detectable concentrations above the groundwater quality standards.				

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-24**

Client Sample ID:	UST820-MW24	UST820-MW24	UST820-MW24	UST820-MW24	UST820-MW24
Date Sampled:	11/30/04	2/26/05	5/27/05	8/9/05	
Analyte (ug/l)	Action Level	Result	Result	Result	Result
EPA 602					
Benzene	1	<1.0	1.9	<1.0	<1.0
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	29	<1.0	6.2	<1.0	<1.0
Xylenes (total)	530	<3.0	16.1	<3.0	<3.0
Toluene	1000	<1.0	15	<1.0	<1.0
Total BTEX			39.2		
EPA 610					
Chrysene	5	<4.8	<4.8	<4.8	<1.9
Naphthalene	21	<4.8	0.97 J	<4.8	<1.9
Acenaphthene	80	<4.8	<4.8	<4.8	<3.8
Acenaphthylene	210	<4.8	<4.8	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<4.8	<4.8	<0.19
Pyrene	210	<4.8	<4.8	<4.8	<1.9
Fluorene	280	<4.8	<4.8	<4.8	<1.9
Anthracene	2100	<4.8	<4.8	<4.8	<1.9
Fluoranthene	280	<4.8	<4.8	<4.8	<1.9
Phenanthrene	210	<4.8	<4.8	<4.8	<1.9
SW846-3010A					
Lead	15	5.2	5.9	<5.0	9.5
Bold type indicates detectable concentrations.					
Shaded area indicates detectable concentrations above the groundwater quality standards.					

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type III Well: **MW-25**

Client Sample ID:	UST820-MW25	UST820-MW25	UST820-MW25	UST820-MW25	UST820-MW25
Date Sampled:	11/30/04	2/26/05	5/27/05	8/8/05	
Analyte (ug/l)	Action Level	Result	Result	Result	Result
EPA 602					
Benzene	1	<1.0	4.2	<1.0	<1.0
Chlorobenzene	50	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	1.5	<1.0	0.65 J	<1.0
Ethylbenzene	29	<1.0	9.2	<1.0	<1.0
Xylenes (total)	530	<3.0	23.8	<3.0	<3.0
Toluene	1000	<1.0	26.2	<1.0	<1.0
Total BTEX			63.4		
EPA 610					
Chrysene	5	<4.8	<4.8	<4.8	<1.9
Naphthalene	21	<4.8	1.6 J	<4.8	<1.9
Acenaphthene	80	<4.8	<4.8	<4.8	<3.8
Acenaphthylene	210	<4.8	<4.8	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<4.8	<4.8	<0.19
Pyrene	210	<4.8	<4.8	<4.8	<1.9
Fluorene	280	<4.8	<4.8	<4.8	<1.9
Anthracene	2100	<4.8	<4.8	<4.8	<1.9
Fluoranthene	280	<4.8	<4.8	<4.8	<1.9
Phenanthrene	210	<4.8	<4.8	<4.8	<1.9
SW846-3010A					
Lead	15	<5.0	<5.0	<5.0	<5.0
Bold type indicates detectable concentrations.					
Shaded area indicates detectable concentrations above the groundwater quality standards.					

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type II Well: **MW-26**

Client Sample ID:		143GW022	143GW049	143GW083	143GW115	143GW141	143GW152	143GW162	143GW180	143GW198
Date Sampled:	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 601										
1,2-Dichlorobenzene	620	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	620	<0.8	0.05 JP	<0.8	<0.8	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75	0.29 J	<1.5	<1.5	0.54 JB	0.3 J	<1	<1	<1	<1
Dibromochloromethane	0.41	NA	NA	NA	NA	NA	<1	<1	<1	<1
Chloroform	0.19	NA	NA	NA	NA	NA	<1	<1	<1	<1
Chloromethane	2.6	NA	NA	NA	NA	NA	<1	<1	<1	<1
1,2-Dichloroethane	0.38	NA	NA	NA	NA	NA	<1	<1	<1	<1
EPA 602										
Benzene	1	<0.5	0.092 JP	<0.5	0.1 J	<1	21	166	15.4	<1
Chlorobenzene	50	<0.5	0.039 JP	<0.5	<0.5	<1	<1	<1	<1	<1
Methyl tert-butyl ether	210	0.72 JP	6.4	<5	6.3	7.4	65.4	99	76.6	132
Ethylbenzene	29	0.32 JP	0.08 JB	<0.8	<0.8	<1	16.9	23	19.5	<1
Xylenes (total)	530	1.62 JP	0.5 JB	0.196 JB	<3	<3	91	80.7	127	<3
Toluene	1000	1.2 JP	0.22 JBP	0.3 JB	<2	<1	159	91.7	83.2	<1
Total BTEX		3.14	0.992	0.496	0.1		287.9	361.4	245.1	
EPA 610										
Chrysene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW846-3010A										
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Bold type indicates detectable concentrations.								
		Shaded area indicates detectable concentrations above the groundwater quality standards.								

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-26**

Client Sample ID:		143GW208	143GW219
Date Sampled:		08/29/00	12/13/00
Analyte (ug/l)	Action Level	Result	Result
EPA 601			
1,2-Dichlorobenzene	620	<2	<1
1,3-Dichlorobenzene	620	<2	<1
1,4-Dichlorobenzene	75	<2	<1
Dibromochloromethane	0.41	<2	<1
Chloroform	0.19	<2	<1
Chloromethane	2.6	<2	<1
1,2-Dichloroethane	0.38	<2	<1
EPA 602			
Benzene	1	49.6	30
Chlorobenzene	50	<2	<1
Methyl tert-butyl ether	210	92	31
Ethylbenzene	29	8.5	5
Xylenes (total)	530	18	11
Toluene	1000	27.7	17
Total BTEX		103.8	63
EPA 610			
Chrysene	5	NA	NA
Naphthalene	21	NA	NA
Acenaphthene	80	NA	NA
Acenaphthylene	210	NA	NA
Benzo(a)anthracene	0.05	NA	NA
Pyrene	210	NA	NA
Fluorene	280	NA	NA
Anthracene	2100	NA	NA
Fluoranthene	280	NA	NA
Phenanthrene	210	NA	NA
SW846-3010A			
Lead	15	NA	NA

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **MW-26**

Client Sample ID:			UST820-MW26	UST820-MW26
Date Sampled:			5/27/05	8/9/05
Analyte (ug/l)	Action Level	Result	Result	Result
EPA 601				
1,2-Dichlorobenzene	620	NA		<1.0
1,3-Dichlorobenzene	620	NA		<1.0
1,4-Dichlorobenzene	75	NA		<1.0
Dibromochloromethane	0.41	NA		NA
Chloroform	0.19	NA		NA
Chloromethane	2.6	NA		NA
1,2-Dichloroethane	0.38	NA		NA
EPA 602				
Benzene	1	<1.0		<1.0
Chlorobenzene	50	<1.0		<1.0
Methyl tert-butyl ether	210	<1.0		1.5
Ethylbenzene	29	<1.0		<1.0
Xylenes (total)	530	<3.0		<3.0
Toluene	1000	<1.0		<1.0
Total BTEX				
EPA 610				
Chrysene	5	<4.8		<1.9
Naphthalene	21	<4.8		<1.9
Acenaphthene	80	<4.8		<3.8
Acenaphthylene	210	<4.8		<3.8
Benzo(a)anthracene	0.05	<4.8		<0.19
Pyrene	210	<4.8		<1.9
Fluorene	280	<4.8		<1.9
Anthracene	2100	<4.8		<1.9
Fluoranthene	280	<4.8		<1.9
Phenanthrene	210	<4.8		<1.9
SW846-3010A				
Lead	15	<5.0		7.5

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Bold type indicates detectable concentrations.

Printed: 2/27/2006
Samples analyzed by Compuchem, STL, or Accutest

Analytical Data Summary Type III Well: **MW-28**

Client Sample ID:		UST820-MW28	UST820-MW28
Date Sampled:		5/25/05	8/9/05
Analyte (ug/l)	Action Level	Result	Result
EPA 602			
Benzene	1	1110	1130
Chlorobenzene	50	<50	<1.0
Methyl tert-butyl ether	210	3350	2430
Ethylbenzene	29	<50	<1.0
Xylenes (total)	530	<150	<3.0
Toluene	1000	<50	<1.0
Total BTEX		1110	1130
EPA 610			
Chrysene	5	<4.8	<1.9
Naphthalene	21	<4.8	<1.9
Acenaphthene	80	<4.8	<3.8
Acenaphthylene	210	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<0.19
Pyrene	210	<4.8	<1.9
Fluorene	280	<4.8	<1.9
Anthracene	2100	<4.8	<1.9
Fluoranthene	280	<4.8	<1.9
Phenanthrene	210	<4.8	<1.9
Bold type indicates detectable concentrations.			
Shaded area indicates detectable concentrations above the groundwater quality standards.			

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type III Well: **MW-29**

Client Sample ID:			UST820-MW29	UST820-MW29
Date Sampled:			5/25/05	8/9/05
Analyte (ug/l)	Action Level	Result	Result	Result
EPA 602				
Benzene	1	29.6	10.7	
Chlorobenzene	50	<1.0	<1.0	
Methyl tert-butyl ether	210	31.8	23.2	
Ethylbenzene	29	<1.0	<1.0	
Xylenes (total)	530	<3.0	<3.0	
Toluene	1000	<1.0	<1.0	
Total BTEX		29.6	10.7	
EPA 610				
Chrysene	5	<4.8	<1.9	
Naphthalene	21	<4.8	<1.9	
Acenaphthene	80	<4.8	<3.8	
Acenaphthylene	210	<4.8	<3.8	
Benzo(a)anthracene	0.05	<4.8	<0.19	
Pyrene	210	<4.8	<1.9	
Fluorene	280	<4.8	<1.9	
Anthracene	2100	<4.8	<1.9	
Fluoranthene	280	<4.8	<1.9	
Phenanthrene	210	<4.8	<1.9	
Bold type indicates detectable concentrations.				
Shaded area indicates detectable concentrations above the groundwater quality standards.				

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary Type II Well: **PW-01**

Client Sample ID:		UST820-PW01	UST820-PW01
Date Sampled:		11/22/04	8/8/05
Analyte (ug/l)	Action Level	Result	Result
EPA 602			
Benzene	1	109	12.2
Chlorobenzene	50	<1.0	<1.0
Methyl tert-butyl ether	210	11.6	10.6
Ethylbenzene	29	78.2	10.5
Xylenes (total)	530	333	70.3
Toluene	1000	48.3	2.4
Total BTEX		568.5	95.4
EPA 610			
Chrysene	5	<4.8	<1.9
Naphthalene	21	10.8	1.2 J
Acenaphthene	80	<4.8	<3.8
Acenaphthylene	210	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<0.19
Pyrene	210	<4.8	<1.9
Fluorene	280	<4.8	<1.9
Anthracene	2100	<4.8	<1.9
Fluoranthene	280	<4.8	<1.9
Phenanthrene	210	<4.8	<1.9
SW846-3010A			
Lead	15	<5.0	<5.0
Bold type indicates detectable concentrations.			
Shaded area indicates detectable concentrations above the groundwater quality standards.			

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary
Type II Well: **MW-26**

Client Sample ID:		143GW022	143GW049	143GW083	143GW115		143GW141	143GW152	143GW162	143GW180	143GW198
Date Sampled:		08/19/97	02/11/98	05/12/98	08/15/98	11/17/98	02/27/99	05/18/99	09/10/99	11/17/99	05/18/00
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 601											
1,2-Dichlorobenzene	620	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	620	<0.8	0.05 JP	<0.8	<0.8	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	75	0.29 J	<1.5	<1.5	0.54 JB	0.3 J	<1	<1	<1	<1	<1
Dibromochloromethane	0.41	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1
Chloroform	0.19	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1
Chloromethane	2.6	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.38	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1
EPA 602											
Benzene	1	<0.5	0.092 JP	<0.5	0.1 J	<1	14.7	21	166	15.4	<1
Chlorobenzene	50	<0.5	0.039 JP	<0.5	<0.5	<1	<1	<1	<1	<1	<1
Methyl tert-butyl ether	210	0.72 JP	6.4	<5	6.3	7.4	67.4	65.4	99	76.6	132
Ethylbenzene	29	0.32 JP	0.08 JB	<0.8	<0.8	<1	7.8	16.9	23	19.5	<1
Xylenes (total)	530	1.62 JP	0.6 JB	0.196 JB	<3	<3	39	91	80.7	127	<3
Toluene	1000	1.2 JP	0.22 JBP	0.3 JB	<2	<1	66.4	159	91.7	83.2	<1
Total BTEX		3.14	0.992	0.496	0.1		127.9	287.9	361.4	245.1	
EPA 610											
Chrysene	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	0.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	2100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	210	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SW846-3010A											
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
		Bold type indicates detectable concentrations.									
		Shaded area indicates detectable concentrations above the groundwater quality standards.									

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Analytical Data Summary

Type II Well: **MW-26**

Client Sample ID:		143GW208	143GW219
Date Sampled:		08/29/00	12/13/00
Analyte (ug/l)	Action Level	Result	Result
EPA 601			
1,2-Dichlorobenzene	620	<2	<1
1,3-Dichlorobenzene	620	<2	<1
1,4-Dichlorobenzene	75	<2	<1
Dibromochloromethane	0.41	<2	<1
Chloroform	0.19	<2	<1
Chloromethane	2.6	<2	<1
1,2-Dichloroethane	0.38	<2	<1
EPA 602			
Benzene	1	49.6	30
Chlorobenzene	50	<2	<1
Methyl tert-butyl ether	210	92	31
Ethylbenzene	29	8.5	5
Xylenes (total)	530	18	11
Toluene	1000	27.7	17
Total BTEX		103.8	63
EPA 610			
Chrysene	5	NA	NA
Naphthalene	21	NA	NA
Acenaphthene	80	NA	NA
Acenaphthylene	210	NA	NA
Benzo(a)anthracene	0.05	NA	NA
Pyrene	210	NA	NA
Fluorene	280	NA	NA
Anthracene	2100	NA	NA
Fluoranthene	280	NA	NA
Phenanthrene	210	NA	NA
SW846-3010A			
Lead	15	NA	NA

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Analytical Data Summary

Type II Well: **MW-26**

Client Sample ID:		CL-143-GW-230	GW-230	UST820-MW26-01C3	UST820-MW26-02B	UST820-MW26-02C	UST820-MW26	UST820-MW26	UST820-MW26	UST820-MW26	UST820-MW26
Date Sampled:		03/19/01	06/22/01	10/02/01	04/26/02	10/29/02	04/18/03	10/17/03	04/20/04	11/20/04	2/26/05
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
EPA 601											
1,2-Dichlorobenzene	620	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	620	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	75	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	0.41	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	0.19	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	2.6	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	0.38	<1	NA	NA	NA	NA	NA	NA	NA	NA	NA
EPA 602											
Benzene	1	42	<1.0	2.6	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	2.1
Chlorobenzene	50	<1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	20	7.1	10	28.5	14.8	0.54 J	<1.0	<1.0	4.3	6.9
Ethylbenzene	29	7.4	<1.0	3.2	3.1	<1.0	<1.0	<1.0	<1.0	<1.0	6.5
Xylenes (total)	530	19	<1.0	18	16.7	<3.0	2.1 J	<3.0	<3.0	<3.0	16.7
Toluene	1000	28	0.3 J	14	30.2	<1.0	0.87 J	<1.0	<1.0	<1.0	15.6
Total BTEX		96.4	0.3	37.8	50		2.97			1.0	40.9
EPA 610											
Chrysene	5	NA	<0.10	<0.10	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
Naphthalene	21	NA	<2.0	<2.0	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	1.0 J
Acenaphthene	80	NA	<1.0	<1.0	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
Acenaphthylene	210	NA	<1.0	<1.0	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
Benzo(a)anthracene	0.05	NA	<0.10	<0.10	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
Pyrene	210	NA	<0.10	<0.25	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
Fluorene	280	NA	<2.0	<2.0	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
Anthracene	2100	NA	<1.0	<1.0	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
Fluoranthene	280	NA	<0.20	<0.25	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
Phenanthrene	210	NA	<1.0	<1.0	<5.0	<5.2	<5.1	<5.0	<5.6	<4.8	<4.8
SW846-3010A											
Lead	15	NA	NA	NA	NA	NA	NA	NA	NA	11	9.6
Bold type indicates detectable concentrations.											
Shaded area indicates detectable concentrations above the groundwater quality standards.											

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Printed: 2/27/2006

Samples analyzed by Compuchem, STL, or Accutest

Analytical Data Summary

Type II Well: **MW-26**

Client Sample ID:		UST820-MW26	UST820-MW26
Date Sampled:		5/27/05	8/9/05
Analyte (ug/l)	Action Level	Result	Result
EPA 601			
1,2-Dichlorobenzene	620	NA	<1.0
1,3-Dichlorobenzene	620	NA	<1.0
1,4-Dichlorobenzene	75	NA	<1.0
Dibromochloromethane	0.41	NA	NA
Chloroform	0.19	NA	NA
Chloromethane	2.6	NA	NA
1,2-Dichloroethane	0.38	NA	NA
EPA 602			
Benzene	1	<1.0	<1.0
Chlorobenzene	50	<1.0	<1.0
Methyl tert-butyl ether	210	<1.0	1.5
Ethylbenzene	29	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0
Toluene	1000	<1.0	<1.0
Total BTEX			
EPA 610			
Chrysene	5	<4.8	<1.9
Naphthalene	21	<4.8	<1.9
Acenaphthene	80	<4.8	<3.8
Acenaphthylene	210	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<0.19
Pyrene	210	<4.8	<1.9
Fluorene	280	<4.8	<1.9
Anthracene	2100	<4.8	<1.9
Fluoranthene	280	<4.8	<1.9
Phenanthrene	210	<4.8	<1.9
SW846-3010A			
Lead	15	<5.0	7.5

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Printed: 2/27/2006

Samples analyzed by Compuchem, STL, or Accutest

Analytical Data Summary
Type II Well: **MW-27**

Client Sample ID:		UST820-MW27-01C3	Well Dry	Well Dry	UST820-MW27	UST820-MW27	UST820-MW27	UST820-MW27	UST820-MW27
Date Sampled:		10/03/01	04/25/02	10/28/02	04/09/03	10/09/03	04/13/04	11/22/04	8/6/05
Analyte (ug/l)	Action Level	Result	Result	Result	Result	Result	Result	Result	Result
EPA 602									
Benzene	1	<1.0			<2.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	50	<1.0			<2.0	<1.0	<1.0	<1.0	<1.0
Methyl tert-butyl ether	210	<10			139	1.5	1.2	<1.0	<1.0
Ethylbenzene	29	<1.0			<2.0	<1.0	<1.0	<1.0	<1.0
Xylenes (total)	530	<2.0			<6.0	<3.0	3.3	1.4 J	<3.0
Toluene	1000	<1.0			<2.0	<1.0	0.65 J	<1.0	<1.0
Total BTEX							3.95	1.4	
EPA 610									
Chrysene	5	<0.10			<5.2	<5.2	<5.5	<4.8	<2.0
Naphthalene	21	<2.0			<5.2	<5.2	<5.5	<4.8	<2.0
Acenaphthene	80	<1.0			<5.2	<5.2	<5.5	<4.8	<3.9
Acenaphthylene	210	<1.0			<5.2	<5.2	<5.5	<4.8	<3.9
Benzo(a)anthracene	0.05	<0.10			<5.2	<5.2	<5.5	<4.8	<0.2
Pyrene	210	<0.25			<5.2	<5.2	<5.5	<4.8	<2.0
Fluorene	280	<2.0			<5.2	<5.2	10	<4.8	<2.0
Anthracene	2100	<1.0			<5.2	<5.2	<5.5	<4.8	<2.0
Fluoranthene	280	<0.25			<5.2	<5.2	<5.5	<4.8	<2.0
Phenanthrene	210	<1.0			<5.2	<5.2	<5.5	<4.8	<2.0
SW846-3010A									
Lead	15	N/A			N/A	N/A	N/A	6.0	<5.0
		Bold type indicates detectable concentrations.							
		Shaded area indicates detectable concentrations above the groundwater quality standards.							

J= estimated
P= >25% difference between column quantitation
B= detected in blank
NA= not analyzed

Analytical Data Summary

Type III Well: **MW-28**

Client Sample ID:		UST820-MW28	UST820-MW28
Date Sampled:		5/25/05	8/9/05
Analyte (ug/l)	Action Level	Result	Result
EPA 602			
Benzene	1	1110	1130
Chlorobenzene	50	<50	<1.0
Methyl tert-butyl ether	210	3350	2430
Ethylbenzene	29	<50	<1.0
Xylenes (total)	530	<150	<3.0
Toluene	1000	<50	<1.0
Total BTEX		1110	1130
EPA 610			
Chrysene	5	<4.8	<1.9
Naphthalene	21	<4.8	<1.9
Acenaphthene	80	<4.8	<3.8
Acenaphthylene	210	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<0.19
Pyrene	210	<4.8	<1.9
Fluorene	280	<4.8	<1.9
Anthracene	2100	<4.8	<1.9
Fluoranthene	280	<4.8	<1.9
Phenanthrene	210	<4.8	<1.9
Bold type indicates detectable concentrations.			
Shaded area indicates detectable concentrations above the groundwater quality standards.			

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Analytical Data Summary

Type III Well: **MW-29**

Client Sample ID:		UST820-MW29	UST820-MW29
Date Sampled:		5/25/05	8/9/05
Analyte (ug/l)	Action Level	Result	Result
EPA 602			
Benzene	1	29.6	10.7
Chlorobenzene	50	<1.0	<1.0
Methyl tert-butyl ether	210	31.8	23.2
Ethylbenzene	29	<1.0	<1.0
Xylenes (total)	530	<3.0	<3.0
Toluene	1000	<1.0	<1.0
Total BTEX		29.6	10.7
EPA 610			
Chrysene	5	<4.8	<1.9
Naphthalene	21	<4.8	<1.9
Acenaphthene	80	<4.8	<3.8
Acenaphthylene	210	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<0.19
Pyrene	210	<4.8	<1.9
Fluorene	280	<4.8	<1.9
Anthracene	2100	<4.8	<1.9
Fluoranthene	280	<4.8	<1.9
Phenanthrene	210	<4.8	<1.9
Bold type indicates detectable concentrations.			
Shaded area indicates detectable concentrations above the groundwater quality standards.			

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Analytical Data Summary

Type II Well: **PW-01**

Client Sample ID:		UST820-PW01	UST820-PW01
Date Sampled:		11/22/04	8/8/05
Analyte (ug/l)	Action Level	Result	Result
EPA 602			
Benzene	1	109	12.2
Chlorobenzene	50	<1.0	<1.0
Methyl tert-butyl ether	210	11.6	10.6
Ethylbenzene	29	78.2	10.5
Xylenes (total)	530	333	70.3
Toluene	1000	48.3	2.4
Total BTEX		568.5	95.4
EPA 610			
Chrysene	5	<4.8	<1.9
Naphthalene	21	10.8	1.2 J
Acenaphthene	80	<4.8	<3.8
Acenaphthylene	210	<4.8	<3.8
Benzo(a)anthracene	0.05	<4.8	<0.19
Pyrene	210	<4.8	<1.9
Fluorene	280	<4.8	<1.9
Anthracene	2100	<4.8	<1.9
Fluoranthene	280	<4.8	<1.9
Phenanthrene	210	<4.8	<1.9
SW846-3010A			
Lead	15	<5.0	<5.0
Bold type indicates detectable concentrations.			
Shaded area indicates detectable concentrations above the groundwater quality standards.			

J= estimated

P= >25% difference between column quantitation

B= detected in blank

NA= not analyzed

Printed: 2/27/2006

Samples analyzed by Compuchem, STL, or Accutest