

**REPORT OF FINDINGS WITH
SITE CLOSURE REQUEST**

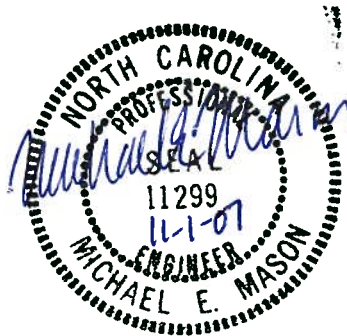
FOR

**TT-3165
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

**NCDENR UST INCIDENT NO. 23971
LAND USE CLASSIFICATION: RESIDENTIAL
RISK CLASSIFICATION: LOW**

OCTOBER 31, 2007

**CONTRACT NO. N62470-05-D-6200
DELIVERY ORDER NO. 0016
CATLIN PROJECT NO. 205-077**



PREPARED BY:

**CATLIN ENGINEERS AND SCIENTISTS
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WILMINGTON, NORTH CAROLINA 28404-0279
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A. SITE IDENTIFICATION

DATE OF REPORT: October 31, 2007
Facility ID: E-002740 UST Incident Number (if known): 23971
Land Use Classification: Residential Risk Classification: Low
Site Name: TT-3165/3167
Site Location: Guam Drive¹, Marine Corps Base (MCB), Camp Lejeune (See Figure 1)
Nearest City/Town: Jacksonville County: Onslow

UST Owner: Commanding Officer – MCB Camp Lejeune
I&E/EMD/EQB
Address: PSC 20004
MCB Camp Lejeune, NC 28542 Phone: (910) 451-5068

UST Operator: Same as above
Address: Same as above Phone: Same as above

Property Owner: Same as above
Address: Same as above Phone: Same as above

Property Occupant: Two military personnel family housing units, TT-3165, TT-3167
Address: TT-3165 Bougainville Drive, Tarawa Terrace II Phone: Unknown

Consultant/Contractor: CATLIN Engineers and Scientists
Address: 220 Old Dairy Road, Wilmington, North Carolina 28405 Phone: (910) 452-5861

Release Information

Date Discovered: July 31, 2001
Longitude: 77.3821 W Latitude: 34.7406 N
Estimated Quantity of Release: Unknown
Cause of Release: Unknown

Source of Release (e.g. Piping/UST):

Possible leaking UST and/or associated piping

Sizes and contents of UST system(s) from which the release occurred:

Non-regulated, non-commercial, 550-gallon fuel oil UST used for heating two, single-family residences

I, Michael E. Mason a Professional Engineer Licensed Geologist (circle one) for CATLIN Engineers and Scientists, do certify that the information contained in this report is correct and accurate to the best of my knowledge.



(Please Affix Seal and Signature)

B. BACKGROUND AND PURPOSE

The site, shown on Figure 1, is located at Building TT-3165/TT-3167 aboard Marine Corps Base (MCB) Camp Lejeune, North Carolina. Building TT-3165/TT-3167 is a duplex type family housing unit located in the Tarawa Terrace Housing Area. In July 2001, J.A. Jones Environmental Services Inc. (J.A. Jones) removed one 550-gallon, non-regulated, non-commercial fuel oil underground storage tank (UST) from the site. The fuel oil tank was strictly utilized for heating purposes of the duplex. A soil sample obtained at the base of the tank basin during tank removal was indicative of a release. Laboratory analysis of excavation sidewall soil samples, however, did not indicate petroleum contamination.

In July 2002, Mid-Atlantic Associates, P.A. (Mid-Atlantic) conducted field work and sampling required by the North Carolina Department of Environment and Natural Resources (NCDENR) for a Phase I Limited Site Assessment (LSA). One soil sample and one groundwater sample were collected for laboratory analysis from a temporary boring/well. The soil sample was collected from beneath the suspected location of the former product line at a depth of two to three feet below land surface (BLS). Soil sample results from the product line location did not reveal any contaminant concentrations above the laboratory Method Detection Limits (MDLs). The LSA noted that petroleum contaminated soils were identified at the base of the former excavation (nine feet BLS); however, LSA depth to groundwater data suggested that the J.A. Jones soil sample may have been collected from the capillary fringe. The J.A. Jones sidewall samples were collected from native soils at a depth of four feet BLS, within the unsaturated zone, and no petroleum-related contaminants were reported. Mid-Atlantic also reported that visibly contaminated soils were removed from the site at the time of UST closure.

The groundwater sample was collected from the former UST basin area. Groundwater sample analytical results revealed Bis(2-ethylhexyl)phthalate above the 2L Groundwater Quality Standards (GWQS), but below the Gross Contaminant Level (GCL). The MADEP EPH hydrocarbon fraction C₉-C₂₂ Aromatics was detected at a concentration of <270 ug/L, which was above the corresponding 2L GWQS of 210 ug/L. The Phase I LSA Report, dated November 13, 2002, concluded the site may be considered for No Further Action.

The NCDENR classified the site as Low Risk with Residential Land Use. Based on historical soil and groundwater data, NCDENR indicated the site was eligible for No Further Action (NFA) with a groundwater Land Use Restriction (LUR) via email correspondence to the MCB Camp Lejeune Environmental Management Division dated January 3, 2003.

MCB Camp Lejeune periodically monitors groundwater at the site to assess attenuation of contaminant concentrations. CATLIN personnel conducted groundwater sampling at the site in November 2004. Results of the investigation were submitted in the *Groundwater Sampling Report of Findings for TT-3165/3167*,

Marine Corps Base, Camp Lejeune, North Carolina, May 10, 2005. Groundwater contaminants (C₉-C₂₂ Aromatics) at the site were still detected above the 2L GWQSSs, so NFA without a LUR was not achievable at the time.

The purpose of the current investigation was to resample the groundwater in order to assess current groundwater conditions.

C. METHODS

1. Field Methods

All field work was conducted in general accordance with CATLIN's Standard Procedures provided in Appendix A. CATLIN personnel gathered subsurface soil data by Direct Push Technology (DPT) boring advancement using an AMS PowerProbe™ 9600D (PowerProbe) on July 31, 2007. When using the PowerProbe, the borings are advanced to depth by static force and a 90-pound hydraulic percussion hammer. Two and one-quarter inch diameter by four-foot length steel is used as casing. Soil samples are continuously collected in one and one-half inch clear liners. Liners are removed from the casing and then cut in half longitudinally to allow for visual/manual classification by the Unified Soil Classification System (USCS) and organic vapor analysis utilizing a Photo Ionization Detector (PID). A boring log for the USTTT3165-DPT01 boring is provided in Appendix B. The boring location is illustrated on Figure 2.

Well materials were installed in an attempt to determine accurate water table measurements and facilitate groundwater sampling. The well was constructed with one inch slotted PVC well screen.

The depth to water was measured and a grab groundwater sample was collected. The sample was collected on July 31, 2007 utilizing a peristaltic pump and new polyethylene tubing. The groundwater sample was labeled USTTT3165-DPT01.

New disposable nitrile gloves were worn during sampling activities. All samples were placed into the appropriately labeled glassware and packed on ice in an insulated cooler for transportation to the laboratory. Sample integrity was maintained by following proper Chain-of-Custody (COC) procedures. A copy of the COC is provided following the laboratory report in Appendix C.

Boreholes were abandoned to the surface using three-eighth inch bentonite chips. Bentonite and water were poured into the borehole simultaneously to facilitate hydration.

2. Analytical Methods

Samples were transported to SGS Environmental Services Inc. (NC Certification #481) in Wilmington, North Carolina. At the laboratory, the groundwater sample was analyzed for MADEP VPH/EPH.

D. RESULTS

Field observations noted during soil boring advancement indicate site geology to be comprised of sandy clays and clayey sands from the land surface to boring termination at 12 feet BLS with some silts and clays from land surface to ten feet BLS. A boring log for the soil boring including organic vapor screening results is included in Appendix B.

Groundwater depth as measured in the temporary monitoring well USTPP3165-DPT01 on July 31, 2007 was approximately 10.0 feet BLS.

Analytical results for the collected groundwater sample are included in Appendix C (Please note the sample from this site was included on the COC with additional sites. As a result, only the applicable pages from the lab report are included. Page numbers are not consecutive, as multiple sites were sampled during the same event.). The analytical results are summarized as follows.

MADEP VPH/EPH

Groundwater sample analysis showed that all MADEP petroleum hydrocarbons were below MDLs. Groundwater sample analytical results are summarized on Table 1 and illustrated on Figure 2.

E. CONCLUSIONS AND RECOMMENDATIONS

All previously detected groundwater contaminants (Bis(2-ethylhexyl)phthalate and C₉-C₂₂ Aromatics) at the TT-3165/3167 site have naturally attenuated to below the corresponding 2L GWQs as of the current investigation. In addition, historical soil sampling data shows that there are no soil contaminants present above the lowest Maximum Soil Contaminant Concentrations in the vadose zone. This site is eligible for NFA without a LUR.

F. REFERENCES

CATLIN Engineers and Scientists, *Groundwater Sampling Report of Findings for TT-3165/3167, Marine Corps Base, Camp Lejeune, North Carolina*, May 10, 2005.

J.A. Jones Environmental Services Company. *Underground Storage Tank Closure Report, TT3165/3167 MCB Camp Lejeune, NC*, January 10, 2002.

Mid-Atlantic Associates, P.A.. *Leaking Underground Storage Tank Phase I Limited Site Assessment Report UST TT-3165/3167, MCB Camp Lejeune, NC*, November 13, 2002.

North Carolina Department of Environment and Natural Resources, *Guidelines for Assessment and Corrective Action, North Carolina Underground Storage Tank Section (Effective July 1, 2001)*.

TABLES

TABLE 1
SUMMARY OF GROUNDWATER LABORATORY RESULTS
MADEP VPH/EPH

TT-3165, MCB Camp Lejeune

Well ID	Contaminant of Concern →		C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₉ -C ₂₂ Aromatics
	Sample ID	Date Collected				
GCL (µg/L)			NE	NE	NE	NE
2L GWQS (µg/L)			420	4,200	42,000	210
USTTT3165-DPT01	USTTT3165-DPT01	7/31/2007	<100	<200	<100	<200

All results in micrograms per liter (µg/L).

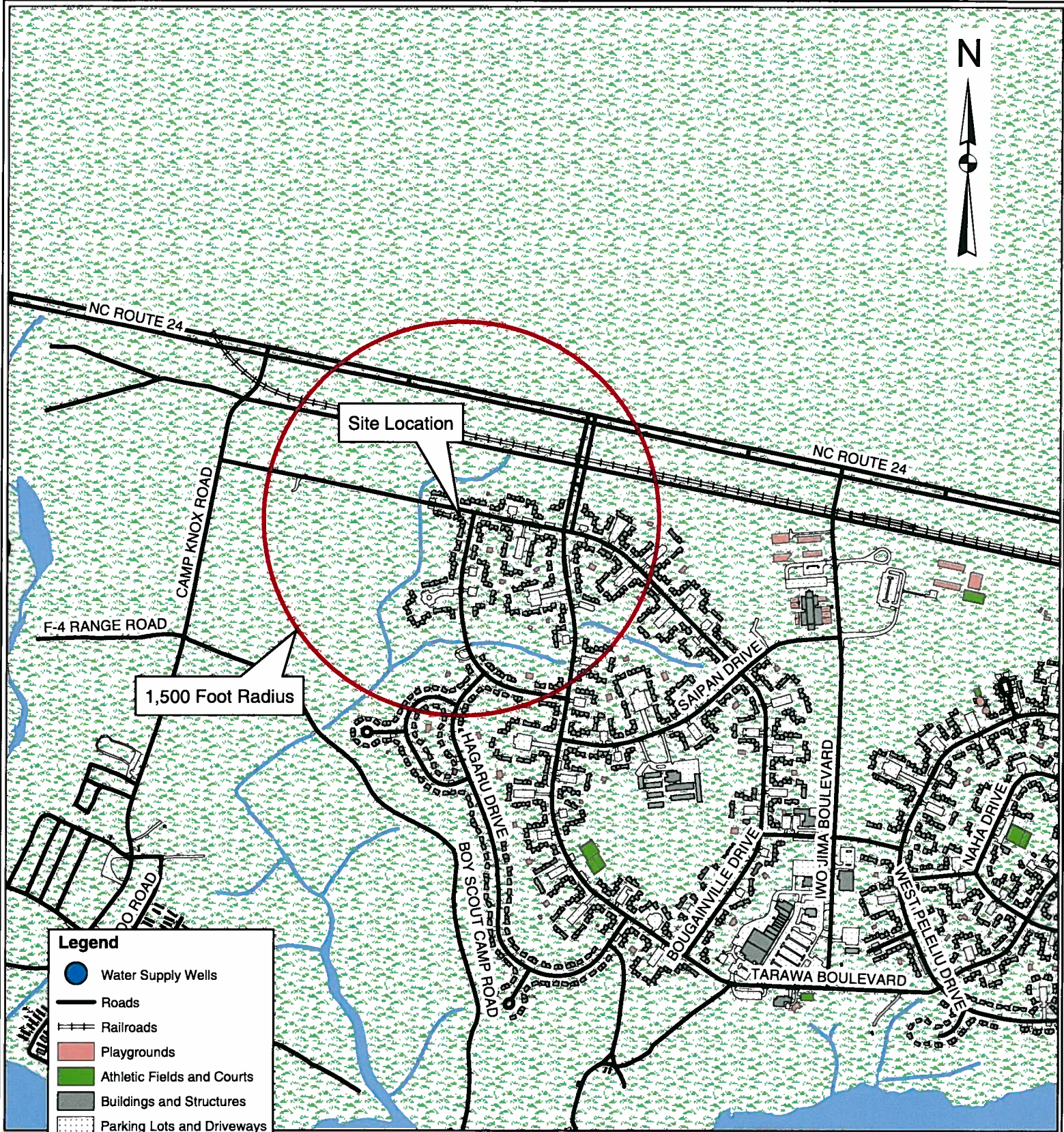
NE = None Established

< = Less than method detection limit

GCL = Gross Contaminant Level

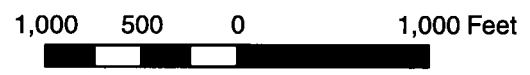
2L GWQS = NCAC T15A:02L Groundwater Quality Standards

FIGURES




Legend

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

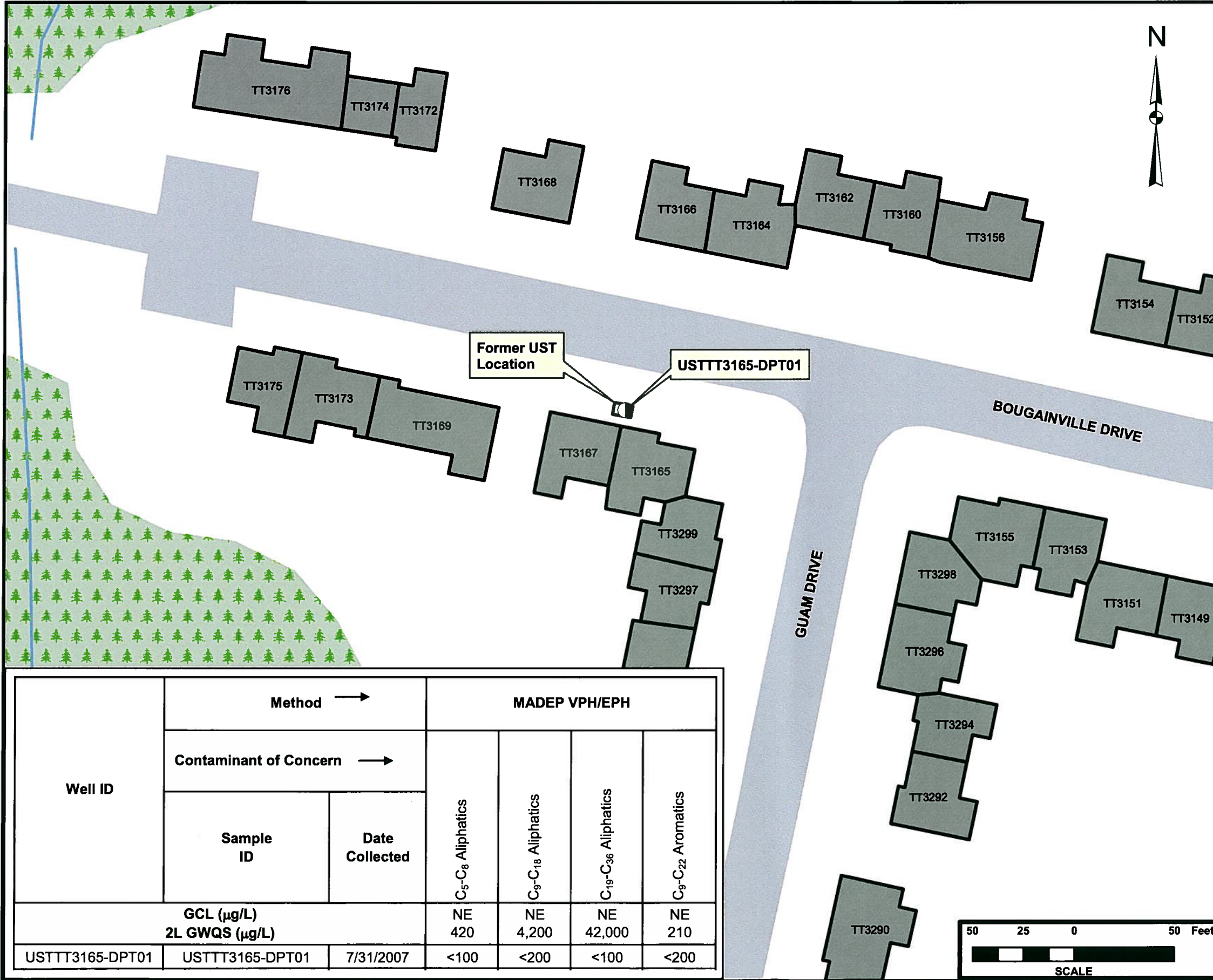


SCALE

Data Sources: Data Layers provided by MCB Camp Lejeune GIS Office.

	PROJECT REPORT OF FINDINGS WITH SITE CLOSURE REQUEST SITE TT-3165 MARINE CORPS BASE CAMP LEJEUNE, NC	TITLE SITE LOCATION MAP			FIGURE 1
	JOB NO. 205-077 DATE OCT 2007	SCALE AS SHOWN DRAWN BY SAC CHECKED BY MEM			

**REPORT OF FINDINGS WITH
SITE CLOSURE REQUEST
SITE TT-3165
MCB CAMP LEJEUNE, NC**



LEGEND

- DPT Well
- Water Supply Wells
- Above Ground Storage Tank
- Underground Storage Tank
- Railroad Tracks
- Wails and Fences
- Buildings and Structures
- Demolished Structures
- Oil/Water Separators
- Slabs
- Roads
- Driveways
- Parking Lots
- Surface Water Bodies
- Creeks and Streams
- Vegetation Cover: Forestland
- Vegetation Cover: Scrubland
- Vegetation Cover: Wetland
- Airfield Pavement: HELIPAD
- Airfield Pavement: RAMP
- Airfield Pavement: RUNWAY
- Airfield Pavement: SHLDR_OVERRUN
- Airfield Pavement: TAXIWAY

NOTES

GIS data layers provided by the MCB Camp Lejeune GIS Department.

All results in micrograms per liter (ug/L)

NE = None Established

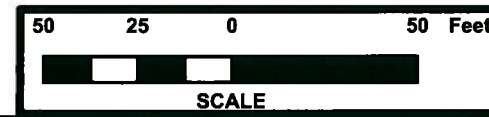
< = less than method detection limit

GCL = Gross Contaminant Level

2L GWQS = NCAC T15A:02L Groundwater Quality Standards



Well ID	Method →		MADEP VPH/EPH			
	Contaminant of Concern →		C ₅ -C ₈ Aliphatics	C ₉ -C ₁₈ Aliphatics	C ₁₉ -C ₃₆ Aliphatics	C ₉ -C ₂₂ Aromatics
	Sample ID	Date Collected				
	GCL (µg/L)		NE	NE	NE	NE
	2L GWQS (µg/L)		420	4,200	42,000	210
USTTT3165-DPT01	USTTT3165-DPT01	7/31/2007	<100	<200	<100	<200



**SITE MAP WITH SUMMARY OF
GROUNDWATER SAMPLING
RESULTS**

FIGURE
2

Job No.: 205-077 Date: OCT 2007 Scale: AS SHOWN Drawn By: SAC Checked By: MEM

APPENDICES

APPENDIX A
STANDARD PROCEDURES

CATLIN STANDARD METHODS OF INVESTIGATION

(REVISED APRIL 2002)

1.0 DATA COLLECTION

1.1 BACKGROUND DATA

Background data and history information relevant to the site investigation is generated through numerous sources. These sources may include, but are not limited to, the following:

- Conversations with the client and regulatory officials involved with the incident.
- Review of pertinent regulatory correspondence.
- Review of previous and existing reports and other technical data.
- Review of available historical records.

1.2 SURVEYS AND POTENTIAL RECEPTOR DATA

Physical survey and potential receptor data are collected in accordance with the intended level of investigation. In general, the purpose is to collect sufficient information for site assessment and corrective action planning.

Individual receptors are identified and evaluated in the context of their potential for contaminant impact. Potential receptors of contamination can include surface water bodies, groundwater supply wells, wellhead protection areas, and subsurface building structures.

1.2.1 Horizontal Survey

Horizontal survey data are generated using either accepted general field surveying techniques, or existing survey maps; or by using a combination of existing data and field generated information. The survey area generally extends to a point at least 50 feet beyond suspected plume boundaries. A receptor scale survey of a larger area surrounding a site will be made if appropriate and necessary.

1.2.2 Vertical Survey

A vertical survey is conducted at the site typically within an accuracy of 0.01 foot. The datum plane is generally assumed unless otherwise noted. Assumed temporary benchmarks (TBM) are selected near ground level. The vertical survey includes such points as top of all well casings, selected ground shots, important utility inverts, utility fluid levels, important surface water levels, and other items determined to be significant.

1.3 DRILLING AND MONITORING WELL/PIEZOMETER INSTALLATION

Necessary permits are applied for and obtained in accordance with federal, state, and local requirements prior to drilling or well construction activities. Additionally, the well locations are scanned for underground utilities prior to conducting intrusive subsurface activities. Wells are installed under applicable licensing requirements, and are designed and constructed in accordance with accepted standards and practices. Any wells purposely installed at off-site locations are permitted through appropriate right-of-entry agreements with all necessary property owners and/or their agents.

1.3.1 Drilling Methods and Subsurface Data Collection

Drilling is accomplished utilizing one or more of the following methods:

Auger Drilling

Auger drilling is the preferred, most often used method of subsurface investigation and is accomplished using a vehicle or trailer mounted drill rig. Continuous flight auger types used vary upon the site and situation; ranging from the 4-inch outside diameter solid stem to the 12-inch outside diameter hollow stem. Auger type is selected based upon appropriateness and/or site-specific requirements.

Hand Augering

Hand augering is utilized when economically and scientifically feasible, or when no other method is suitable. Hand augers typically produce three-inch diameter holes and are generally limited to depths of less than 15 feet.

Direct Push

Direct push methods of subsurface investigation are used generally for soil screening purposes or collection of groundwater samples where permanent wells are not viable.

Other Methods

Other drilling methods, such as mud and air rotary, rock coring, cable tool, and large bucket augering are used when site conditions or project requirements dictate.

Regardless of the drilling method used, the drill rig(s) and all drilling tools are thoroughly cleaned between boreholes to prevent cross introduction of contaminants. Split spoon samples are collected and field-described at intervals of five feet or less, and cuttings are continuously monitored for organic vapors. Drill cuttings are containerized for off-site disposal or are spread on the ground surface in proximity to the well or boring in accordance with North Carolina Department of Environment and Natural Resources (NCDENR) requirements. A geologist or engineer, trained in using visual/manual techniques, is always present during drilling and is

responsible for subsurface contaminant and geologic data collection. Soils are classified in general agreement with the Unified Soils Classification System (USCS).

1.3.2 Hydropunch Installation

Hydropunch penetrometers (Hydropunches) are used to delineate the spatial extent of dissolved and free phase plumes. Soil borings are advanced to the appropriate depth and then the Hydropunch is advanced through the soil boring into undisturbed material. Groundwater samples are collected by pulling back on the body of the Hydropunch and allowing the groundwater to enter the screened portion of the sample chamber. Samples are retrieved using a decontaminated Teflon bailer or peristaltic pump.

1.3.3 Well Installation

Wells are typically constructed of threaded PVC casing and screen. No glues or cements are used in joining PVC components. Well diameter, slot sizes, and protective covers vary depending upon site-specific conditions or situation-specific requirements.

1.3.4 Well Development

Wells are developed by over-pumping or surging using appropriate pumps, blocks, or bailers. Through development, unwanted fine materials are removed from the natural formation surrounding the well. Well development will be performed no sooner than 24-hours after grouting is completed for the Type III wells. Water generated during development is containerized and properly disposed or is discharged onto the ground in proximity of the well in accordance with NCDENR requirements.

1.4 HYDROGEOLOGIC DATA COLLECTION

Data used to help characterize hydrogeologic conditions at a site are obtained through various procedures including, but not necessarily limited to, those described below:

1.4.1 Regional Geology

Information pertaining to the regional geologic framework is compiled from existing publications, maps, and scientific papers.

1.4.2 Site Geology

Shallow site geology is generally determined from field descriptions and borehole samples. Interpretations with regard to hydrogeologically important contacts, zones, fractures, faults, cleavage, and facies changes are made when possible.

1.4.3 Groundwater Occurrence and Characteristics

Groundwater data is obtained utilizing a number of methods and procedures, not limited to the general list below:

Well Water Levels

After well development, wells are allowed to stabilize for a minimum of 24 hours prior to measuring. Water level and free product thickness (where applicable) measurements are performed using an electronic interface probe or steel tape with water/product finding pastes.

The specific gravity of any accumulated product is determined and used to calculate true hydraulic grade from measured water levels. This information is combined with vertical survey data to determine relative potentiometric surface elevations for all wells.

Aquifer Testing

Various aquifer tests may be used to make determinations of hydraulic conductivity. Slug or pumping tests are often used to characterize site hydrogeologic conditions and to develop remedial action alternatives utilizing appropriate pumping technologies.

Other Methods

Other methods may be deemed appropriate for determining various groundwater characteristics. These other methods may include nested well configurations and/or clustered piezometer installations; sieve or pipette analysis; fracture trace analysis; computer modeling; and geophysical logging.

1.5 PETROLEUM HYDROCARBON DATA COLLECTION

1.5.1 Collection Methods

Petroleum hydrocarbon data is obtained through various methods including, but not limited to, the following:

Field Analysis

- Direct thickness measurement of phase separated components using tapes and/or probes.
- Manual vapor analysis using a photoionization detector (PID) or flame ionization detector (FID).
- Detectable odor and visual observation.

Laboratory Analysis

- Laboratory analysis of phase-separated products.

- Laboratory vapor, soil, and groundwater analysis using appropriate EPA Methods.

1.5.2 Field Sampling

Field sampling procedures are performed in accordance with recommended protocol, accepted industry standards, and under appropriate chain-of-custody procedures. Generally, sampling procedures are as follows:

Product Samples

Product samples are obtained using clean equipment and containers. Each is shipped to the analytical laboratory in protective containers.

Vapor Samples

PID/FID readings are measured from soil sample headspace using containerized samples that have been brought to ambient temperature.

Carbon tubes are utilized in conjunction with a laboratory-calibrated vacuum pump to obtain vapor samples. The carbon tubes are sealed and refrigerated for shipment to the analytical laboratory (This method is known as the Carbon Adsorption Method).

Soil Samples

Soil samples are immediately packed into clean containers, and refrigerated for shipment to the analytical laboratory.

Groundwater Samples

Groundwater samples are collected in accordance with the following procedures:

- Creeks/Lakes/Etc.

Grab samples are obtained.

- Domestic Wells

Wells are pumped for a time sufficient to completely purge the well and any pressure or holding tanks prior to sampling.

- Monitoring Wells

Water level measurements are made and well volumes calculated for each well.

Three well volumes are removed from each well using a thoroughly cleaned Teflon bailer or appropriate purging pump. If it is not possible to

remove three volumes, due to very low yields, a minimum of one volume is removed prior to obtaining a sample.

Where analysis for metals is required, wells are typically sampled utilizing low flow techniques, which reduce turbidity and the potential for matrix interference.

Samples are collected and containerized in a manner that minimizes agitation and contact with the air.

Sampling records are field prepared.

Samples are labeled and proper Chain-of-Custody documents are maintained.

Samples are promptly protectively packed, refrigerated, and shipped to the analytical laboratory for analysis.

2.0 DATA EVALUATION

Data obtained as a result of the site investigation is compiled and evaluated and a report is prepared for client review and distribution to the appropriate agencies. Generally, specific data are evaluated as follows:

- Background data are evaluated in context with the suspected or confirmed problem.
- Survey data are utilized to develop site maps and to evaluate contaminant receptors.
- Well construction records are compiled and presented as part of the report. As-built information is used in combination with other data to evaluate subsurface conditions and monitoring well screen settings as they relate to the investigation.
- Subsurface drilling logs are used to develop geologic cross-sections, fence diagrams, isopaths, structure contours, or other constructions. Regional geologic data are used to obtain an overall framework.
- Hydrogeologic data are used to develop contour maps, flow nets and other constructions. The data is also used to calculate various hydrogeologic parameters that describe aquifer characteristics.
- Hydrocarbon data are utilized to develop various plume geometry and isoconcentration maps.
- All data are compiled and utilized for making specific recommendations with regard to remedial action alternatives.

APPENDIX B
BORING LOG

WELL LOG

CATLIN
ENGINEERS and SCIENTISTS
205-077
Wilmington, NC

SHEET 1 OF 1

PROJECT NO.: 205-077	STATE: NC	COUNTY: Onslow	LOCATION: Jacksonville
PROJECT NAME: Lejuene LUR Sites		LOGGED BY: J Heter	WELL ID: USTTT3165-DPT01
NORTHING: 3846875.9		EASTING: 281914.8	DRILLER: William J. Miller
SYSTEM: UTM NAD83 (m)		BORING LOCATION: House #3165 front yard	T.O.C. ELEV.:
DRILL MACHINE: Power Probe	METHOD: Direct Push	0 HOUR DTW: 10.0	TOTAL DEPTH: 12.0
START DATE: 7/31/07	FINISH DATE: 7/31/07	24 HOUR DTW: NM	WELL DEPTH: 11.5

DEPTH	BLOW COUNT				OVA (ppm)	LAB.	USCS	LOG	DEPTH	SOIL AND ROCK DESCRIPTION	WELL DETAIL
	6in	6in	6in	6in							
0.0					0.0				0.0	LAND SURFACE	0.0
2.0					0.0		SC/SM		2.0	Grass/organics. Dark brown SILTY SAND grading into CLAYEY SAND. Dense. Medium stiff. Moist.	
4.0					0.0		SC/CL		4.0	Brown CLAYEY SAND grading into CLAY. Medium stiff. Dense. Medium plasticity.	1" Sch. 40 PVC
6.0					0.0		CL		6.0	Brown SANDY CLAY. Medium stiff. Medium plasticity. Moist.	
8.0					1.0		SC		8.0	S.A.A. grading into CLAYEY SAND. Wet @ 7.0'	6.5
10.0					6.6		CL		10.0	Reddish-brown SANDY CLAY grading into CLAYEY SAND. Saturated @ 9.0'	1" Slot .010 Sch. 40 PVC
					1.7		SP		12.0	Tan fine SAND. Uniform. Loose. Saturated.	11.5
										Boring Terminated at Depth 12.0 ft Fine uniform SAND.	11.5

CATLIN BORING LOG - 205-077 LEJUENE LUR SITES.GPJ TEST.GDT 8/20/07



Bentonite Pellets

APPENDIX C

**LABORATORY ANALYTICAL REPORT AND
CHAIN OF CUSTODY DOCUMENTATION**



Mr. Shane Chasteen
Richard Catlin & Associates
P.O. Box 10279
Wilmington NC 28404-0279

Report Number: G128-1996

Client Project: Lejuene LUR Sites

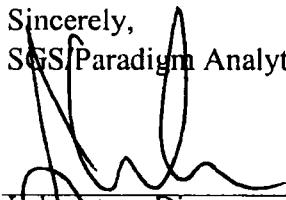
Dear Mr. Chasteen:

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 SGS/Paradigm at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS/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,
SGS/Paradigm Analytical Laboratories, Inc.



Laboratory Director
J. Patrick Weaver

8/8/2007

Date



List of Reporting Abbreviations and Data Qualifiers

B = Compound also detected in batch blank

BQL = Below Quantitation Limit (RL or MDL)

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.

**EPH (Aliphatics/Aromatics) Results**

by MDEP-EPH

Client Name: Richard Catlin & AssociatesProject Name: Lejuene LUR Sites

Sample Information and Analytical Results	
Sample Identification	USTTT3165-DPT01
Sample Matrix	Water
Date Collected	07/31/07
Date Received	07/31/07
Date Extracted	08/02/07
Date Analyzed	08/03/07
Dry Weight	
Dilution Factor	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	71
Aromatic Surrogate % Recovery	85

Comments:

* = Excludes any surrogates or internal standards.
Sample did not require fractionation.

Lab info: G128-1996-2D

Reviewed By: 



VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: Lejuene LUR Sites

Sample Information	
Sample Identification	USTTT3165-DPT01
Sample Matrix	Water
Collection Option (for Soil)*	NA
Date Collected	07/31/07
Date Received	07/31/07
Date Extracted	08/02/07 22:31 - 08/02/07 22:31
Date Analyzed	08/02/07 22:31 - 08/02/07 22:31
Dry Weight	NA
Dilution Factor	1 - 1

Analytical Results				
Analyte	Result µg/L	Report Limit µg/L	Flags	
C ₅ -C ₈ Aliphatics**	BQL	100		
C ₉ -C ₁₂ Aliphatics**	BQL	100		
C ₉ -C ₁₀ Aromatics**	BQL	100		
	Percent Recovery	Flags	Limits Lower Upper	
Surrogate % Recovery - PID	105		70	130
Surrogate % Recovery - FID	98.5		70	130

* = 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 and are unadjusted for individual analytes.

Lab Info: g128-1996-2c	Lab Info: g128-1996-2c
FID Info: VP080207/029F0101.D	PID Info: VP080207/029R0101.D

Reviewed By: [Signature]

