CATLIN
ENGINEERS and SCIENTISTS

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

May 3, 2004

Commander
Naval Facilities Engineering Command
Atlantic Division
6506 Hampton Blvd., Bldg. A, Room 1124
Norfolk, VA 23508

Attention: EV23JC, Mr. John D. Conway, P. G.

Re: **FINAL** - Letter Report of Findings and Request for "No Further Action"
Former Building H-31, #2 Fuel Oil USTs
Marine Corps Base
Camp Lejeune, North Carolina
Navy Contract No. N62470-01-D-3009
Delivery Order No. 0102
CATLIN Project No. 203-117

Dear Mr. Conway:

The following letter report is submitted to document the recent sampling activities at the above referenced site. CATLIN Engineers and Scientists (CATLIN) was authorized to perform field activities and prepare this letter report by the LANTDIV NAVFACENGCOM in accordance with the Order of Supplies Contract Number N62470-01-D-3009 and Delivery Order Number 0102. Based on the recent investigation, this site appears to qualify for "Low Risk" classification and "No Further Action" status.

Background and Purpose of Investigation

The site contained two 560-gallon diesel fuel underground storage tanks (UST) providing fuel to a boiler within the former Naval Hospital Building H-31. The site location is shown on Figure 1. A *Leaking Underground Storage Tank (LUST) Limited Site Assessment - Phase 1* report was prepared and submitted by CATLIN on September 28, 2001. One soil sample revealed a hydrocarbon fraction in excess of the lowest Maximum Soil Contaminant Concentration (MSCC) but below the Residential MSCC. Chloroform groundwater contamination in monitoring well UST31-MW01 was revealed in excess of the NCAC T15A:02L Groundwater Quality Standards (2L GWQS) but below the Gross Contaminant Level (GCL). Based on these contaminant concentrations, the site is eligible for "No Further Action"; however, a Notice of Residual Petroleum or Land Use Restrictions would be necessary to meet the requirements of the North Carolina Department of Environment and Natural Resources (NCDENR).

The purpose of this investigation was to complete field work and reporting necessary for obtaining No Further Action status without Land Use Restriction. A soil sample was collected from the same area of contamination identified during the Limited Site Assessment (LSA) for extractable and volatile petroleum hydrocarbon (EPH/VPH) analysis. In addition, a groundwater sample was collected for chloroform analysis from monitoring well UST31-MW01. The site plan and sample locations are illustrated on Figure 2.

Field Methods

On March 1, 2004, CATLIN personnel performed soil and groundwater sampling activities. New disposable latex gloves were worn during all sampling activities. A pre-cleaned hand-auger was advanced to eight feet below land surface (BLS) at the LSA soil sample location. A soil sample (UST31-SB05(7-8')) was collected for laboratory analysis from seven to eight feet BLS, placed into the appropriately labeled glassware, placed on ice in an insulated cooler and transported following chain-of-custody protocol to Paradigm Analytical Laboratories, Inc. (Paradigm) in Wilmington, North Carolina (NC Certification Number 481). At the laboratory, the soil sample was analyzed per Massachusetts Department of Environmental Protection (MADEP) EPH/VPH.

Monitoring well UST31-MW01 was gauged for depth to water, three well volumes were purged from the well and a groundwater sample was collected. The groundwater sample was poured directly into the appropriately labeled glassware, placed on ice in an insulated cooler and transported following chain-of-custody protocol to Paradigm for chloroform analysis per Environmental Protection Agency (EPA) Method 601. Chain-of-Custody documentation is attached following the laboratory report.

Results

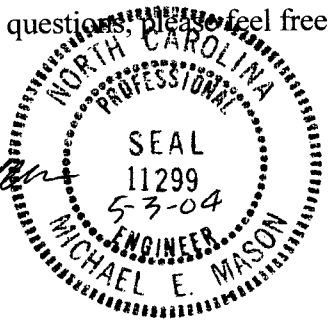
EPH/VPH soil concentrations were not revealed above the 10 mg/Kg laboratory quantitation limit in the UST31-SB05(7-8') soil sample. Chloroform groundwater concentrations were not revealed above the 1.0 µg/L laboratory quantitation limit in the UST31-MW01 groundwater sample. Complete laboratory analytical results are attached.

Summary and Conclusions

The MADEP hydrocarbon fraction soil contamination previously identified appears to have naturally attenuated to below the laboratory quantitation limits and the lowest MSCC for the MADEP hydrocarbon fractions. The chloroform concentrations previously detected in UST31-MW01 groundwater samples appear to have naturally attenuated to below laboratory quantitation limits. The site should qualify for "Low Risk" classification and "No Further Action" status is recommended.

Should you have any further questions, please feel free to contact us at your convenience.

Sincerely,

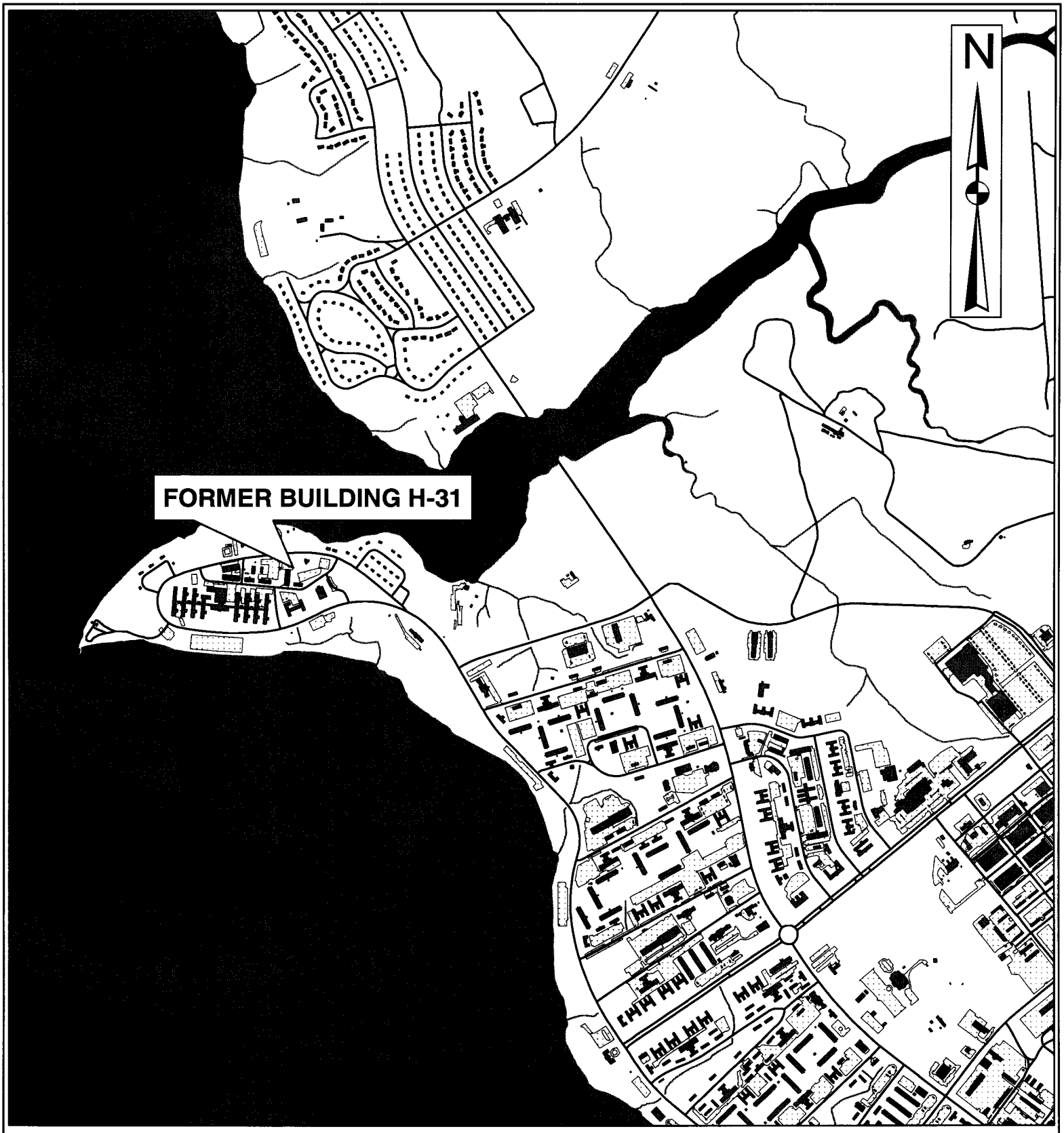


Michael E. Mason, P.E.
CATLIN Program Manager

Attachments: Figures 1 and 2, laboratory analytical report

cc: Mr. Roger R. Marce, Jr. – Code AQ 135 Contracts, correspondence only
Commanding General, Attn: Director I&E, EMD, EQB

203-117H31LtrRprt.doc



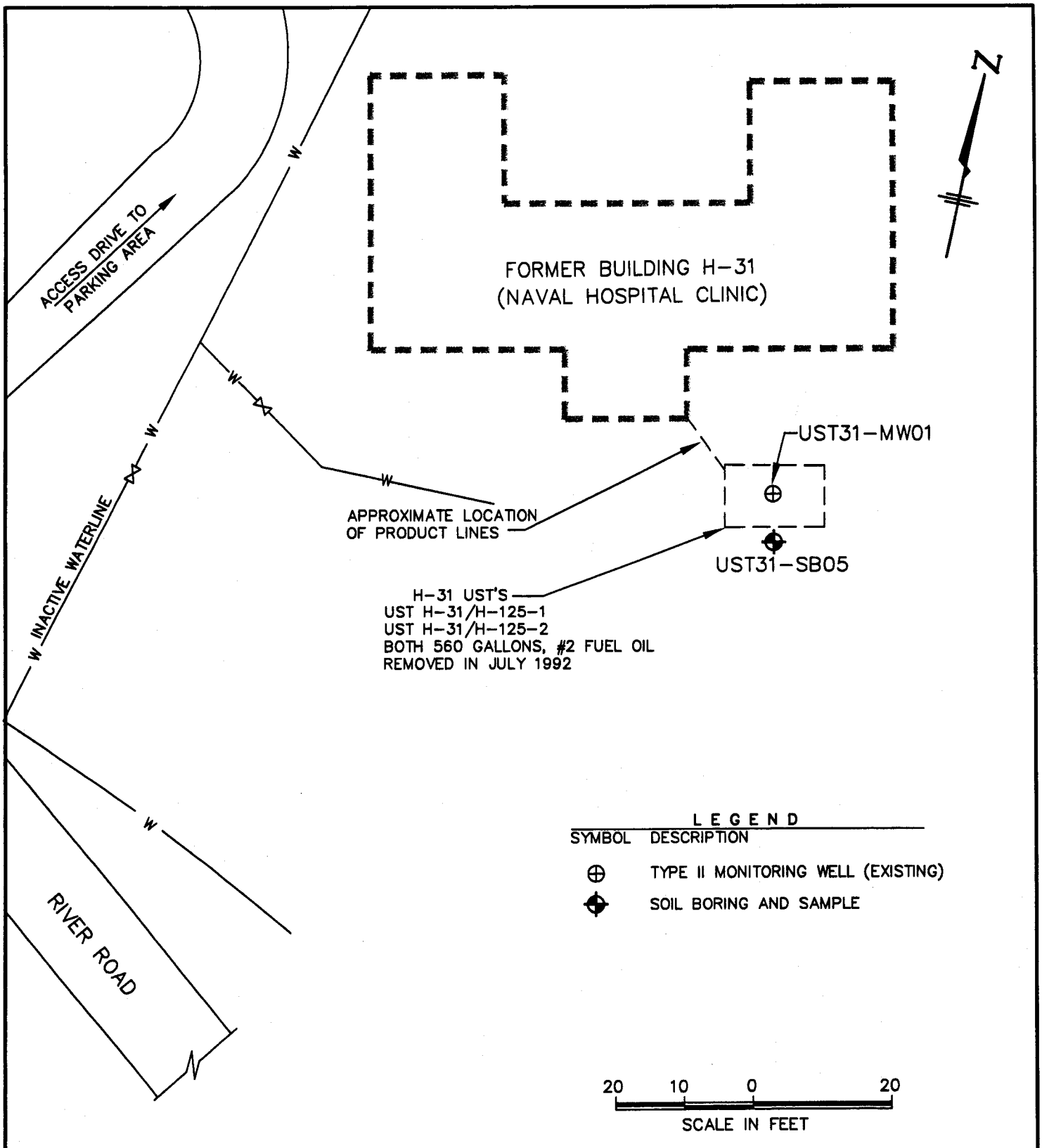
1,600 800 0 1,600 Feet

SCALE

CATLIN ENGINEERS and SCIENTISTS

PROJECT	TITLE	FIGURE
FORMER BUILDING H-31 MARINE CORPS BASE CAMP LEJEUNE, NC	SITE VICINITY MAP	1

JOB NO.	DATE	SCALE	DRAWN BY	CHECKED BY
203-117	MAR 2004	AS SHOWN	SAC	BA



NOTE:
1. DRAWING REFERENCED FROM LAW ENGINEERING AUTOCAD DRAWING N0054T02.DWG.
2. SOIL SAMPLE COLLECTED AT 7 TO 8 FEET BELOW LAND SURFACE.

CATLIN ENGINEERS and SCIENTISTS, WILMINGTON, NORTH CAROLINA	PROJECT: FORMER BUILDING H-31, MARINE CORPS BASE, CAMP LEJEUNE, N.C.	TITLE: SITE PLAN			FIGURE 2
	JOB NO: 203117	DATE: APR 2004	SCALE: 1"=20'	DRAWN BY: WHW	CHECKED BY: MEM

203117-H31-02

Results for Volatiles
by GC 601

Client Sample ID: UST31-MW01
Client Project ID: 7 funded site closures, Camp Lejeune
Lab Sample ID: G128-1268-6A
Lab Project ID: G128-1268

Analyzed By: DCS
Date Collected: 3/2/04
Date Received: 3/3/04
Matrix: Water

Analyte	Result ug/L	RL ug/L	Dilution Factor	Date Analyzed
Chloroform	BQL	1.0	1	3/9/04
Surrogate Spike Recoveries		**Spike Added**	**Spike Result**	**Percent Recovery**
1,4-Dichlorobutane		40	39.1	97.9

Comments:
All values corrected for dilution.
BQL = Below quantitation limit.

Reviewed By:

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: 7 funded site closures, Camp Lejeune

Sample Information and Analytical Results	
Sample Identification	UST31-SB05(7-8')
Sample Matrix	Soil
Collection Option (for Soil)*	0
Date Collected	03/02/04
Date Received	03/03/04
Date Extracted	03/03/04
Date Analyzed	03/04/04
Dry Weight	77
Dilution Factor	1
C_5-C_8 Aliphatics**	< 10 (mg/Kg)
C_9-C_{12} Aliphatics**	< 10 (mg/Kg)
C_9-C_{10} Aromatics**	< 10 (mg/Kg)
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: G128-1268-5B

Reviewed By:

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: 7 funded site closures, Camp Lejeune

Sample Information and Analytical Results	
Sample Identification	UST31-SB05(7-8')
Sample Matrix	Soil
Date Collected	03/02/04
Date Received	03/03/04
Date Extracted	03/04/04
Date Analyzed	03/10/04
Dry Weight	76.5
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 10 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	86
Aromatic Surrogate % Recovery	80

Comments:

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

Lab info: G128-1268-5C

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.
5500 Business Drive, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC# 41594

Page 1 of 1

Client: Catlin | Project ID: 7 funded site closures, Camp Lejeune | Date: 3-3-04 | Report To: Ben Ashba @ Catlin

Address: 220 Old Dairy Rd. | Contact: Ben Ashba | Turnaround: standard

Address: Wilmington NC 28405 | Phone: 910-452-5861 | Job Number: 203-117

Quote #: DOD 101 | Fax: 910-452-7563 | P.O. Number: 240115-1 | Invoice To: Sheila @ Catlin

Sample ID	Date	Time	Matrix	Preservatives: Ice	HCl	methanol		Analyses: EPA 601	MADEP EPH	MADEP VPH							Comments: Please specify any special reporting requirements
																	-Summary and Excel EDD format
UST24-MW01	3-1	1:15p	GW	✓	✓			✓									← report only bromochloromethane, chloroform, dibromochloromethane
UST1323-MW01	3-1	11:56a	GW	✓	✓				✓	✓							
UST1323-MW02	3-1	12:05	GW	✓	✓				✓	✓							
USTA5-605-MW01	3-2	10:45a	GW	✓	✓			✓									← report only bromodichloromethane, chloroform, dibromochloromethane
UST31-SB05 (7-8')	3-2	2:45p	soil	✓		✓			✓	✓							
UST31-MW01	3-2	2:30p	GW	✓	✓			✓									← report only chloroform
USTM167-MW01	3-2	12:55	GW	✓	✓				✓	✓							
USTPP3363-SB02 (1.5-2.5')	3-2	1:50p	soil	✓		✓			✓	✓							

Relinquished By	Date	Time	Received By	Date	Time	Temperature	State Certification Requested
Tom Ste	3-3	TS 4:50	Jackie Johnson	3/3/04	0950	cool	NC ✓ SC ____ Other ____
							SEE REVERSE FOR TERMS AND CONDITIONS

CLIENT COPY