LAW CATLIN

ENVIRONMENTAL AND
ENGINEERING CONSULTANTS

RALEIGH, N.C.
WILMINGTON, N.C.

SECOND SEMI-ANNUAL GROUNDWATER MONITORING REPORT

BUILDING H-28-1
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

Issued: June 6, 2001

Navy Contract No. N62470-95-D-6009
Delivery Order No. 0089
LAW Job No. 30740-6-0600-0089

Law Engineering and Environmental Services, Inc.
3301 Atlantic Avenue
Raleigh, North Carolina 27604

CATLIN LAW

ENVIRONMENTAL AND
ENGINEERING CONSULTANTS

WILMINGTON, N.C.
RALEIGH, N.C.

June 6, 2001

Commander
LANTNAVFACENGCOM
1510 Gilbert Street
Norfolk, Virginia 23511-2699

Attention: Ms. Lori P. Reuther, Code: EV21LR

Subject: **Second Semi-Annual Groundwater Monitoring Report**
Former UST H28-1
Marine Corps Base
Camp Lejeune, North Carolina
Navy Contract Number N62470-95-D-6009
Delivery Order Number: 0089
Law Job Number: 30740-6-0600-0089

Dear Ms. Reuther:

In accordance with Naval Facilities Engineering Command Order for Supplies and Services Contract No. N62470-95-D-6009, Delivery Order Number 0089, Law Engineering and Environmental Services, Inc. (LAW) is pleased to provide this Semi-Annual Groundwater Monitoring Report for the above referenced site. Our services included groundwater level gauging, and collection and analysis of groundwater samples from selected, existing monitoring wells. The purpose of our services was to document the presence or absence of free product, determine current groundwater flow conditions across the site, and evaluate groundwater quality at selected locations.

Background Information

LAW has completed the second two rounds of quarterly water-table monitoring, and the second of two semi-annual groundwater sampling events at the Building H28-1 site, located at the Marine Corps Base (MCB) Camp Lejeune, North Carolina. One 550-gallon capacity diesel fuel underground storage tank (UST) was formerly located adjacent to the south wall of Building H28-1. The UST was removed in May 1990. Vadose-zone soils were excavated from the site in 1995. LAW installed a source area monitoring well (UST H28-MW11) adjacent to the former UST basin in 1999. A 0.27 foot thickness of free product was measured in the source area well in August 1999, and in October 1999 a 0.85 foot thickness was measured.

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A 0.30 foot thickness of free product was again identified in well UST H28-MW11 during the July 2000 gauging event, and in October 2000, a 0.33 foot thickness was measured. A 0.02 foot thickness of free product was measured in monitoring well UST H28-MW11 during both the January and April 2001 gauging events. LAW coordinated the removal and disposal of free product in monitoring well UST H28-MW11 with the IT Group for both the January and April events.

The table below lists known environmental assessment or remediation reports prepared for the subject site. Please reference the reports listed for additional background information and study findings associated with the H28-1 site.

Previous Environmental Reports for Site H28-1

NO.	REPORT TITLE	DATE	AUTHOR
1	Report of Underground Storage Tank Abandonment, Buildings M232 - M236 and Building H28	5/90	UTTS Environmental
2	UST Site Check Investigation Report, Building H28	2/18/92	ATEC Environmental Consultants, Inc.
3	Corrective Action Plan, Building H28	8/1/94	Baker Environmental, Inc.
4	Close-out Report, Soil Remediation, Building No. 21 and H28	2/96	J.A. Jones Environmental Services Company
5	Report of Natural Attenuation Monitoring, Building H28	2/16/98	Law Engineering and Environmental Services, Inc.
6	Natural Attenuation Monitoring, Second Quarter Groundwater Sampling Event, Building H28	5/5/98	Law Engineering and Environmental Services, Inc.
7	Third Natural Attenuation Monitoring Report, Building H-28, Hadnot Point	9/2/98	Law Engineering and Environmental Services, Inc.
8	Risk Characterization Assessment Report	1/00	Law Engineering and Environmental Services, Inc.
9	First Semi-Annual Groundwater Monitoring Report, Building H-28-1	12/00	Law Engineering and Environmental Services, Inc.

Current Groundwater Sampling and Gauging Event

LAW gauged 10 existing monitoring wells and collected groundwater samples from three selected wells. The depth to groundwater was measured in monitoring wells UST H28-MW01 through UST H28-MW11 (well UST H28-MW04 could not be located) using an electronic interface probe or water level indicator on January 16, 2001 and April 12, 2001. A 0.02 foot thickness of free product was measured in MW11 on January 16 and April 12, 2001. On April 12, 2001, LAW personnel bailed approximately 0.75 gallons of a free product/water mixture from MW11, which was containerized and disposed of by the IT Group at their on-base facility.

Groundwater elevations were calculated by subtracting the water-table depth from surveyed top-of-casing elevations (Tables 1 and 2 -attached). Figures 1 and 2 are water-table elevation contour maps, as prepared from water-table measurements obtained during these recent gauging events. The direction of groundwater flow was generally towards the northwest during both gauging events.

Groundwater samples were collected from monitoring wells (UST H28-MW06, UST H28-MW08 and UST H28-MW09) on April 12, 2001. The three selected monitoring wells were purged prior to sample collection. The stagnant water from the well casing and sand pack was removed in an effort to collect samples representative of the water quality in the aquifer surrounding the screened interval. Each well was purged and sampled using a new, dedicated disposable bailer. LAW personnel donned a new pair of laboratory grade gloves prior to purging, sampling and collecting water-level measurements at each well to minimize the potential for cross contamination. Specific conductance, pH, groundwater temperature, turbidity and dissolved oxygen were measured and recorded throughout the purging process. Well purging continued until three standing well volumes were removed and indicator parameters had stabilized. Groundwater samples were then collected and decanted from the bailer into pre-labeled sample containers. These containers were sealed, and stored in a chilled cooler. Custody of the samples was maintained by LAW personnel, from the time of collection through delivery to the analytical laboratory.

The groundwater samples from each of the three wells, including one duplicate and a trip blank, were submitted to Paradigm Analytical Laboratory. The samples were analyzed for volatile organic compounds (VOCs) using Standard Method 6210D, for semi-volatile organic compounds (SVOCs) plus Tentatively Identified Compounds (TICs) by EPA Method 625, and volatile petroleum hydrocarbons (VPH) and extractable petroleum hydrocarbons (EPH) by the Massachusetts Department of Environmental Protection method.

Comments

Tables 3 and 4 summarize the laboratory results from the August 1999 (where available), the October 2000, and April 2001 sampling events. Laboratory reports for the April 2001 sampling event are attached.

Seven VOCs and four known and four unknown SVOC TICs were detected in the groundwater sample from well UST H28-MW06. None of the concentrations detected exceed their respective State Groundwater Standards. The naphthalene concentration detected in October exceeded the State Groundwater Standard, but during the April 2001 sampling event the concentration has decreased to below the Standard. The concentration of VPH hydrocarbon chain C9 to C12 aliphatics was the only MADEP compound detected during the April sampling event and is below the Interim Groundwater Standard. GCLs have not been established for MADEP VPH and EPH hydrocarbon chains.

Low concentrations of eight VOCs, one SVOC, and six known and four unknown SVOC TICs, were detected in the groundwater sample from monitoring well UST H28-MW08. None of the concentrations detected exceed their respective State Groundwater Standards. The detected concentration of combined VPH and EPH hydrocarbon chain C11 to C22 aromatics exceeds its Interim Groundwater Standard and has increased since the October 2000 sampling event.

Low concentrations of chloroform and naphthalene were the only compounds identified in the groundwater sample from UST H28-MW09 during the April 2001 sampling event. The chloroform concentration is above the current State Groundwater Standard, but is below its GCL. No SVOCs, SVOC TICs, nor any MADEP VPH or EPH hydrocarbon chains were detected in the groundwater sample from monitoring well MW09.

Results of groundwater analysis for this sampling event generally indicate the presence of low and decreasing concentrations of petroleum hydrocarbons, all of which are below established GCLs. The presence of free product in well UST H28-MW11 will continue to cause the Risk Classification for this site to remain Intermediate. LAW recommends that you continue free product recovery efforts at this well location.

This report is intended for the exclusive use of Naval Facilities Engineering Command, Atlantic Division. The contents of this report should not be relied upon by any other parties without the expressed written consent of LAW. The findings are relevant to the dates of our site work and should not be relied upon to represent site conditions on other dates.

We appreciate the opportunity to provide environmental services on this project. If any questions arise, please contact us at (919) 876-0416.

Sincerely,

LAW ENGINEERING AND ENVIRONMENTAL SERVICES, INC.

William S. Grimes
Staff Geologist

Brian J. Bellis, L.G.
Principal Hydrogeologist

NORTH CAROLINA LICENSED SEAL 980 GEOLOGIST BRIAN J. BELLIS

Attachments: Table 1 – Monitoring Well Casing and Groundwater Elevations for January 16, 2001
Table 2 - Monitoring Well Casing and Groundwater Elevations for April 12, 2001
Table 3 – Summary of Laboratory Analytical Results, Volatile and Semi-Volatile Organic Compounds (3 pages)
Table 4 – Summary of MADEP VPH and EPH Laboratory Analytical Results (2 Pages)
Figure 1 – Water Table Elevation Contour Map January 2001
Figure 2 – Water Table Elevation Contour Map April 2001
Laboratory Report and Chain of Custody Record

cc: Mr. Neal Paul, Marine Corps Base Camp Lejeune
Ms. Christine Foskey, LANTNAVFACENGOM – Contracts, Correspondence Only
Mr. Michael E. Mason, Program Manager, Catlin Engineers and Scientists, Inc., Correspondence Only

TABLES

TABLE 1
BUILDING H28
MONITORING WELL CASING
AND GROUNDWATER ELEVATIONS
JANUARY 16, 2001

DATA POINT	TOP OF CASING ELEVATON (feet)	DEPTH TO WATER (feet)	FREE PRODUCT THICKNESS (feet)	WATER TABLE ELEVATION (feet)
UST H28-MW01	11.72	9.24	NMT	2.48
UST H28-MW02	12.00	9.42	NMT	2.58
UST H28-MW03	12.18	9.61	NMT	2.57
UST H28-MW04	12.29	CNL	NMT	NA
UST H28-MW05	12.31	9.82	NMT	2.49
UST H28-MW06	11.96	9.51	NMT	2.45
UST H28-MW07	11.62	9.17	NMT	2.45
UST H28-MW08	12.07	9.57	NMT	2.50
UST H28-MW09	12.20	9.66	NMT	2.54
UST H28-MW10	11.57	9.09	NMT	2.48
UST H28-MW11	12.21	9.68	0.02	2.55*

NMT = No Measurable Thickness
Top of casing elevations provided to LAW by the MCB. UST H28-MW11 elevation established by LAW.
* = Corrected water table elevation obtained by adding 80% of the product thickness to the measured water table elevation.
CNL = Could not locate
NA = Not available

TABLE 2
BUILDING H28
MONITORING WELL CASING
AND GROUNDWATER ELEVATIONS
APRIL 12, 2001

DATA POINT	TOP OF CASING ELEVATON (feet)	DEPTH TO WATER (feet)	FREE PRODUCT THICKNESS (feet)	WATER TABLE ELEVATION (feet)
UST H28-MW01	11.72	8.89	NMT	2.83
UST H28-MW02	12.00	9.05	NMT	2.95
UST H28-MW03	12.18	9.20	NMT	2.98
UST H28-MW04	12.29	CNL	NMT	NA
UST H28-MW05	12.31	9.42	NMT	2.89
UST H28-MW06	11.96	9.09	NMT	2.87
UST H28-MW07	11.62	8.77	NMT	2.85
UST H28-MW08	12.07	9.14	NMT	2.93
UST H28-MW09	12.20	9.22	NMT	2.98
UST H28-MW10	11.57	8.65	NMT	2.92
UST H28-MW11	12.21	9.28	**0.02**	2.95*

NMT = No Measurable Thickness
Top of casing elevations provided to LAW by the MCB. UST H28-MW11 elevation established by LAW.
* = Corrected water table elevation obtained by adding 80% of the product thickness to the measured water table elevation.
CNL = Could not locate
NA = Not available

TABLE 3 (PAGE 1 OF 3)
SUMMARY OF LABORATORY ANALYTICAL RESULTS (GROUNDWATER SAMPLES)
VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
FORMER UST H28-MW06 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH28-GW06-99C*	USTH28-GW06-00D**	USTH28-GW06-01B	GROSS CONTAMINATION LEVELS	NC GROUNDWATER QUALITY STANDARD
	WELL SCREEN DEPTH (ft)	6 to 16	6 to 16	6 to 16		
	SAMPLE DATE	8/20/99	10/17/00	4/12/01		
STANDARD METHOD 6210D (including historical results by Method 602) – VOLATILE ORGANIC COMPOUNDS (mg/L)						
Benzene		ND	ND	ND	5.0	.001
Ethylbenzene		.003	.009	.003	29.0	.029
Isopropylbenzene		--	ND	.0008	25.0	.070
Naphthalene		--	.042	.016	15.5	.021
n-Propyl benzene		--	.003	.001	30.0	.070
1,2,4-Trimethylbenzene		--	ND	.002	28.5	.350
1,3,5-Trimethylbenzene		--	ND	.0008	25.0	.350
Toluene		ND	ND	ND	257.5	1.000
Xylenes (Total)		.004	ND	.007	87.5	.530
Total EPA Method 602		.007	ND	ND	N/A	N/A
Total Standard Method 6210D		ND	.054	.0306	N/A	N/A
EPA METHOD 625 – BASE, NEUTRAL AND ACID EXTRACTABLE SEMI-VOLATILE ORGANIC COMPOUNDS (mg/L)						
Acenaphthene		ND	ND	ND	2.12	.08
Anthracene		ND	ND	ND	.645	2.10
Bis (2-ethylhexyl) phthalate		ND	ND	ND	Not Established	.003
4,6-Dinitro-2-methylphenol		ND	ND	ND	Not Established	PQL
Fluorene		ND	ND	ND	.950	.28
Naphthalene		.072	.040	ND	15.5	.021
Phenanthrene		ND	ND	ND	.41	.21
Pyrene		ND	ND	ND	.210	.21
Total EPA Method 625		.072	.040	ND	N/A	N/A
EPA METHOD 625, TENTATIVELY IDENTIFIED COMPOUNDS – TICs (mg/L)						
Known TICs [Concentration]		10 [.305]	3 [.064]	4[.0242]	N/A	N/A
Unknown TICs [Concentration]		ND	7 [.112]	4[.0177]	N/A	N/A

Shaded cells = Concentrations exceed the NC Groundwater Quality Standard, but are below the Gross Contamination Levels.

* = VOCs determined by EPA method 602. Data from LAW Risk Characterization Report, January 2000; Delivery Order 0062

** = VOCs determined by EPA method 6210D. Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0089

-- = Constituent not analyzed for by historical method

MDL = Method Detection Limit (see Lab Report)

ND = Not Detected above the laboratory practical quantitation limit (PQL). See laboratory report.

TABLE 3 (PAGE 2 OF 3)
SUMMARY OF LABORATORY ANALYTICAL RESULTS (GROUNDWATER SAMPLES)
VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
FORMER UST H28-MW08 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH28-GW08-00D*	USTH28-GW08-01B	GROSS CONTAMINATION LEVELS	NC GROUNDWATER QUALITY STANDARD
	WELL SCREEN DEPTH (ft)	2 to 12	2 to 12		
	SAMPLE DATE	10/17/00	4/12/01		
STANDARD METHOD 6210D – VOLATILE ORGANIC COMPOUNDS (mg/L)					
Benzene		ND	ND	5.0	.001
n-Butylbenzene		.001	.002	6.9	.070
sec-Butylbenzene		.001	ND	8.5	.070
Ethylbenzene		.002	.001	29.0	.029
Isopropylbenzene		.001	.003	25.0	.070
4-Isopropyltoluene		.001	ND	0.5**	0.0005***
Naphthalene		.019	.020	15.5	.021
n-Propyl benzene		.002	.005	30.0	.070
1,2,4-Trimethylbenzene		.019	.012	28.5	.350
1,3,5-Trimethylbenzene		ND	.003	25.0	.350
Toluene		ND	ND	257.5	1.000
Xylenes (Total)		.0027	.002	87.5	.530
Total Standard Method 6210D		.0487	.048	N/A	N/A
EPA METHOD 625 – BASE, NEUTRAL AND ACID EXTRACTABLE SEMI-VOLATILE ORGANIC COMPOUNDS (mg/L)					
Acenaphthene		ND	ND	2.12	.08
Anthracene		ND	ND	.645	2.10
Bis (2-ethylhexyl) phthalate		ND	ND	Not Established	.003
4,6-Dinitro-2-methylphenol		ND	ND	Not Established	PQL
Fluorene		ND	ND	.950	.28
Naphthalene		.015	.012	15.5	.021
Phenanthrene		ND	ND	.41	.21
Pyrene		ND	ND	.210	.21
Total EPA Method 625		.015	.012	N/A	N/A
EPA METHOD 625, TENTATIVELY IDENTIFIED COMPOUNDS – TICs (mg/L)					
Known TICs [Concentration]		4 [.094]	6[.109]	N/A	N/A
Unknown TICs [Concentration]		1 [.014]	4[.0702]	N/A	N/A

* Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0089

** GCL = 1000 times the groundwater standard for this compound because water solubility data is not available

*** Laboratory detection limit is the default standard because a numerical standard has not been established

ND = Not Detected above the laboratory practical quantitation limit (PQL). See laboratory report.

TABLE 3 (PAGE 3 OF 3)
SUMMARY OF LABORATORY ANALYTICAL RESULTS (GROUNDWATER SAMPLES)
VOLATILE AND SEMI-VOLATILE ORGANIC COMPOUNDS
FORMER UST H28-MW09 MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH28-GW09-99D'	USTH28-GW09-00D**	USTH28-GW09-01B	GROSS CONTAMINATION LEVELS	NC GROUNDWATER QUALITY STANDARD
	WELL SCREEN DEPTH (ft)	2 to 12	6 to 16	6 to 16		
	SAMPLE DATE	8/20/99	10/17/00	4/12/01		
STANDARD METHOD 6210D (including historical results by Method 602) – VOLATILE ORGANIC COMPOUNDS (mg/L)						
Benzene		ND	ND	ND	5.0	.001
sec-Butylbenzene		--	ND	ND	8.5	.070
Chloroform		--	.0006	.0006	0.19***	.00019
Ethylbenzene		ND	ND	ND	29.0	.029
Isopropylbenzene		--	ND	ND	25.0	.070
Naphthalene		--	ND	.003	15.5	.021
n-Propyl benzene		--	ND	ND	30.0	.070
1,2,4-Trimethylbenzene		--	ND	ND	28.5	.350
1,3,5-Trimethylbenzene		--	ND	ND	25.0	.350
Toluene		ND	ND	ND	257.5	1.000
Xylenes (Total)		ND	ND	ND	87.5	.530
Total EPA Method 602		ND	ND	ND	N/A	N/A
Total Standard Method 6210D		ND	.0006	.0036	N/A	N/A
EPA METHOD 625 – BASE, NEUTRAL AND ACID EXTRACTABLE SEMI-VOLATILE ORGANIC COMPOUNDS (mg/L)						
Acenaphthene		ND	ND	ND	2.12	.08
Anthracene		ND	ND	ND	.645	2.10
Bis (2-ethylhexyl) phthalate		ND	ND	ND	Not Established	.003
4,6-Dinitro-2-methylphenol		ND	ND	ND	Not Established	PQL
Fluorene		ND	ND	ND	.950	.28
Naphthalene		ND	ND	ND	15.5	.021
Phenanthrene		ND	ND	ND	.41	.21
Pyrene		ND	ND	ND	.210	.21
Total EPA Method 625		ND	ND	ND	N/A	N/A
EPA METHOD 625, TENTATIVELY IDENTIFIED COMPOUNDS – TICs (mg/L)						
Known TICs [Concentration]		1 [.007]	ND	ND	N/A	N/A
Unknown TICs [Concentration]		6 [.069]	ND	ND	N/A	N/A

* = VOCs determined by EPA method 602. Data from LAW Risk Characterization Report, January 2000; Delivery Order 0062

** = Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0089

*** =Gross Contamination Level determined as 1000 times the groundwater standard since it is less than ½ the solubility of chloroform.

-- = Constituent not analyzed for by historical method

ND = Not Detected above the laboratory practical quantitation limit (PQL). See laboratory report.

TABLE 4 (PAGE 1 OF 2)
SUMMARY OF MADEP VPH AND EPH LABORATORY RESULTS (GROUNDWATER SAMPLES)
FORMER UST H28, MARINE CORPS BASE
CAMP LEJUENE, NORTH CAROLINA

PARAMETER	GROUNDWATER SAMPLE ID	USTH28-GW06-99C Note 3	USTH28-GW06-00D Note 4	USTH28-GW06-01B	*INTERIM GROUNDWATER STANDARD** (VPH and EPH Class Ranges)
	WELL SCREEN DEPTHS (ft)	6 to 16	2 to 12	2 to 12	
	SAMPLE DATES	8/13/99	10/17/00	4/12/01	
MADEP, Total Volatile Petroleum Hydrocarbon Compounds (VPH), mg/L					
C5 to C8 Aliphatics		ND	ND	ND	
C9 to C12 Aliphatics		.37	.19	.140	
C9 to C10 Aromatics		.30	ND	ND	
MADEP, Total Extractable Petroleum Hydrocarbon Compounds (EPH), mg/L					
C9 to C18 Aliphatics		2.4	ND	ND	
C19 to C36 Aliphatics		ND	ND	ND	
C11 to C22 Aromatics		2.2	0.23	ND	
MADEP, CARBON CLASS RANGE TOTALS, mg/L (if concentration identified)					
C5 to C8 Aliphatics (VPH)		ND	ND	ND	0.42
C9 to C12 Aliphatics		.37	.19	.140	Not Established: Note 1
C9 to C10 Aromatics		.30	ND	ND	Not Established: Note 2
C9 to C18 Aliphatics (VPH + EPH)		2.77	.19	.140	4.2
C19 to C36 Aliphatics (EPH)		ND	ND	ND	42.0
C9 to C22 Aromatics (VPH + EPH)		2.5	0.23	ND	0.21

ND = No compounds detected above the laboratory practical quantitation limit (PQL). See laboratory reports
NA = Not analyzed. Duplicate sample USTH28-GW99-01B only analyzed for MADEP VPH
Shaded Cells = Groundwater Contaminant Concentration exceeds the N.C. Groundwater Standard
MADEP = Massachusetts Department of Environmental Protection.
* Gross Contamination levels have not been established for these parameters

Notes:

1. The NCDENR has not established a groundwater standard for the C9 to C12 aliphatic compound class of VPH. Instead, the NCDENR established a groundwater standard for the C9 to C18 aliphatic compound class, which includes both VPH and EPH.
2. The NCDENR has not established a groundwater standard for the C9 to C10 aromatic compound class of VPH. Instead, the NCDENR established a groundwater standard for the C11 to C32 aromatic compound class which includes both VPH and EPH.
3. Data from LAW Risk Characterization Report, January 2000; Delivery Order 0062
4. Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0089

TABLE 4 (PAGE 2 OF 2)
SUMMARY OF MADEP VPH AND EPH LABORATORY RESULTS (GROUNDWATER SAMPLES)
FORMER UST H28, MARINE CORPS BASE
CAMP LEJUENE, NORTH CAROLINA

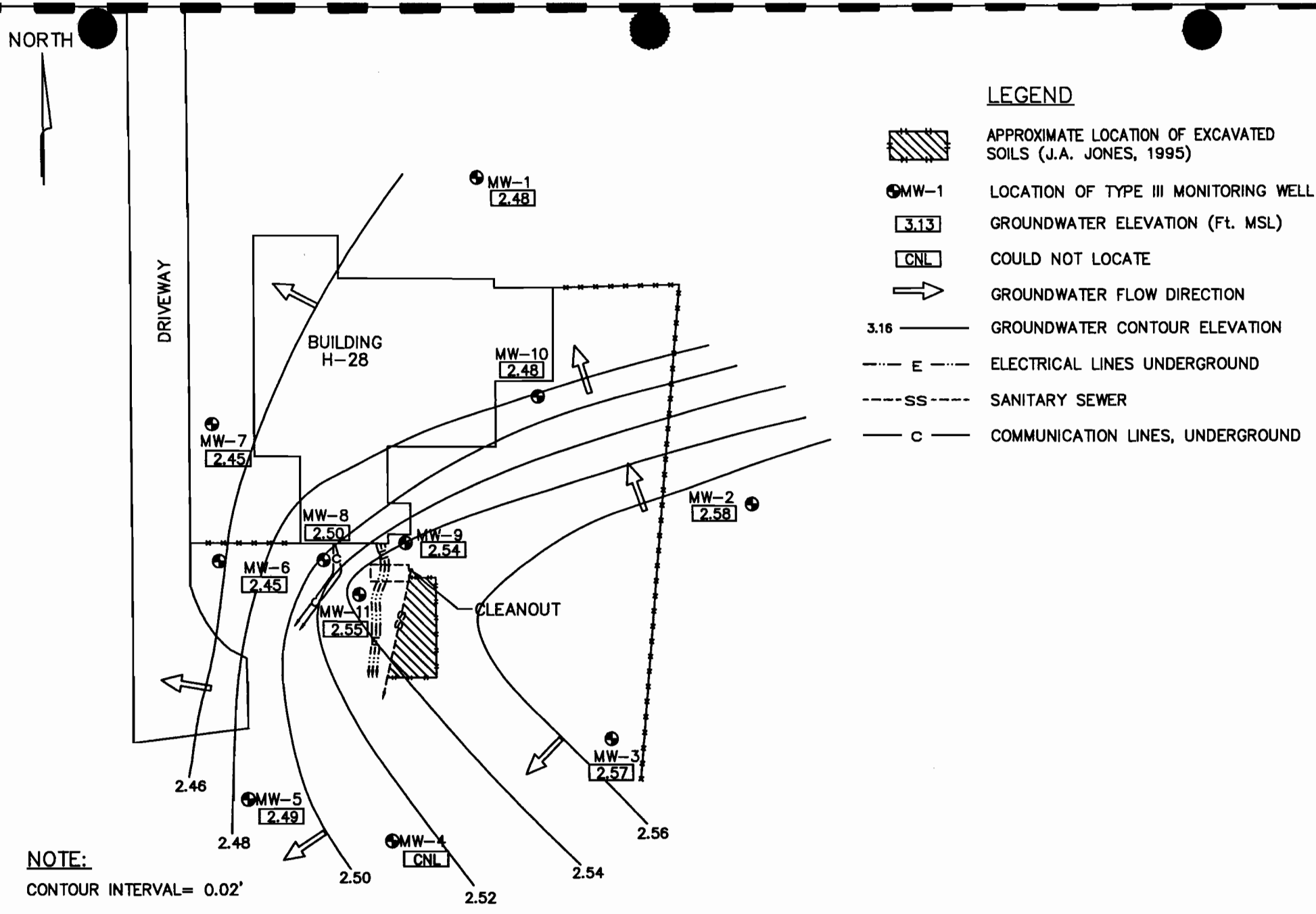
PARAMETER	GROUNDWATER SAMPLE ID	USTH28-GW08-OOD Note 7	USTH28-GW08-O1B	USTH28-GW09-99D Note 8	USTH28-GW09-00D Note 7	USTH28-GW09-01B	*INTERIM GROUNDWATER STANDARD** (VPH and EPH Class Ranges)
	WELL SCREEN DEPTHS (ft)	2 to 12	2 to 12	2 to 12	2 to 12	2 to 12	
	SAMPLE DATES	10/17/00	4/12/01	10/22/99	10/17/00	4/12/01	
MADEP, Total Volatile Petroleum Hydrocarbon Compounds (VPH), mg/L							
C5 to C8 Aliphatics		ND	ND	ND	ND	ND	
C9 to C12 Aliphatics		.21	.480	ND	ND	ND	
C9 to C10 Aromatics		ND	.110	ND	ND	ND	
MADEP, Total Extractable Petroleum Hydrocarbon Compounds (EPH), mg/L							
C9 to C18 Aliphatics		.14	.110	ND	ND	ND	
C19 to C36 Aliphatics		ND	ND	ND	ND	ND	
C11 to C22 Aromatics		.22	.240	ND	ND	ND	
MADEP, CARBON CLASS RANGE TOTALS, mg/L (if concentration identified)							
C5 to C8 Aliphatics (VPH)		ND	ND	ND	ND	ND	0.42
C9 to C12 Aliphatics		.21	.480	ND	ND	ND	Not Established: Note 5
C9 to C10 Aromatics		ND	.110	ND	ND	ND	Not Established: Note 6
C9 to C18 Aliphatics (VPH + EPH)		.35	.590	ND	ND	ND	4.2
C19 to C36 Aliphatics (EPH)		ND	ND	ND	ND	ND	42.0
C9 to C22 Aromatics (VPH + EPH)		.22	.350	ND	ND	ND	0.21

ND = No compounds detected above the laboratory practical quantitation limit (PQL). See laboratory reports
Shaded Cells = Groundwater Contaminant Concentration exceeds the N.C. Groundwater Standard
MADEP = Massachusetts Department of Environmental Protection.

Notes:

5. The NCDENR has not established a groundwater standard for the C9 to C12 aliphatic compound class of VPH. Instead, the NCDENR established a groundwater standard for the C9 to C18 aliphatic compound class, which includes both VPH and EPH.
6. The NCDENR has not established a groundwater standard for the C9 to C10 aromatic compound class of VPH. Instead, the NCDENR established a groundwater standard for the C11 to C32 aromatic compound class which includes both VPH and EPH.
7. Data from LAW First Semi-Annual Groundwater Monitoring Report, December 2000; Delivery Order 0089
8. Data from LAW Risk Characterization Report, January 2000; Delivery Order 0062

FIGURES



LAW

LAWGIBB Group Member

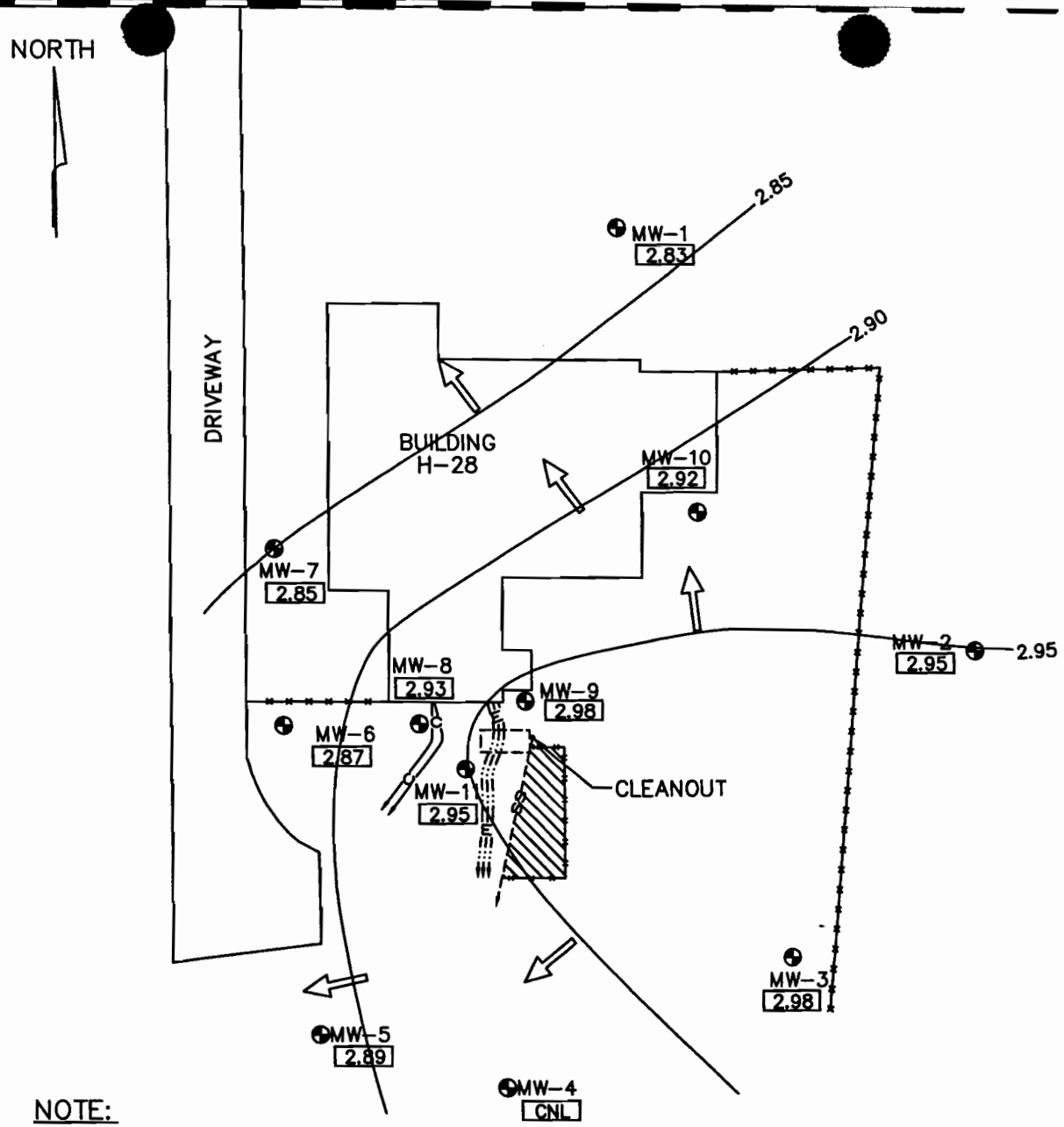
LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC. RALEIGH NC

PROJECT: 2ND SEMI-ANNUAL GROUNDWATER MONITORING REPORT FROMER UST H-28 CAMP LEJEUNE, N.C.

TITLE: GROUNDWATER ELEVATION CONTOUR MAP JANUARY 16, 2001 FORMER UST H-28

FIGURE: 1

JOB NO: 30740-6-0600-0089 | DATE: JAN. 2001 | SCALE: 1"=40' | DRAWN BY: LGL | CHECKED BY: WBD



LEGEND

- APPROXIMATE LOCATION OF EXCAVATED SOILS (J.A. JONES, 1995)
- MW-1 — LOCATION OF TYPE III MONITORING WELL
- 3.13 — GROUNDWATER ELEVATION (Ft. MSL)
- CNL — COULD NOT LOCATE
- GROUNDWATER FLOW DIRECTION
- 3.16 ——— GROUNDWATER CONTOUR ELEVATION
- —— E —— ELECTRICAL LINES UNDERGROUND
- ---- SS ---- SANITARY SEWER
- —— C —— COMMUNICATION LINES, UNDERGROUND

NOTE:

CONTOUR INTERVALS= 0.05'

H-28_PLAN(2)

LAW

LAWGIBB Group Member

LAW ENGINEERING & ENVIRONMENTAL SERVICES, INC. RALEIGH NC

PROJECT: 2ND SEMI-ANNUAL GROUNDWATER MONITORING REPORT FROMER UST H-28 CAMP LEJEUNE, N.C.

JOB NO: 30740-6-0600-0089 | DATE: APRIL 2001

TITLE: GROUNDWATER ELEVATION CONTOUR MAP APRIL 12, 2001 FORMER UST H-28

SCALE: 1"=40' | DRAWN BY: LGL | CHECKED BY: WBD

FIGURE 2

Laboratory Report and Chain of Custody Records

PARADIGM ANALYTICAL LABORATORIES, INC.
2627 Northchase Parkway S.E.
Wilmington, North Carolina 28405
(910) 350-1903
Fax (910) 350-1557

Mr. Bill Deobald
Law Engineering
3301 Atlantic Ave.
Raleigh,NC 27604

May 1, 2001

Report Number: G132-856

Client Project ID: H-28

Dear Mr. Deobald,

Enclosed are the results of the analytical services performed under the referenced project. 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 for assistance. 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
Mark Randall

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 6210D

Client Sample ID: USTH28-GW06-01B
Client Project ID: H-28
Lab Sample ID: 18463
Lab Project ID: G132-856
Matrix: Water

Date Analyzed: 4/20/01
Analyzed By: RNP
Date Collected: 4/12/01
Date Received: 4/13/01
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	0.5	BQL
Bromobenzene	0.5	BQL
Bromochloromethane	0.5	BQL
Bromodichloromethane	0.5	BQL
Bromoform	0.5	BQL
Bromomethane	0.5	BQL
n-Butylbenzene	0.5	BQL
sec-Butylbenzene	0.5	BQL
tert-Butylbenzene	0.5	BQL
Carbon tetrachloride	0.5	BQL
Chlorobenzene	0.5	BQL
Chloroethane	0.5	BQL
Chloroform	0.5	BQL
Chloromethane	0.5	BQL
2-Chlorotoluene	0.5	BQL
4-Chlorotoluene	0.5	BQL
Dibromochloromethane	0.5	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	0.5	BQL
1,2-Dibromoethane (EDB)	0.5	BQL
1,2-Dichlorobenzene	0.5	BQL
1,3-Dichlorobenzene	0.5	BQL
1,4-Dichlorobenzene	0.5	BQL
1,1-Dichloroethane	0.5	BQL
1,1-Dichloroethene	0.5	BQL
1,2-Dichloroethane	0.5	BQL
cis-1,2-Dichloroethene	0.5	BQL
trans-1,2-dichloroethene	0.5	BQL
1,2-Dichloropropane	0.5	BQL
1,3-Dichloropropane	0.5	BQL
2,2-Dichloropropane	0.5	BQL
1,1-Dichloropropene	0.5	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	0.5	BQL
Ethylbenzene	0.5	**3**
Hexachlorobutadiene	0.5	BQL
Isopropylbenzene	0.5	**0.8**
4-Isopropyltoluene	0.5	BQL
Methylene chloride	5	BQL
Methyl-tert-butyl ether (MTBE)	0.5	BQL

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 6210D

Client Sample ID: USTH28-GW06-01B
Client Project ID: H-28
Lab Sample ID: 18463
Lab Project ID: G132-856
Matrix: Water

Date Analyzed: 4/20/01
Analyzed By: RNP
Date Collected: 4/12/01
Date Received: 4/13/01
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Naphthalene	0.5	**16**
n-Propyl benzene	0.5	**1**
Styrene	0.5	BQL
1,1,1,2-Tetrachloroethane	0.5	BQL
1,1,2,2-Tetrachloroethane	0.5	BQL
Tetrachloroethene	0.5	BQL
Toluene	0.5	BQL
1,2,3-Trichlorobenzene	0.5	BQL
1,2,4-Trichlorobenzene	0.5	BQL
Trichloroethene	0.5	BQL
1,1,1-Trichloroethane	0.5	BQL
1,1,2-Trichloroethane	0.5	BQL
Trichlorofluoromethane	0.5	BQL
1,2,3-Trichloropropane	0.5	BQL
1,2,4-Trimethylbenzene	0.5	**2**
1,3,5-Trimethylbenzene	0.5	**0.8**
Vinyl chloride	0.5	BQL
m-,p-Xylene	1	**4**
o-Xylene	0.5	**3**

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10.0	100
1,2-Dichloroethane-d4	10.0	9.7	97
Toluene-d8	10.0	10.0	100

Comments:

All results are corrected for dilution.

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-GW06-01B
Client Project ID: H-28
Lab Sample ID: 18463
Lab Project ID: G132-856
Matrix: Water

Date Collected: 4/12/01
Date Received: 4/13/01
Date Analyzed: 4/21/01
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Bis(2-chloroethoxy)methane	10	BQL
Bis(2-chloroethyl)ether	10	BQL
Bis(2-chloroisopropyl)ether	10	BQL
Bis(2-ethylhexyl)phthalate	10	BQL
4-bromophenyl phenyl ether	10	BQL
Butylbenzylphthalate	10	BQL
4-Chloro-3-methylphenol	10	BQL
2-Chloronaphthalene	10	BQL
2-Chlorophenol	10	BQL
4-Chlorophenyl phenyl ether	10	BQL
Chrysene	10	BQL
Di-n-Butylphthalate	10	BQL
Di-n-octylphthalate	10	BQL
Dibenzo[a,h]anthracene	10	BQL
1,2-Dichlorobenzene	10	BQL
1,3-Dichlorobenzene	10	BQL
1,4-Dichlorobenzene	10	BQL
3,3'-Dichlorobenzidine	20	BQL
2,4-Dichlorophenol	10	BQL
Diethylphthalate	10	BQL
2,4-Dimethylphenol	10	BQL
Dimethylphthalate	10	BQL
4,6-Dinitro-2-methylphenol	50	BQL
2,4-Dinitrophenol	50	BQL
2,4-Dinitrotoluene	10	BQL
2,6-Dinitrotoluene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Hexachlorobenzene	10	BQL
Hexachlorobutadiene	10	BQL
Hexachlorocyclopentadiene	20	BQL
Hexachloroethane	10	BQL

Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-GW06-01B
Client Project ID: H-28
Lab Sample ID: 18463
Lab Project ID: G132-856
Matrix: Water

Date Collected: 4/12/01
Date Received: 4/13/01
Date Analyzed: 4/21/01
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Indeno(1,2,3-c,d)pyrene	10	BQL
Isophorone	10	BQL
N-Nitrosodi-n-propylamine	10	BQL
N-Nitrosodiphenylamine	10	BQL
Naphthalene	10	BQL
Nitrobenzene	10	BQL
2-Nitrophenol	10	BQL
4-Nitrophenol	50	BQL
Pentachlorophenol	50	BQL
Phenanthrene	10	BQL
Phenol	10	BQL
Pyrene	10	BQL
1,2,4-Trichlorobenzene	10	BQL
2,4,6-Trichlorophenol	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	8.6	86
2-Fluorophenol	10	8.4	84
Nitrobenzene-d5	10	8.2	82
Phenol-d6	10	8.1	81
2,4,6-Tribromophenol	10	9.8	98
4-Terphenyl-d14	10	7.1	71

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results of Library Search for Semivolatile Compounds

by GCMS

Client Sample ID: USTH28-GW06-01B
Client Project ID: H-28
Lab Sample ID: 18463
Lab Project ID: G132-856
Matrix: Water

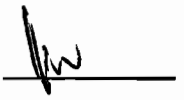
Date Collected: 4/12/01
Date Received: 4/13/01
Date Analyzed: 4/21/01
Analyzed By: MRC
Dilution: 1

Num.	Compound	CAS#	Match Probability	Result (ug/L)
1	Naphthalene, 2-methyl-	000091-57-6	90	8
2	Naphthalene, 1-methyl-	000090-12-0	90	6.2
3	Dimethylnaphthalene, Isomer of			5.5
4	Unknown			4.9
5	1 (2H)-Naphthalenone, 3,4-dihydro-	000529-34-0	91	4.5
6	Unknown			4.4
7	Unknown			4.2
8	Unknown			4.2
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 height 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 height is equal to or greater than 10% of that of the nearest internal standard. Quantitation provided is an estimate.

Reviewed by: 

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: LAW ENGINEERING

Project Name: H-28

Sample Information and Analytical Results	
Sample Identification	USTH28-GW06-01B
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	04/12/01
Date Received	04/13/01
Date Extracted	04/20/01
Date Analyzed	04/20/01
Dry Weight	
Dilution Factor	1
C_5-C_8 Aliphatics**	< 100 (µg/L)
C_9-C_{12} Aliphatics**	140 (µg/L)
C_9-C_{10} Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	77
Surrogate % Recovery - FID	110

* = 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: G132-856-18463

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: LAW ENGINEERING

Project Name: H-28

Sample Information and Analytical Results	
Sample Identification	USTH28-GW06-01B
Sample Matrix	Water
Date Collected	04/12/01
Date Received	04/13/01
Date Extracted	04/19/01
Date Analyzed	04/21/01
Dry Weight	
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 100 (µg/L)
C_{19}-C_{36} Aliphatics*	< 100 (µg/L)
C_{11}-C_{22} Aromatics*	< 100 (µg/L)
Aliphatic Surrogate % Recovery	68
Aromatic Surrogate % Recovery	79

Comments:

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

Lab info: G132-856-18463

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 6210D

Client Sample ID: USTH28-GW08-01B
Client Project ID: H-28
Lab Sample ID: 18464
Lab Project ID: G132-856
Matrix: Water

Date Analyzed: 4/20/01
Analyzed By: RNP
Date Collected: 4/12/01
Date Received: 4/13/01
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	0.5	BQL
Bromobenzene	0.5	BQL
Bromochloromethane	0.5	BQL
Bromodichloromethane	0.5	BQL
Bromoform	0.5	BQL
Bromomethane	0.5	BQL
n-Butylbenzene	0.5	2
sec-Butylbenzene	0.5	BQL
tert-Butylbenzene	0.5	BQL
Carbon tetrachloride	0.5	BQL
Chlorobenzene	0.5	BQL
Chloroethane	0.5	BQL
Chloroform	0.5	BQL
Chloromethane	0.5	BQL
2-Chlorotoluene	0.5	BQL
4-Chlorotoluene	0.5	BQL
Dibromochloromethane	0.5	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	0.5	BQL
1,2-Dibromoethane (EDB)	0.5	BQL
1,2-Dichlorobenzene	0.5	BQL
1,3-Dichlorobenzene	0.5	BQL
1,4-Dichlorobenzene	0.5	BQL
1,1-Dichloroethane	0.5	BQL
1,1-Dichloroethene	0.5	BQL
1,2-Dichloroethane	0.5	BQL
cis-1,2-Dichloroethene	0.5	BQL
trans-1,2-dichloroethene	0.5	BQL
1,2-Dichloropropane	0.5	BQL
1,3-Dichloropropane	0.5	BQL
2,2-Dichloropropane	0.5	BQL
1,1-Dichloropropene	0.5	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	0.5	BQL
Ethylbenzene	0.5	1
Hexachlorobutadiene	0.5	BQL
Isopropylbenzene	0.5	3
4-Isopropyltoluene	0.5	BQL
Methylene chloride	5	BQL
Methyl-tert-butyl ether (MTBE)	0.5	BQL

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 6210D

Client Sample ID: USTH28-GW08-01B
Client Project ID: H-28
Lab Sample ID: 18464
Lab Project ID: G132-856
Matrix: Water

Date Analyzed: 4/20/01
Analyzed By: RNP
Date Collected: 4/12/01
Date Received: 4/13/01
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Naphthalene	0.5	**20**
n-Propyl benzene	0.5	**5**
Styrene	0.5	BQL
1,1,1,2-Tetrachloroethane	0.5	BQL
1,1,2,2-Tetrachloroethane	0.5	BQL
Tetrachloroethene	0.5	BQL
Toluene	0.5	BQL
1,2,3-Trichlorobenzene	0.5	BQL
1,2,4-Trichlorobenzene	0.5	BQL
Trichloroethene	0.5	BQL
1,1,1-Trichloroethane	0.5	BQL
1,1,2-Trichloroethane	0.5	BQL
Trichlorofluoromethane	0.5	BQL
1,2,3-Trichloropropane	0.5	BQL
1,2,4-Trimethylbenzene	0.5	**12**
1,3,5-Trimethylbenzene	0.5	**3**
Vinyl chloride	0.5	BQL
m-,p-Xylene	1	**2**
o-Xylene	0.5	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10.0	100
1,2-Dichloroethane-d4	10.0	9.8	98
Toluene-d8	10.0	10.0	100

Comments:

All results are corrected for dilution.

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-GW08-01B
Client Project ID: H-28
Lab Sample ID: 18464
Lab Project ID: G132-856
Matrix: Water

Date Collected: 4/12/01
Date Received: 4/13/01
Date Analyzed: 4/21/01
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Bis(2-chloroethoxy)methane	10	BQL
Bis(2-chloroethyl)ether	10	BQL
Bis(2-chloroisopropyl)ether	10	BQL
Bis(2-ethylhexyl)phthalate	10	BQL
4-bromophenyl phenyl ether	10	BQL
Butylbenzylphthalate	10	BQL
4-Chloro-3-methylphenol	10	BQL
2-Chloronaphthalene	10	BQL
2-Chlorophenol	10	BQL
4-Chlorophenyl phenyl ether	10	BQL
Chrysene	10	BQL
Di-n-Butylphthalate	10	BQL
Di-n-octylphthalate	10	BQL
Dibenzo[a,h]anthracene	10	BQL
1,2-Dichlorobenzene	10	BQL
1,3-Dichlorobenzene	10	BQL
1,4-Dichlorobenzene	10	BQL
3,3'-Dichlorobenzidine	20	BQL
2,4-Dichlorophenol	10	BQL
Diethylphthalate	10	BQL
2,4-Dimethylphenol	10	BQL
Dimethylphthalate	10	BQL
4,6-Dinitro-2-methylphenol	50	BQL
2,4-Dinitrophenol	50	BQL
2,4-Dinitrotoluene	10	BQL
2,6-Dinitrotoluene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Hexachlorobenzene	10	BQL
Hexachlorobutadiene	10	BQL
Hexachlorocyclopentadiene	20	BQL
Hexachloroethane	10	BQL

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-GW08-01B
Client Project ID: H-28
Lab Sample ID: 18464
Lab Project ID: G132-856
Matrix: Water

Date Collected: 4/12/01
Date Received: 4/13/01
Date Analyzed: 4/21/01
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Indeno(1,2,3-c,d)pyrene	10	BQL
Isophorone	10	BQL
N-Nitrosodi-n-propylamine	10	BQL
N-Nitrosodiphenylamine	10	BQL
Naphthalene	10	**12**
Nitrobenzene	10	BQL
2-Nitrophenol	10	BQL
4-Nitrophenol	50	BQL
Pentachlorophenol	50	BQL
Phenanthrene	10	BQL
Phenol	10	BQL
Pyrene	10	BQL
1,2,4-Trichlorobenzene	10	BQL
2,4,6-Trichlorophenol	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.3	93
2-Fluorophenol	10	8.8	88
Nitrobenzene-d5	10	8.4	84
Phenol-d6	10	8.6	86
2,4,6-Tribromophenol	10	9.6	96
4-Terphenyl-d14	10	8.8	88

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results of Library Search for Semivolatile Compounds

by GCMS

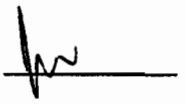
Client Sample ID:	USTH28-GW08-01B	Date Collected:	4/12/01
Client Project ID:	H-28	Date Received:	4/13/01
Lab Sample ID:	18464	Date Analyzed:	4/21/01
Lab Project ID:	G132-856	Analyzed By:	MRC
Matrix:	Water	Dilution:	1

Num.	Compound	CAS#	Match Probability	Result (ug/L)
1	Naphthalene, 1-methyl-	000090-12-0	91	38
2	Unknown			36
3	Trimethylbenzene, Isomer of			27
4	Naphthalene, 2-methyl-	000091-57-6	95	19
5	Tetrahydronaphthalene, Isomer of			16
6	Alkane, Unknown			16
7	Dimethylnaphthalene, Isomer of			15
8	Ethyldimethylbenzene, Isomer of			12
9	Unknown			9.5
10	Unknown			8.7

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 height 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 height is equal to or greater than 10% of that of the nearest internal standard. Quantitation provided is an estimate.

Reviewed by: 

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: LAW ENGINEERING

Project Name: H-28

Sample Information and Analytical Results	
Sample Identification	USTH28-GW08-01B
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	04/12/01
Date Received	04/13/01
Date Extracted	04/20/01
Date Analyzed	04/20/01
Dry Weight	
Dilution Factor	1
C_5-C_8 Aliphatics**	< 100 (µg/L)
C_9-C_{12} Aliphatics**	480 (µg/L)
C_9-C_{10} Aromatics**	110 (µg/L)
Surrogate % Recovery - PID	80
Surrogate % Recovery - FID	110

* = 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: G132-856-18464

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: LAW ENGINEERING

Project Name: H-28

Sample Information and Analytical Results	
Sample Identification	USTH28-GW08-01B
Sample Matrix	Water
Date Collected	04/12/01
Date Received	04/13/01
Date Extracted	04/19/01
Date Analyzed	04/26/01
Dry Weight	
Dilution Factor	1
C_9-C_{18} Aliphatics*	110 (µg/L)
C_{19}-C_{36} Aliphatics*	< 100 (µg/L)
C_{11}-C_{22} Aromatics*	240 (µg/L)
Aliphatic Surrogate % Recovery	72
Aromatic Surrogate % Recovery	77
Fractionation Surrogate 1 % Recovery	90

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G132-856-18464

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 6210D

Client Sample ID: USTH28-GW09-01B
Client Project ID: H-28
Lab Sample ID: 18465
Lab Project ID: G132-856
Matrix: Water

Date Analyzed: 4/20/01
Analyzed By: RNP
Date Collected: 4/12/01
Date Received: 4/13/01
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	0.5	BQL
Bromobenzene	0.5	BQL
Bromochloromethane	0.5	BQL
Bromodichloromethane	0.5	BQL
Bromoform	0.5	BQL
Bromomethane	0.5	BQL
n-Butylbenzene	0.5	BQL
sec-Butylbenzene	0.5	BQL
tert-Butylbenzene	0.5	BQL
Carbon tetrachloride	0.5	BQL
Chlorobenzene	0.5	BQL
Chloroethane	0.5	BQL
Chloroform	0.5	**0.6**
Chloromethane	0.5	BQL
2-Chlorotoluene	0.5	BQL
4-Chlorotoluene	0.5	BQL
Dibromochloromethane	0.5	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	0.5	BQL
1,2-Dibromoethane (EDB)	0.5	BQL
1,2-Dichlorobenzene	0.5	BQL
1,3-Dichlorobenzene	0.5	BQL
1,4-Dichlorobenzene	0.5	BQL
1,1-Dichloroethane	0.5	BQL
1,1-Dichloroethene	0.5	BQL
1,2-Dichloroethane	0.5	BQL
cis-1,2-Dichloroethene	0.5	BQL
trans-1,2-dichloroethene	0.5	BQL
1,2-Dichloropropane	0.5	BQL
1,3-Dichloropropane	0.5	BQL
2,2-Dichloropropane	0.5	BQL
1,1-Dichloropropene	0.5	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	0.5	BQL
Ethylbenzene	0.5	BQL
Hexachlorobutadiene	0.5	BQL
Isopropylbenzene	0.5	BQL
4-Isopropyltoluene	0.5	BQL
Methylene chloride	5	BQL
Methyl-tert-butyl ether (MTBE)	0.5	BQL

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 6210D

Client Sample ID: USTH28-GW09-01B
Client Project ID: H-28
Lab Sample ID: 18465
Lab Project ID: G132-856
Matrix: Water

Date Analyzed: 4/20/01
Analyzed By: RNP
Date Collected: 4/12/01
Date Received: 4/13/01
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Naphthalene	0.5	3
n-Propyl benzene	0.5	BQL
Styrene	0.5	BQL
1,1,1,2-Tetrachloroethane	0.5	BQL
1,1,2,2-Tetrachloroethane	0.5	BQL
Tetrachloroethene	0.5	BQL
Toluene	0.5	BQL
1,2,3-Trichlorobenzene	0.5	BQL
1,2,4-Trichlorobenzene	0.5	BQL
Trichloroethene	0.5	BQL
1,1,1-Trichloroethane	0.5	BQL
1,1,2-Trichloroethane	0.5	BQL
Trichlorofluoromethane	0.5	BQL
1,2,3-Trichloropropane	0.5	BQL
1,2,4-Trimethylbenzene	0.5	BQL
1,3,5-Trimethylbenzene	0.5	BQL
Vinyl chloride	0.5	BQL
m-,p-Xylene	1	BQL
o-Xylene	0.5	BQL

Surrogate Spike Recoveries	Spike Added	Surrogate Result	%Rec
Compound	(ug/L)	(ug/L)	
Bromofluorobenzene	10.0	10.0	100
1,2-Dichloroethane-d4	10.0	10.3	103
Toluene-d8	10.0	10.2	102

Comments:

All results are corrected for dilution.

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-GW09-01B
Client Project ID: H-28
Lab Sample ID: 18465
Lab Project ID: G132-856
Matrix: Water

Date Collected: 4/12/01
Date Received: 4/13/01
Date Analyzed: 4/21/01
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Acenaphthene	10	BQL
Acenaphthylene	10	BQL
Anthracene	10	BQL
Benzo[a]anthracene	10	BQL
Benzo[a]pyrene	10	BQL
Benzo[b]fluoranthene	10	BQL
Benzo[g,h,i]perylene	10	BQL
Benzo[k]fluoranthene	10	BQL
Bis(2-chloroethoxy)methane	10	BQL
Bis(2-chloroethyl)ether	10	BQL
Bis(2-chloroisopropyl)ether	10	BQL
Bis(2-ethylhexyl)phthalate	10	BQL
4-bromophenyl phenyl ether	10	BQL
Butylbenzylphthalate	10	BQL
4-Chloro-3-methylphenol	10	BQL
2-Chloronaphthalene	10	BQL
2-Chlorophenol	10	BQL
4-Chlorophenyl phenyl ether	10	BQL
Chrysene	10	BQL
Di-n-Butylphthalate	10	BQL
Di-n-octylphthalate	10	BQL
Dibenzo[a,h]anthracene	10	BQL
1,2-Dichlorobenzene	10	BQL
1,3-Dichlorobenzene	10	BQL
1,4-Dichlorobenzene	10	BQL
3,3'-Dichlorobenzidine	20	BQL
2,4-Dichlorophenol	10	BQL
Diethylphthalate	10	BQL
2,4-Dimethylphenol	10	BQL
Dimethylphthalate	10	BQL
4,6-Dinitro-2-methylphenol	50	BQL
2,4-Dinitrophenol	50	BQL
2,4-Dinitrotoluene	10	BQL
2,6-Dinitrotoluene	10	BQL
Fluoranthene	10	BQL
Fluorene	10	BQL
Hexachlorobenzene	10	BQL
Hexachlorobutadiene	10	BQL
Hexachlorocyclopentadiene	20	BQL
Hexachloroethane	10	BQL

Results for Semivolatiles
by GCMS 625

Client Sample ID: USTH28-GW09-01B
Client Project ID: H-28
Lab Sample ID: 18465
Lab Project ID: G132-856
Matrix: Water

Date Collected: 4/12/01
Date Received: 4/13/01
Date Analyzed: 4/21/01
Analyzed By: MRC
Dilution: 1

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Indeno(1,2,3-c,d)pyrene	10	BQL
Isophorone	10	BQL
N-Nitrosodi-n-propylamine	10	BQL
N-Nitrosodiphenylamine	10	BQL
Naphthalene	10	BQL
Nitrobenzene	10	BQL
2-Nitrophenol	10	BQL
4-Nitrophenol	50	BQL
Pentachlorophenol	50	BQL
Phenanthrene	10	BQL
Phenol	10	BQL
Pyrene	10	BQL
1,2,4-Trichlorobenzene	10	BQL
2,4,6-Trichlorophenol	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2-Fluorobiphenyl	10	9.1	91
2-Fluorophenol	10	9.2	92
Nitrobenzene-d5	10	8.4	84
Phenol-d6	10	8.5	85
2,4,6-Tribromophenol	10	8.9	89
4-Terphenyl-d14	10	6.0	60

Comments:

Results are corrected for %solids and dilution where applicable.

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results of Library Search for Semivolatile Compounds

by GCMS

Client Sample ID: USTH28-GW09-01B
Client Project ID: H-28
Lab Sample ID: 18465
Lab Project ID: G132-856
Matrix: Water

Date Collected: 4/12/01
Date Received: 4/13/01
Date Analyzed: 4/21/01
Analyzed By: MRC
Dilution: 1

Num.	Compound	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 height 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 height is equal to or greater than 10% of that of the nearest internal standard. Quantitation provided is an estimate.

Reviewed by: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: LAW ENGINEERING

Project Name: H-28

Sample Information and Analytical Results	
Sample Identification	USTH28-GW09-01B
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	04/12/01
Date Received	04/13/01
Date Extracted	04/20/01
Date Analyzed	04/20/01
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	82
Surrogate % Recovery - FID	110

* = 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: G132-856-18465

Reviewed By: _____

N.C. Certification #481 S.C. Certification #99029

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: LAW ENGINEERING

Project Name: H-28

Sample Information and Analytical Results	
Sample Identification	USTH28-GW09-01B
Sample Matrix	Water
Date Collected	04/12/01
Date Received	04/13/01
Date Extracted	04/19/01
Date Analyzed	04/22/01
Dry Weight	
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 100 (µg/L)
C_{19}-C_{36} Aliphatics*	< 100 (µg/L)
C_{11}-C_{22} Aromatics*	< 100 (µg/L)
Aliphatic Surrogate % Recovery	32
Aromatic Surrogate % Recovery	72

Comments:

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

Lab info: G132-856-18465

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: LAW ENGINEERING

Project Name: H-28

Sample Information and Analytical Results	
Sample Identification	USTH28-GW99-01B
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	04/12/01
Date Received	04/13/01
Date Extracted	04/20/01
Date Analyzed	04/20/01
Dry Weight	
Dilution Factor	1
C_5-C_8 Aliphatics**	< 100 (µg/L)
C_9-C_{12} Aliphatics**	150 (µg/L)
C_9-C_{10} Aromatics**	< 100 (µg/L)
Surrogate % Recovery - PID	79
Surrogate % Recovery - FID	110

* = 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: G132-856-18466

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 6210D

Client Sample ID: Trip Blank
Client Project ID: H-28
Lab Sample ID: 18467
Lab Project ID: G132-856
Matrix: Water

Date Analyzed: 4/20/01
Analyzed By: RNP
Date Collected: 4/12/01
Date Received: 4/13/01
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	0.5	BQL
Bromobenzene	0.5	BQL
Bromochloromethane	0.5	BQL
Bromodichloromethane	0.5	BQL
Bromoform	0.5	BQL
Bromomethane	0.5	BQL
n-Butylbenzene	0.5	BQL
sec-Butylbenzene	0.5	BQL
tert-Butylbenzene	0.5	BQL
Carbon tetrachloride	0.5	BQL
Chlorobenzene	0.5	BQL
Chloroethane	0.5	BQL
Chloroform	0.5	BQL
Chloromethane	0.5	BQL
2-Chlorotoluene	0.5	BQL
4-Chlorotoluene	0.5	BQL
Dibromochloromethane	0.5	BQL
1,2-Dibromo-3-chloropropane	5	BQL
Dibromomethane	0.5	BQL
1,2-Dibromoethane (EDB)	0.5	BQL
1,2-Dichlorobenzene	0.5	BQL
1,3-Dichlorobenzene	0.5	BQL
1,4-Dichlorobenzene	0.5	BQL
1,1-Dichloroethane	0.5	BQL
1,1-Dichloroethene	0.5	BQL
1,2-Dichloroethane	0.5	BQL
cis-1,2-Dichloroethene	0.5	BQL
trans-1,2-dichloroethene	0.5	BQL
1,2-Dichloropropane	0.5	BQL
1,3-Dichloropropane	0.5	BQL
2,2-Dichloropropane	0.5	BQL
1,1-Dichloropropene	0.5	BQL
Dichlorodifluoromethane	5	BQL
Diisopropyl ether (DIPE)	0.5	BQL
Ethylbenzene	0.5	BQL
Hexachlorobutadiene	0.5	BQL
Isopropylbenzene	0.5	BQL
4-Isopropyltoluene	0.5	BQL
Methylene chloride	5	BQL
Methyl-tert-butyl ether (MTBE)	0.5	BQL

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 6210D

Client Sample ID: Trip Blank
Client Project ID: H-28
Lab Sample ID: 18467
Lab Project ID: G132-856
Matrix: Water

Date Analyzed: 4/20/01
Analyzed By: RNP
Date Collected: 4/12/01
Date Received: 4/13/01
Dilution: 1.0

Compound	Quantitation Limit (ug/L)	Result (ug/L)
Naphthalene	0.5	BQL
n-Propyl benzene	0.5	BQL
Styrene	0.5	BQL
1,1,1,2-Tetrachloroethane	0.5	BQL
1,1,2,2-Tetrachloroethane	0.5	BQL
Tetrachloroethene	0.5	BQL
Toluene	0.5	BQL
1,2,3-Trichlorobenzene	0.5	BQL
1,2,4-Trichlorobenzene	0.5	BQL
Trichloroethene	0.5	BQL
1,1,1-Trichloroethane	0.5	BQL
1,1,2-Trichloroethane	0.5	BQL
Trichlorofluoromethane	0.5	BQL
1,2,3-Trichloropropane	0.5	BQL
1,2,4-Trimethylbenzene	0.5	BQL
1,3,5-Trimethylbenzene	0.5	BQL
Vinyl chloride	0.5	BQL
m-,p-Xylene	1	BQL
o-Xylene	0.5	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/L)	Surrogate Result (ug/L)	%Rec
Bromofluorobenzene	10.0	10.0	100
1,2-Dichloroethane-d4	10.0	9.8	98
Toluene-d8	10.0	10.0	100

Comments:

All results are corrected for dilution.

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 12/02/00 PID Initial Calibration Date: 12/02/00

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C_5-C_8 Aliphatics	2.4	0.12	7.5	0.38	100	10
C_9-C_{12} Aliphatics	1.3	0.065	4.0	0.21	100	10
C_9-C_{10} Aromatics	0.5	0.025	1.6	0.08	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	40	2	15.5	Calibration Factor
	160	8		
	400	20		
	1600	80		
	4000	200		
C_9-C_{12} Aliphatics	30	1.5	18.8	Calibration Factor
	120	6		
	300	15		
	1200	60		
	3000	150		
C_9-C_{10} Aromatics	65	3.25	21.4	Calibration Factor
	260	13		
	650	32.5		
	2600	130		
	6500	325		

Calibration Check Date: 04/19/01

Calibration Check

Range	Levels (µg/L)	Levels (mg/Kg)	RPD
C_5-C_8 Aliphatics	400	20	-17.1
C_9-C_{12} Aliphatics	300	15	-13.5
C_9-C_{10} Aromatics	650	32.5	-7.7

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 04/05/01

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C_9-C_{18} Aliphatics	0.1	2	0.3	6.5	100	10
C_{19}-C_{36} Aliphatics	0.1	1	0.3	3.1	100	10
C_{11}-C_{22} Aromatics	0.2	2.5	0.6	8	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	0.06	1	5.70	Calibration Factor
	0.15	2.5		
	0.3	5		
	0.6	10		
	1.2	20		
C_{19}-C_{36} Aliphatics	0.08	1.33	7.0	Calibration Factor
	0.2	3.33		
	0.4	6.67		
	0.8	13.3		
	1.6	26.7		
C_{11}-C_{22} Aromatics	0.12	2	3.2	Calibration Factor
	0.3	5		
	0.6	10		
	1.2	20		
	2.4	40		

Calibration Check Date: 04/26/01

Calibration Check

Range	Levels (µg/mL)	Levels (mg/Kg)	RPD
C_9-C_{18} Aliphatics	0.6	10	-5.6
C_{19}-C_{36} Aliphatics	0.8	13.3	-6.8
C_{11}-C_{22} Aromatics	1.2	20	-21.3

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

PARADIGM ANALYTICAL LABORATORIES, INC.

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 04/05/01

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (mg/Kg)	ML (µg/L)	ML (mg/Kg)	RL (µg/L)	RL (mg/Kg)
C_9-C_{18} Aliphatics	0.1	2	0.3	6.5	100	10
C_{19}-C_{36} Aliphatics	0.1	1	0.3	3.1	100	10
C_{11}-C_{22} Aromatics	0.2	2.5	0.6	8	100	10

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	0.06	1	5.70	Calibration Factor
	0.15	2.5		
	0.3	5		
	0.6	10		
	1.2	20		
C_{19}-C_{36} Aliphatics	0.08	1.33	7.0	Calibration Factor
	0.2	3.33		
	0.4	6.67		
	0.8	13.3		
	1.6	26.7		
C_{11}-C_{22} Aromatics	0.12	2	3.2	Calibration Factor
	0.3	5		
	0.6	10		
	1.2	20		
	2.4	40		

Calibration Check Date: 04/21/01

Calibration Check

Range	Levels (µg/mL)	Levels (mg/Kg)	RPD
C_9-C_{18} Aliphatics	0.6	10	-5.6
C_{19}-C_{36} Aliphatics	0.8	13.3	-9.7
C_{11}-C_{22} Aromatics	1.2	20	-10.1

MDL = Method Detection Limit
ML = Minimum Limit
RL = Reportable Limit
RPD = Relative Percent Difference
%RSD = Percent Relative Standard Deviation
CCC = Correlation Coefficient of Curve

PARADIGM ANALYTICAL LABORATORIES, INC.
6627 Northchase Parkway SE, Wilmington, NC 28405
Phone: (910)-350-1903 FAX: (910)-350-1557

Chain-of Custody Record & Analytical Request

COC#

Page 1 of 1

Client: LAW ENGINEERING Project ID: H-28 Date: 4/12/01 Report To: BILL DEOBALD
Address: 3301 ATLANTIC AVE Contact: BILL DEOBALD Turnaround: STANDARD LAW-RALEIGH
Address: RALEIGH NC 27604 Phone: 919 831 8051 Job Number: 30740-6-0600-89
Quote #: 14/89 Fax: 919 831 8836 P.O. Number: 373 Invoice To: LAW CORP-ALPHARET

Sample ID	Date	Time	Matrix	Preservatives	Analyses: VPH w/HCL	Analyses: EPH w/HCL	Analyses: 625+TICs + Naphthalene	Analyses: 6210D	Comments: Please specify any special reporting requirements
1ST H28-GW06-01B	4/12/01	12:30	H2O		2	1	-	3	REPORT ALSO IN EDD FORMAT FOR NAVY - CAMP LEJEUNE - EMAIL FILES TO: bdeobald@lawco.com
1ST H28-GW08-01B	4/12/01	12:45	H2O		2	1	1	3	
1ST H28-GW09-01B	4/12/01	13:00	H2O		2	1	1	3	
1ST H28-GW99-01B	4/12/01	12:30	H2O		2				G132-856
TRIP BLANK			H2O					2	

Relinquished By	Date	Time	Received By	Date	Time	Temperature
[signature]	4/13/01	12:30	[signature]	4/13/01	1230	on ice

State Certification Requested

NC _____ SC _____ Other _____

SEE REVERSE FOR TERMS AND CONDITIONS