

01.02-11/01/94-00803 DU17 Sit 92

Courthouse Bay
near Site 65.

THREE WELL SITE CHECK

**MARINE CORPS BASE,
CAMP LEJEUNE, NORTH CAROLINA
UST BB-46**

**REWAI Project 94444
United States Navy Contract N62470-93-D-4035
Delivery Order No. 0026**

Prepared for

**Atlantic Division
Naval Facilities Engineering Command
Norfolk, VA 23511-6287**

November 1994

Enclosure (5)

THREE WELL SITE CHECK

MARINE CORPS BASE,
CAMP LEJEUNE, NORTH CAROLINA
UST BB-46

REWAI Project 94444
United States Navy Contract N62470-93-D-4035
Delivery Order No. 0026

Prepared for

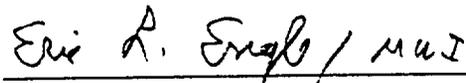
Atlantic Division
Naval Facilities Engineering Command
Norfolk, VA 23511-6287

By

R. E. WRIGHT ASSOCIATES, INC.
#18 Koger Executive Center
Suite 109
Norfolk, VA 23502-4015
(804) 461-6906

November 1994

Respectfully submitted,



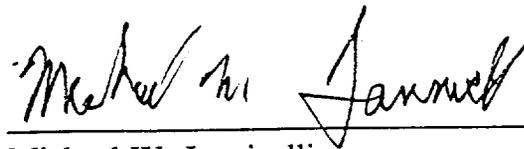
Eric L. Engle
Project Scientist II

Reviewed by:





Kent V. Littlefield, P.G.
Project Director



Michael W. Iannicelli
General Manager

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 BACKGROUND INFORMATION	1
2.1 Facility Description	1
2.2 Regional Geology/Hydrogeology	2
3.0 SUBSURFACE INVESTIGATION - METHODS AND PROCEDURES	2
3.1 Boring/Monitoring Well Installation	2
3.2 Soil Sampling	3
3.3 Groundwater Sampling	4
3.4 Elevation Survey	5
4.0 RESULTS OF THREE WELL SITE CHECK	5
4.1 Site Geology and Hydrogeology	5
4.2 Analytical Results	6
4.2.1 Petroleum Hydrocarbons	6
4.2.2 Additional Compounds	7
4.3 Waste Disposal	7
5.0 SUMMARY AND CONCLUSIONS	8

LIST OF FIGURES

Figure 1, Site Location Map - UST BB-46	Appendix A
Figure 2, Specific Location on Activity - UST BB-46	Appendix A
Figure 3, Monitoring Well Location Map - UST BB-46	Appendix A

LIST OF TABLES

Table 1, Monitoring Well Data - UST BB-46 Appendix A
Table 2, Soil Sample Analytical Results - UST BB-46 Appendix A
Table 3, Water Sample Analytical Results - UST BB-46 Appendix A
Table 4, Composite Drum Sample Analytical Results - UST BB-46 Appendix A

LIST OF APPENDICES

Appendix A, Figures and Tables Following Text
Appendix B, Geologic Well Logs Following Text
Appendix C, Survey Data Following Text
Appendix D, Laboratory Reports Following Text
Appendix E, Soil/Water Disposal Documentation Following Text

1.0 INTRODUCTION

On behalf of the Atlantic Division Naval Facilities Engineering Command (LANTDIV), R. E. Wright Associates, Inc. (REWAI) performed a three well site check adjacent to former underground storage tank (UST) BB-46 at Marine Corps Base (MCB) Camp Lejeune, North Carolina (Figure 1). Three soil borings were drilled and monitoring wells subsequently installed in August 1994. Soil and groundwater samples were collected for laboratory analysis to characterize hydrocarbon contamination in the subsurface. In order to accurately determine the groundwater flow direction and gradient at the site, well locations and elevations were surveyed and depth to groundwater was measured at each well. Wastewater and soil cuttings generated during these activities were contained in 55-gallon drums, sampled and disposed off-site. This work complies with the requirements of basic Contract No. N62470-93-D-4035 with LANTDIV. The following report documents the field activities performed, and presents the results of the investigation conducted by REWAI.

2.0 BACKGROUND INFORMATION

2.1 Facility Description

Building BB-46, which is used as a boat house, is located on Front Street in the Courthouse Bay area of MCB Camp Lejeune (Figure 2). The UST was a 1,000-gallon steel tank used to store regular gasoline for retail use. The UST located west of Building BB-46 was installed in 1980, deactivated in 1989, and removed on January 6, 1994.

A groundwater sample taken during UST closure activities indicated elevated levels of benzene, toluene, ethylbenzene, and xylene (BTEX) present in the subsurface.

2.2 Regional Geology/Hydrogeology

MCB Camp Lejeune, North Carolina, is located within the Atlantic Coastal Plain Physiographic Province. Subsurface geology in the area consists of interbedded Quaternary sands and clays. Groundwater was encountered at approximately five feet below ground surface (bgs), reflecting the near-costal environment in this region.

3.0 SUBSURFACE INVESTIGATION - METHODS AND PROCEDURES

3.1 Boring/Monitoring Well Installation

Boring locations were selected in areas of potential concern to determine if petroleum hydrocarbons from the UST had adversely impacted soil and groundwater quality at the site (Figure 3). Three monitoring wells were completed at the site by ATEC Associates, Inc., on August 3 and 4, 1994, under the supervision of a REWAI geologist. Borings were advanced by the hollow-stem auger technique using a truck-mounted drill rig. The augers and split-spoon sampling equipment were steam-cleaned prior to the start of drilling activities and between boreholes to mitigate the possibility of sample cross-contamination. Three soil borings were initially sampled and characterized by continuously split spooning to six feet bgs. The borings were subsequently reamed with a larger 10-inch outside-diameter (OD) hollow-stem auger to a maximum depth of 14 feet bgs and completed as

groundwater monitoring wells. Groundwater monitoring wells MW-1, MW-2, and MW-3 consisted of four-inch Schedule 40 polyvinyl chloride (PVC) well screen and casing threaded for flush joints. A 10-foot length of factory-slotted 0.010-inch well screen was installed in each well so that the groundwater table intercepted the screen. PVC casing was installed above the well screen in each well to extend the well construction to ground surface. Expandable well caps with locks were installed at the top of casing in each well.

After placement of the well screen and riser pipe, the annular space between the monitoring well and the borehole wall was backfilled with a chemically inert, washed, coarse silica sand to approximately two feet above the top of the well screen. A one-half to one-foot thickness of bentonite pellets were placed on top of the sand pack and hydrated with potable water. After the bentonite pellets were allowed to hydrate and seal the borehole, the remainder of the borehole was backfilled to the ground surface with Portland cement grout. A cast-iron drive-over was installed with concrete to finish each well and allow future access. Soil boring and well construction logs are presented in Appendix B.

3.2 Soil Sampling

Soil borings MW-1, MW-2, and MW-3 were completed to approximately 8 feet below static water level (SWL). Continuous split-spoon samples were collected to 6 feet bgs in all three borings. Split-spoon samples were screened in the field using a photoionization detector (PID) to detect the presence of organic vapors. The PID readings are recorded on the drilling logs (Appendix B). The sample from each borehole, which exhibited the highest reading, was placed into laboratory-prepared glass jars. For quality

assurance/quality control (QA/QC) purposes, a duplicate soil sample (randomly selected from MW-3) was collected and submitted for analysis. The samples were labeled, packaged in ice, and shipped with the appropriate chain of custody to Hydrologic Laboratories, Inc. (Hydrologic) in Frankfort, Kentucky. All soil samples were analyzed at Hydrologic by United States Environmental Protection Agency (EPA) Method 8015M (5030) for total petroleum hydrocarbons-gasoline range organics (TPH-GRO).

3.3 Groundwater Sampling

Immediately after construction, the monitoring wells were developed by pumping sediment-laden groundwater from the wells at the maximum sustainable rate until the sediment cleared from the water. At least 3 well volumes (approximately 35 gallons) of water were removed from each well during development at an average rate of less than 1 gallon per minute (gpm). After the groundwater was allowed to recover from purging during development, groundwater samples were collected to determine if petroleum hydrocarbons had adversely impacted the groundwater quality underlying the site. No free-phase hydrocarbons were detected on the groundwater surface immediately after drilling or at the time of sampling (as measured with a sonic interface probe).

Disposable plastic bailers were used to obtain samples from the groundwater table. Disposable latex gloves were also used to ensure sample integrity when transferring water to laboratory-cleaned, labeled, septum-sealed sample vials. One random duplicate groundwater sample was taken from MW-2 for QA/QC purposes. The samples were

packaged in ice and shipped with the soil samples and chain of custody to Hydrologic for analysis of volatile organic compounds (VOCs) by EPA Method 601, benzene, toluene, ethylbenzene, and xylene (BTEX) by EPA Method 602, and total lead by EPA Method 239.2.

3.4 Elevation Survey

Surveying was completed by Parker and Associates, Inc., on August 22, 1994, in order to obtain surface and top of casing elevations for future monitoring activities. Coordinates on well locations are given in meters using a Universal Transverse Mercator grid (NAD, 1983). Top of casing and surface elevations are listed in feet above mean sea level (NGVD, 1929). Computations were done using a conversion for feet/meter of 39.37 inches divided by 12 inches. Horizontal coordinates are given in meters using a Universal Transverse Mercator (UTM) grid. Survey results are attached as Appendix C and summarized in Table 1.

4.0 RESULTS OF THREE WELL SITE CHECK

4.1 Site Geology and Hydrogeology

Subsurface materials encountered during drilling activities at the site indicate that the site is primarily underlain by shallow fine-grained sand, with a layer of underlying clay. Groundwater was encountered between 5.0 and 5.5 feet bgs, and bedrock was not

encountered to 14 feet bgs (the maximum depth penetrated during drilling). Measured groundwater elevations at the three new monitoring wells indicate an apparent groundwater flow to the northeast at a gradient of approximately 0.014 (Figure 3).

4.2 Analytical Results

4.2.1 Petroleum Hydrocarbons

Organic vapors were detected with a PID in near-surface soils to a maximum of 1, 11, and 15 parts per million (ppm) in soils from wells MW-1, MW-2, and MW-3, respectively. Soil vapor readings were highest in the zone between 2 and 4 feet bgs in all 3 locations, with the exception of 61 ppm at 4 to 6 feet in MW-2. Moderate hydrocarbon odors were encountered in soils at MW-2. No noticeable hydrocarbon odors were evident in soils from MW-1 or MW-3. No free-phase hydrocarbons or staining were noted at the time of drilling or sampling.

In order to quantify the concentrations of adsorbed-phase hydrocarbons in soils and dissolved-phase hydrocarbons in groundwater, one soil and one groundwater sample were collected from each well for laboratory analysis. Copies of the laboratory chemistry reports are attached as Appendix D and summarized in Tables 2 and 3.

Results of soil sampling for TPH-GRO were below the limits of detection in the four soil samples (Table 2). Laboratory analyses of water samples were below the limits of detection for all gasoline constituents.

4.2.2 Additional Compounds

Detectable concentrations of tetrachloroethene (PCE) were found in water samples from each well ranging from 16.0 micrograms per liter ($\mu\text{g/l}$) at MW-2 to 30.0 $\mu\text{g/l}$ at MW-1 (Table 3). PCE is not a constituent of gasoline and its source therefore would not have been UST BB-46.

4.3 Waste Disposal

Soil cuttings generated during drilling, water from equipment decontamination activities, and water from development of the wells were collected in labeled Department of Transportation (PennDOT)-approved 55-gallon drums and staged at an activity-approved location. Drums were transported off-site and disposed by Noble Oil Services on October 24th and 25th, 1994.

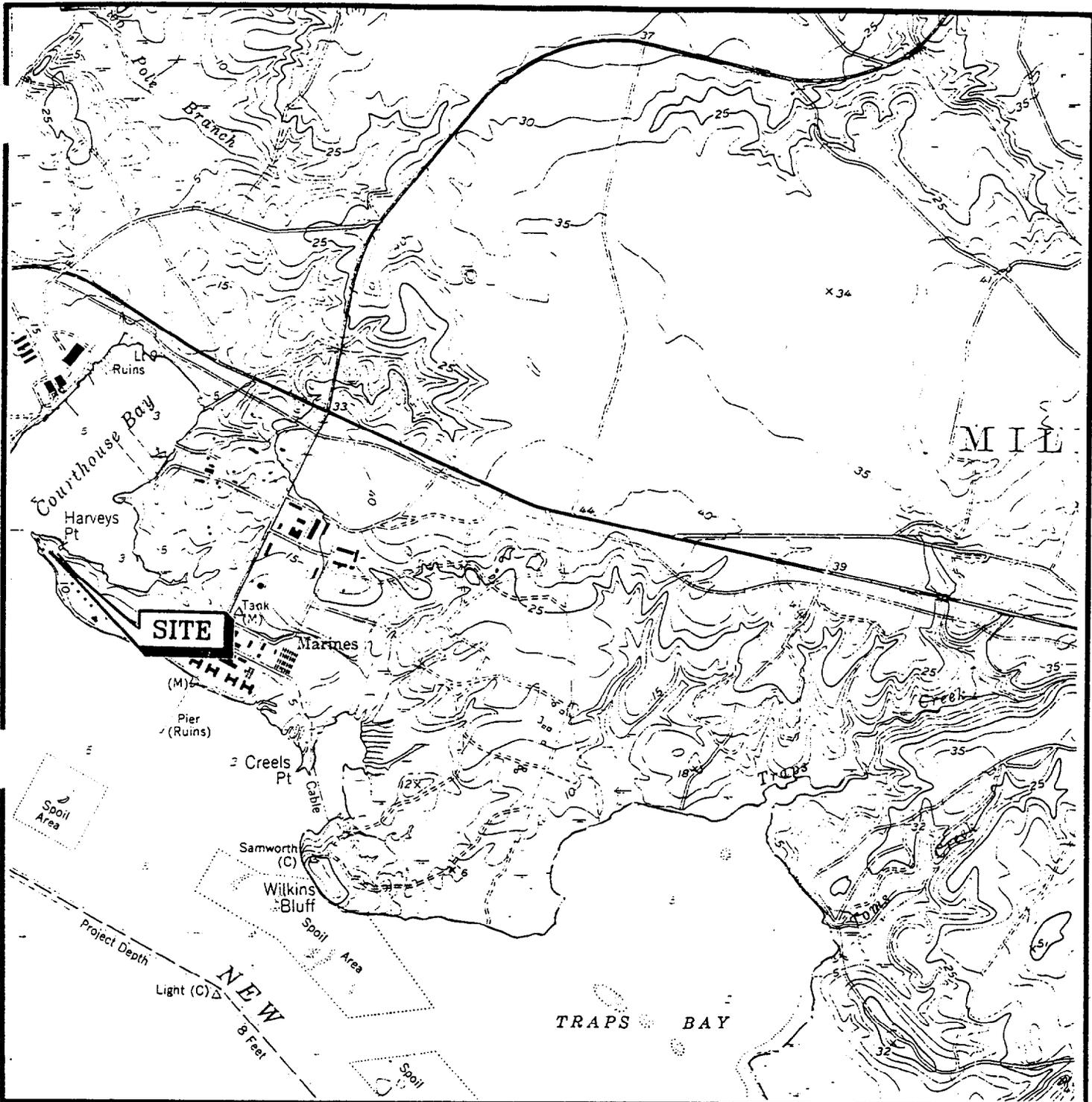
A composite soil sample was taken from the drums in which soil cuttings were containerized and analyzed for TPH-GRO and TPH-diesel range organics (TPH-DRO) (SW-846:8015M), VOCs (SW-846:8260), semi-VOCs (SVOCs) (SW-846:8270), pesticides/polychlorinated biphenyls (PCBs) (SW-846:8080), and Toxicity Characteristic Leaching Procedure (TCLP) eight Resource Conservation and Recovery Act (RCRA) metals. Results indicated 11.5 milligrams per kilogram (mg/kg) diesel, and barium concentration of 0.615 milligrams per liter (mg/l) (Table 4).

5.0 SUMMARY AND CONCLUSIONS

Based on the results of this subsurface investigation conducted at UST BB-46, the following conclusions have been formed:

1. Apparent groundwater flow in the area is to the northeast at an average gradient of approximately 0.014.
2. All soil samples were below the limits of detection for TPH-GRO.
3. No gasoline constituents were detected in the groundwater at this site. However, samples indicated concentrations of PCE ranging from 16.0 $\mu\text{g/l}$ to a maximum of 30.0 $\mu\text{g/l}$ in MW-1.
4. Based on the lack of gasoline compounds in groundwater detected during this investigation, no further action is warranted at this site in response to the UST closure.

APPENDIX A
Figures and Tables



NOTE: BASE MAP FROM THE NEW RIVER INLET, N.C., USGS 7 1/2 MINUTE TOPOGRAPHIC QUADRANGLE 1952. (PHOTOREVISED 1971)

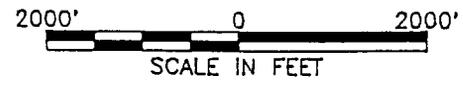


FIGURE 1

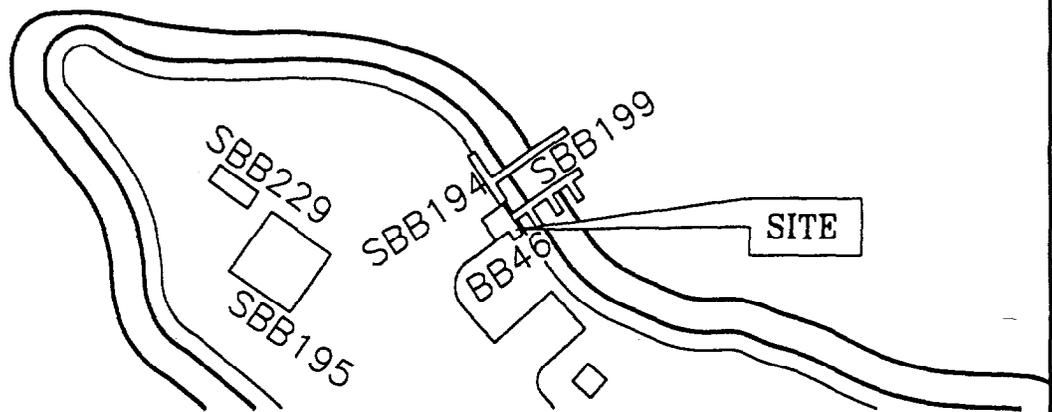
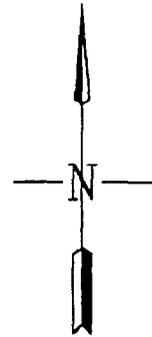
LANTDIV NAVFACENGCOM
CAMP LEJEUNE, NC

BB-46
SITE LOCATION MAP

drawn SS	approved <i>[Signature]</i>	drawing no.
checked ELC	date 7/22/94	94444-004-AA

r.e. wright associates, inc.
total environmental solutions
middleton, pa. wrens, pa. westminster, md.

COURTHOUSE
BAY



NOTE: ADAPTED FROM CAD DRAWINGS SUPPLIED BY NAVY

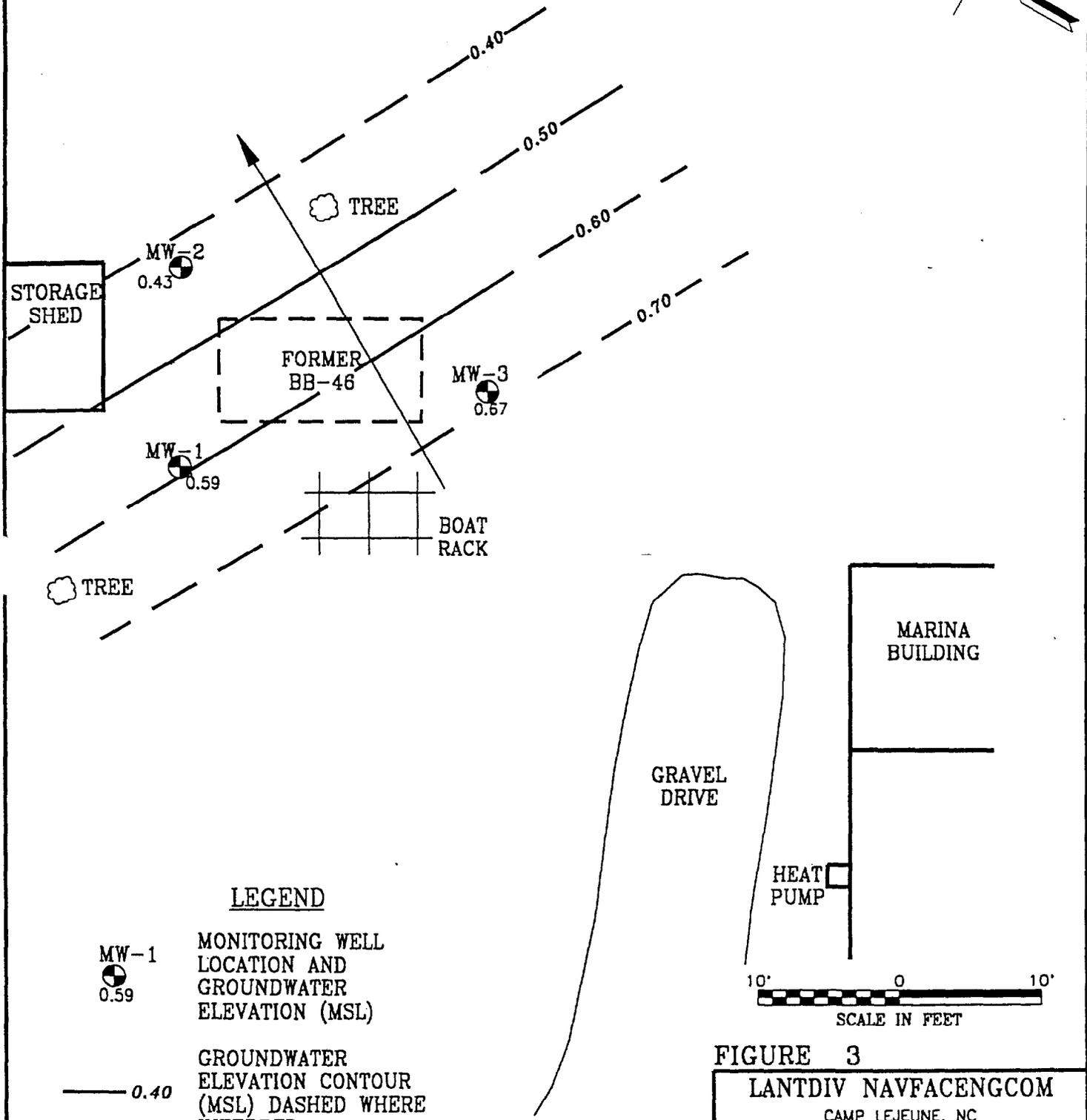
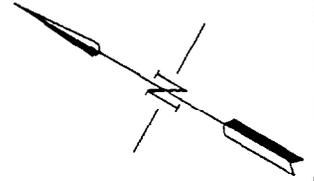


FIGURE 2

LANTDIV NAVFACENGCOM CAMP LEJEUNE, NC			
LOCATION ON ACTIVITY BB-46			
drawn <i>RAM</i>	approved <i>TVA</i>	drawing no. 94444-003-AA	
checked <i>ELK</i>	date 7/20/94		
 r.e. wright associates, inc. total environmental solutions <small>middletown, pa. wayne, pa. wilmington, rd.</small>			

RETAINING WALL

COURTHOUSE BAY



LEGEND

MW-1
0.59

MONITORING WELL
LOCATION AND
GROUNDWATER
ELEVATION (MSL)

0.40

GROUNDWATER
ELEVATION CONTOUR
(MSL) DASHED WHERE
INFERRED



GENERALIZED
GROUNDWATER
FLOW DIRECTION
ON 8/9/94

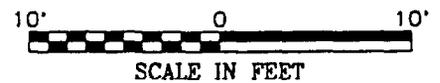


FIGURE 3

LANTDIV NAVFACENGCOM

CAMP LEJEUNE, NC

BB-46

MONITORING WELL LOCATIONS

drawn RAM	approved [Signature]	drawing no.
checked ELF	date 8/22/94	94444-005-AA



r.e. wright associates, inc.
total environmental solutions

TABLE 1

**Monitoring Well Data - UST BB-46
Marine Corps Base, Camp Lejeune, North Carolina
REWAI Project 94444**

Sample Location	Surface Elevation (AMSL)	Top of Casing Elevation (AMSL)	Depth to Groundwater (BTOC)	Calculated Groundwater Elevation (AMSL)
MW-1	5.49	5.19	4.60	0.59
MW-2	5.33	4.93	4.50	0.43
MW-3	4.83	4.47	3.80	0.67

AMSL - Above Mean Sea Level (in feet)
BTOC - Below Top of Casing (in feet)

<p align="center">TABLE 2</p> <p align="center">Soil Sample Analytical Results - UST BB-46</p> <p align="center">Marine Corps Base, Camp Lejeune, North Carolina</p> <p align="center">REWAL Project 94444</p> <p align="center">Concentrations reported in milligrams per kilogram (mg/kg)</p>					
EPA Method 8015M/5030	Reportable Concentrations	MW-1 (0-2 feet bgl)	MW-2 (4-6 feet bgl)	MW-3 (2-4 feet bgl)	MW-3 Duplicate
TPH/GRO	10	BDL	BDL	BDL	BDL
<p>EPA = United States Environmental Protection Agency</p> <p>bgl = Below Ground Level</p> <p>TPH = Total Petroleum Hydrocarbons</p> <p>GRO = Gasoline Range Organics</p> <p>BDL = Below Detection Limits</p>					

TABLE 3

Water Sample Analytical Results - UST BB-46
Marine Corps Base, Camp Lejeune, North Carolina
 REWAI Project 94444

Concentrations reported in micrograms per liter ($\mu\text{g/l}$)

Analysis	NC	MW-1	MW-2	MW-2 Duplicate	MW-3
EPA Method 601 Volatile Organic Compounds Tetrachloroethene	-- 0.7	BDL* 30.0	BDL* 16.0	BDL* 25.0	BDL* 27.0
EPA Method 602 BTEX	--	BDL*	BDL*	BDL*	BDL*
EPA Method 239.2 Lead	15	BDL	BDL	BDL	BDL

NC = Groundwater Quality Standards per North Carolina Administrative Code, Title 15A, Subchapter 2L

EPA = United States Environmental Protection Agency

BTEX = Benzene, Toluene, Ethylbenzene, and Xylene

-- = Not Applicable

BDL = Below Detection Limits

* All parameters of analysis method were below detection limits, except as noted (Appendix D).

TABLE 4

**Composite Drum Sample Analytical Results - UST BB-46
Marine Corps Base, Camp Lejeune, North Carolina
REWAI Project 94444**

Analysis	Drum Composite Soil	Drum Composite Water (mg/l)
EPA Method 200.7 Lead	--	BDL
EPA Method 602 BTEX +MTBE	--	BDL*
SW-846:3550 Diesel	11.5 mg/kg	--
SW-846:5030 Gasoline	BDL	--
SW-846:8260 VOC's	BDL*	--
SW-846:8270 SVOC's	BDL*	--
SW-846:8080 Pesticides/PCB's	BDL*	--
TCLP 8 RCRA Metals	BDL*	--
Barium, Total	0.615 mg/l	

mg/kg = Milligrams per Kilogram
 mg/l = Milligrams per Liter
 EPA = United States Environmental Protection Agency
 -- = Not Analyzed
 BDL = Below Detection Limits
 BTEX = Benzene, Toluene, Ethylbenzene, and Xylene
 MTBE = Methyl Tertiary-butyl Ether
 VOCs = Volatile Organic Compounds
 SVOCs = Semi-VOCs
 PCBs = Polychlorinated Biphenyls
 TCLP = Toxicity Characteristic Leaching Procedure
 RCRA = Resource Conservation and Recovery Act

*All parameters of analysis method were BDL, except as noted (Appendix D).

APPENDIX B
Geologic Well Logs

SOIL BORING LOG

Client: LANTDIV NAVFACENGCOM

Boring No. BB46-MW1 Piezometer No.

Location Camp Lejeune MCB, NC

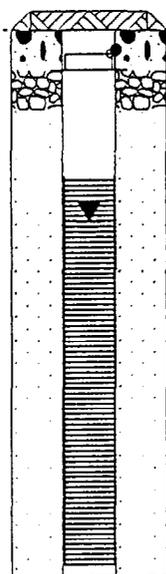
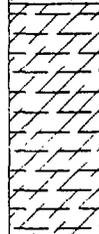
Project No: 94444

Phase

Task

Surface Elev. 5.49 FT.

Page 1 of 1

Feet	Blow Count	Sampler Re-covery/ROD	Overburden/Lithologic Description	FID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
0								T.O.C. Elev. 5.19
0	N/A	N/A	Fine-grained sand; dark gray becoming light gray at 1.0'. well sorted loose, water saturated at 5.0'. (0.0 - 8.0')	1			0	Flushmount driveover Concrete (0.0-1.0')
2-3-2-4		1.5/2.0'		0			0	4" PVC casing (0.3-3.7')
5-6-4-3		1.7/2.0'		0			5	Bentonite plug (1.0-2.0')
							5	Morie #2 sand (2.0-14.0')
								4" PVC screen (3.7-13.7')
10			Clay, some silt; medium gray, cohesive, plastic, water saturated. (8.0 - 14.0')				10	
15							15	Bottom cap (13.7-14.0')
								Total boring depth=14.0'
20							20	
25							25	
30							30	

Driller <u>ATEC Associates, Inc.</u>	Blown/Bailed Yield <u>N/A</u>	Bentonite Seal <u>3/8" chips</u>
Logged By <u>John Rapp (REWA)</u>	Well Casing <u>4" Dia. 0.3' to 3.7'</u>	Filter Pack Qty. <u>400 lbs</u>
Drilling Started <u>8/3/94</u>	Casing Type <u>Schedule 40 PVC</u>	Filter Pack Type <u>Morie grade #2 sand</u>
Drilling Completed <u>8/3/94</u>	Well Screen <u>4" Dia. 3.7' to 13.7'</u>	Static Water Level <u>0.59</u> MSL
Construction Completed <u>8/3/94</u>	Screen Type <u>Schedule 40 PVC</u>	Date <u>8/9/94</u>
Development Completed <u>8/8/94</u>	Slot Size <u>0.010-inch</u>	Notes: _____
Water Bearing Zones <u>below 5' bgs</u>	Drilling Mud <u>N/A</u>	_____
	Grout Type <u>Cement</u>	_____



SOIL BORING LOG

Client: **LANTDIV NAVFACENCOM**

Project No: **94444**

Phase

Task

Boring No. **BB46-MW2** Piezometer No.

Location **Camp Lejeune MCB, NC**

Surface Elev. **5.33 FT.**

Page **1** of **1**

Feet	Blow Count	Sampler Recovery/ROD	Overburden/Lithologic Description	FID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
0	Ground Surface	FEET					0	T.O.C. Elev. 4.93
2-2-3-3		1.5/2.0'	Fine-grained sand, trace silt increasing with depth; dark gray becoming light yellowish brown, well sorted, loose, moist. (0.0 - 5.5')	11			0	Flushmount driveover
2-2-2-2		1.3/2.0'		10			0	Concrete (0.0-1.0')
2-3-3-3		1.5/2.0'		6			5	4" PVC casing (0.4-3.5')
			Very fine-grained sand, some clay; light gray, cohesive, plastic, water saturated. (5.5 - 7.0')				5	Bentonite plug (1.0-2.0')
			Clay, some silt; medium gray, cohesive, plastic, water saturated. (7.0 - 13.8')				5	Morie #2 sand (2.0-13.8')
							5	4" PVC screen (3.5-13.5')
							10	
							15	Bottom cap (13.5-13.8')
							15	Total boring depth = 13.8'
							20	
							25	
							30	

Driller ATEC Associates, Inc
 Logged By John Rapp (REWA)
 Drilling Started 8/3/94
 Drilling Completed 8/3/94
 Construction Completed 8/3/94
 Development Completed 8/8/94
 Water Bearing Zones below 5.5' bgs

Blown/Bailed Yield N/A
 Well Casing 4" Dia. 0.4" to 3.5"
 Casing Type Schedule 40 PVC
 Well Screen 4" Dia. 3.5" to 13.5"
 Screen Type Schedule 40 PVC
 Slot Size 0.010-inch
 Drilling Mud N/A
 Grout Type Cement

Bentonite Seal 3/8" chips
 Filter Pack Qty. 400 lbs
 Filter Pack Type Morie grade #2 sand
 Static Water Level 0.43 MSL
 Date 8/9/94

Notes: _____



SOIL BORING LOG				Boring No. BB46-MW3	Piezometer No.			
Client: LANTDIV NAVFACENGCOM				Location Camp Lejeune MCB, NC				
Project No: 94444		Phase	Task	Surface Elev. 4.83 FT.				
Page 1 of 1								
Feet	Blow Count	Sampler Recovery/ROD	Overburden/Lithologic Description	FID (ppm)	Graphic Log	Well Construction Graphics	Depth Feet	Well Construction Details
0	Ground Surface	FEET					0	T.O.C. Elev. 4.47
0-4.5	2-3-3-4	1.9/2.0'	Very fine-grained sand, trace silt increasing with depth; dark gray becoming light yellowish brown, loose, moist. (0.0 - 4.5')	10			0	Flushmount driveover
4.5-5.5	5-4-3-2	0.5/2.0'		15			0.5	Concrete (0.0-0.5')
5.5-8.0	5-3-3-2	2.0/2.0'	Very fine-grained sand, some clay increasing with depth; light gray changing to brownish yellow at 5.5', cohesive, water saturated below 5.5'. (4.5 - 8.0')	9			1.0	4" PVC casing (0.4-2.7')
8.0-13.0			Clay, some silt; medium gray, cohesive, plastic, water saturated. (8.0 - 13.0')				5.0	Bentonite plug (0.5-1.0')
							12.7	Morie #2 sand (1.0-12.7')
							12.7	4" PVC screen (2.7-12.7')
							15.0	Bottom cap (12.7-13.0')
							13.0	Total boring depth = 13.0'

Driller	ATEC Associates, Inc	Blown/Bailed Yield	N/A	Bentonite Seal	3/8" chips
Logged By	John Rapp (REWA)	Well Casing	4" Dia. 0.4' to 2.7'	Filter Pack Qty.	600 lbs
Drilling Started	8/4/94	Casing Type	Schedule 40 PVC	Filter Pack Type	Morie grade #2 sand
Drilling Completed	8/4/94	Well Screen	4" Dia. 2.7' to 12.7'	Static Water Level	0.67 MSL
Construction Completed	8/4/94	Screen Type	Schedule 40 PVC	Date	8/9/94
Development Completed	8/8/94	Slot Size	0.010-inch	Notes:	
Water Bearing Zones	below 5.5' bgs	Drilling Mud	N/A		
		Grout Type	Cement		



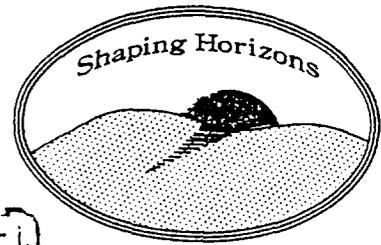
APPENDIX C

Survey Data

PARKER & ASSOCIATES, INC.

Consulting Engineers - Land Surveyors - Land Planners

306 New Bridge Street - P.O. Box 976
Jacksonville, NC 28541-0976
(910) 455-2414 - Fax: (910) 455-3441



RECEIVED

August 22, 1994

AUG 25 1994

Mr. Eric Engle
R. E. Wright Associates, Inc.
3240 Schoolhouse Road
Middletown, PA 17057-3595

REWAI

RE: Monitor Wells
Camp LeJeune, N.C.
P.O. # 0136853

Dear Mr. Engle,

Attached you will find our survey results on the above referenced project that are complete to date.

Coordinates are in meters using U.T.M. grid as established by Marine Corps Base, Camp LeJeune. Please note the different North American Datum (NAD) listed for each site. The reason for this is not all monuments used were updated to NAD-83 coordinates. Elevations listed are in feet (Mean Sea Level).

We are continuing to work on the other five sites and will forward data when complete.

Parker & Associates, Inc. appreciates this opportunity to provide our professional services. If more information is needed or you have any additional questions, please feel free to call.

Very truly yours,

PARKER & ASSOCIATES, INC.

Robert E. Wimmer, Jr., R.L.S.
Vice President of Surveying Division

REW/jlw
xc: CF (P)

ATTACHMENT I

<u>WELL IDENTIFICATION</u>	<u>COORDINATES (M)</u>		<u>ELEVATIONS</u>	
	<u>NORTH</u>	<u>EAST</u>	<u>TOP PVC</u>	<u>GROUND</u>
<u>Building BB-46</u>				
MW - 1	3829316.40	383144.86	5.19	5.49
MW - 2	3829318.81	383148.45	4.93	5.33
MW - 3	3829311.59	383149.59	4.47	4.83

APPENDIX D
Laboratory Reports

CHAIN OF CUSTODY

REPORT TO:

RE WRIGHT Assoc. Inc.

3240 Schoolhouse Road

MIDDLETOWN PA 17057

ATTEN: MIKE IANNICELLI

HydroLogic, Inc.
 2500 Gateway Centre Blvd., Suite 900
 Morrisville, NC 27560
 800-241-4174
 919-380-9699

PO # _____

Method of Shipment:

Hand Deliver

PAGE 1 OF 1

CLIENT: REWAI				ANALYSES								PROJECT ID #: 94444		
PHONE: 717-944-5501				3550/8015 TPH	5030/8015 TPH	8260 Vols	8270 Sws	8080 Per- & PCBs	TCLP & RECA Metals	602 BTEX+MTBE	TOTAL LEAD 3070	REPORT DUE:		
PROJ #: 94444		PO #:										VERBAL	FAX COPY	HARD COPY
SAMPLER: ERIC L ENGLE												REMARKS		
FIELD ID	SAMPLE MATRIX	TIME COLLECTED	DATE COLLECTED											
BB-46 SOIL (Comp)	SOIL	8:00	8-9-94	X	X	X	X	X	X					
BB-46 WATER (Comp)	WATER	0910	8-9-94							X	X			
RELINQUISHED BY: <u>G. I. Engle</u>				DATE / TIME: <u>8-9-94 1400</u>				RECEIVED BY: <u>[Signature]</u>				DATE / TIME: <u>8/9/94 17:00</u>		
RELINQUISHED BY:				DATE / TIME:				RECEIVED BY:				DATE / TIME:		
RELINQUISHED BY:				DATE / TIME:				RECEIVED BY:				DATE / TIME:		
DISPATCHED BY:				DATE / TIME:				RECEIVED BY:				DATE / TIME:		

REPORT TO:

R.E. Wright Associates Inc.

3240 Schoolhouse Road

Middletown PA 17057

ATTN: Mike Iannicelli

CHAIN OF CUSTODY

HydroLogic, Inc.

2500 Gateway Centre Blvd., Suite 900

Morrisville, NC 27560

800-241-4174

919-380-9699

PO #

Method of Shipment

PAGE 1 OF 1

CLIENT: R.E. Wright Associates Inc.				ANALYSES								PROJECT ID #: 94444					
PHONE: 717-944-5501				SUSP. (HPLC) 5/30/05											REPORT DUE:		
PROJ #: 94444		PO #:													VERBAL	FAX COPY	<u>HARD COPY</u>
SAMPLER: John Raff															REMARKS		
FIELD ID	SAMPLE MATRIX	TIME COLLECTED	DATE COLLECTED														
BD-46 MW1	Soil	1620	8/3/94	X													
BB-46 MW2	Soil	1715	8/3/94	X													
BB-46 MW3	Soil	0920	8/4/94	X													
BB-46 Soil	Soil	1000	5/4/94	X													
RELINQUISHED BY: John C. Raff				DATE / TIME: 8/5/94	1600	RECEIVED BY:		DATE / TIME: 1/5/04									
RELINQUISHED BY:				DATE / TIME:		RECEIVED BY:		DATE / TIME:									
RELINQUISHED BY:				DATE / TIME:		RECEIVED BY:		DATE / TIME:									
DISPATCHED BY:				DATE / TIME:		RECEIVED BY:		DATE / TIME:									

H Y D R O L O G I C , I N C .

August 17, 1994

REPORTING:

HydroLogic-Morris., Inc.
2500 Gateway Centre
Suite #900
Morrisville, NC 27560

Attention: Pomeroy Smith

INVOICING:

HydroLogic-Morris., Inc.
2500 Gateway Centre
Suite #900
Morrisville, NC 27560

PROJECT NUMBER: FL94-10294

DATE COMPLETED: August 17, 1994

DATE RECEIVED: August 6, 1994

PROJECT DESCRIPTION:

#94444--4 soil samples for 8015-5030, sampled on 08/03 and 08/04/94.

Enclosed is the laboratory report for the project described above. If you have any questions or if we can be of further assistance, please feel free to contact Jamie Fore. We appreciate your business and look forward to serving you again soon.

Respectfully,


Benjamin Carl Esterle
Laboratory Director

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444
HYDROLOGIC PROJECT NUMBER: FL94-10294
HYDROLOGIC SAMPLE NUMBER: 10294
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 MW 1
DATE SAMPLED: 8/3/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD TPH 8015/5030

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Gasoline		2.0	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10294
HYDROLOGIC SAMPLE NUMBER: 10295
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 MW 2
DATE SAMPLED: 8/3/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD TPH 8015/5030

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Gasoline		2.0	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: HEAVIER FUEL PRESENT.

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10294
HYDROLOGIC SAMPLE NUMBER: 10296
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 MW 3
DATE SAMPLED: 8/4/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD TPH 8015/5030

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Gasoline		0.1	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10294
HYDROLOGIC SAMPLE NUMBER: 10297
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 Soil Dup.
DATE SAMPLED: 8/4/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD TPH 8015/5030

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Gasoline		0.1	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

CHAIN OF CUSTODY

REPORT TO:

R.E. Wright Associates Inc.

3240 Schoolhouse Road

Middletown PA 17057

ATTEN: Mike IANNICELLI

HydroLogic, Inc.
2500 Gateway Centre Blvd., Suite 900
Morrisville, NC 27560
800-241-4174
919-380-9699

PO # _____

Method of Shipment _____

PAGE 1 OF 1

CLIENT: <u>RE Wright Associates Inc.</u>				ANALYSES										PROJECT ID #: <u>94444</u>						
PHONE: <u>717-944-5501</u>				5030/acid/Lead/Cd/Cu (TPH)														REPORT DUE:		
PROJ #: <u>94444</u>		PO #:																VERBAL	FAX COPY	HARD COPY
SAMPLER: <u>John Raff</u>																		REMARKS		
FIELD ID	SAMPLE MATRIX	TIME COLLECTED	DATE COLLECTED																	
<u>BB-46 MW1</u>	<u>Soil</u>	<u>1620</u>	<u>8/3/94</u>	X													94-10294			
<u>BB-46 MW2</u>	<u>Soil</u>	<u>1715</u>	<u>8/3/94</u>	X																
<u>BB-46 MW3</u>	<u>Soil</u>	<u>0820</u>	<u>8/4/94</u>	X																
<u>BB-46 Soil</u>	<u>Soil</u>	<u>1000</u>	<u>8/4/94</u>	X																
RELINQUISHED BY: <u>John C. Raff Jr</u>				DATE / TIME: <u>8/5/94 1600</u>	RECEIVED BY: <u>[Signature]</u>				DATE / TIME: <u>8/5/94 1600</u>											
RELINQUISHED BY: <u>[Signature]</u>				DATE / TIME: <u>8/5/94 4:45</u>	RECEIVED BY: <u>Christy Bunge</u>				DATE / TIME: <u>8/10/94 12:00</u>											
RELINQUISHED BY:				DATE / TIME:	RECEIVED BY:				DATE / TIME:											
DISPATCHED BY:				DATE / TIME:	RECEIVED BY:				DATE / TIME:											

H Y D R O L O G I C , I N C .

August 18, 1994

REPORTING:

HydroLogic-Morris., Inc.
2500 Gateway Centre
Suite #900
Morrisville, NC 27560

Attention: Pomeroy Smith

INVOICING:

HydroLogic-Morris., Inc.
2500 Gateway Centre
Suite #900
Morrisville, NC 27560

PROJECT NUMBER: FL94-10466

DATE COMPLETED: August 18, 1994

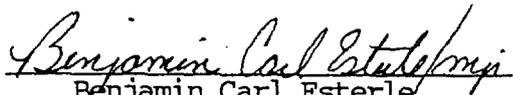
DATE RECEIVED: August 11, 1994

PROJECT DESCRIPTION:

#94444--4 water samples for 601/602-BTEX, sampled on 08/09/94.

Enclosed is the laboratory report for the project described above. If you have any questions or if we can be of further assistance, please feel free to contact Jamie Fore. We appreciate your business and look forward to serving you again soon.

Respectfully,


Benjamin Carl Esterle
Laboratory Director

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
 COMPANY PROJECT NUMBER: #94444
 HYDROLOGIC PROJECT NUMBER: FL94-10466
 HYDROLOGIC SAMPLE NUMBER: 10466
 HYDROLOGIC LAB I.D.#: 399
 SAMPLE IDENTIFICATION: BB46 MW-1
 DATE SAMPLED: 8/9/94
 DATE EXTRACTED: N/A
 DATE/TIME ANALYZED: 8/17/94

METHOD EPA 601

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Bromodichloromethane	75-27-4	1.0	BDL
Bromoform	75-25-2	1.0	BDL
Bromomethane	74-83-9	1.0	BDL
Carbon Tetrachloride	56-23-5	1.0	BDL
Chlorobenzene	108-90-7	1.0	BDL
Chloroethane	75-00-3	1.0	BDL
2-Chloro Ethyl Vinyl Ether	110-75-8	1.0	BDL
Chloroform	67-66-3	1.0	BDL
Chloromethane	74-87-3	1.0	BDL
Dibromochloromethane	124-48-1	1.0	BDL
1,2-Dichlorobenzene	95-50-1	1.0	BDL
1,3-Dichlorobenzene	541-73-1	1.0	BDL
1,4-Dichlorobenzene	106-46-7	1.0	BDL
Dichlorofluoromethane	75-43-4	1.0	BDL
1,1-Dichloroethane	75-34-3	1.0	BDL
1,2-Dichloroethane	107-06-2	1.0	BDL
1,1-Dichloroethene	75-35-4	1.0	BDL
trans-1,2-Dichloroethene	156-60-5	1.0	BDL
1,2-Dichloropropane	78-87-5	1.0	BDL
cis-1,3-Dichloropropene	10061-01-5	1.0	BDL
trans-1,3-Dichloropropene	10061-02-6	1.0	BDL
Methylene Chloride	75-09-2	1.0	BDL
1,1,2,2-Tetrachloroethane	79-34-5	1.0	BDL
Tetrachloroethene	127-18-4	1.0	30.0
1,1,1-Trichloroethane	71-55-6	1.0	BDL

H Y D R O L O G I C , I N C .

Page 2 continued

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444
HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10466
SAMPLE IDENTIFICATION: BB46 MW-1
DATE SAMPLED: 8/9/94

METHOD EPA 601

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
1,1,2-Trichloroethane	79-00-5	1.0	BDL
Trichloroethene	79-01-6	1.0	BDL
Trichlorofluoromethane	75-69-4	1.0	BDL
Vinyl Chloride	75-01-4	1.0	BDL
cis-1,2-Dichloroethylene	541-59-4	1.0	BDL
SURROGATE RECOVERY: BFB			96%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10466
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB46 MW-1
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD EPA 602

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	108-88-3	1.0	BDL
Ethylbenzene	100-41-4	1.0	BDL
Xylene	1330-20-7	1.0	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10467
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB46 MW-2
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD EPA 601

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Bromodichloromethane	75-27-4	1.0	BDL
Bromoform	75-25-2	1.0	BDL
Bromomethane	74-83-9	1.0	BDL
Carbon Tetrachloride	56-23-5	1.0	BDL
Chlorobenzene	108-90-7	1.0	BDL
Chloroethane	75-00-3	1.0	BDL
2-Chloro Ethyl Vinyl Ether	110-75-8	1.0	BDL
Chloroform	67-66-3	1.0	BDL
Chloromethane	74-87-3	1.0	BDL
Dibromochloromethane	124-48-1	1.0	BDL
1,2-Dichlorobenzene	95-50-1	1.0	BDL
1,3-Dichlorobenzene	541-73-1	1.0	BDL
1,4-Dichlorobenzene	106-46-7	1.0	BDL
Dichlorofluoromethane	75-43-4	1.0	BDL
1,1-Dichloroethane	75-34-3	1.0	BDL
1,2-Dichloroethane	107-06-2	1.0	BDL
1,1-Dichloroethene	75-35-4	1.0	BDL
trans-1,2-Dichloroethene	156-60-5	1.0	BDL
1,2-Dichloropropane	78-87-5	1.0	BDL
cis-1,3-Dichloropropene	10061-01-5	1.0	BDL
trans-1,3-Dichloropropene	10061-02-6	1.0	BDL
Methylene Chloride	75-09-2	1.0	BDL
1,1,2,2-Tetrachloroethane	79-34-5	1.0	BDL
Tetrachloroethene	127-18-4	1.0	16.0
1,1,1-Trichloroethane	71-55-6	1.0	BDL

H Y D R O L O G I C , I N C .

Page 2 continued

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444
HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10467
SAMPLE IDENTIFICATION: BB46 MW-2
DATE SAMPLED: 8/9/94

METHOD EPA 601

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
1,1,2-Trichloroethane	79-00-5	1.0	BDL
Trichloroethene	79-01-6	1.0	BDL
Trichlorofluoromethane	75-69-4	1.0	BDL
Vinyl Chloride	75-01-4	1.0	BDL
cis-1,2-Dichloroethylene	541-59-4	1.0	BDL
SURROGATE RECOVERY: BFB			90%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10467
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB46 MW-2
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD EPA 602

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	108-88-3	1.0	BDL
Ethylbenzene	100-41-4	1.0	BDL
Xylene	1330-20-7	1.0	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10468
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB46 MW-3
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD EPA 601

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Bromodichloromethane	75-27-4	1.0	BDL
Bromoform	75-25-2	1.0	BDL
Bromomethane	74-83-9	1.0	BDL
Carbon Tetrachloride	56-23-5	1.0	BDL
Chlorobenzene	108-90-7	1.0	BDL
Chloroethane	75-00-3	1.0	BDL
2-Chloro Ethyl Vinyl Ether	110-75-8	1.0	BDL
Chloroform	67-66-3	1.0	BDL
Chloromethane	74-87-3	1.0	BDL
Dibromochloromethane	124-48-1	1.0	BDL
1,2-Dichlorobenzene	95-50-1	1.0	BDL
1,3-Dichlorobenzene	541-73-1	1.0	BDL
1,4-Dichlorobenzene	106-46-7	1.0	BDL
Dichlorofluoromethane	75-43-4	1.0	BDL
1,1-Dichloroethane	75-34-3	1.0	BDL
1,2-Dichloroethane	107-06-2	1.0	BDL
1,1-Dichloroethene	75-35-4	1.0	BDL
trans-1,2-Dichloroethene	156-60-5	1.0	BDL
1,2-Dichloropropane	78-87-5	1.0	BDL
cis-1,3-Dichloropropane	10061-01-5	1.0	BDL
trans-1,3-Dichloropropane	10061-02-6	1.0	BDL
Methylene Chloride	75-09-2	1.0	BDL
1,1,2,2-Tetrachloroethane	79-34-5	1.0	BDL
Tetrachloroethene	127-18-4	1.0	27.0
1,1,1-Trichloroethane	71-55-6	1.0	BDL

H Y D R O L O G I C , I N C .

Page 2 continued

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10468
SAMPLE IDENTIFICATION: BB46 MW-3
DATE SAMPLED: 8/9/94

METHOD EPA 601

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
1,1,2-Trichloroethane	79-00-5	1.0	BDL
Trichloroethene	79-01-6	1.0	BDL
Trichlorofluoromethane	75-69-4	1.0	BDL
Vinyl Chloride	75-01-4	1.0	BDL
cis-1,2-Dichloroethylene	541-59-4	1.0	BDL
SURROGATE RECOVERY: BFB			87%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10468
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB46 MW-3
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD EPA 602

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	108-88-3	1.0	BDL
Ethylbenzene	100-41-4	1.0	BDL
Xylene	1330-20-7	1.0	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
 COMPANY PROJECT NUMBER: #94444
 HYDROLOGIC PROJECT NUMBER: FL94-10466
 HYDROLOGIC SAMPLE NUMBER: 10469
 HYDROLOGIC LAB I.D.#: 399
 SAMPLE IDENTIFICATION: BB46 Water Dup.
 DATE SAMPLED: 8/9/94
 DATE EXTRACTED: N/A
 DATE/TIME ANALYZED: 8/17/94

METHOD EPA 601

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Bromodichloromethane	75-27-4	1.0	BDL
Bromoform	75-25-2	1.0	BDL
Bromomethane	74-83-9	1.0	BDL
Carbon Tetrachloride	56-23-5	1.0	BDL
Chlorobenzene	108-90-7	1.0	BDL
Chloroethane	75-00-3	1.0	BDL
2-Chloro Ethyl Vinyl Ether	110-75-8	1.0	BDL
Chloroform	67-66-3	1.0	BDL
Chloromethane	74-87-3	1.0	BDL
Dibromochloromethane	124-48-1	1.0	BDL
1,2-Dichlorobenzene	95-50-1	1.0	BDL
1,3-Dichlorobenzene	541-73-1	1.0	BDL
1,4-Dichlorobenzene	106-46-7	1.0	BDL
Dichlorofluoromethane	75-43-4	1.0	BDL
1,1-Dichloroethane	75-34-3	1.0	BDL
1,2-Dichloroethane	107-06-2	1.0	BDL
1,1-Dichloroethene	75-35-4	1.0	BDL
trans-1,2-Dichloroethene	156-60-5	1.0	BDL
1,2-Dichloropropane	78-87-5	1.0	BDL
cis-1,3-Dichloropropene	10061-01-5	1.0	BDL
trans-1,3-Dichloropropene	10061-02-6	1.0	BDL
Methylene Chloride	75-09-2	1.0	BDL
1,1,2,2-Tetrachloroethane	79-34-5	1.0	BDL
Tetrachloroethene	127-18-4	1.0	25.0
1,1,1-Trichloroethane	71-55-6	1.0	BDL

H Y D R O L O G I C , I N C .

Page 2 continued

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10469
SAMPLE IDENTIFICATION: BB46 Water Dup.
DATE SAMPLED: 8/9/94

METHOD EPA 601

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
1,1,2-Trichloroethane	79-00-5	1.0	BDL
Trichloroethene	79-01-6	1.0	BDL
Trichlorofluoromethane	75-69-4	1.0	BDL
Vinyl Chloride	75-01-4	1.0	BDL
cis-1,2-Dichloroethylene	541-59-4	1.0	BDL
SURROGATE RECOVERY: BFB			87%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10466
HYDROLOGIC SAMPLE NUMBER: 10469
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB46 Water Dup.
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/17/94

METHOD EPA 602

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	108-88-3	1.0	BDL
Ethylbenzene	100-41-4	1.0	BDL
Xylene	1330-20-7	1.0	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

FINAL REPORT OF ANALYSES

HYDROLOGIC MORRISVILLE
2500 GATEWAY CENTRE BOULV
SUITE 900
MORRISVILLE, NC 27560-
Attn: LISA SNIPES

PROJECT NAME: 942911
REPORT DATE: 08/12/94

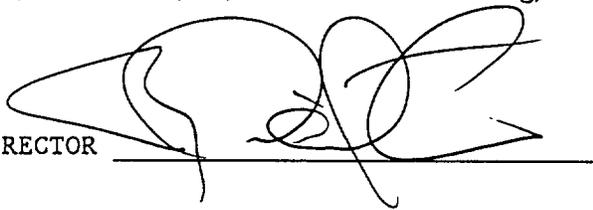
SAMPLE NUMBER- 47050 SAMPLE ID- BB-46-MW-1
DATE SAMPLED- 08/09/94 LOCATION- 94444
DATE RECEIVED- 08/10/94 SAMPLER- NOT SPECIFIED
TIME RECEIVED- 1030 DELIVERED BY- FEDEX

SAMPLE MATRIX- WW
TIME SAMPLED- 0830
RECEIVED BY- PLB

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP ANALYSIS			RESULT UNITS	DET. LIMIT
		DATE	BY	DATE		
LEAD, TOTAL	6010	08/11/94	CDM	08/11/94 LJP	< 0.010 mg/l	0.010

LABORATORY DIRECTOR



FINAL REPORT OF ANALYSES

HYDROLOGIC MORRISVILLE
2500 GATEWAY CENTRE BOULV
SUITE 900
MORRISVILLE, NC 27560-
Attn: LISA SNIPES

PROJECT NAME: 942911
REPORT DATE: 08/12/94

SAMPLE NUMBER- 47051 SAMPLE ID- BB-46-MW-2 SAMPLE MATRIX- WW
DATE SAMPLED- 08/09/94 LOCATION- 94444 TIME SAMPLED- 0840
DATE RECEIVED- 08/10/94 SAMPLER- NOT SPECIFIED RECEIVED BY- PLB
TIME RECEIVED- 1030 DELIVERED BY- FEDEX

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP ANALYSIS			RESULT UNITS	DET. LIMIT
		DATE	BY	DATE		
LEAD, TOTAL	6010	08/11/94	CDM	08/11/94	LJP < 0.010 mg/l	0.010

LABORATORY DIRECTOR



FINAL REPORT OF ANALYSES

HYDROLOGIC MORRISVILLE
2500 GATEWAY CENTRE BOULV
SUITE 900
MORRISVILLE, NC 27560-
Attn: LISA SNIPES

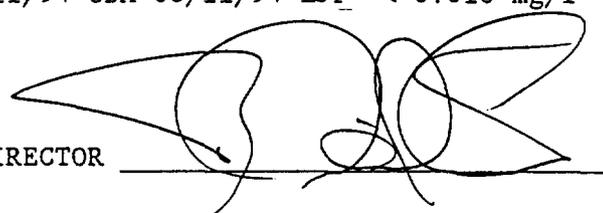
PROJECT NAME: 942911
REPORT DATE: 08/12/94

SAMPLE NUMBER- 47052 SAMPLE ID- BB-46-MW-3 SAMPLE MATRIX- WW
DATE SAMPLED- 08/09/94 LOCATION- 94444 TIME SAMPLED- 0900
DATE RECEIVED- 08/10/94 SAMPLER- NOT SPECIFIED RECEIVED BY- PLB
TIME RECEIVED- 1030 DELIVERED BY- FEDEX

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP ANALYSIS			RESULT UNITS	DET. LIMIT
		DATE	BY	DATE		
LEAD, TOTAL	6010	08/11/94	CDM	08/11/94 LJP	< 0.010 mg/l	0.010

LABORATORY DIRECTOR



FINAL REPORT OF ANALYSES

HYDROLOGIC MORRISVILLE
2500 GATEWAY CENTRE BOULV
SUITE 900
MORRISVILLE, NC 27560-
Attn: LISA SNIPES

PROJECT NAME: 942911
REPORT DATE: 08/12/94

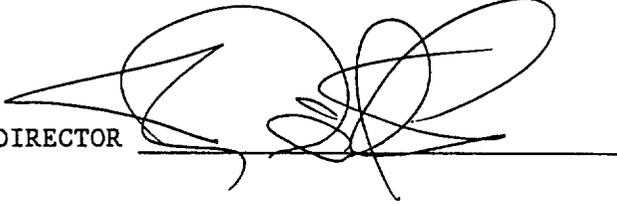
SAMPLE NUMBER- 47053 SAMPLE ID- BB-46-MW-DUP
DATE SAMPLED- 08/09/94 LOCATION- 94444
DATE RECEIVED- 08/10/94 SAMPLER- NOT SPECIFIED
TIME RECEIVED- 1030 DELIVERED BY- FEDEX

SAMPLE MATRIX- WW
TIME SAMPLED- 0930
RECEIVED BY- PLB

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP DATE	ANALYSIS BY DATE	BY	RESULT UNITS	DET. LIMIT
LEAD, TOTAL	6010	08/11/94	CDM 08/11/94	LJP	< 0.010 mg/l	0.010

LABORATORY DIRECTOR



47000-4253

Subcontractor: HLI-DSH
 Contact Name: DAVID
 Date Shipped: 8-9-94
 Comments: _____

SUBCONTRACT COC

Project Name/No: 942911
RE WRIGHT
 Project Contact/Phone: 94444
 P.O. #: _____

Reporting Information:
 Report To: HydroLogic, Inc.
2500 Gateway Centre Blvd.
Suite 300
Monkville, NC 27560
 Invoice To: HydroLogic, Inc.
2500 Gateway Centre Blvd.
Suite 300
Monkville, NC 27560
 Verbal
 Phone No: _____
 Fax 919-310-
 Fax No: 9117
 Typed Copy
 Date: _____

ONE CONTAINER PER LINE

SAMPLE TYPE

LAB USE

Sample #1	Sample Location	comp	grab	date	time	gr	dwr	ww	ssd	ol	Squid	prsv	ss volume	Analysis & Method	ss send	pl	
BB-46-MW-1	water		✓	8-9-94	0830	✓								3030C Lead, Total			
BB-46-MW-2	↓		✓		0840	✓											
BB-46-MW-3	↓		✓		0900	✓											
BB-46 WATER DUP	↓		✓		0930	✓											

Turn Around Time (Please Specify)
 Rush Two Week Three Week

QC Level:
 I II III Project Specific _____

DISKETTES:
 Comma Delimited: _____
 Standard ASCII: _____

Relinquished by: (Signature) [Signature]

Received by: (Signature) [Signature] Date/Time _____

Method of Shipment: _____

Received for Laboratory by: [Signature] Date/Time 8-10-94

H Y D R O L O G I C , I N C .

August 23, 1994

REPORTING:

HydroLogic-Morris., Inc.
2500 Gateway Centre
Suite #900
Morrisville, NC 27560

Attention: Pomeroy Smith

INVOICING:

HydroLogic-Morris., Inc.
2500 Gateway Centre
Suite #900
Morrisville, NC 27560

PROJECT NUMBER: FL94-10496

DATE COMPLETED: August 23, 1994

DATE RECEIVED: August 11, 1994

PROJECT DESCRIPTION:

#94444--1 soil sample for 8015-3550/8015-5030/8260/8270/8080 and 1 water sample for 602-BTEX + MTBE, sampled on 08/09/94.

Enclosed is the laboratory report for the project described above. If you have any questions or if we can be of further assistance, please feel free to contact Jamie Fore. We appreciate your business and look forward to serving you again soon.

Respectfully,


Benjamin Carl Esterle
Laboratory Director

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94
DATE EXTRACTED: 8/17/94
DATE/TIME ANALYZED: 8/19/94

METHOD TPH 8015/3550

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Diesel		1.2	11.5

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444
HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/16/94

METHOD TPH 8015/5030

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Gasoline		2.0	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: GASOLINE: HEAVIER FUEL PRESENT.

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/11/94

METHOD EPA 8260

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Dichlorodifluoromethane	75-71-8	0.005	BDL
Chloromethane	74-87-3	0.005	BDL
Vinyl Chloride	75-01-4	0.005	BDL
Bromomethane	74-83-9	0.005	BDL
Chloroethane	75-00-3	0.005	BDL
Trichlorofluoromethane	75-69-4	0.005	BDL
1,1-Dichloroethene	75-35-4	0.005	BDL
Methylene Chloride	75-09-2	0.005	BDL
trans-1,2-Dichloroethene	156-60-5	0.005	BDL
1,1-Dichloroethane	75-34-3	0.001	BDL
2,2-Dichloropropane	590-20-7	0.005	BDL
cis-1,2-Dichloroethene	156-59-4	0.005	BDL
Chloroform	67-66-3	0.005	BDL
Bromo-chloromethane	74-97-5	0.01	BDL
1,1,1-Trichloroethane	71-55-6	0.005	BDL
Carbon Tetrachloride	56-23-5	0.001	BDL
1,1-Dichloropropene	563-58-6	0.001	BDL
Benzene	71-43-2	0.001	BDL
1,2-Dichloroethane	107-06-2	0.001	BDL
Trichloroethene	79-01-6	0.001	BDL
1,2-Dichloropropane	78-87-5	0.001	BDL
Bromodichloromethane	75-27-4	0.001	BDL
Dibromomethane	74-95-3	0.001	BDL
cis-1,3-Dichloropropene	10061-01-5	0.002	BDL
Toluene	108-88-3	0.001	BDL

H Y D R O L O G I C , I N C .

Page 2 continued

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444
HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94

METHOD EPA 8260

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
trans-1,3-Dichloropropene	10061-02-6	0.001	BDL
1,1,2-Trichloroethane	79-00-5	0.001	BDL
Tetrachloroethene	127-18-4	0.001	BDL
1,3-Dichloropropane	142-28-9	0.001	BDL
Dibromochloromethane	124-48-1	0.001	BDL
1,2-Dibromoethane	106-93-4	0.001	BDL
Chlorobenzene	108-90-7	0.001	BDL
1,1,1,2-Tetrachloroethane	630-20-6	0.001	BDL
Ethylbenzene	100-41-4	0.001	BDL
(m+p)-Xylene		0.002	BDL
o-Xylene	95-47-6	0.001	BDL
Styrene	100-42-5	0.001	BDL
Bromoform	75-25-2	0.001	BDL
Isopropylbenzene	98-82-8	0.001	BDL
1,1,2,2-Tetrachloroethane	79-34-5	0.001	BDL
Bromobenzene	108-86-1	0.001	BDL
1,2,3-Trichloropropane	96-18-4	0.001	BDL
n-Propylbenzene	103-65-1	0.001	BDL
2-Chlorotoluene	95-45-8	0.001	BDL
1,3,5-Trimethylbenzene	108-67-8	0.001	BDL
4-Chlorotoluene	106-43-4	0.001	BDL
t-Butylbenzene	98-06-6	0.001	BDL
1,2,4-Trimethylbenzene	95-63-6	0.001	BDL
sec-Butylbenzene	135-98-8	0.001	BDL

H Y D R O L O G I C , I N C .

Page 3 continued

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444
HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94

METHOD EPA 8260

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
p-Isopropyltoluene	99-87-6	0.001	BDL
1,3-Dichlorobenzene	541-73-1	0.005	BDL
1,4-Dichlorobenzene	106-46-7	0.005	BDL
n-Butylbenzene	104-51-8	0.001	BDL
1,2-Dichlorobenzene	95-50-1	0.005	BDL
1,2-Dibromo-3-Chloropropane	96-12-8	0.01	BDL
1,2,4-Trichlorobenzene	120-82-1	0.005	BDL
Hexachlorobutadiene	87-68-3	0.005	BDL
Naphthalene	91-20-3	0.01	BDL
1,2,3-Trichlorobenzene	87-61-6	0.005	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94
DATE EXTRACTED: 8/17/94
DATE/TIME ANALYZED: 8/17/94

METHOD SW 846 8270

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Acenaphthene	83-32-9	0.6	BDL
Acenaphthylene	208-96-8	0.6	BDL
Aniline	62-53-3	0.6	BDL
Anthracene	120-12-7	0.6	BDL
Benzidine	92-87-5	0.6	BDL
Benzoic Acid	65-85-0	3.3	BDL
Benzo(a)Anthracene	56-55-3	0.6	BDL
Benzo(b)Fluoranthene	205-99-2	0.6	BDL
Benzo(k)Fluoranthene	207-08-9	0.6	BDL
Benzo(g,h,i)Perylene	191-24-2	0.6	BDL
Benzo(a)Pyrene	50-32-8	0.6	BDL
Benzyl Alcohol	100-51-6	1.3	BDL
Bis(2-Chloroethoxy)Methane	111-91-1	0.6	BDL
Bis(2-Chloroethyl)Ether	111-44-4	0.6	BDL
Bis(2-Chloroisopropyl)Ether	39638-32-9	0.6	BDL
Bis(2-Ethylhexyl)Phthalate	117-81-7	0.6	BDL
4-Bromophenyl Phenyl Ether	101-55-3	0.6	BDL
Butyl Benzyl Phthalate	85-68-7	0.6	BDL
4-Chloroaniline	106-47-8	1.3	BDL
1-Chloronaphthalene		0.6	BDL
2-Chloronaphthalene	91-58-7	0.6	BDL
4-Chloro-3-Methyl Phenol	59-50-7	1.3	BDL
2-Chlorophenol	95-57-8	0.6	BDL
4-Chlorophenyl Phenyl Ether	7005-72-3	0.6	BDL
Chrysene	218-01-9	0.6	BDL

H Y D R O L O G I C , I N C .

Page 2 continued

COMPANY NAME: HydroLogic-Morris., Inc.
 COMPANY PROJECT NUMBER: #94444
 HYDROLOGIC PROJECT NUMBER: FL94-10496
 HYDROLOGIC SAMPLE NUMBER: 10496
 SAMPLE IDENTIFICATION: BB-46 Soil Comp
 DATE SAMPLED: 8/9/94

METHOD SW 846 8270

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Dibenz(a,h)Anthracene	53-70-3	0.6	BDL
Dibenzofuran	132-64-9	0.6	BDL
Di-N-Butylphthalate	84-74-2	0.6	BDL
1,3-Dichlorobenzene	541-73-1	0.6	BDL
1,4-Dichlorobenzene	106-46-7	0.6	BDL
1,2-Dichlorobenzene	95-50-1	0.6	BDL
3,3'-Dichlorobenzidine	91-94-1	1.3	BDL
2,4-Dichlorophenol	120-83-2	0.6	BDL
2,6-Dichlorophenol	87-65-0	0.6	BDL
Diethylphthalate	84-66-2	0.6	BDL
A,A-Dimethylphenethylamine	122-09-8	0.6	BDL
2,4-Dimethylphenol	105-67-9	0.6	BDL
Dimethylphthalate	131-11-3	0.6	BDL
4,6-Dinitro-2-Methylphenol	534-52-1	3.3	BDL
2,4-Dinitrophenol	51-28-5	5.3	BDL
2,4-Dinitrotoluene	121-14-2	0.6	BDL
2,6-Dinitrotoluene	606-20-2	0.6	BDL
Diphenylamine	122-39-4	0.6	BDL
Di-N-Octylphthalate	117-84-0	0.6	BDL
Fluoranthene	206-44-0	0.6	BDL
Fluorene	86-73-7	0.6	BDL
Hexachlorobenzene	118-74-1	0.6	BDL
Hexachlorobutadiene	87-68-3	0.6	BDL
Hexachlorocyclopentadiene	77-47-4	0.6	BDL

H Y D R O L O G I C , I N C .

Page 3 continued

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94

METHOD SW 846 8270

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Hexachloroethane	67-72-1	0.6	BDL
Indeno(1,2,3-cd)Pyrene	193-39-5	0.6	BDL
Isophorone	78-59-1	0.6	BDL
2-Methylnaphthalene	91-57-6	0.6	BDL
2-Methylphenol	95-48-7	0.6	BDL
4-Methylphenol	106-44-5	0.6	BDL
Naphthalene	91-20-3	0.6	BDL
2-Nitroaniline	88-74-4	3.3	BDL
3-Nitroaniline	99-09-2	3.3	BDL
4-Nitroaniline	100-01-6	3.3	BDL
Nitrobenzene	98-95-3	0.6	BDL
2-Nitrophenol	88-75-5	0.6	BDL
4-Nitrophenol	100-02-7	3.3	BDL
N-Nitroso-Di-N-Butylamine	924-16-3	0.6	BDL
N-Nitrosodimethylamine	62-75-9	0.6	BDL
N-Nitrosodiphenylamine	86-30-6	0.6	BDL
N-Nitrosodipropylamine	621-64-7	0.6	BDL
Pentachlorophenol	87-86-5	3.3	BDL
Phenanthrene	85-01-8	0.6	BDL
Phenol	108-95-2	0.6	BDL
Pyrene	129-00-0	0.6	BDL
1,2,4,5-Tetrachlorobenzene	95-94-3	0.6	BDL
2,3,4,6-Tetrachlorophenol	58-90-2	0.6	BDL
1,2,4-Trichlorobenzene	120-82-1	0.6	BDL

H Y D R O L O G I C , I N C .

Page 4 continued

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444
HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94

METHOD SW 846 8270

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
2,4,5-Trichlorophenol	95-95-4	0.6	BDL
2,4,6-Trichlorophenol	88-06-2	0.6	BDL

Surrogate Recovery:

2-Fluorobiphenyl	106%
Nitrobenzene-d5	100%
4-Terphenyl-D14	94%
2-Fluorophenol	111%
Phenol-D5	103%
2,4,6-Tribromophenol	98%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10496
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 Soil Comp
DATE SAMPLED: 8/9/94
DATE EXTRACTED: 8/17/94
DATE/TIME ANALYZED: 8/17/94

METHOD SW 846 8080

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
alpha-BHC	319-84-6	0.010	BDL
beta-BHC	319-85-7	0.010	BDL
delta-BHC	319-86-8	0.010	BDL
gamma-BHC (Lindane)	58-89-9	0.010	BDL
Heptachlor	76-44-8	0.010	BDL
Aldrin	309-00-2	0.010	BDL
Heptachlor epoxide	1024-57-3	0.010	BDL
Endosulfan I	959-98-8	0.010	BDL
Dieldrin	60-57-1	0.019	BDL
4,4'-DDE	72-55-9	0.019	BDL
Endrin	72-20-8	0.019	BDL
Endosulfan II	33213-65-9	0.019	BDL
4,4'-DDD	72-54-8	0.019	BDL
Endrin aldehyde	7421-93-4	0.019	BDL
Endosulfan sulfate	1031-07-8	0.019	BDL
4,4'-DDT	50-29-3	0.019	BDL
Methoxychlor	72-43-5	0.100	BDL
Chlordane	57-74-9	0.100	BDL
Toxaphene	8001-35-2	0.192	BDL
Aroclor-1016	12674-11-2	0.096	BDL
Aroclor-1221	11104-28-2	0.096	BDL
Aroclor-1232	11141-16-5	0.096	BDL
Aroclor-1242	53469-21-9	0.096	BDL
Aroclor-1248	12672-29-6	0.096	BDL
Aroclor-1254	11097-69-1	0.192	BDL
Aroclor-1260	11096-82-5	0.192	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: #94444

HYDROLOGIC PROJECT NUMBER: FL94-10496
HYDROLOGIC SAMPLE NUMBER: 10497
HYDROLOGIC LAB I.D.#: 399
SAMPLE IDENTIFICATION: BB-46 Water Comp
DATE SAMPLED: 8/9/94
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 8/12/94

METHOD EPA 602/MIBE

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (ug/l)	<u>RESULT</u> (ug/l)
Benzene	71-43-2	1.0	BDL
Ethylbenzene	100-41-4	1.0	BDL
Toluene	108-88-3	1.0	BDL
Xylene (Total)	1330-20-7	1.0	BDL
MIBE		5.0	BDL
Surrogate Recovery: BFB			102%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

Subcontractor: HCI-KY
 Contact Name: BEN
 Date Shipped: 8-10-94
 Comments: _____

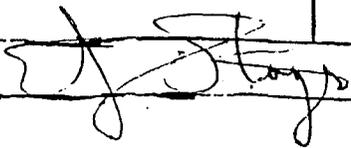
SUBCONTRACT CUC
 Project Name/No: 942907
 RE WRIGHT
 Project Contact/Phone: 94444
 P.O. #: _____

Reporting Information:
 Report To: HydroLogic, Inc.
2500 Gateway Center Blvd.
Suite 400
 Invoice To: Charlotte, NC 27530
 Verbal
 Phone No: _____
 Fax 919-310-_____
 Fax No: 911-_____
 Typed Copy
 Data: _____

94-10496

ONE CONTAINER PER LINE SAMPLE TYPE LAB USE

Sample #1	Sample Location	comp	grab	date	time	gr	sh	wt	acid	al	acid	serv	ex volume	Analyte & Method	ex send
B346 Soil Comp	SOIL	✓		8-9-94	0900				✓					3550/8015 TPH 5030/8015 TPH 8260 VOC's 8270 SVOC's 8080 PCB's/PEST	
B346 Water Comp	Water	✓		8-9-94	0910	✓								602 BTEX + MTBE	
														TEMPERATURE BLANK <u>3.5°</u>	

Turn Around Time (Please Specify) Rush <input type="checkbox"/> Two Week <input type="checkbox"/> Three Week <input type="checkbox"/>	QC Level: <input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> Project Specific _____	DISKETTES: Comma Delimited: _____ Standard ASCII: _____
Relinquished by: (Signature) 	Received by: (Signature) _____	Date/Time _____
Method of Shipment: _____	Received for Laboratory by: <u>Christy Buxton</u>	Date/Time <u>8-11-94</u>

H Y D R O L O G I C , I N C .

FINAL REPORT OF ANALYSES

HYDROLOGIC MORRISVILLE
2500 GATEWAY CENTRE BOULV
SUITE 900
MORRISVILLE, NC 27560-
Attn: LISA SNIPES

REPORT DATE: 08/18/94

SAMPLE NUMBER- 47043 SAMPLE ID- BB-46-SOIL
DATE SAMPLED- 08/09/94 LOCATION- 94444
DATE RECEIVED- 08/10/94 SAMPLER- NOT SPECIFIED
TIME RECEIVED- 1030 DELIVERED BY- FEDEX

SAMPLE MATRIX- SO
TIME SAMPLED- 0900
RECEIVED BY- PLB

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP ANALYSIS			RESULT UNITS	DET. LIMIT
		DATE	BY	DATE		
TOX. CHAR. LEACHING PROCEDURE	6010	08/11/94	CDM	08/15/94	BDL	
ARSENIC, TOTAL	6010				<0.010 mg/l	0.010
CADMIUM, TOTAL	6010				<0.001 mg/l	0.001
COBALT, TOTAL	6010				<0.005 mg/l	0.005
MERCURY, TOTAL	6010				<0.0002 mg/l	0.0002
SELENIUM, TOTAL	6010				<0.010 mg/l	0.010
SILVER, TOTAL	6010				<0.005 mg/l	0.005
BARIIUM, TOTAL	6010				0.615 mg/l	0.005
LEAD, TOTAL	6010				<0.010 mg/l	0.010

LABORATORY DIRECTOR



FINAL REPORT OF ANALYSES

HYDROLOGIC MORRISVILLE
2500 GATEWAY CENTRE BOULV
SUITE 900
MORRISVILLE, NC 27560-
Attn: LISA SNIPES

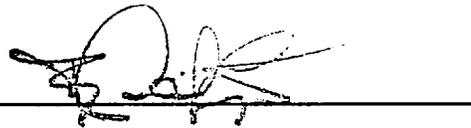
PROJECT NAME: 942907
REPORT DATE: 08/22/94

SAMPLE NUMBER- 47042 SAMPLE ID- BB-46-WATER SAMPLE MATRIX- WW
DATE SAMPLED- 08/09/94 LOCATION- 94444 TIME SAMPLED- 0910
DATE RECEIVED- 08/10/94 SAMPLER- NOT SPECIFIED RECEIVED BY- PLB
TIME RECEIVED- 1030 DELIVERED BY- FEDEX

Page 1 of 1

ANALYSIS	METHOD	SAMPLE PREP ANALYSIS			RESULT UNITS	DET. LIMIT
		DATE	BY	DATE		
LEAD, TOTAL	6010	08/11/94	CDM	08/11/94 LJP	< 0.010 mg/l	0.010

LABORATORY DIRECTOR



CHAIN C CUSTODY

PO#

REPORT :

RE WRIGHT ASSOC. INC.

3240 Schoolhouse Road

MIDDLETOWN PA 17057

ATTN: MIKE IANNICELLI

HydroLogic, Inc.
2500 Gateway Centre Blvd., Suite 901
Morrisville, NC 27560
800-241-4174
919-380-9699

PAGE 1 OF 1

942907

CLIENT: <u>REWAI</u>				ANALYSES										PROJECT ID #: <u>94444</u>		
PHONE: <u>717-944-5501</u>				3550/8015 TPH	5030/8015 TPH	8260 VOG	8270 SVOS	8080 PEST/PCBS	TCLP & PCBs methods	602 BTEX+MTBE	TOTAL LEAD 3070	REPORT DUE:				
PROJ #: <u>94444</u>		PO #:										VERBAL	FAX COPY	HARD COPY		
SAMPLER: <u>ERIC L ENGLE</u>														REMARKS		
FIELD ID	SAMPLE MATRIX	TIME COLLECTED	DATE COLLECTED													
<u>BB-46</u> <u>SOIL COMP</u>	<u>SOIL</u>	<u>9060</u>	<u>8-7-94</u>	X	X	X	X	X	X							
<u>BB-46</u> <u>WATER COMP</u>	<u>WATER</u>	<u>0910</u>	<u>8-9-94</u>							X	X					<u>TCLP metals, lead, ash</u> <u>Rest - KY</u>
RELINQUISHED BY: <u>W. L. Engle</u>				DATE / TIME: <u>8-7-94 1400</u>				RECEIVED BY: <u>[Signature]</u>				DATE / TIME: <u>8/9/94 17:20</u>				
RELINQUISHED BY: <u>[Signature]</u>				DATE / TIME: <u>8/9/94 8:00</u>				RECEIVED BY: <u>[Signature]</u>				DATE / TIME: <u>8/9/94 8:00</u>				
RELINQUISHED BY: <u>[Signature]</u>				DATE / TIME: <u>8/9/94 8:00</u>				RECEIVED BY: <u>[Signature]</u>				DATE / TIME:				
DISPATCHED BY:				DATE / TIME:				RECEIVED BY:				DATE / TIME:				

REC'D ON ICE
 PRESERVED

by: [Signature]

APPENDIX E

Soil/Water Disposal Documentation

F. CILITY

NOBLE OIL SERVICES

INDUSTRIAL SERVICES DIVISION

25580

1-800-662-5364

5617 CLYDE RHYNE DR.

SANFORD, N.C. 27330

FOR EMERGENCY RESPONSE:
Spill, Leak, Fire, Accident
24 HRS. PER DAY, 7 DAYS PER WEEK

EPA ID# NCD 9861-72476

DATE 10/26/94

TRUCK# 55+58

15933

GENERATOR

BILL TO:

CUSTOMER CAMP LEJEUNE

CUSTOMER B. E. WRIGHT

ADDRESS _____

ADDRESS 18 Koger - Executive Ctr, Suite 104

ROCKSWOODVILLE NC ZIP _____

Northfork, Va. ZIP 23502

CONTACT MARK SPANGLER

CONTACT Mike Janicelli -4015

PHONE () 910-451-5068

PHONE (804) 461-6906

START TIME _____ STOP TIME _____

P.O.# 138034

DRUMS/ GAL.	MATERIAL	UNIT PRICE	SRV. CHARGE	TOTAL
<i>12</i>	PETROLEUM OIL MIXTURE, N.O.S. (USED OIL/WATER MIXTURE), COMBUSTIBLE LIQUID, UN 1270, PG III	<i>55⁰⁰</i>	<i>MC</i>	<i>935⁰⁰</i>
<i>1</i>	SLUDGE/NON-HAZARDOUS SOLIDS <i>for Thermal Remediation</i>	<i>185⁰⁰</i>	<i>MC</i>	<i>12395⁰⁰</i>
	GASOLINE, CLASS 3, UN 1203, PG II (GASOLINE) FOR RECOVERY/RECYCLING			
	GASOLINE/MIXTURE, CLASS 3, UN 1203, PG II (GASOLINE/WATER MIXTURE) FROM U.S.T.'S OR EXEMPT			
	FUEL OIL MIXTURE, COMBUSTIBLE LIQUID, NA 1993, PG III (FUEL OIL/WATER MIX)			
<i>*</i>	<i>2 MEN @ \$45.00 PER HOUR / TWO TRUCKS</i>	<i>225 X</i>	<i>2 -></i>	<i>450.00</i>
	<i>X 5 HOURS FOR SEARCH & REWD OF DRUMS</i>			
TERMS: PAYABLE UPON RECEIPT			TOTAL DUE	<i>#13780⁰⁰</i>

PROFILE NUMBER _____

Generators Certification:

I certify that the materials above are accurately described, classified, packaged, marked and labeled, and are in proper condition for transport according to applicable state, EPA, and D.O.T. regulations. Furthermore, I have no knowledge of any hazardous waste contained or mixed with the material that is to be transported. I, the generator, expressly agree and promise to hold Noble Oil Services, Inc. and all its officers and employees free from and otherwise indemnify the same against any and all penalties and other liability resulting from the transfer of such materials under this manifest.

Authorized Customer Agent (Sign) x *Mark Spangler* 1 (Print) Mark Spangler

Noble Oil Services Agent (Sign) x *Steve Pettus* 1 (Print) STEVE PETTUS
Tom Ranson

Job _____
Description _____

Materials Used ** HAZARDOUS WASTE DRUMS SUPPLIED FOR DRUM PICK-UP **

