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MCAS CHERRY POINT
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FINAL SITE ASSESSMENT ADDENDUM FOR NAVY BOAT DOCKS FUEL DISPENSER WITH TRANSMITTAL MCAS CHERRY POINT NC

10/15/1999

CATLIN ENGINEERS AND SCIENTISTS

CATLIN LAW

ENVIRONMENTAL AND
ENGINEERING CONSULTANTS

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

SITE ASSESSMENT ADDENDUM
NAVY BOAT DOCKS FUEL DISPENSER

FINAL

MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

October 15, 1999

CONTRACT No. N62470-95-D-6009
DELIVERY ORDER No. 0064
CATLIN Engineers and Scientists Project No. 99138

Prepared By:
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CATLIN LAW

ENVIRONMENTAL AND
ENGINEERING CONSULTANTS

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

October 21, 1999

LANTNAVFACENGCOM
Attn: Charles R. Hilton, Code 18211
1510 Gilbert Street
Norfolk, Virginia 23511-6287

Re: **FINAL SITE ASSESSMENT ADDENDUM**
NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA
CONTRACT NO. N62470-95-D-6009
DELIVERY ORDER NO. 0064
CATLIN Project No. 99138

Dear Mr. Hilton:

CATLIN Engineers and Scientists is pleased to present one copy of the Final Site Assessment Addendum prepared for the Navy Boat Dock Fuel Dispenser. We have reviewed the comments made to the Draft document received from you and Mr. John Myers. Where applicable, changes have been incorporated into the Final report as indicated below.

Review Comments

1. **Page #1, Purpose, 3rd sentence - Following the word "system" add the following, served by a _____ gallon gasoline aboveground storage tank (AST) and a _____ gallon diesel AST, located as identified in Figure 1. Remove the remainder of this sentence. Add a new sentence following the modified sentence as follows: The fuel dispensers are located on a concrete bulkhead adjacent to Hancock Creek which are also identified in Figure 1.**

   Text revised.

2. **Page #1, Purpose, 5th sentence - Catlin performed the investigation referred to in this sentence. Please remove "approximately two years ago" and replace this wording with the document date and title.**

   Text revised.

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SITE ASSESSMENT ADDENDUM

NAVY BOAT DOCKS FUEL DISPENSER

MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA

October 15, 1999

Contract No. N62470-95-D-6009
Delivery Order No. 0064
CATLIN Engineers and Scientists Project No. 99138

Prepared by:

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Once the target borehole depth (+2 feet below soil saturation zone) was achieved, hand augering was halted and a 1-inch diameter PVC temporary well (5 feet of screen and 5 feet of casing) was installed in order to obtain surficial ground water samples and measure depth to the ground water table. Utilizing a GeoPump™ (peristaltic pump), two to three gallons of ground water were pumped from each temporary well prior to obtaining a representative ground water sample. Ground water samples were placed in the appropriate preserved and unpreserved clean glassware, then refrigerated (<4°C) during transportation to the analytical laboratory. All ground water samples were analyzed at Paradigm Analytical Laboratory per the following methods:

- EPA Method 601
- EPA Method 602 + IPE, MTBE, EDB, and Xylenes
- EPA Method 625 Plus 10 Largest Non-Target Peaks
- MADEP VPH Aliphatics/Aromatics
- MADEP EPH Aliphatics/Aromatics

After ground water sampling was completed each temporary well was allowed to equilibrate approximately one hour before the depth to water table was gauged. The PVC wells were then removed and each borehole was backfilled with Benseal and the last six inches capped with Portland cement. The site was surveyed utilizing Global Positioning System (GPS) in order to determine the NCSP NAD83 coordinates for each borehole.

For regulatory compliance, soil quality data has been compared to cleanup levels applicable to incidents reported to the North Carolina Department of Environment and Natural Resources (NCDENR) on or after June 1, 1998. Current cleanup levels are either the Residential or Soil-to-Groundwater Maximum Soil Contaminant Concentrations (MSCCs), whichever are lower in accordance with the *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, Volume I, Sources Other Than Petroleum Underground Storage Tanks*, May 1998.

For regulatory compliance, surficial ground water quality has been compared to applicable interim standards and the standards established in 15A NCAC 2L .0202 (2L).

SUBSURFACE SOILS

(Refer to Appendix A)

Depth of site boreholes ranged from 6.5 to 10 feet below land surface (BLS). The predominant soil type encountered was relatively clean, tan/olive fine to medium grained sands with a few small shell fragments (see Appendix A for boring logs).

Borehole I.D.	Water Table Depth (Feet BLS)	Soil Sample Depth (Feet BLS)	Sample I.D.
NBD01	5.35	1.5 - 2.0 5.0 - 5.5	NBD011-2 NBD015-6
NBD02	5.37	1.5 - 2.0 5.0 - 5.5	NBD021-2 NBD024-5
NBD03	5.15	1.0 - 2.0 4.0 - 4.5	NBD031-2 NBD034-5

Soils obtained from boreholes NBD01 and NBD02 exhibited strong petroleum hydrocarbon odors from 1.0 to 5.0 feet BLS. Soils encountered from boring NBD03 exhibited no petroleum odors.

EPA Method 8260 (Halogenated and Aromatics) - Soil
(Refer to Table 1, Figure 2, and Appendix B)

Laboratory analyses of soil samples NBD031-2 and NBD034-5 revealed compliant compound concentrations per Soil-to-Groundwater MSCCs. Analyses of the soil samples NBD011-2, NBD015-6, NBD021-2, and NBD024-5 revealed several 8260 parameters in excess of Soil-to-Groundwater MSCCs. Table 1 compares the EPA Method 8260 analysis results to established MSCCs. To illustrate the extent of soil contamination, the location of combined benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations have been listed on Figure 2. See Appendix B for the laboratory report.

EPA Method 8270 (Base/Neutral and Acid Extractables) - Soil
(Refer to Table 2, Figure 3, and Appendix B)

Results of the soil sample analysis revealed that sample NBD031-2 and NBD034-5 tested below quantitation limits (BQL) for all EPA Method 8270 analytes. Analyses of soil samples NBD011-2, NBD014-5, NBD021-2, and NBD024-5 revealed several EPA Method 8270 parameters in excess of Soil-to-Groundwater MSCCs. Maximum Soil Contamination Concentrations have not been established for 4-chloroaniline, dibenzofuran, and n-nitrosodiphenylanine. Table 2 summarizes the EPA Method 8270 analyses results. To demonstrate the extent of base/neutral and acid extractable soil contamination, naphthalene concentration data has been illustrated on Figure 3. See Appendix B for the laboratory report.

MADEP EPH and VPH (Aliphatics/Aromatics) - Soil
(Refer to Tables 3A and 3B, Figure 4, and Appendix B)

MADEP EPH/VPH laboratory data is summarized in Table 3A. Table 3B compares the MADEP EPH/VPH hydrocarbon fractions to applicable NCDENR MSCCs.

Laboratory analyses revealed that sample NBD031-2 and NBD034-5 tested compliant per Soil-to-Groundwater MSCCs. Samples NBD011-2, NBD014-5, NBD021-2, and NBD024-5 exhibited MADEP fractions (C_5-C_8 Aliphatics, C_9-C_{18} Aliphatics, and C_9-C_{22} Aromatics) in excess of Soil-to-Groundwater MSCCs. As an example of the extent of contamination revealed by MADEP EPH and VPH analyses, the location of C_9-C_{18} Aliphatic fraction data has been illustrated on Figure 4. See Appendix B for the laboratory report.

SURFICIAL GROUND WATER QUALITY

(Refer to Figure 5)

Surficial ground water table was encountered approximately five feet below the ground surface. Surficial ground water flow direction, based on data from November 11, 1995, is to the southwest toward Hancock Creek (see Figure 5).

According to Eimers, et al (1987-1990), the Yorktown confining unit [25 to 40 feet below mean sea level (MSL)], Pungo River confining unit (66 to 90 feet below MSL), and the Upper Castle Hayne confining unit (136 to 161 feet below MSL) were encountered while installing NCDENR Cherry Point Research Station Well #11. Well #11 is located approximately 1.5 miles west of the subject site.

EPA Method 601 (Purgeable Halocarbons) - Ground Water

(Refer to Table 4 and Appendix B)

The laboratory results for two analytes, bromodichloromethane and 1,2-dichloropropane, indicate quantitation limits with an upper range that is greater than the NCAC T15A 02L Standards. Concentrations of all other EPA Method 601 analytes were below NCAC T15A 02L Standards for EPA Method 601. Table 4 summarizes the laboratory report findings. The laboratory report is provided in Appendix B.

EPA Method 602 (Purgeable Aromatics) - Ground Water

(Refer to Table 5 and Figures 6 and 7)

EPA Method 602 analysis of the site ground water samples revealed several volatile compounds in excess of NCAC T15A 02L .0202 Groundwater Quality Standards. Table 5 summarizes the laboratory report findings. Figure 6 illustrates the benzene/combined benzene, toluene, ethylbenzene, and total xylenes (BTEX) data obtained from the temporary wells. MTBE laboratory data is illustrated on Figure 7.

EPA Method 625 (Base/Neutral and Acid Extractables) - Ground Water

(Refer to Table 6 and Figure 8)

Results of the ground water sample analyses revealed that naphthalene concentration in samples NBD01 (210 ppb) and NBD02 (140 ppb) exceeded the NCAC T15A 02L .0202 Groundwater Quality Standard (21 ppb). Sample NBD03 and the remaining EPA Method 625 target compounds tested compliant. The location of the dissolved naphthalene data is illustrated in Figure 8.

Results of the 10 largest non-target peaks revealed trace levels of several semi-volatile compounds in samples NBD01 and NBD02. EPA Method 625 laboratory report findings have been summarized in Table 6.

MADEP EPH and VPH (Aliphatics/Aromatics) - Ground Water
(Refer to Tables 7A and 7B and Figures 9, 10, and 11)

The MADEP EPH/VPH data is summarized in Table 7A. Table 7B compares the hydrocarbon fraction data to the North Carolina Groundwater Quality Standards. Results of MADEP analysis revealed several hydrocarbon fractions in excess of Interim Standards at all three temporary well locations. Figure 9 illustrates the C_5-C_8 aliphatic fractions concentrations. Figure 10 illustrates the C_9-C_{18} aliphatic fraction concentrations. Figure 11 illustrates the C_9-C_{32} aromatic fraction concentrations.

CONCLUSIONS

The findings of this Site Assessment Addendum can be summarized as follows:

- Several halogenated and aromatics, and base/neutral and acid extractable compounds in excess of Soil-to-Groundwater MSCCs have been detected in site soils from 1.0 to 5.0 feet BLS at borehole locations NBD01 and NBD02.

- Several dissolved halogenated and aromatics (gasoline constituents); and base/neutral and acid extractable (diesel constituent compounds) with concentrations in excess of NCAC T15A 02L .0202 Standards (current and interim) have been detected in representative surficial ground water samples obtained from all three temporary wells.

- No free-phase product was evident at any of the three temporary wells.

The levels of site soil and surficial ground water contamination exceed the reportable quantities. Recommendations for further action are as follows:

- Based on the findings of this report, Regional NCDENR personnel will likely request an "Initial Abatement and Site Characterization" report.

- Evaluate and initiate abatement measures toward preventing additional petroleum hydrocarbon contamination from leaching into Hancock Creek.

- Delineate the extent of soil and surficial ground water contamination to the north and west of the dispenser island area.

REFERENCES

Eimers, J.L., Daniel, III C.C., Coble, R.W., Hydrogeology and Simulation of Ground-Water Flow at U.S. Marine Corps Air Station, Cherry Point, North Carolina, 1987-1990; U.S. Geological Survey, Water-Resources Investigation Report 94-4186, U.S. Geological Survey, Raleigh, North Carolina.

North Carolina Department of Environment and Natural Resources, *Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, Volume I, Sources Other Than Petroleum Underground Storage Tanks*, May 1998.

Richard Catlin & Associates, Comprehensive Site Assessment, Barge Off-Load Area (Building 3213), Marine Corps Air Station, Cherry Point, North Carolina, March 1, 1996.

TABLES

TABLE 1 (Page 1 of 2)

SUMMARY OF LABORATORY RESULTS - SOIL*
HALOGENATED AND AROMATIC VOLATILE ORGANICS - EPA METHOD 8260

NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA

SAMPLE I.D./ DEPTH (BLS)	CAS #	RESIDENTIAL MSCC	SOIL-TO-GROUND WATER MSCC	NBD011-2 (1.5-2.0)	NBD015-6 (5.0-5.5)	NBD021-2 (1.5-2.0)
ANALYTE						
Benzene	71-43-2	22,000	5.6	<21,000**	<23,000**	<44,000**
Ethylbenzene	100-41-4	1,560,000	240	82,000	80,000	110,000
Isopropylbenzene	98-82-8	1,564,000	2,000	<21,000**	<23,000**	<44,000**
MTBE	1634-04-4	156,000	920	40,000	<23,000**	<44,000**
Naphthalene	91-20-3	63,000	580	27,000	35,000	68,000
n-Propylbenzene	103-65-1	NE	NE	43,000	43,000	68,000
Toluene	108-88-3	3,200,000	7,000	210,000	220,000	300,000
1,2,4-Trimethylbenzene	95-63-6	782,000	8,000	260,000	430,000	600,000
1,3,5-Trimethylbenzene	108-68-8	782,000	7,000	75,000	130,000	180,000
Xylenes	1330-20-7	3,200,000	5,000	460,000	620,000	970,000
All Other Compounds	Varies	Varies	Varies	BQL	BQL	BQL

MSCC Maximum Soil Contaminant Concentration
* All results in ppb (parts per billion)
** Indicates quantitation limit has an upper limit which is greater than the compound Soil-to-Groundwater MSCC.
BQL Below Quantitation Limit
NE Not Established
Shading indicates concentration exceeds Soil-to-Groundwater Maximum Soil Contaminant Concentration (MSCC).
Note: All samples were analyzed by Paradigm Analytical Laboratories, Inc.
For data comparison, the MSCCs have been converted from ppm to ppb.

TABLE 1 (Page 2 of 2)

SUMMARY OF LABORATORY RESULTS - SOIL*
HALOGENATED AND AROMATIC VOLATILE ORGANICS - EPA METHOD 8260

NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA

SAMPLE I.D./ DEPTH (BLS)	CAS #	RESIDENTIAL MSCC	SOIL-TO-GROUND WATER MSCC	NBD024-5 (4.5-5.0)	NBD031-2 (1.0-2.0)	NBD034-5 (4.0-5.0)
ANALYTE						
Benzene	71-43-2	22,000	5.6	110,000	<5.2	<5.7**
Ethylbenzene	100-41-4	1,560,000	240	160,000	<5.2	<5.7
Isopropylbenzene	98-82-8	1,564,000	2,000	23,000	<5.2	<5.7
MTBE	1634-04-4	156,000	920	30,000	<5.2	20
Naphthalene	91-20-3	63,000	580	53,000	<5.2	<5.7
n-Propylbenzene	103-65-1	NE	NE	70,000	<5.2	<5.7
Toluene	108-88-3	3,200,000	7,000	260,000	<5.2	<5.7
1,2,4-Trimethylbenzene	95-63-6	782,000	8,000	350,000	<5.2	<5.7
1,3,5-Trimethylbenzene	108-68-8	782,000	7,000	100,000	<5.2	<5.7
Xylenes	1330-20-7	3,200,000	5,000	790,000	<10	<11
All Other Compounds	Varies	Varies	Varies	BQL	BQL	BQL

MSCC Maximum Soil Contaminant Concentration
* All results in ppb (parts per billion)
** Indicates quantitation limit has an upper limit which is greater than the compound Soil-to-Groundwater MSCC.
BQL Below Quantitation Limit
NE Not Established
Shading indicates concentration exceeds Soil-to-Groundwater Maximum Soil Contaminant Concentration (MSCC).
Note: All samples were analyzed by Paradigm Analytical Laboratories, Inc.
For data comparison, the MSCCs have been converted from ppm to ppb.

TABLE 2 (Page 1 of 2)

SUMMARY OF LABORATORY RESULTS - SOIL*
BASE/NEUTRAL AND ACID EXTRACTABLES - EPA METHOD 8270

NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA

SAMPLE I.D./ DEPTH (BLS)	CAS #	RESIDENTIAL MSCC	SOIL-TO-GROUND WATER MSCC	NBD011-2 (1.5-2.0)	NBD015-6 (5.0-5.5)	NBD021-2 (1.5-2.0)
ANALYTE						
4-Chloroaniline	--	NE	NE	2,700	<1,600**	<1,600**
Dibenzofuran	--	NE	NE	<640**	<1,600**	<1,600**
Fluorene	86-73-7	620	44	<640**	<1,600**	1,700
n-Nitrosodiphenylamine	--	NE	NE	<640**	<1,600**	2,700
2-Methylnaphthalene	91-57-6	63	3	31,000	51,000	54,000
Naphthalene	91-20-3	63	0.53	29,000	59,000	60,000
Phenanthrene	85-01-8	469	60	990	<1,600**	2,500
Pyrene	129-00-0	469	286	<640**	<1,600**	2,000
All Other Compounds	Varies	Varies	Varies	BQL	BQL	BQL

MSCC Maximum Soil Contaminant Concentration
-- Not Available
* All results in ppb (parts per billion)
** Indicates quantitation limit has an upper range which is greater than the compound Standard MSCC.
BQL Below Quantitation Limit
NE Not Established
Shading indicates concentration exceeds Residential, Industrial/Commercial, or Soil-to-Groundwater Maximum Soil Contaminant Concentration (MSCC).
Note: All samples were analyzed by Paradigm Analytical Laboratories, Inc.
For data comparison, the MSCCs have been converted from ppm to ppb.

TABLE 2 (Page 2 of 2)

SUMMARY OF LABORATORY RESULTS - SOIL*
BASE/NEUTRAL AND ACID EXTRACTABLES - EPA METHOD 8270

NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA

SAMPLE I.D./ DEPTH (BLS)	CAS #	RESIDENTIAL MSCC	SOIL-TO-GROUND WATER MSCC	NBD024-5 (4.5-5.0)	NBD031-2 (1.0-2.0)	NBD034-5 (4.0-5.0)
ANALYTE						
4-Chloroaniline	--	NE	NE	<1,600	<300	<340
Dibenzofuran	--	NE	NE	2,100	<300	<340
Fluorene	86-73-7	620	44	5,500	<300**	<340**
n-Nitrosodiphenylamine	--	NE	NE	5,200	<300	<340
2-Methylnaphthalene	91-57-6	63	3	67,000	<300**	<340**
Naphthalene	91-20-3	63	0.53	57,000	<300**	<340**
Phenanthrene	85-01-8	469	60	8,300	<300**	<340**
Pyrene	129-00-0	469	286	3,000	<300**	<340**
All Other Compounds	Varies	Varies	Varies	BQL	BQL	BQL

MSCC Maximum Soil Contaminant Concentration
-- Not Available
* All results in ppb (parts per billion)
** Indicates quantitation limit has an upper limit which is greater than the compound Standard MSCC.
BQL Below Quantitation Limit
NE Not Established
Shading indicates concentration exceeds Residential, Industrial/Commercial, or Soil-to-Groundwater Maximum Soil Contaminant Concentration (MSCC).
Note: All samples were analyzed by Paradigm Analytical Laboratories, Inc.
For data comparison, the MSCCs have been converted from ppm to ppb.

TABLE 3A (Page 1 of 2)

SUMMARY OF LABORATORY RESULTS - SOIL
MADEP VPH AND EPH

NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA

Sample I.D.	NBD011-2		NBD015-6		NBD021-2		NBD024-5	
	VPH (ug/kg)	EPH (mg/kg)	VPH (ug/kg)	EPH (mg/kg)	VPH (ug/kg)	EPH (mg/kg)	VPH (ug/kg)	EPH (mg/kg)
Date Sampled	6/30/99		6/30/99		6/30/99		6/30/99	
ANALYTICAL FRACTIONS								
C_5 - C_8 Aliphatics	2,300,000	NA	3,700,000	NA	4,100,000	NA	4,700,000	NA
C_9 - C_{12} Aliphatics	3,700,000	NA	4,000,000	NA	7,100,000	NA	5,500,000	NA
C_9 - C_{18} Aliphatics	NA	4,200	NA	4,000	NA	15,000	NA	16,000
C_{19} - C_{36} Aliphatics	NA	280	NA	47	NA	2,100	NA	2,400
C_9 - C_{10} Aromatics	2,400,000	NA	2,300,000	NA	3,600,000	NA	2,900,000	NA
C_{11} - C_{12} Aromatics	NA	95	NA	85	NA	130	NA	220

NA Not Analyzed
Note: All samples were analyzed by Paradigm Analytical Laboratories.

TABLE 3A (Page 2 of 2)

SUMMARY OF LABORATORY RESULTS - SOIL
MADEP VPH AND EPH

NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA

Sample I.D.	NBD031-2		NBD034-5		TRIP BLANK	
	VPH (ug/kg)	EPH (mg/kg)	VPH (ug/kg)	EPH (mg/kg)	VPH (ug/kg)	EPH (mg/kg)
Date Sampled	6/30/99		6/30/99		6/30/99	
ANALYTICAL FRACTIONS						
C_5 - C_8 Aliphatics	<500	NA	<500	NA	<500	NA
C_9 - C_{12} Aliphatics	<500	NA	<500	NA	<500	NA
C_9 - C_{18} Aliphatics	NA	27	NA	<10	NA	NA
C_{19} - C_{36} Aliphatics	NA	<10	NA	<10	NA	NA
C_9 - C_{10} Aromatics	<500	NA	<500	NA	<500	NA
C_{11} - C_{12} Aromatics	NA	28	NA	<10	NA	NA

NA Not Analyzed
Note: All samples were analyzed by Paradigm Analytical Laboratories.

TABLE 3B (Page 1 of 2)

SUMMARY OF LABORATORY RESULTS - SOIL* AS COMPARED TO NCDENR MSCCS

NAVY BOAT DOCK FUEL DISPENSER MCAS CHERRY POINT, NORTH CAROLINA

Sample I.D.	Toxicologically Defined Hydrocarbon Fractions	Residential/ Soil-to-Groundwater MSCCs	NBD011-2 (mg/kg)	NBD015-6 (mg/kg)	NBD021-2 (mg/kg)
Date Sampled			6/30/99	6/30/99	6/30/99
ANALYTICAL FRACTIONS					
C_5 - C_8 Aliphatics	C_5 - C_8 Aliphatics	939 / 72	2,300	3,700	4,100
C_9 - C_{12} Aliphatics	C_9 - C_{18} Aliphatics	9,386 / 3,255	7,900	8,000	22,100
C_9 - C_{18} Aliphatics					
C_{19} - C_{36} Aliphatics	C_{19} - C_{36} Aliphatics	93,860/Considered Immobile	280	47	2,100
C_9 - C_{10} Aromatics	C_9 - C_{32} Aromatics	469 / 34	2,495	2,385	3,730
C_{11} - C_{12} Aromatics					

MSCC Maximum Soil Contaminant Concentrations

* Sum of VPH and EPH concentrations in milligram per kilogram (mg/kg).

Note For data comparison, the MSCCs and EPH results have been converted to mg/kg.

Shading indicates fraction concentrations exceed appropriate MSCC.

TABLE 3B (Page 2 of 2)

SUMMARY OF LABORATORY RESULTS - SOIL* AS COMPARED TO NCDENR MSCCS

NAVY BOAT DOCK FUEL DISPENSER MCAS CHERRY POINT, NORTH CAROLINA

Sample I.D.	Toxicologically Defined Hydrocarbon Fractions	Residential/ Soil-to-Groundwater MSCCs	NBD024-5 (mg/kg)	NBD031-2 (mg/kg)	NBD034-5 (mg/kg)
Date Sampled			6/30/99	6/30/99	6/30/99
ANALYTICAL FRACTIONS					
C_5 - C_8 Aliphatics	C_5 - C_8 Aliphatics	939 / 72	4,700	<0.5	<0.5
C_9 - C_{12} Aliphatics	C_9 - C_{18} Aliphatics	9,386 / 3,255	7,100	<27.5	<10.5
C_9 - C_{18} Aliphatics					
C_{19} - C_{36} Aliphatics	C_{19} - C_{36} Aliphatics	93,860/Considered Immobile	2,400	<10	<10
C_9 - C_{10} Aromatics	C_9 - C_{22} Aromatics	469 / 34	3,120	<28.5	<10.5
C_{11} - C_{22} Aromatics					

MSCC Maximum Soil Contaminant Concentrations

* Sum of VPH and EPH concentrations in milligrams per kilogram (mg/kg).

Note For data comparison, the MSCCs and EPH results have been converted to mg/kg.

Shading indicates fraction concentrations exceed appropriate MSCC.

TABLE 4

SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND WATER* PURGEABLE HALOCARBONS - EPA METHOD 601

NAVY BOAT DOCK FUEL DISPENSER MCAS CHERRY POINT, NORTH CAROLINA

Sample I.D.	Date Sampled	Bromodi-chloromethane	1,1-Dichloro-ethane	1,2-Dichloro-propane	Remaining 601 Compounds
NBD01	6/30/99	<25**	<25	<25**	BQL
NBD02	6/30/99	<10**	<10	<10**	BQL
NBD03	6/30/99	<1**	<1	<1**	BQL
T15A:02L .0202 Groundwater Quality Standards**		0.6	700	0.56	Varies

* All results in parts per billion (ppb)

** Indicates quantitation limit has an upper range which is greater than the compound 2L Standard.

Note: For data comparison, the Groundwater Quality Standards have been converted from parts per million (ppm) to parts per billion (ppb)

BQL Below Quantitation Limit

All samples analyzed by Paradigm Analytical Laboratories, Inc.

TABLE 5

SUMMARY OF LABORATORY ANALYTICAL RESULTS - GROUND WATER* VOLATILES - GC 602

NAVY BOAT DOCK FUEL DISPENSER MCAS CHERRY POINT, NORTH CAROLINA

Sample I.D.	Date Sampled	Benzene	DIPE	Ethyl-benzene	MTBE	Toluene	Xylenes
NBD01	6/30/99	5,600	BQL	730	75,000	7,600	4,600
NBD02	6/30/99	6,800	BQL	980	5,700	10,000	4,600
NBD03	6/30/99	120	BQL	BQL	400	82	BQL
NCAC T15A 02L .0202 Groundwater Quality Standards**		1	70	29	200	2,000	530

* All results in parts per billion (ppb)

** For data comparison, the Groundwater Quality Standards have been converted from parts per million (ppm) to parts per billion (ppb).

BQL Below Quantitation Limit

Shaded area indicates concentration exceeds NCAC T15A 02L .0202 Groundwater Quality Standards.

All samples analyzed by Paradigm Analytical Laboratories, Inc.

TABLE 6

SUMMARY OF LABORATORY RESULTS - GROUND WATER*
BASE/NEUTRAL AND ACID EXTRACTABLES - EPA METHOD 625+TICS

NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA

Sample I.D.	CAS Number	NCAC 2L Groundwater Quality Standards**	NBD01	NBD02	NBD03
Date Sampled			6/30/99	6/30/99	6/30/99
ANALYTE					
2,4-Dimethylphenol	--	140	62	BQL	BQL
Naphthalene	91-20-3	21	210	140	BQL
Phenol	108-95-2	300	72	42	BQL
Remaining 625 Parameters	Varies	Varies	BQL	BQL	BQL
10 Largest Non-Target Peaks (Estimation)					
2,5-Dimethylbenzoic acid	610-72-0	NE	91	BQL	BQL
1-Ethyl 2-Methylbenzene	611-14-3	NE	82	606	BQL
1(3H)Isobenzofuranone	87-41-2	NE	60	BQL	BQL
1-Methylnaphthalene	90-12-0	NE	BQL	21	BQL
2-Methylnaphthalene	91-57-6	28	33	BQL	BQL
2,6-Dimethylbenzoic acid	632-46-2	NE	24	BQL	BQL
1,2,3,4,5-Tetramethylbenzene	527-53-7	NE	23	BQL	BQL
1-Methylethylbenzene	98-82-8	NE	BQL	53	BQL
4-Methylphenol	106-44-5	3.5	BQL	46	BQL
Unknown Carboxylic Acid		NE	BQL	BQL	10-154
Unknown Aromatic		NE	31	17-54	BQL
Unknown Alkane		NE	BQL	170	BQL
Unknown		NE	29-53	31-102	5-461

* All results in parts per billion (ppb)

** For data comparison, the Groundwater Quality Standards have been converted from parts per million (ppm) to parts per billion (ppb).

-- Not Available

BQL Below Quantitation Limit

NE Not Established

TICs Tentatively Identified Compounds

Shaded areas indicate concentration exceeds NCAC T15A 02L Groundwater Quality Standards.

Note: All samples were analyzed by Paradigm Analytical Laboratories, Inc.

TABLE 7A

SUMMARY OF LABORATORY RESULTS - GROUND WATER*
MADEP VPH AND EPH

NAVY BOAT DOCK FUEL DISPENSER
MCAS CHERRY POINT, NORTH CAROLINA

Sample I.D.	NBD01		NBD02		NBD03	
	VPH	EPH	VPH	EPH	VPH	EPH
Date Sampled	6/30/99		6/30/99		6/30/99	
ANALYTICAL FRACTIONS						
C_5 - C_8 Aliphatics	210,000	NA	43,000	NA	1,500	NA
C_9 - C_{12} Aliphatics	<40,000	NA	16,000	NA	<500	NA
C_9 - C_{18} Aliphatics	NA	13,000	NA	2,100	NA	<1,000
C_{19} - C_{36} Aliphatics	NA	<1,000	NA	<1,000	NA	<1,000
C_9 - C_{10} Aromatics	<40,000	NA	5,100	NA	<500	NA
C_{11} - C_{22} Aromatics	NA	2,300	NA	<1	NA	1,200

• All results in parts per billion (ppb)
NA Not Analyzed

TABLE 7B

SUMMARY OF LABORATORY RESULTS - GROUND WATER* AS COMPARED TO NCDENR INTERIM GROUNDWATER QUALITY STANDARDS

NAVY BOAT DOCK FUEL DISPENSER MCAS CHERRY POINT, NORTH CAROLINA

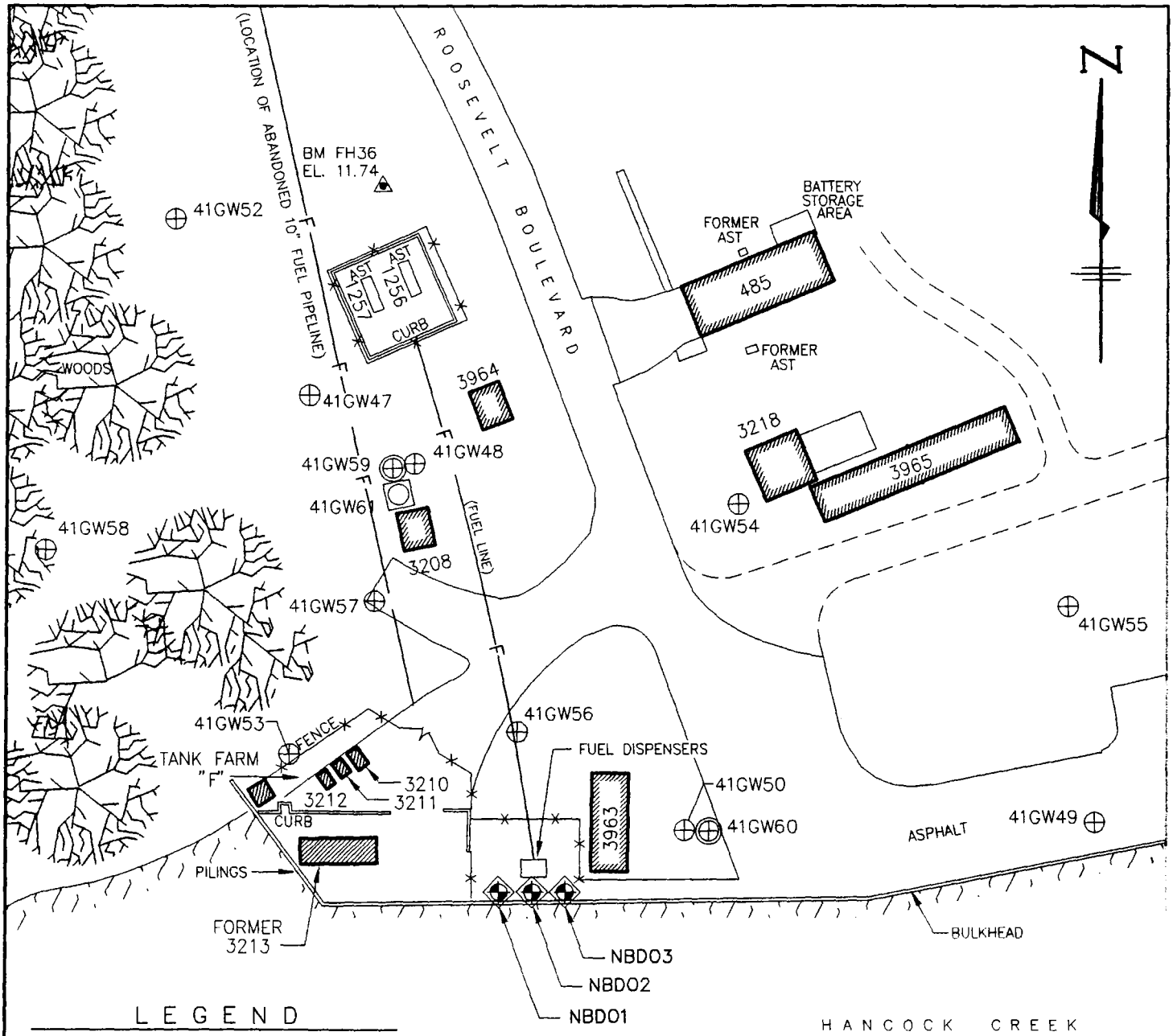
Sample I.D.	Toxicologically Defined Hydrocarbon Fractions	Interim Standard**	NBD01 (ppb)	NBD02 (ppb)	NBD03 (ppb)
Date Sampled			6/30/99	6/30/99	6/30/99
ANALYTICAL FRACTIONS					
C_5 - C_8 Aliphatics	C_5 - C_8 Aliphatics	420	210,000	43,000	1,500
C_9 - C_{12} Aliphatics	C_9 - C_{18} Aliphatics	4,200	≤53,000	18,100	≤1,000
C_9 - C_{18} Aliphatics					
C_{19} - C_{36} Aliphatics	C_{19} - C_{36} Aliphatics	42,000	<1,000	<1,000	<1,000
C_9 - C_{10} Aromatics	C_9 - C_{32} Aromatics	210	≤42,300	≤5,101	≤1,700
C_{11} - C_{22} Aromatics					

* Sum of VPH and EPH concentrations in parts per billion (ppb)

** For data comparison, the NCAC T15A 02L Interim Groundwater Quality Standards and EPH results have been converted from parts per million (ppm) to ppb.

Shaded areas indicate fraction concentrations exceed NCAC T15A 02L Groundwater Quality Standards.

FIGURES



LEGEND

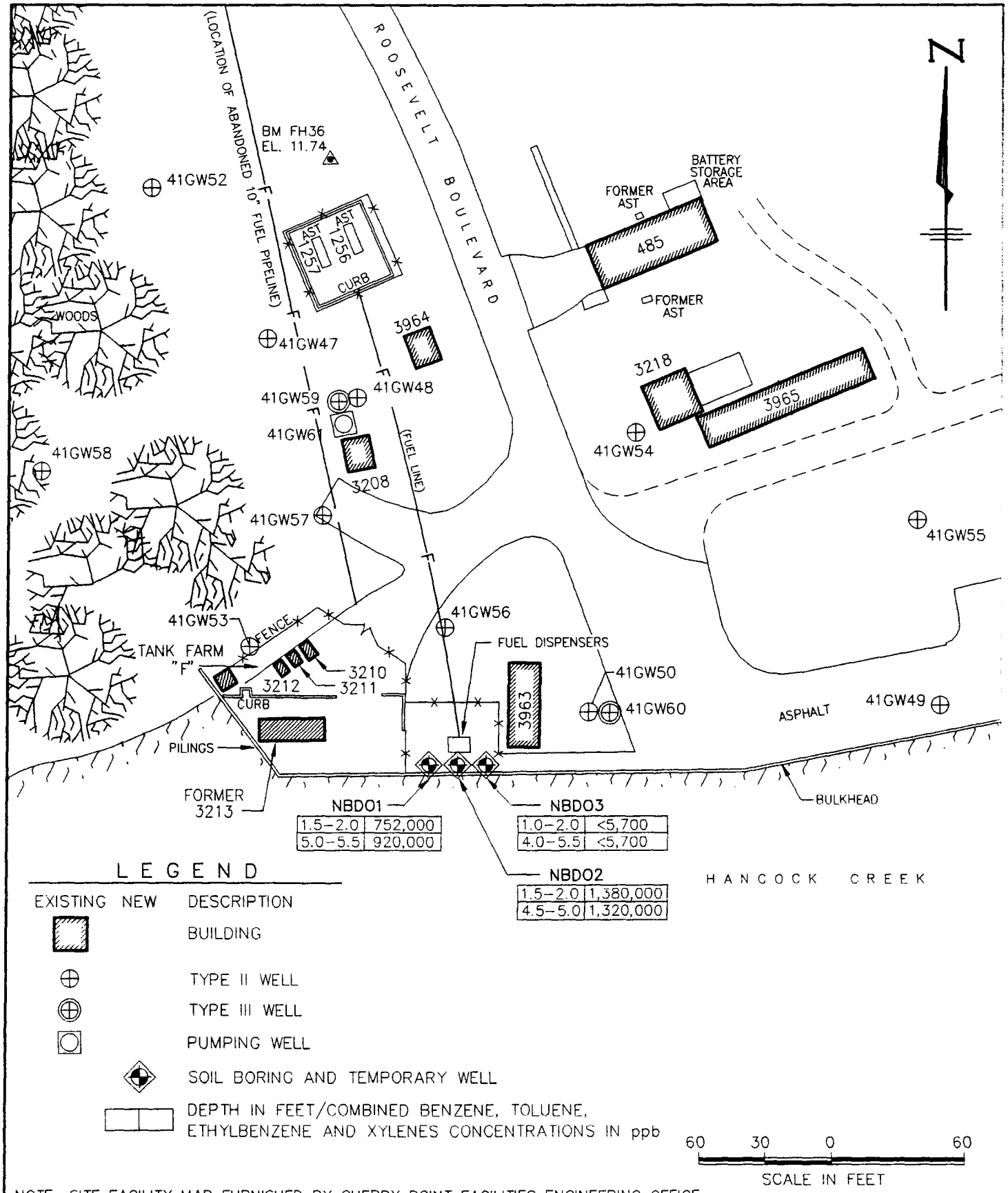
EXISTING	NEW	DESCRIPTION
▭		BUILDING
⊕		TYPE II WELL
⊕		TYPE III WELL
◎		PUMPING WELL
◈		SOIL BORING & TEMPORARY WELL

60 30 0 60

SCALE IN FEET

NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CAELIN ENGINEERS and SCIENTISTS, WILMINGTON, NORTH CAROLINA	PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.	TITLE: NAVY BOAT DOCKS FUEL DISPENSER–SITE PLAN	FIGURE 1
	JOB NO: 99138AD | DATE: SEPT 99	SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST	9138AD21



NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CAELIN
ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

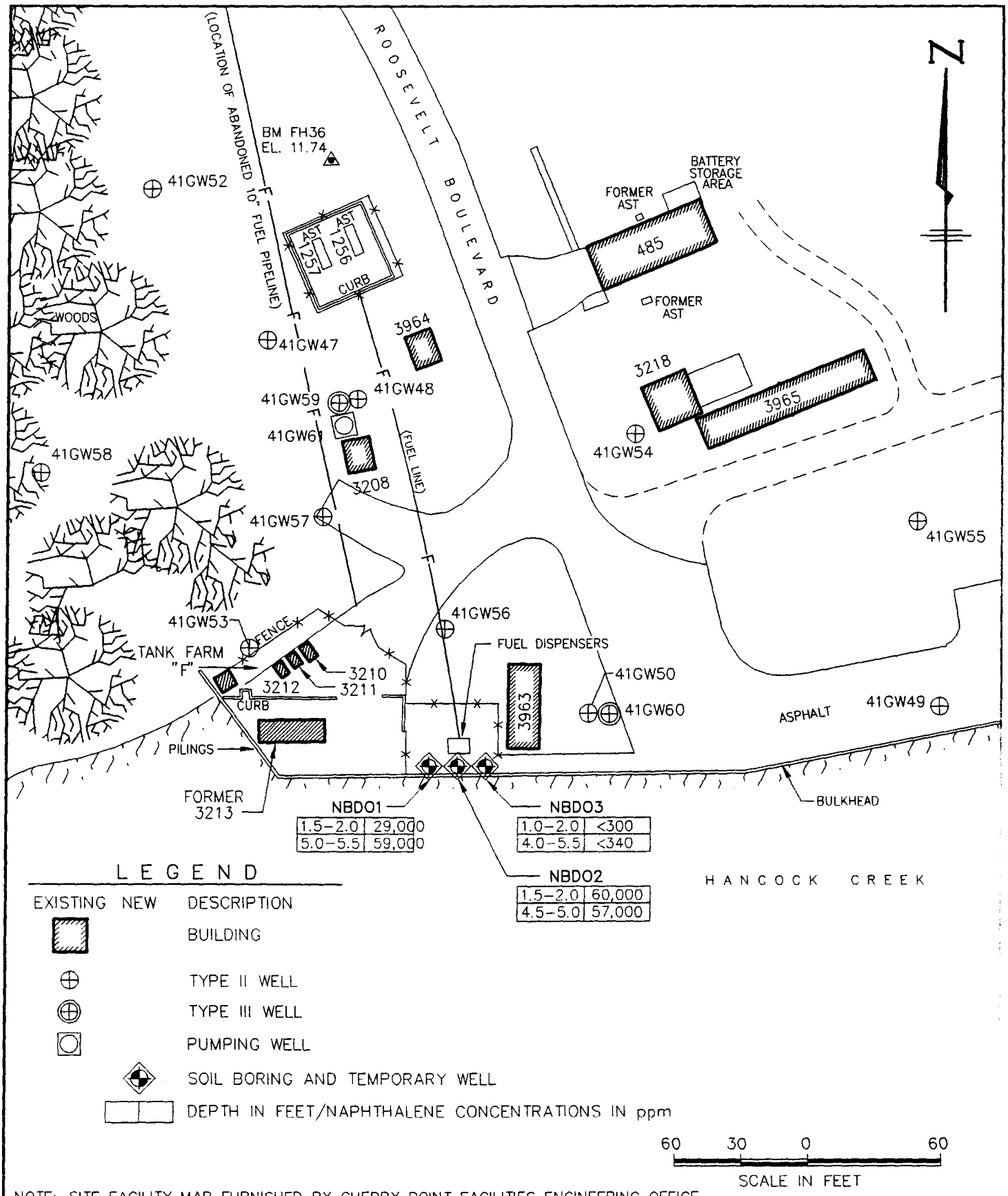
PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.

TITLE: SOIL – EPA METHOD (8260) CONCENTRATIONS AS OF 6/30/99

FIGURE 2

JOB NO: 99138AD | DATE: SEPT 99 | SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST

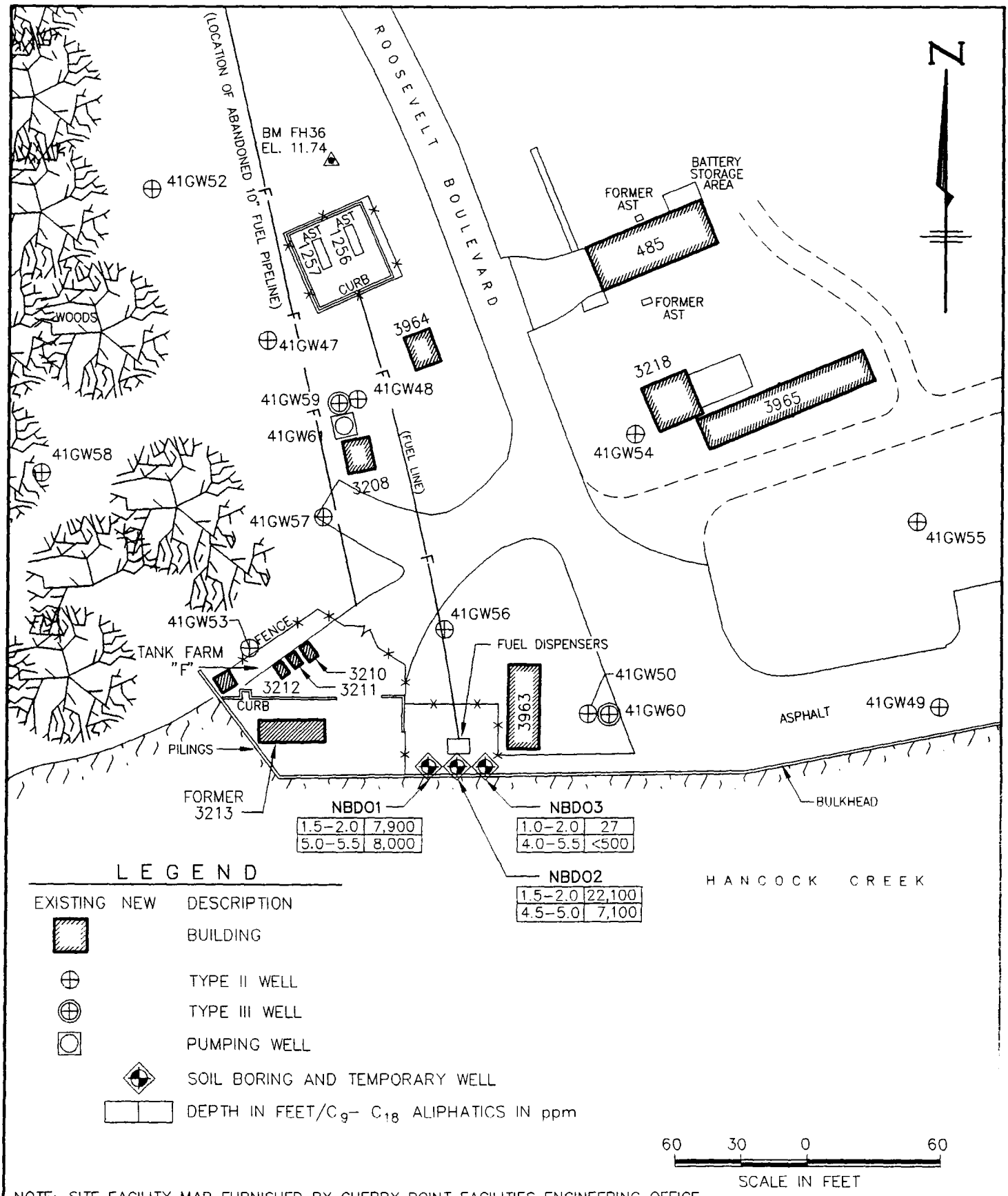
9138AQ22



NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CATLIN ENGINEERS and SCIENTISTS, WILMINGTON, NORTH CAROLINA	PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.	TITLE: SOIL – NAPHTHALENE CONCENTRATIONS AS OF 6/30/99	FIGURE 3
	JOB NO: 99138AD | DATE: SEPT 99	SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST	

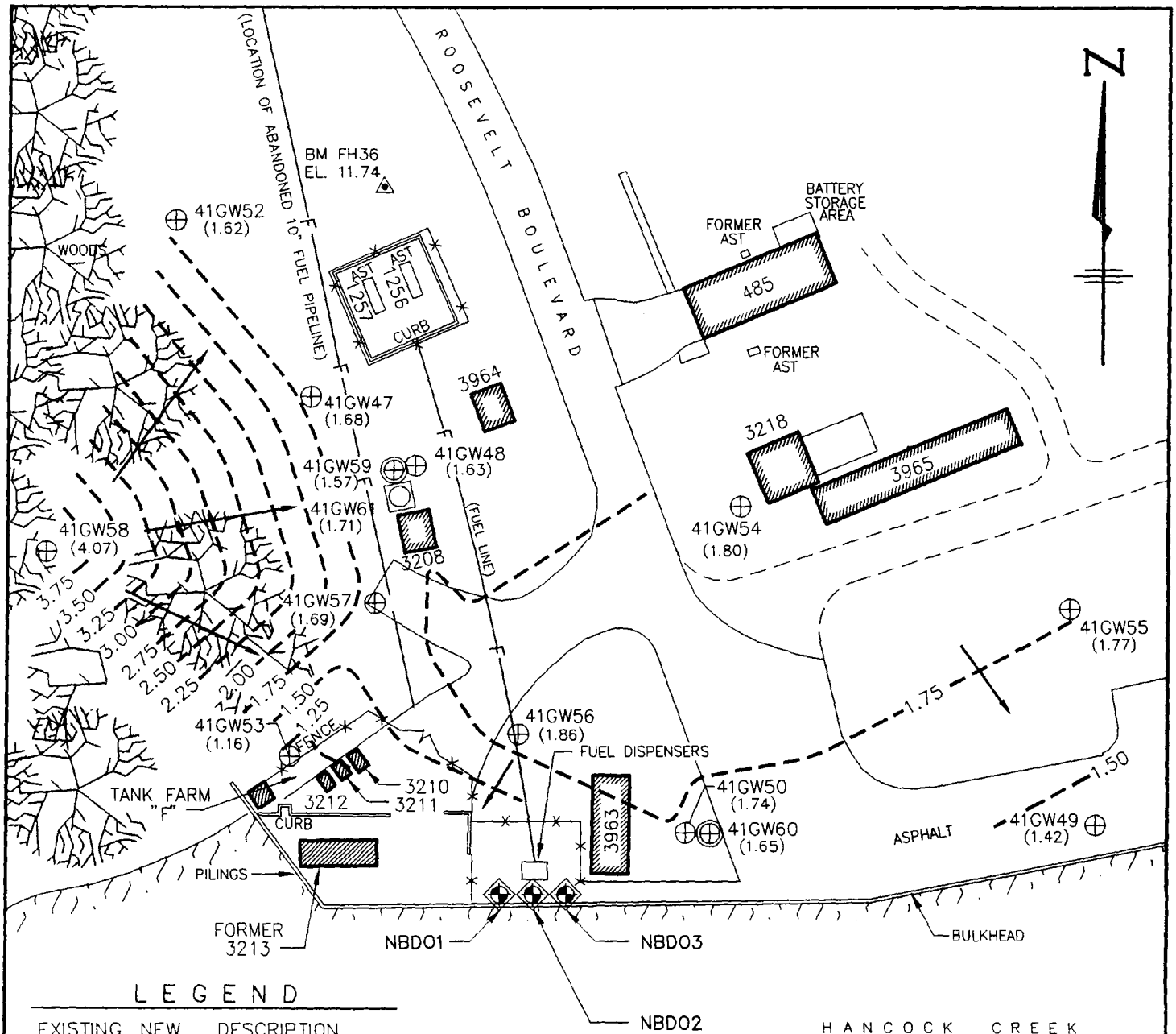
9138AD23



NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CALIN ENGINEERS and SCIENTISTS WILMINGTON, NORTH CAROLINA	PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.	TITLE: SOIL – MADEP C_9– C_{18} ALIPHATICS AS OF 6/30/99	FIGURE 4
	JOB NO: 99138AD | DATE: SEPT 99	SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST	

9138AD24



LEGEND

EXISTING	NEW	DESCRIPTION
▭		BUILDING
⊕		TYPE II WELL
⊕		TYPE III WELL
▣		PUMPING WELL
◈		SOIL BORING AND TEMPORARY WELL
( )		GROUND WATER ELEVATION IN FEET AS OF 11/06/95
--+--		LOCALIZED GROUND WATER FLOW DIRECTION

NOTES : 1) GROUND WATER ELEVATIONS REFERENCED TO MEAN SEA LEVEL
2) TYPE III WELLS NOT CONSIDERED IN CONTOURING
3) CONTOUR INTERVAL = 0.25 FOOT

60 30 0 60
SCALE IN FEET

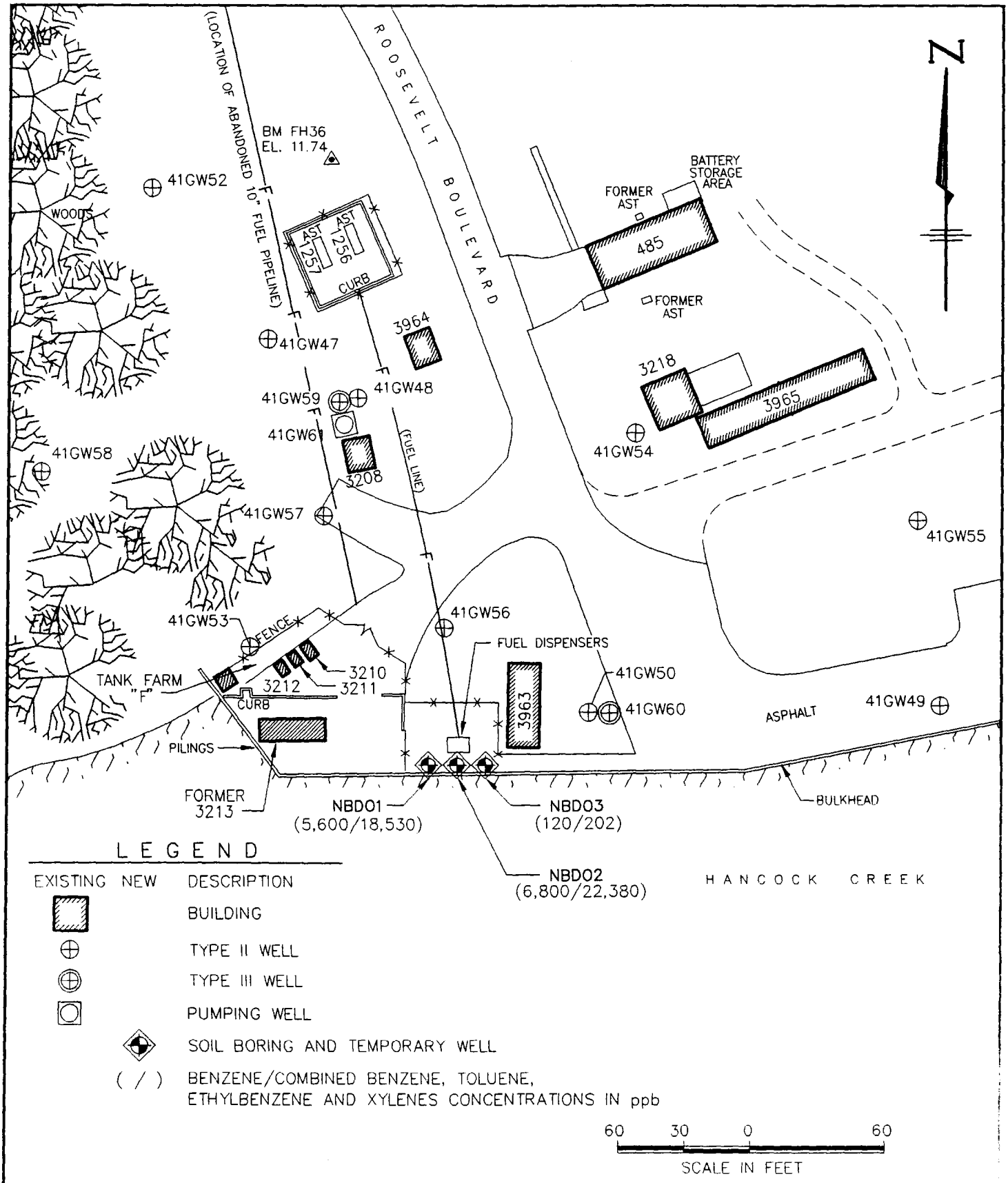
NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CACLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT	TITLE	FIGURE
MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.	WATER TABLE CONTOUR MAP AS OF 11/06/95	5

JOB NO:	DATE:	SCALE:	DRAWN BY:	CHECKED BY:
99138AD	SEPT 99	1"=60'	JCR	ST

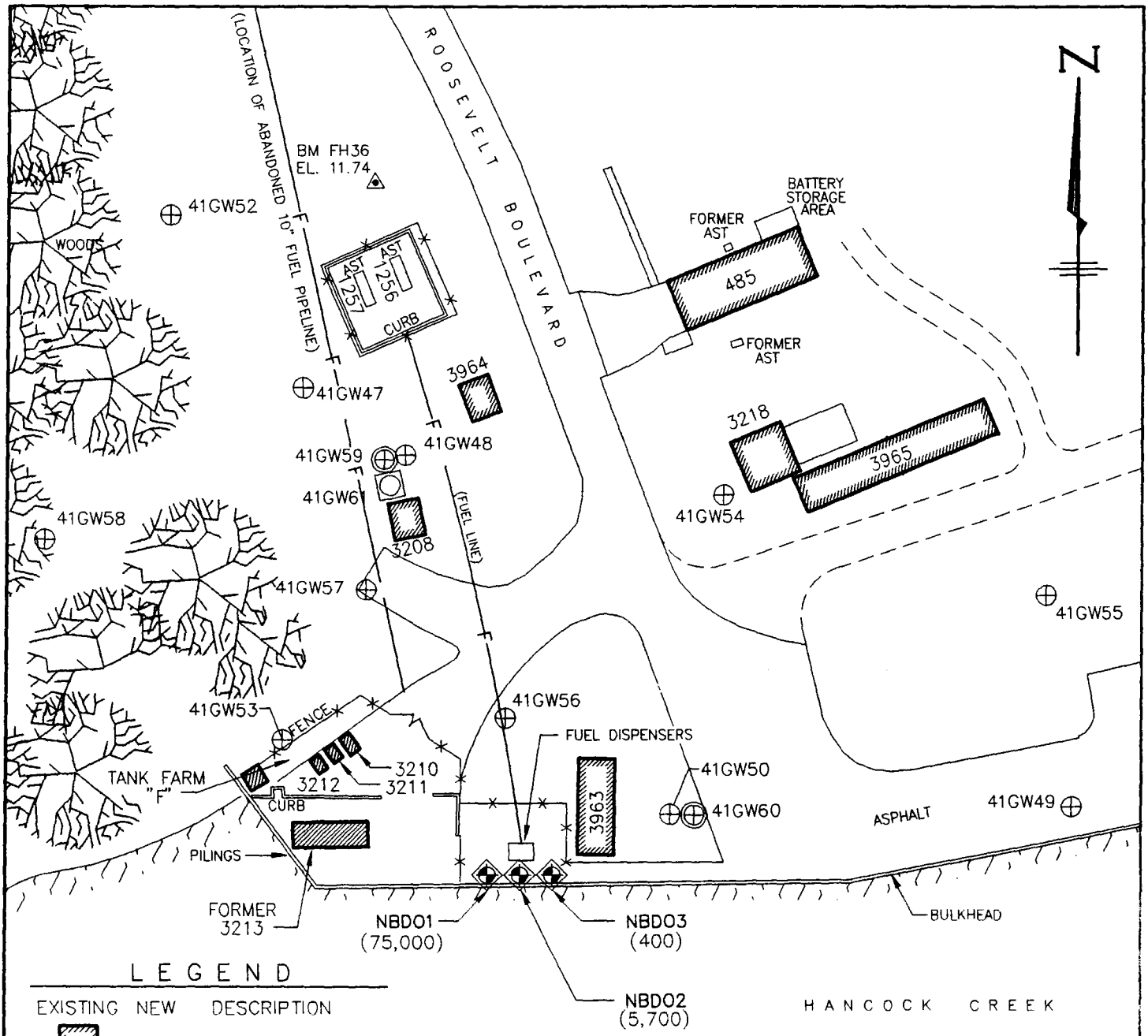
3138AD25



NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CAELIN ENGINEERS and SCIENTISTS, WILMINGTON, NORTH CAROLINA	PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.	TITLE: GROUND WATER – BENZENE/COMBINED BTEX AS OF 6/30/99			FIGURE 6
	JOB NO: 99138AD	DATE: SEPT 99	SCALE: 1"=60'	DRAWN BY: JCR	CHECKED BY: ST

9138AD26



LEGEND

EXISTING	NEW	DESCRIPTION
▭		BUILDING
⊕		TYPE II WELL
⊕		TYPE III WELL
◯		PUMPING WELL
		SOIL BORING AND TEMPORARY WELL
		( ) MTBE CONCENTRATIONS IN ppb

60 30 0 60

SCALE IN FEET

NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

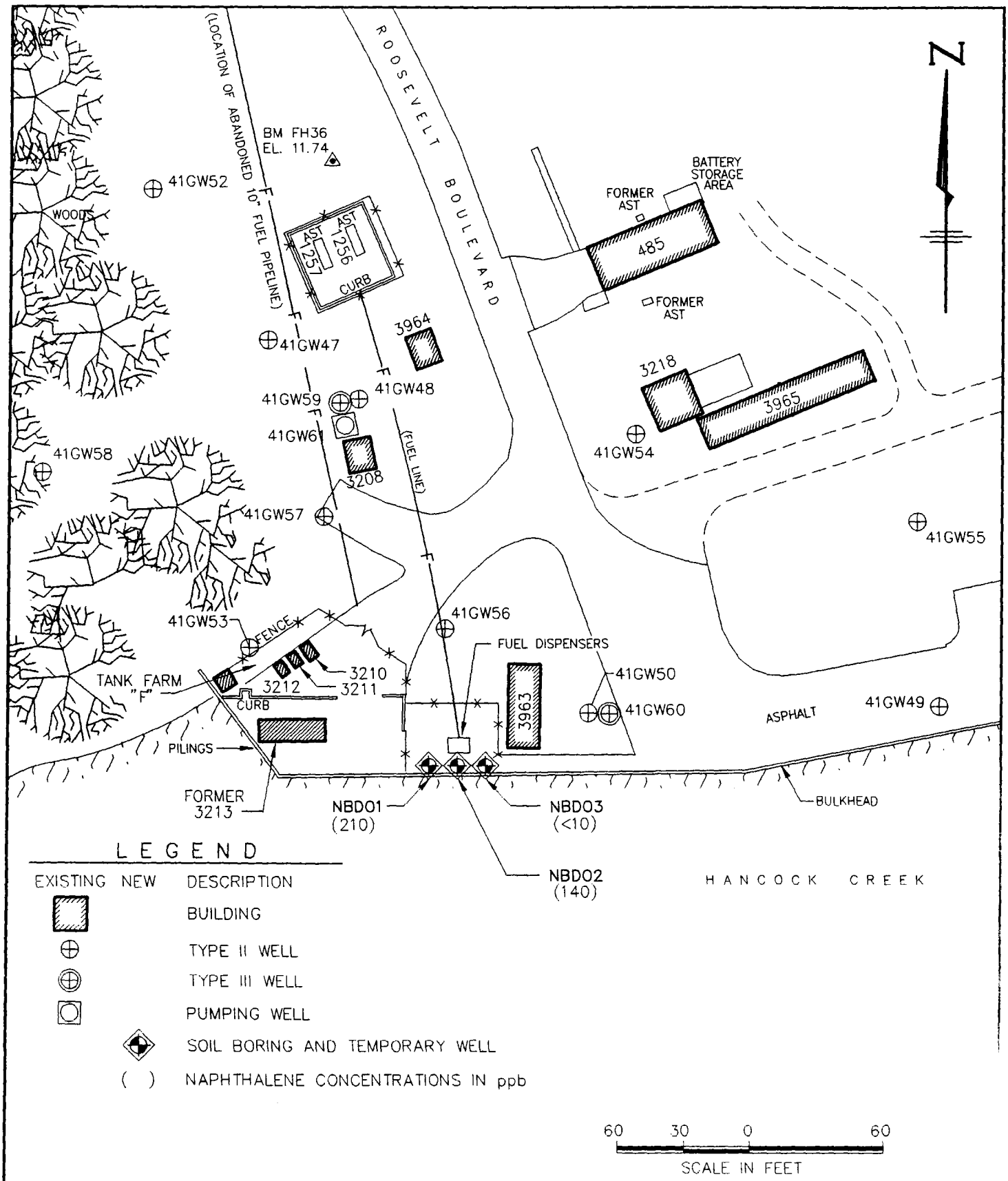
PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.

TITLE: GROUND WATER – MTBE DATA AS OF 6/30/99

FIGURE 7

JOB NO: 99138AD | DATE: SEPT 99 | SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST

9138AD27



LEGEND

EXISTING	NEW	DESCRIPTION
▭		BUILDING
⊕		TYPE II WELL
⊕		TYPE III WELL
▣		PUMPING WELL
◈		SOIL BORING AND TEMPORARY WELL
( )		NAPHTHALENE CONCENTRATIONS IN ppb

60 30 0 60

SCALE IN FEET

NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

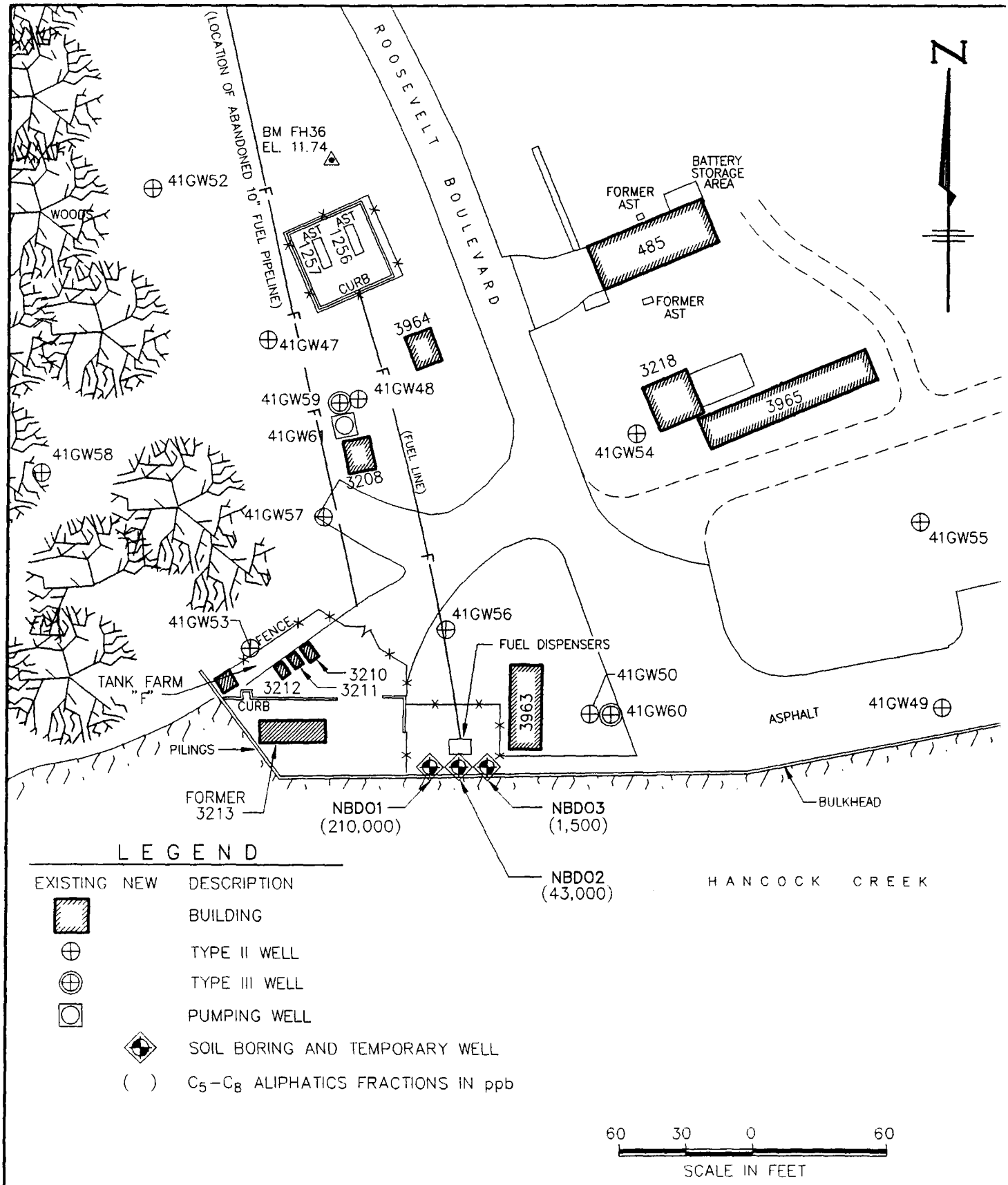
PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.

TITLE: GROUND WATER – NAPHTHALENE DATA AS OF 6/30/99

FIGURE 8

JOB NO: 99138AD | DATE: SEPT 99 | SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST

9138AD28



LEGEND

EXISTING	NEW	DESCRIPTION
▭		BUILDING
⊕		TYPE II WELL
⊕		TYPE III WELL
◎		PUMPING WELL
◈		SOIL BORING AND TEMPORARY WELL
( )		C_5-C_8 ALIPHATICS FRACTIONS IN ppb

60 30 0 60

SCALE IN FEET

NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

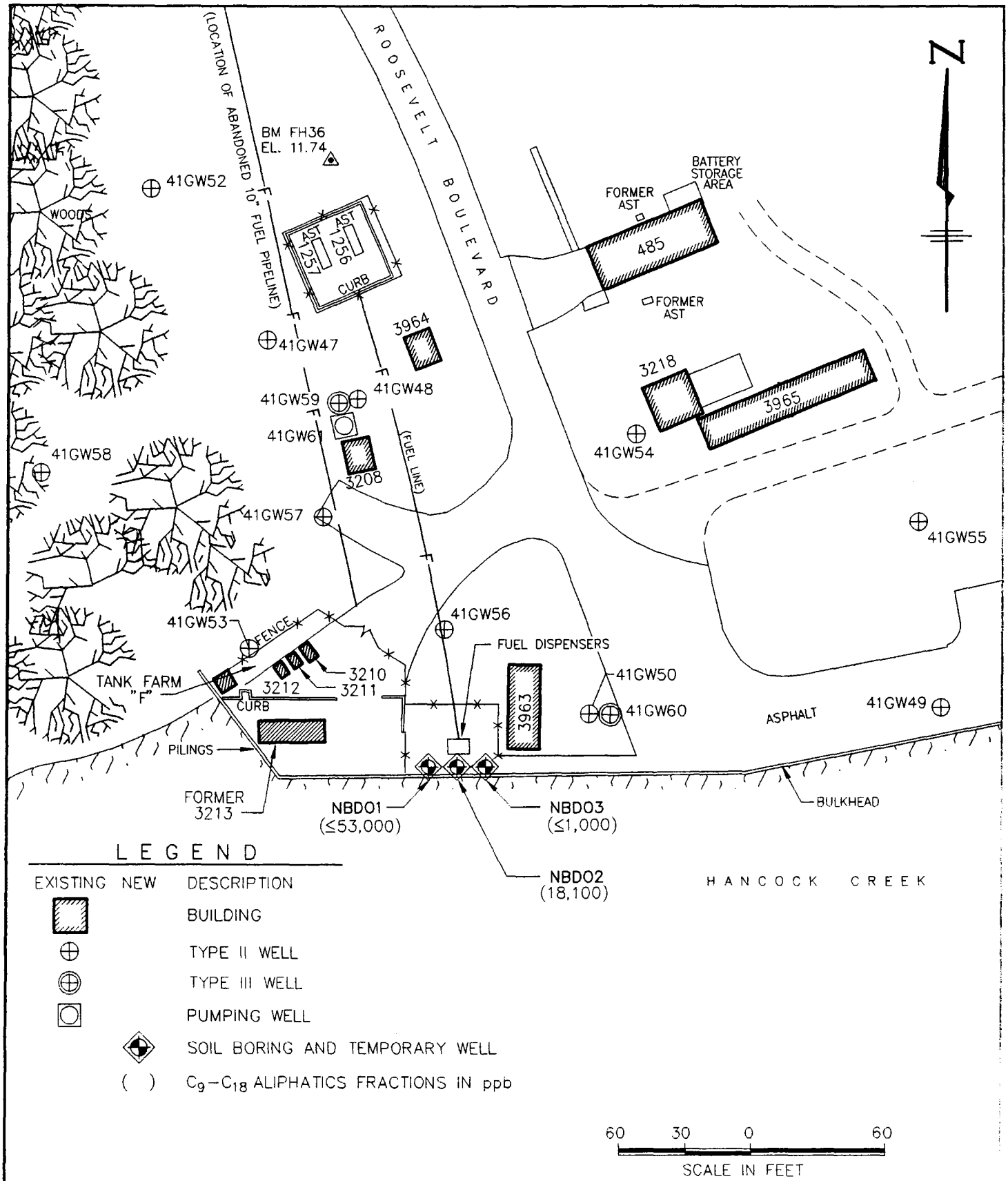
PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.

TITLE: GROUND WATER – C_5-C_8 ALIPHATICS AS OF 6/30/99

FIGURE 9

JOB NO: 99138AD | DATE: SEPT 99 | SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST

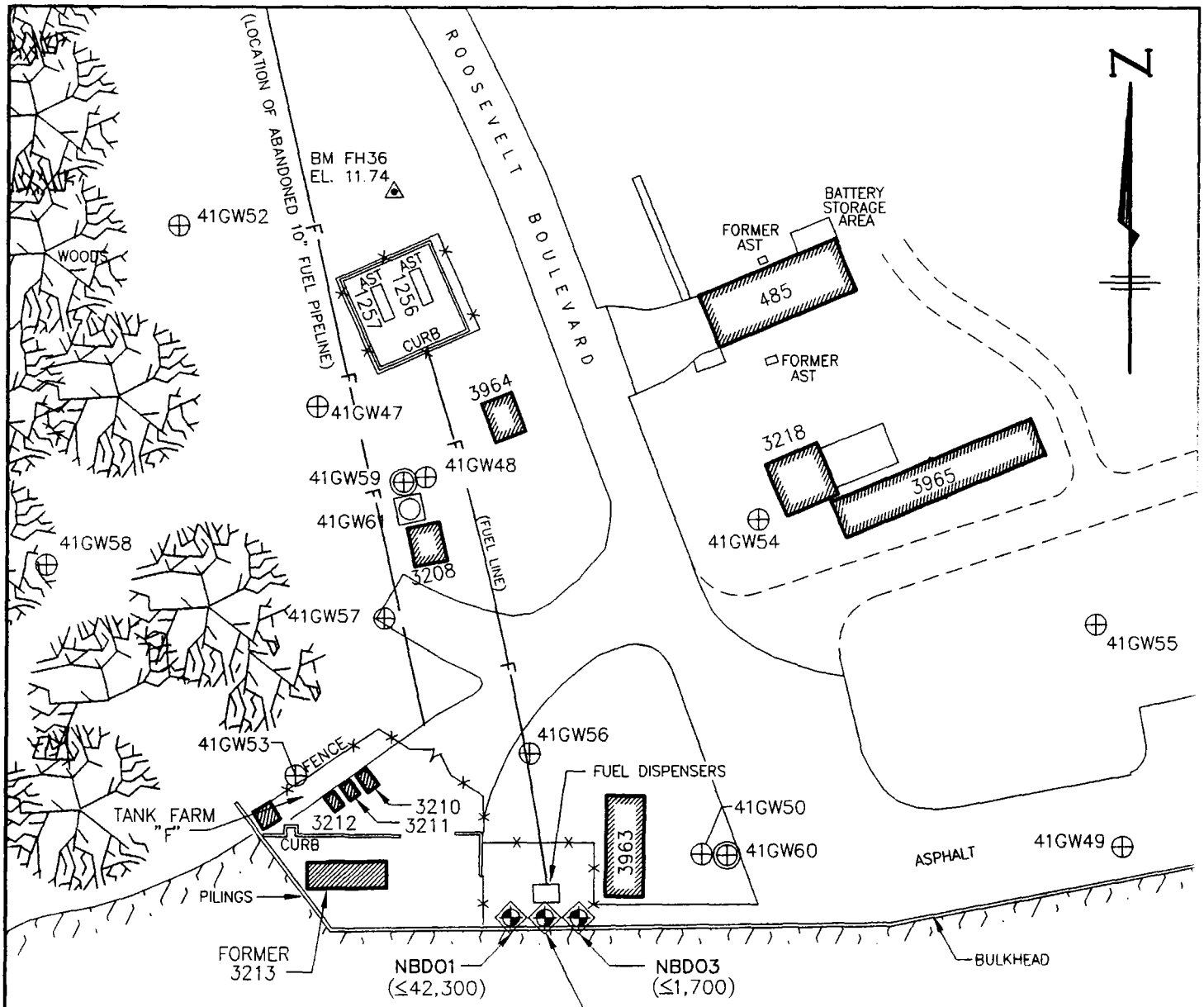
99138AD29



NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CATLIN ENGINEERS and SCIENTISTS, WILMINGTON, NORTH CAROLINA	PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.	TITLE: GROUND WATER – C_9-C_{18} ALIPHATICS AS OF 6/30/99	FIGURE 10
	JOB NO: 99138AD | DATE: SEPT 99	SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST	

9138AD30



LEGEND

EXISTING	NEW	DESCRIPTION
▭		BUILDING
⊕		TYPE II WELL
⊕		TYPE III WELL
▣		PUMPING WELL
	◈	SOIL BORING AND TEMPORARY WELL
( )		C_9-C_{32} AROMATICS FRACTIONS IN ppb

60 30 0 60

SCALE IN FEET

NOTE: SITE FACILITY MAP FURNISHED BY CHERRY POINT FACILITIES ENGINEERING OFFICE.

CATLIN ENGINEERS and SCIENTISTS
WILMINGTON, NORTH CAROLINA

PROJECT: MCAS PETROLEUM INVESTIGATIONS NAVY BOAT DOCK CHERRY POINT, N.C.

TITLE: GROUND WATER – C_9-C_{32} AROMATICS AS OF 6/30/99

FIGURE 11

JOB NO: 99138AD | DATE: SEPT 99 | SCALE: 1"=60' | DRAWN BY: JCR | CHECKED BY: ST

9138AD31

APPENDICES

APPENDIX A

BORING LOGS

BORING LOG

BORING NUMBER NBD01
TOTAL DEPTH 10.0'

SITE LOCATION Navy Boat Dock
MCAS Cherry Point, North Carolina

DRILLED BY B. Miller
LOGGED BY S. Tyler

DRILLING DATE 6/30/99

SAMPLE DEPTH (FT.)		SAMPLE DESCRIPTION	USCS	WATER CONTENT	ODOR	PID/ FID PPM	BLOW COUNT
0	0.5	Concrete.					
0.5	1.0	Loose Crushed Stone.					
1.0	10.0	Tan/olive fine to medium grained SAND, well sorted, high permeability, few shell fragments/pebbles.	SP	Wet @ 5.5'	Strong 1'-5.5'	--	--
		Laboratory I.D. Sample Depth NBD011-2 1.5' - 2.0' NBD015-6 5.0' - 5.5'					

REMARKS Depth to Water Table = 5.35' BLS

BORING LOG

BORING NUMBER NBD02
TOTAL DEPTH 6.5'

SITE LOCATION Navy Boat Dock
MCAS Cherry Point, North Carolina

DRILLED BY B. Miller
LOGGED BY S. Tyler

DRILLING DATE 6/30/99

SAMPLE DEPTH (FT.)		SAMPLE DESCRIPTION	USCS	WATER CONTENT	ODOR	PID/ FID PPM	BLOW COUNT
0	0.5	Concrete.					
0.5	1.0	Loose Crushed Stone.					
1.0	6.5	Tan/olive fine to medium grained SAND, well sorted, high permeability, few shell fragments.	SP	Wet @ 5.5'	Strong 1'-5.5'	--	--
		Laboratory I.D. Sample Depth NBD021-2 1.5' - 2.0' NBD024-5 4.5' - 5.5'					

REMARKS Depth to Water Table = 5.37' BLS

PAGE 1 OF 1

BORING LOG

BORING NUMBER NBD03
TOTAL DEPTH 7.0'

SITE LOCATION Navy Boat Dock
MCAS Cherry Point, North Carolina

DRILLED BY B. Miller
LOGGED BY S. Tyler

DRILLING DATE 6/30/99

SAMPLE DEPTH (FT.)		SAMPLE DESCRIPTION	USCS	WATER CONTENT	ODOR	PID/ FID PPM	BLOW COUNT
0	0.5	Concrete.					
0.5	1.0	Loose Crushed Stone.					
1.0	7.0	Tan/olive fine to medium grained SAND, well sorted, high permeability, few shell fragments.	SP	Wet @ 5.5'	No	--	--
		Laboratory I.D. Sample Depth NBD031-2 1.5' - 2.0' NBD034-6 4.0' - 4.5'					

REMARKS Depth to Water Table = 5.15' BLS

PAGE 1 OF 1

APPENDIX B

LABORATORY ANALYTICAL RESULTS

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

Mr. Gary McSmith
Richard Catlin & Assoc. Inc.
P.O. BOX 10279
Wilmington, NC 28405

Date 07-24-99

Report Number: G128-471

Project ID: 99138-F

Dear Mr. McSmith:

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 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 service projects. We look forward to working with you again on any additional needs which you may have.

Sincerely,

Paradigm Analytical Laboratories

Laboratory Director
Mark Randall

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 8260B

Client Sample ID: NBD011-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67249
Lab Project ID: G128-471
Matrix: Soil %Solids: 93.8

Date Analyzed: 7/12/99
Analyzed By: CKC
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution. 20000

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acetone	530000	BQL
Acrolein	2100000	BQL
Acrylonitrile	2100000	BQL
Benzene	21000	BQL
Bromobenzene	21000	BQL
Bromochloromethane	21000	BQL
Bromodichloromethane	21000	BQL
Bromoform	21000	BQL
Bromomethane	21000	BQL
2-Butanone	530000	BQL
n-Butylbenzene	21000	BQL
sec-Butylbenzene	21000	BQL
tert-Butylbenzene	21000	BQL
Carbon disulfide	21000	BQL
Carbon tetrachloride	21000	BQL
Chlorobenzene	21000	BQL
Chloroethane	21000	BQL
2-Chloroethyl vinyl ether	110000	BQL
Chloroform	21000	BQL
Chloromethane	21000	BQL
2-Chlorotoluene	21000	BQL
4-Chlorotoluene	21000	BQL
Dibromochloromethane	21000	BQL
1,2-Dibromo-3-chloropropane	110000	BQL
Dibromomethane	21000	BQL
1,2-Dibromoethane (EDB)	21000	BQL
1,2-Dichlorobenzene	21000	BQL
1,3-Dichlorobenzene	21000	BQL
1,4-Dichlorobenzene	21000	BQL
trans-1,4-Dichloro-2-butene	110000	BQL
1,1-Dichloroethane	21000	BQL
1,1-Dichloroethene	21000	BQL
1,2-Dichloroethane	21000	BQL
cis-1,2-Dichloroethene	21000	BQL
trans-1,2-dichloroethene	21000	BQL
1,2-Dichloropropane	21000	BQL
1,3-Dichloropropane	21000	BQL
2,2-Dichloropropane	21000	BQL
1,1-Dichloropropene	21000	BQL
cis-1,3-Dichloropropene	21000	BQL
trans-1,3-Dichloropropene	21000	BQL
Dichlorodifluoromethane	110000	BQL
Diisopropyl ether (DIPE)	21000	BQL
Ethylbenzene	21000	**82000**
Hexachlorobutadiene	21000	BQL
2-Hexanone	110000	BQL
Iodomethane	21000	BQL
Isopropylbenzene	21000	BQL

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: NBD011-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67249
Lab Project ID: G128-471
Matrix: Soil %Solids: 93.8

Date Analyzed: 7/12/99
Analyzed By: CKC
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 20000

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
4-Isopropyltoluene	21000	BQL
Methylene chloride	110000	BQL
4-Methyl-2-pentanone	110000	BQL
Methyl-tert-butyl ether (MTBE)	21000	**40000**
Naphthalene	21000	**27000**
n-Propyl benzene	21000	**43000**
Styrene	21000	BQL
1,1,1,2-Tetrachloroethane	21000	BQL
1,1,2,2-Tetrachloroethane	21000	BQL
Tetrachloroethene	21000	BQL
Toluene	21000	**210000**
1,2,3-Trichlorobenzene	21000	BQL
1,2,4-Trichlorobenzene	21000	BQL
Trichloroethene	21000	BQL
1,1,1-Trichloroethane	21000	BQL
1,1,2-Trichloroethane	21000	BQL
Trichlorofluoromethane	21000	BQL
1,2,3-Trichloropropane	21000	BQL
1,2,4-Trimethylbenzene	21000	**260000**
1,3,5-Trimethylbenzene	21000	**75000**
Vinyl chloride	21000	BQL
m-,p-Xylene	43000	**320000**
o-Xylene	21000	**140000**

Surrogate Spike Recoveries Compound	Spike Added (ug/KG)	Surrogate Result (ug/KG)	%Rec
Bromofluorobenzene	10	9.5	95
1,2-Dichloroethane-d4	10	9.8	98
Toluene-d8	10	10.0	100

Comments:
All results are corrected for dilution.

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 8260B

Client Sample ID: NBD015-6
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67250
Lab Project ID: G128-471
Matrix: Soil %Solids: 88.4

Date Analyzed: 7/12/99
Analyzed By: CKC
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 20000

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acetone	570000	BQL
Acrolein	2300000	BQL
Acrylonitrile	2300000	BQL
Benzene	23000	BQL
Bromobenzene	23000	BQL
Bromochloromethane	23000	BQL
Bromodichloromethane	23000	BQL
Bromoform	23000	BQL
Bromomethane	23000	BQL
2-Butanone	570000	BQL
n-Butylbenzene	23000	BQL
sec-Butylbenzene	23000	BQL
tert-Butylbenzene	23000	BQL
Carbon disulfide	23000	BQL
Carbon tetrachloride	23000	BQL
Chlorobenzene	23000	BQL
Chloroethane	23000	BQL
2-Chloroethyl vinyl ether	110000	BQL
Chloroform	23000	BQL
Chloromethane	23000	BQL
2-Chlorotoluene	23000	BQL
4-Chlorotoluene	23000	BQL
Dibromochloromethane	23000	BQL
1,2-Dibromo-3-chloropropane	110000	BQL
Dibromomethane	23000	BQL
1,2-Dibromoethane (EDB)	23000	BQL
1,2-Dichlorobenzene	23000	BQL
1,3-Dichlorobenzene	23000	BQL
1,4-Dichlorobenzene	23000	BQL
trans-1,4-Dichloro-2-butene	110000	BQL
1,1-Dichloroethane	23000	BQL
1,1-Dichloroethene	23000	BQL
1,2-Dichloroethane	23000	BQL
cis-1,2-Dichloroethene	23000	BQL
trans-1,2-dichloroethene	23000	BQL
1,2-Dichloropropane	23000	BQL
1,3-Dichloropropane	23000	BQL
2,2-Dichloropropane	23000	BQL
1,1-Dichloropropene	23000	BQL
cis-1,3-Dichloropropene	23000	BQL
trans-1,3-Dichloropropene	23000	BQL
Dichlorodifluoromethane	110000	BQL
Diisopropyl ether (DIPE)	23000	BQL
Ethylbenzene	23000	**80000**
Hexachlorobutadiene	23000	BQL
2-Hexanone	110000	BQL
Iodomethane	23000	BQL
Isopropylbenzene	23000	BQL

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 8260B

Client Sample ID: NBD015-6
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67250
Lab Project ID: G128-471
Matrix: Soil %Solids: 88.4

Date Analyzed: 7/12/99
Analyzed By: CKC
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 20000

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
4-Isopropyltoluene	23000	BQL
Methylene chloride	110000	BQL
4-Methyl-2-pentanone	110000	BQL
Methyl-tert-butyl ether (MTBE)	23000	BQL
Naphthalene	23000	**35000**
n-Propyl benzene	23000	**43000**
Styrene	23000	BQL
1,1,1,2-Tetrachloroethane	23000	BQL
1,1,2,2-Tetrachloroethane	23000	BQL
Tetrachloroethene	23000	BQL
Toluene	23000	**220000**
1,2,3-Trichlorobenzene	23000	BQL
1,2,4-Trichlorobenzene	23000	BQL
Trichloroethene	23000	BQL
1,1,1-Trichloroethane	23000	BQL
1,1,2-Trichloroethane	23000	BQL
Trichlorofluoromethane	23000	BQL
1,2,3-Trichloropropane	23000	BQL
1,2,4-Trimethylbenzene	23000	**430000**
1,3,5-Trimethylbenzene	23000	**130000**
Vinyl chloride	23000	BQL
m-,p-Xylene	45000	**410000**
o-Xylene	23000	**210000**

Surrogate Spike Recoveries Compound	Spike Added (ug/KG)	Surrogate Result (ug/KG)	%Rec
Bromofluorobenzene	10	8.3	83
1,2-Dichloroethane-d4	10	9.6	96
Toluene-d8	10	9.9	99

Comments:

All results are corrected for dilution.

Reviewed by: _____

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: NBD021-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67251
Lab Project ID: G128-471
Matrix: Soil %Solids: 91.9

Date Analyzed: 7/12/99
Analyzed By: CKC
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 40000

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acetone	1100000	BQL
Acrolein	4400000	BQL
Acrylonitrile	4400000	BQL
Benzene	44000	BQL
Bromobenzene	44000	BQL
Bromochloromethane	44000	BQL
Bromodichloromethane	44000	BQL
Bromoform	44000	BQL
Bromomethane	44000	BQL
2-Butanone	1100000	BQL
n-Butylbenzene	44000	BQL
sec-Butylbenzene	44000	BQL
tert-Butylbenzene	44000	BQL
Carbon disulfide	44000	BQL
Carbon tetrachloride	44000	BQL
Chlorobenzene	44000	BQL
Chloroethane	44000	BQL
2-Chloroethyl vinyl ether	220000	BQL
Chloroform	44000	BQL
Chloromethane	44000	BQL
2-Chlorotoluene	44000	BQL
4-Chlorotoluene	44000	BQL
Dibromochloromethane	44000	BQL
1,2-Dibromo-3-chloropropane	220000	BQL
Dibromomethane	44000	BQL
1,2-Dibromoethane (EDB)	44000	BQL
1,2-Dichlorobenzene	44000	BQL
1,3-Dichlorobenzene	44000	BQL
1,4-Dichlorobenzene	44000	BQL
trans-1,4-Dichloro-2-butene	220000	BQL
1,1-Dichloroethane	44000	BQL
1,1-Dichloroethene	44000	BQL
1,2-Dichloroethane	44000	BQL
cis-1,2-Dichloroethene	44000	BQL
trans-1,2-dichloroethene	44000	BQL
1,2-Dichloropropane	44000	BQL
1,3-Dichloropropane	44000	BQL
2,2-Dichloropropane	44000	BQL
1,1-Dichloropropene	44000	BQL
cis-1,3-Dichloropropene	44000	BQL
trans-1,3-Dichloropropene	44000	BQL
Dichlorodifluoromethane	220000	BQL
Diisopropyl ether (DIPE)	44000	BQL
Ethylbenzene	44000	**110000**
Hexachlorobutadiene	44000	BQL
2-Hexanone	220000	BQL
Iodomethane	44000	BQL
Isopropylbenzene	44000	BQL

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 8260B

Client Sample ID: NBD021-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67251
Lab Project ID: G128-471
Matrix: Soil %Solids: 91.9

Date Analyzed: 7/12/99
Analyzed By: CKC
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 40000

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
4-Isopropyltoluene	44000	BQL
Methylene chloride	220000	BQL
4-Methyl-2-pentanone	220000	BQL
Methyl-tert-butyl ether (MTBE)	44000	BQL
Naphthalene	44000	**68000**
n-Propyl benzene	44000	**68000**
Styrene	44000	BQL
1,1,1,2-Tetrachloroethane	44000	BQL
1,1,2,2-Tetrachloroethane	44000	BQL
Tetrachloroethene	44000	BQL
Toluene	44000	**300000**
1,2,3-Trichlorobenzene	44000	BQL
1,2,4-Trichlorobenzene	44000	BQL
Trichloroethene	44000	BQL
1,1,1-Trichloroethane	44000	BQL
1,1,2-Trichloroethane	44000	BQL
Trichlorofluoromethane	44000	BQL
1,2,3-Trichloropropane	44000	BQL
1,2,4-Trimethylbenzene	44000	**600000**
1,3,5-Trimethylbenzene	44000	**180000**
Vinyl chloride	44000	BQL
m-,p-Xylene	87000	**660000**
o-Xylene	44000	**310000**

Surrogate Spike Recoveries Compound	Spike Added (ug/KG)	Surrogate Result (ug/KG)	%Rec
Bromofluorobenzene	10	9.8	98
1,2-Dichloroethane-d4	10	9.5	95
Toluene-d8	10	10.0	100

Comments:

All results are corrected for dilution.

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID:	NBD024-5	Date Analyzed:	7/12/99
Client Project ID:	MCAS Navy Boat Dock	Analyzed By:	CKC
Lab Sample ID:	67252	Date Collected:	6/30/99
Lab Project ID:	G128-471	Date Received:	7/1/99
Matrix:	Soil %Solids: 89.5	Dilution:	20000

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acetone	560000	BQL
Acrolein	2200000	BQL
Acrylonitrile	2200000	BQL
Benzene	22000	**110000**
Bromobenzene	22000	BQL
Bromochloromethane	22000	BQL
Bromodichloromethane	22000	BQL
Bromoform	22000	BQL
Bromomethane	22000	BQL
2-Butanone	560000	BQL
n-Butylbenzene	22000	BQL
sec-Butylbenzene	22000	BQL
tert-Butylbenzene	22000	BQL
Carbon disulfide	22000	BQL
Carbon tetrachloride	22000	BQL
Chlorobenzene	22000	BQL
Chloroethane	22000	BQL
2-Chloroethyl vinyl ether	110000	BQL
Chloroform	22000	BQL
Chloromethane	22000	BQL
2-Chlorotoluene	22000	BQL
4-Chlorotoluene	22000	BQL
Dibromochloromethane	22000	BQL
1,2-Dibromo-3-chloropropane	110000	BQL
Dibromomethane	22000	BQL
1,2-Dibromoethane (EDB)	22000	BQL
1,2-Dichlorobenzene	22000	BQL
1,3-Dichlorobenzene	22000	BQL
1,4-Dichlorobenzene	22000	BQL
trans-1,4-Dichloro-2-butene	110000	BQL
1,1-Dichloroethane	22000	BQL
1,1-Dichloroethene	22000	BQL
1,2-Dichloroethane	22000	BQL
cis-1,2-Dichloroethene	22000	BQL
trans-1,2-dichloroethene	22000	BQL
1,2-Dichloropropane	22000	BQL
1,3-Dichloropropane	22000	BQL
2,2-Dichloropropane	22000	BQL
1,1-Dichloropropene	22000	BQL
cis-1,3-Dichloropropene	22000	BQL
trans-1,3-Dichloropropene	22000	BQL
Dichlorodifluoromethane	110000	BQL
Diisopropyl ether (DIPE)	22000	BQL
Ethylbenzene	22000	**160000**
Hexachlorobutadiene	22000	BQL
2-Hexanone	110000	BQL
Iodomethane	22000	BQL
Isopropylbenzene	22000	**23000**

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: NBD024-5
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67252
Lab Project ID: G128-471
Matrix: Soil %Solids: 89.5

Date Analyzed: 7/12/99
Analyzed By: CKC
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 20000

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
4-Isopropyltoluene	22000	BQL
Methylene chloride	110000	BQL
4-Methyl-2-pentanone	110000	BQL
Methyl-tert-butyl ether (MTBE)	22000	**30000**
Naphthalene	22000	**53000**
n-Propyl benzene	22000	**70000**
Styrene	22000	BQL
1,1,1,2-Tetrachloroethane	22000	BQL
1,1,2,2-Tetrachloroethane	22000	BQL
Tetrachloroethene	22000	BQL
Toluene	22000	**260000**
1,2,3-Trichlorobenzene	22000	BQL
1,2,4-Trichlorobenzene	22000	BQL
Trichloroethene	22000	BQL
1,1,1-Trichloroethane	22000	BQL
1,1,2-Trichloroethane	22000	BQL
Trichlorofluoromethane	22000	BQL
1,2,3-Trichloropropane	22000	BQL
1,2,4-Trimethylbenzene	22000	**350000**
1,3,5-Trimethylbenzene	22000	**100000**
Vinyl chloride	22000	BQL
m-,p-Xylene	45000	**560000**
o-Xylene	22000	**230000**

Surrogate Spike Recoveries Compound	Spike Added (ug/KG)	Surrogate Result (ug/KG)	%Rec
Bromofluorobenzene	10	9.1	91
1,2-Dichloroethane-d4	10	9.4	94
Toluene-d8	10	10.0	100

Comments:
All results are corrected for dilution.

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles
by GCMS 8260B

Client Sample ID: NBD031-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67253
Lab Project ID: G128-471
Matrix: Soil %Solids: 96.2

Date Analyzed: 7/7/99
Analyzed By: RNP
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 1

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acetone	52	BQL
Acrolein	100	BQL
Acrylonitrile	100	BQL
Benzene	5.2	BQL
Bromobenzene	5.2	BQL
Bromochloromethane	5.2	BQL
Bromodichloromethane	5.2	BQL
Bromoform	5.2	BQL
Bromomethane	5.2	BQL
2-Butanone	26	BQL
n-Butylbenzene	5.2	BQL
sec-Butylbenzene	5.2	BQL
tert-Butylbenzene	5.2	BQL
Carbon disulfide	5.2	BQL
Carbon tetrachloride	5.2	BQL
Chlorobenzene	5.2	BQL
Chloroethane	5.2	BQL
2-Chloroethyl vinyl ether	5.2	BQL
Chloroform	5.2	BQL
Chloromethane	5.2	BQL
2-Chlorotoluene	5.2	BQL
4-Chlorotoluene	5.2	BQL
Dibromochloromethane	5.2	BQL
1,2-Dibromo-3-chloropropane	5.2	BQL
Dibromomethane	5.2	BQL
1,2-Dibromoethane (EDB)	5.2	BQL
1,2-Dichlorobenzene	5.2	BQL
1,3-Dichlorobenzene	5.2	BQL
1,4-Dichlorobenzene	5.2	BQL
trans-1,4-Dichloro-2-butene	5.2	BQL
1,1-Dichloroethane	5.2	BQL
1,1-Dichloroethene	5.2	BQL
1,2-Dichloroethane	5.2	BQL
cis-1,2-Dichloroethene	5.2	BQL
trans-1,2-dichloroethene	5.2	BQL
1,2-Dichloropropane	5.2	BQL
1,3-Dichloropropane	5.2	BQL
2,2-Dichloropropane	5.2	BQL
1,1-Dichloropropene	5.2	BQL
cis-1,3-Dichloropropene	5.2	BQL
trans-1,3-Dichloropropene	5.2	BQL
Dichlorodifluoromethane	5.2	BQL
Diisopropyl ether (DIPE)	5.2	BQL
Ethylbenzene	5.2	BQL
Hexachlorobutadiene	5.2	BQL
2-Hexanone	5.2	BQL
Iodomethane	5.2	BQL
Isopropylbenzene	5.2	BQL

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 8260B

Client Sample ID: NBD031-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67253
Lab Project ID: G128-471
Matrix: Soil %Solids: 96.2

Date Analyzed: 7/7/99
Analyzed By: RNP
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 1

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
4-Isopropyltoluene	5.2	BQL
Methylene chloride	21	BQL
4-Methyl-2-pentanone	5.2	BQL
Methyl-tert-butyl ether (MTBE)	5.2	BQL
Naphthalene	5.2	BQL
n-Propyl benzene	5.2	BQL
Styrene	5.2	BQL
1,1,1,2-Tetrachloroethane	5.2	BQL
1,1,2,2-Tetrachloroethane	5.2	BQL
Tetrachloroethene	5.2	BQL
Toluene	5.2	BQL
1,2,3-Trichlorobenzene	5.2	BQL
1,2,4-Trichlorobenzene	5.2	BQL
Trichloroethene	5.2	BQL
1,1,1-Trichloroethane	5.2	BQL
1,1,2-Trichloroethane	5.2	BQL
Trichlorofluoromethane	5.2	BQL
1,2,3-Trichloropropane	5.2	BQL
1,2,4-Trimethylbenzene	5.2	BQL
1,3,5-Trimethylbenzene	5.2	BQL
Vinyl chloride	5.2	BQL
m-,p-Xylene	10	BQL
o-Xylene	5.2	BQL

Surrogate Spike Recoveries Compound	Spike Added (ug/KG)	Surrogate Result (ug/KG)	%Rec
Bromofluorobenzene	50	49.2	98
1,2-Dichloroethane-d4	50	53.9	108
Toluene-d8	50	51.0	102

Comments:

All results are corrected for dilution.

Reviewed by:

Flags: BQL = Below Quantitation Limit

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GCMS 8260B

Client Sample ID: NBD034-5
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67254
Lab Project ID: G128-471
Matrix: Soil %Solids: 88.3

Date Analyzed: 7/7/99
Analyzed By: RNP
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 1

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acetone	57	BQL
Acrolein	110	BQL
Acrylonitrile	110	BQL
Benzene	5.7	BQL
Bromobenzene	5.7	BQL
Bromochloromethane	5.7	BQL
Bromodichloromethane	5.7	BQL
Bromoform	5.7	BQL
Bromomethane	5.7	BQL
2-Butanone	28	BQL
n-Butylbenzene	5.7	BQL
sec-Butylbenzene	5.7	BQL
tert-Butylbenzene	5.7	BQL
Carbon disulfide	5.7	BQL
Carbon tetrachloride	5.7	BQL
Chlorobenzene	5.7	BQL
Chloroethane	5.7	BQL
2-Chloroethyl vinyl ether	5.7	BQL
Chloroform	5.7	BQL
Chloromethane	5.7	BQL
2-Chlorotoluene	5.7	BQL
4-Chlorotoluene	5.7	BQL
Dibromochloromethane	5.7	BQL
1,2-Dibromo-3-chloropropane	5.7	BQL
Dibromomethane	5.7	BQL
1,2-Dibromoethane (EDB)	5.7	BQL
1,2-Dichlorobenzene	5.7	BQL
1,3-Dichlorobenzene	5.7	BQL
1,4-Dichlorobenzene	5.7	BQL
trans-1,4-Dichloro-2-butene	5.7	BQL
1,1-Dichloroethane	5.7	BQL
1,1-Dichloroethene	5.7	BQL
1,2-Dichloroethane	5.7	BQL
cis-1,2-Dichloroethene	5.7	BQL
trans-1,2-dichloroethene	5.7	BQL
1,2-Dichloropropane	5.7	BQL
1,3-Dichloropropane	5.7	BQL
2,2-Dichloropropane	5.7	BQL
1,1-Dichloropropene	5.7	BQL
cis-1,3-Dichloropropene	5.7	BQL
trans-1,3-Dichloropropene	5.7	BQL
Dichlorodifluoromethane	5.7	BQL
Diisopropyl ether (DIPE)	5.7	BQL
Ethylbenzene	5.7	BQL
Hexachlorobutadiene	5.7	BQL
2-Hexanone	5.7	BQL
Iodomethane	5.7	BQL
Isopropylbenzene	5.7	BQL

Reviewed by:

Flags: BQL = Below Quantitation Limit

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD011-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67249
Lab Project ID: G128-471
Matrix: Soil %Solids: 93.8

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/12/99
Dilution: 2

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acenaphthene	640	BQL
Acenaphthylene	640	BQL
Anthracene	640	BQL
Benzo[a]anthracene	640	BQL
Benzo[a]pyrene	640	BQL
Benzo[b]fluoranthene	640	BQL
Benzo[g,h,i]perylene	640	BQL
Benzo[k]fluoranthene	640	BQL
Benzoic Acid	1300	BQL
Bis(2-chloroethoxy)methane	640	BQL
Bis(2-chloroethyl)ether	640	BQL
Bis(2-chloroisopropyl)ether	640	BQL
Bis(2-ethylhexyl)phthalate	640	BQL
4-bromophenyl phenyl ether	640	BQL
Butylbenzylphthalate	640	BQL
4-Chloroaniline	640	**2700**
4-Chloro-3-methylphenol	640	BQL
2-Chloronaphthalene	640	BQL
2-Chlorophenol	640	BQL
4-Chlorophenyl phenyl ether	640	BQL
Chrysene	640	BQL
Di-n-Butylphthalate	640	BQL
Di-n-octylphthalate	640	BQL
Dibenzo[a,h]anthracene	640	BQL
Dibenzofuran	640	BQL
1,2-Dichlorobenzene	640	BQL
1,3-Dichlorobenzene	640	BQL
1,4-Dichlorobenzene	640	BQL
3,3'-Dichlorobenzidine	1300	BQL
2,4-Dichlorophenol	640	BQL
Diethylphthalate	640	BQL
2,4-Dimethylphenol	640	BQL
Dimethylphthalate	640	BQL
4,6-Dinitro-2-methylphenol	3200	BQL
2,4-Dinitrophenol	3200	BQL
2,4-Dinitrotoluene	640	BQL
2,6-Dinitrotoluene	640	BQL
Fluoranthene	640	BQL
Fluorene	640	BQL
Hexachlorobenzene	640	BQL

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD011-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67249
Lab Project ID: G128-471
Matrix: Soil %Solids: 93.8

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/12/99
Dilution: 2

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Hexachlorobutadiene	640	BQL
Hexachlorocyclopentadiene	1300	BQL
Hexachloroethane	640	BQL
Indeno(1,2,3-c,d)pyrene	640	BQL
Isophorone	640	BQL
2-Methylnaphthalene	640	**31000**
2-Methylphenol	640	BQL
4-Methylphenol	640	BQL
N-Nitrosodi-n-propylamine	640	BQL
N-Nitrosodiphenylamine	640	BQL
Naphthalene	640	**29000**
2-Nitroaniline	640	BQL
3-Nitroaniline	640	BQL
4-Nitroaniline	640	BQL
Nitrobenzene	640	BQL
2-Nitrophenol	640	BQL
4-Nitrophenol	3200	BQL
Pentachlorophenol	3200	BQL
Phenanthrene	640	**990**
Phenol	640	BQL
Pyrene	640	BQL
1,2,4-Trichlorobenzene	640	BQL
2,4,5-Trichlorophenol	640	BQL
2,4,6-Trichlorophenol	640	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2,4,6-Tribromophenol	10	8.9	89
2-Fluorobiphenyl	10	9.6	96
2-Fluorophenol	10	9.5	95
4-Terphenyl-d14	10	10.7	107
Nitrobenzene-d5	10	13.6	136
Phenol-d6	10	7.9	79

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD015-6
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67250
Lab Project ID: G128-471
Matrix: Soil %Solids: 88.4

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/13/99
Dilution: 5

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acenaphthene	1600	BQL
Acenaphthylene	1600	BQL
Anthracene	1600	BQL
Benzo[a]anthracene	1600	BQL
Benzo[a]pyrene	1600	BQL
Benzo[b]fluoranthene	1600	BQL
Benzo[g,h,i]perylene	1600	BQL
Benzo[k]fluoranthene	1600	BQL
Benzoic Acid	3100	BQL
Bis(2-chloroethoxy)methane	1600	BQL
Bis(2-chloroethyl)ether	1600	BQL
Bis(2-chloroisopropyl)ether	1600	BQL
Bis(2-ethylhexyl)phthalate	1600	BQL
4-bromophenyl phenyl ether	1600	BQL
Butylbenzylphthalate	1600	BQL
4-Chloroaniline	1600	BQL
4-Chloro-3-methylphenol	1600	BQL
2-Chloronaphthalene	1600	BQL
2-Chlorophenol	1600	BQL
4-Chlorophenyl phenyl ether	1600	BQL
Chrysene	1600	BQL
Di-n-Butylphthalate	1600	BQL
Di-n-octylphthalate	1600	BQL
Dibenzo[a,h]anthracene	1600	BQL
Dibenzofuran	1600	BQL
1,2-Dichlorobenzene	1600	BQL
1,3-Dichlorobenzene	1600	BQL
1,4-Dichlorobenzene	1600	BQL
3,3'-Dichlorobenzidine	3100	BQL
2,4-Dichlorophenol	1600	BQL
Diethylphthalate	1600	BQL
2,4-Dimethylphenol	1600	BQL
Dimethylphthalate	1600	BQL
4,6-Dinitro-2-methylphenol	7800	BQL
2,4-Dinitrophenol	7800	BQL
2,4-Dinitrotoluene	1600	BQL
2,6-Dinitrotoluene	1600	BQL
Fluoranthene	1600	BQL
Fluorene	1600	BQL
Hexachlorobenzene	1600	BQL

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD015-6
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67250
Lab Project ID: G128-471
Matrix: Soil %Solids: 88.4

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/13/99
Dilution: 5

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Hexachlorobutadiene	1600	BQL
Hexachlorocyclopentadiene	3100	BQL
Hexachloroethane	1600	BQL
Indeno(1,2,3-c,d)pyrene	1600	BQL
Isophorone	1600	BQL
2-Methylnaphthalene	1600	**51000**
2-Methylphenol	1600	BQL
4-Methylphenol	1600	BQL
N-Nitrosodi-n-propylamine	1600	BQL
N-Nitrosodiphenylamine	1600	BQL
Naphthalene	1600	**59000**
2-Nitroaniline	1600	BQL
3-Nitroaniline	1600	BQL
4-Nitroaniline	1600	BQL
Nitrobenzene	1600	BQL
2-Nitrophenol	1600	BQL
4-Nitrophenol	7800	BQL
Pentachlorophenol	7800	BQL
Phenanthrene	1600	BQL
Phenol	1600	BQL
Pyrene	1600	BQL
1,2,4-Trichlorobenzene	1600	BQL
2,4,5-Trichlorophenol	1600	BQL
2,4,6-Trichlorophenol	1600	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2,4,6-Tribromophenol	10	6.4	64
2-Fluorobiphenyl	10	10	100
2-Fluorophenol	10	9.8	98
4-Terphenyl-d14	10	10.1	101
Nitrobenzene-d5	10	10.3	103
Phenol-d6	10	8.1	81

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD021-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67251
Lab Project ID: G128-471
Matrix: Soil %Solids: 91.9

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/13/99
Dilution: 5

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acenaphthene	1600	BQL
Acenaphthylene	1600	BQL
Anthracene	1600	BQL
Benzo[a]anthracene	1600	BQL
Benzo[a]pyrene	1600	BQL
Benzo[b]fluoranthene	1600	BQL
Benzo[g,h,i]perylene	1600	BQL
Benzo[k]fluoranthene	1600	BQL
Benzoic Acid	3200	BQL
Bis(2-chloroethoxy)methane	1600	BQL
Bis(2-chloroethyl)ether	1600	BQL
Bis(2-chloroisopropyl)ether	1600	BQL
Bis(2-ethylhexyl)phthalate	1600	BQL
4-bromophenyl phenyl ether	1600	BQL
Butylbenzylphthalate	1600	BQL
4-Chloroaniline	1600	BQL
4-Chloro-3-methylphenol	1600	BQL
2-Chloronaphthalene	1600	BQL
2-Chlorophenol	1600	BQL
4-Chlorophenyl phenyl ether	1600	BQL
Chrysene	1600	BQL
Di-n-Butylphthalate	1600	BQL
Di-n-octylphthalate	1600	BQL
Dibenzo[a,h]anthracene	1600	BQL
Dibenzofuran	1600	BQL
1,2-Dichlorobenzene	1600	BQL
1,3-Dichlorobenzene	1600	BQL
1,4-Dichlorobenzene	1600	BQL
3,3'-Dichlorobenzidine	3200	BQL
2,4-Dichlorophenol	1600	BQL
Diethylphthalate	1600	BQL
2,4-Dimethylphenol	1600	BQL
Dimethylphthalate	1600	BQL
4,6-Dinitro-2-methylphenol	8000	BQL
2,4-Dinitrophenol	8000	BQL
2,4-Dinitrotoluene	1600	BQL
2,6-Dinitrotoluene	1600	BQL
Fluoranthene	1600	BQL
Fluorene	1600	**1700**
Hexachlorobenzene	1600	BQL

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD021-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67251
Lab Project ID: G128-471
Matrix: Soil %Solids: 91.9

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/13/99
Dilution: 5

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Hexachlorobutadiene	1600	BQL
Hexachlorocyclopentadiene	3200	BQL
Hexachloroethane	1600	BQL
Indeno(1,2,3-c,d)pyrene	1600	BQL
Isophorone	1600	BQL
2-Methylnaphthalene	1600	**54000**
2-Methylphenol	1600	BQL
4-Methylphenol	1600	BQL
N-Nitrosodi-n-propylamine	1600	BQL
N-Nitrosodiphenylamine	1600	**2700**
Naphthalene	1600	**60000**
2-Nitroaniline	1600	BQL
3-Nitroaniline	1600	BQL
4-Nitroaniline	1600	BQL
Nitrobenzene	1600	BQL
2-Nitrophenol	1600	BQL
4-Nitrophenol	8000	BQL
Pentachlorophenol	8000	BQL
Phenanthrene	1600	**2500**
Phenol	1600	BQL
Pyrene	1600	**2000**
1,2,4-Trichlorobenzene	1600	BQL
2,4,5-Trichlorophenol	1600	BQL
2,4,6-Trichlorophenol	1600	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2,4,6-Tribromophenol	10	7.1	71
2-Fluorobiphenyl	10	10.3	103
2-Fluorophenol	10	9.4	94
4-Terphenyl-d14	10	10.2	102
Nitrobenzene-d5	10	10.3	103
Phenol-d6	10	8.1	81

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD024-5
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67252
Lab Project ID: G128-471
Matrix: Soil %Solids: 89.5

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/13/99
Dilution: 5

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acenaphthene	1600	**3700**
Acenaphthylene	1600	BQL
Anthracene	1600	BQL
Benzo[a]anthracene	1600	BQL
Benzo[a]pyrene	1600	BQL
Benzo[b]fluoranthene	1600	BQL
Benzo[g,h,i]perylene	1600	BQL
Benzo[k]fluoranthene	1600	BQL
Benzoic Acid	3300	BQL
Bis(2-chloroethoxy)methane	1600	BQL
Bis(2-chloroethyl)ether	1600	BQL
Bis(2-chloroisopropyl)ether	1600	BQL
Bis(2-ethylhexyl)phthalate	1600	BQL
4-bromophenyl phenyl ether	1600	BQL
Butylbenzylphthalate	1600	BQL
4-Chloroaniline	1600	BQL
4-Chloro-3-methylphenol	1600	BQL
2-Chloronaphthalene	1600	BQL
2-Chlorophenol	1600	BQL
4-Chlorophenyl phenyl ether	1600	BQL
Chrysene	1600	BQL
Di-n-Butylphthalate	1600	BQL
Di-n-octylphthalate	1600	BQL
Dibenzo[a,h]anthracene	1600	BQL
Dibenzofuran	1600	**2100**
1,2-Dichlorobenzene	1600	BQL
1,3-Dichlorobenzene	1600	BQL
1,4-Dichlorobenzene	1600	BQL
3,3'-Dichlorobenzidine	3300	BQL
2,4-Dichlorophenol	1600	BQL
Diethylphthalate	1600	BQL
2,4-Dimethylphenol	1600	BQL
Dimethylphthalate	1600	BQL
4,6-Dinitro-2-methylphenol	8300	BQL
2,4-Dinitrophenol	8300	BQL
2,4-Dinitrotoluene	1600	BQL
2,6-Dinitrotoluene	1600	BQL
Fluoranthene	1600	BQL
Fluorene	1600	**5500**
Hexachlorobenzene	1600	BQL

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD024-5
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67252
Lab Project ID: G128-471
Matrix: Soil %Solids: 89.5

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/13/99
Dilution: 5

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Hexachlorobutadiene	1600	BQL
Hexachlorocyclopentadiene	3300	BQL
Hexachloroethane	1600	BQL
Indeno(1,2,3-c,d)pyrene	1600	BQL
Isophorone	1600	BQL
2-Methylnaphthalene	1600	**67000**
2-Methylphenol	1600	BQL
4-Methylphenol	1600	BQL
N-Nitrosodi-n-propylamine	1600	BQL
N-Nitrosodiphenylamine	1600	**5200**
Naphthalene	1600	**57000**
2-Nitroaniline	1600	BQL
3-Nitroaniline	1600	BQL
4-Nitroaniline	1600	BQL
Nitrobenzene	1600	BQL
2-Nitrophenol	1600	BQL
4-Nitrophenol	8300	BQL
Pentachlorophenol	8300	BQL
Phenanthrene	1600	**8300**
Phenol	1600	BQL
Pyrene	1600	**3000**
1,2,4-Trichlorobenzene	1600	BQL
2,4,5-Trichlorophenol	1600	BQL
2,4,6-Trichlorophenol	1600	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2,4,6-Tribromophenol	10	6.9	69
2-Fluorobiphenyl	10	10.1	101
2-Fluorophenol	10	9.8	98
4-Terphenyl-d14	10	10.4	104
Nitrobenzene-d5	10	10.9	109
Phenol-d6	10	8.8	88

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD031-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67253
Lab Project ID: G128-471
Matrix: Soil %Solids: 96.2

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/12/99
Dilution: 1

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acenaphthene	300	BQL
Acenaphthylene	300	BQL
Anthracene	300	BQL
Benzo[a]anthracene	300	BQL
Benzo[a]pyrene	300	BQL
Benzo[b]fluoranthene	300	BQL
Benzo[g,h,i]perylene	300	BQL
Benzo[k]fluoranthene	300	BQL
Benzoic Acid	600	BQL
Bis(2-chloroethoxy)methane	300	BQL
Bis(2-chloroethyl)ether	300	BQL
Bis(2-chloroisopropyl)ether	300	BQL
Bis(2-ethylhexyl)phthalate	300	BQL
4-bromophenyl phenyl ether	300	BQL
Butylbenzylphthalate	300	BQL
4-Chloroaniline	300	BQL
4-Chloro-3-methylphenol	300	BQL
2-Chloronaphthalene	300	BQL
2-Chlorophenol	300	BQL
4-Chlorophenyl phenyl ether	300	BQL
Chrysene	300	BQL
Di-n-Butylphthalate	300	BQL
Di-n-octylphthalate	300	BQL
Dibenzo[a,h]anthracene	300	BQL
Dibenzofuran	300	BQL
1,2-Dichlorobenzene	300	BQL
1,3-Dichlorobenzene	300	BQL
1,4-Dichlorobenzene	300	BQL
3,3'-Dichlorobenzidine	600	BQL
2,4-Dichlorophenol	300	BQL
Diethylphthalate	300	BQL
2,4-Dimethylphenol	300	BQL
Dimethylphthalate	300	BQL
4,6-Dinitro-2-methylphenol	1500	BQL
2,4-Dinitrophenol	1500	BQL
2,4-Dinitrotoluene	300	BQL
2,6-Dinitrotoluene	300	BQL
Fluoranthene	300	BQL
Fluorene	300	BQL
Hexachlorobenzene	300	BQL

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD031-2
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67253
Lab Project ID: G128-471
Matrix: Soil %Solids: 96.2

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/12/99
Dilution: 1

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Hexachlorobutadiene	300	BQL
Hexachlorocyclopentadiene	600	BQL
Hexachloroethane	300	BQL
Indeno(1,2,3-c,d)pyrene	300	BQL
Isophorone	300	BQL
2-Methylnaphthalene	300	BQL
2-Methylphenol	300	BQL
4-Methylphenol	300	BQL
N-Nitrosodi-n-propylamine	300	BQL
N-Nitrosodiphenylamine	300	BQL
Naphthalene	300	BQL
2-Nitroaniline	300	BQL
3-Nitroaniline	300	BQL
4-Nitroaniline	300	BQL
Nitrobenzene	300	BQL
2-Nitrophenol	300	BQL
4-Nitrophenol	1500	BQL
Pentachlorophenol	1500	BQL
Phenanthrene	300	BQL
Phenol	300	BQL
Pyrene	300	BQL
1,2,4-Trichlorobenzene	300	BQL
2,4,5-Trichlorophenol	300	BQL
2,4,6-Trichlorophenol	300	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2,4,6-Tribromophenol	10	8.7	87
2-Fluorobiphenyl	10	9.9	99
2-Fluorophenol	10	8.8	88
4-Terphenyl-d14	10	10.1	101
Nitrobenzene-d5	10	8.8	88
Phenol-d6	10	8.5	85

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD034-5
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67254
Lab Project ID: G128-471
Matrix: Soil %Solids: 88.3

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/12/99
Dilution: 1

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Acenaphthene	340	BQL
Acenaphthylene	340	BQL
Anthracene	340	BQL
Benzo[a]anthracene	340	BQL
Benzo[a]pyrene	340	BQL
Benzo[b]fluoranthene	340	BQL
Benzo[g,h,i]perylene	340	BQL
Benzo[k]fluoranthene	340	BQL
Benzoic Acid	690	BQL
Bis(2-chloroethoxy)methane	340	BQL
Bis(2-chloroethyl)ether	340	BQL
Bis(2-chloroisopropyl)ether	340	BQL
Bis(2-ethylhexyl)phthalate	340	BQL
4-bromophenyl phenyl ether	340	BQL
Butylbenzylphthalate	340	BQL
4-Chloroaniline	340	BQL
4-Chloro-3-methylphenol	340	BQL
2-Chloronaphthalene	340	BQL
2-Chlorophenol	340	BQL
4-Chlorophenyl phenyl ether	340	BQL
Chrysene	340	BQL
Di-n-Butylphthalate	340	BQL
Di-n-octylphthalate	340	BQL
Dibenzo[a,h]anthracene	340	BQL
Dibenzofuran	340	BQL
1,2-Dichlorobenzene	340	BQL
1,3-Dichlorobenzene	340	BQL
1,4-Dichlorobenzene	340	BQL
3,3'-Dichlorobenzidine	690	BQL
2,4-Dichlorophenol	340	BQL
Diethylphthalate	340	BQL
2,4-Dimethylphenol	340	BQL
Dimethylphthalate	340	BQL
4,6-Dinitro-2-methylphenol	1700	BQL
2,4-Dinitrophenol	1700	BQL
2,4-Dinitrotoluene	340	BQL
2,6-Dinitrotoluene	340	BQL
Fluoranthene	340	BQL
Fluorene	340	BQL
Hexachlorobenzene	340	BQL

Results for Semivolatiles
by GCMS 8270

Client Sample ID: NBD034-5
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67254
Lab Project ID: G128-471
Matrix: Soil %Solids: 88.3

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/12/99
Dilution: 1

Compound	Quantitation Limit (ug/KG)	Result (ug/KG)
Hexachlorobutadiene	340	BQL
Hexachlorocyclopentadiene	690	BQL
Hexachloroethane	340	BQL
Indeno(1,2,3-c,d)pyrene	340	BQL
Isophorone	340	BQL
2-Methylnaphthalene	340	BQL
2-Methylphenol	340	BQL
4-Methylphenol	340	BQL
N-Nitrosodi-n-propylamine	340	BQL
N-Nitrosodiphenylamine	340	BQL
Naphthalene	340	BQL
2-Nitroaniline	340	BQL
3-Nitroaniline	340	BQL
4-Nitroaniline	340	BQL
Nitrobenzene	340	BQL
2-Nitrophenol	340	BQL
4-Nitrophenol	1700	BQL
Pentachlorophenol	1700	BQL
Phenanthrene	340	BQL
Phenol	340	BQL
Pyrene	340	BQL
1,2,4-Trichlorobenzene	340	BQL
2,4,5-Trichlorophenol	340	BQL
2,4,6-Trichlorophenol	340	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2,4,6-Tribromophenol	10	9.2	92
2-Fluorobiphenyl	10	9.3	93
2-Fluorophenol	10	8.8	88
4-Terphenyl-d14	10	10.4	104
Nitrobenzene-d5	10	9	90
Phenol-d6	10	8.5	85

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD011-2
Sample Matrix	Soil
Collection Option (for Soil)*	3
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/02/99
Date Analyzed	07/15/99
Dry Weight	94
Dilution Factor	200
C_5-C_8 Aliphatics**	2300000 (µg/Kg)
C_9-C_{12} Aliphatics**	3700000 (µg/Kg)
C_9-C_{10} Aromatics**	2400000 (µg/Kg)
Surrogate % Recovery - PID	73
Surrogate % Recovery - FID	94

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67249

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD015-6
Sample Matrix	Soil
Collection Option (for Soil)*	3
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/02/99
Date Analyzed	07/15/99
Dry Weight	88
Dilution Factor	100
C_5-C_8 Aliphatics**	3700000 (µg/Kg)
C_9-C_{12} Aliphatics**	4000000 (µg/Kg)
C_9-C_{10} Aromatics**	2300000 (µg/Kg)
Surrogate % Recovery - PID	85
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: G128-471-67250

Reviewed By: [signature]

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD021-2
Sample Matrix	Soil
Collection Option (for Soil)*	3
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/02/99
Date Analyzed	07/15/99
Dry Weight	92
Dilution Factor	50
C_5-C_8 Aliphatics**	4100000 (µg/Kg)
C_9-C_{12} Aliphatics**	7100000 (µg/Kg)
C_9-C_{10} Aromatics**	3600000 (µg/Kg)
Surrogate % Recovery - PID	110
Surrogate % Recovery - FID	140

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67251

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD024-5
Sample Matrix	Soil
Collection Option (for Soil)*	3
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/02/99
Date Analyzed	07/15/99
Dry Weight	89
Dilution Factor	50
C_5-C_8 Aliphatics**	4700000 (µg/Kg)
C_9-C_{12} Aliphatics**	5500000 (µg/Kg)
C_9-C_{10} Aromatics**	2900000 (µg/Kg)
Surrogate % Recovery - PID	110
Surrogate % Recovery - FID	130

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67252

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD031-2
Sample Matrix	Soil
Collection Option (for Soil)*	3
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/02/99
Date Analyzed	07/14/99
Dry Weight	96
Dilution Factor	1
C_5-C_8 Aliphatics**	< 500 (µg/Kg)
C_9-C_{12} Aliphatics**	< 500 (µg/Kg)
C_9-C_{10} Aromatics**	< 500 (µg/Kg)
Surrogate % Recovery - PID	72
Surrogate % Recovery - FID	82

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67253

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD034-5
Sample Matrix	Soil
Collection Option (for Soil)*	3
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/02/99
Date Analyzed	07/14/99
Dry Weight	88
Dilution Factor	1
C_5-C_8 Aliphatics**	< 500 (µg/Kg)
C_9-C_{12} Aliphatics**	< 500 (µg/Kg)
C_9-C_{10} Aromatics**	< 500 (µg/Kg)
Surrogate % Recovery - PID	73
Surrogate % Recovery - FID	83

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67254

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	Trip Blank
Sample Matrix	Soil
Collection Option (for Soil)*	3
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/02/99
Date Analyzed	07/12/99
Dry Weight	100
Dilution Factor	1
C_5-C_8 Aliphatics**	< 500 (µg/Kg)
C_9-C_{12} Aliphatics**	< 500 (µg/Kg)
C_9-C_{10} Aromatics**	< 500 (µg/Kg)
Surrogate % Recovery - PID	74
Surrogate % Recovery - FID	84

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67255

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD01
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/14/99
Date Analyzed	07/14/99
Dry Weight	
Dilution Factor	4000
C_5-C_8 Aliphatics**	210000 (µg/L)
C_9-C_{12} Aliphatics**	< 40000 (µg/L)
C_9-C_{10} Aromatics**	< 40000 (µg/L)
Surrogate % Recovery - PID	80
Surrogate % Recovery - FID	91

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67256

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD02
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/13/99
Date Analyzed	07/13/99
Dry Weight	
Dilution Factor	50
C_5-C_8 Aliphatics**	43000 (µg/L)
C_9-C_{12} Aliphatics**	16000 (µg/L)
C_9-C_{10} Aromatics**	5100 (µg/L)
Surrogate % Recovery - PID	79
Surrogate % Recovery - FID	98

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67257

Reviewed By: \w

PARADIGM ANALYTICAL LABORATORIES, INC.

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD03
Sample Matrix	Water
Collection Option (for Soil)*	
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/14/99
Date Analyzed	07/14/99
Dry Weight	
Dilution Factor	50
C_5-C_8 Aliphatics**	1500 (µg/L)
C_9-C_{12} Aliphatics**	< 500 (µg/L)
C_9-C_{10} Aromatics**	< 500 (µg/L)
Surrogate % Recovery - PID	79
Surrogate % Recovery - FID	89

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

** = Excludes any surrogates or internal standards.

Lab Info: G128-471-67258

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 06/23/99 PID Initial Calibration Date: 06/23/99

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (µg/Kg)	ML (µg/L)	ML (µg/Kg)	RL (µg/L)	RL (µg/Kg)
C_5-C_8 Aliphatics	2.4	120	7.5	380	10	500
C_9-C_{12} Aliphatics	1.3	65	4.0	210	10	500
C_9-C_{10} Aromatics	0.5	25	1.6	80	10	500

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (µg/Kg)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	40	2000	12.4	Calibration Factor
	160	8000		
	400	20000		
	1600	80000		
	4000	200000		
C_9-C_{12} Aliphatics	30	1500	23.2	Calibration Factor
	120	6000		
	300	15000		
	1200	60000		
	3000	150000		
C_9-C_{10} Aromatics	65	3250	18.6	Calibration Factor
	260	13000		
	650	32500		
	2600	130000		
	6500	325000		

Calibration Check Date: 07/14/99

Calibration Check

Range	Levels (µg/L)	Levels (µg/Kg)	RPD
C_5-C_8 Aliphatics	400	20000	-13.1
C_9-C_{12} Aliphatics	300	15000	4.2
C_9-C_{10} Aromatics	650	32500	0.9

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:

Attachment 2

VPH Laboratory Reporting Form

Calibration and QA/QC Information

FID Initial Calibration Date: 06/23/99 PID Initial Calibration Date: 06/23/99

Calibration Ranges and Limits

Range	MDL (µg/L)	MDL (µg/Kg)	ML (µg/L)	ML (µg/Kg)	RL (µg/L)	RL (µg/Kg)
C_5-C_8 Aliphatics	2.4	120	7.5	380	10	500
C_9-C_{12} Aliphatics	1.3	65	4.0	210	10	500
C_9-C_{10} Aromatics	0.5	25	1.6	80	10	500

Calibration Concentration Levels

Range	Levels (µg/L)	Levels (µg/Kg)	%RSD or CCC	Method of Quantitation
C_5-C_8 Aliphatics	40	2000	12.4	Calibration Factor
	160	8000		
	400	20000		
	1600	80000		
	4000	200000		
C_9-C_{12} Aliphatics	30	1500	23.2	Calibration Factor
	120	6000		
	300	15000		
	1200	60000		
	3000	150000		
C_9-C_{10} Aromatics	65	3250	18.6	Calibration Factor
	260	13000		
	650	32500		
	2600	130000		
	6500	325000		

Calibration Check Date: 07/12/99

Calibration Check

Range	Levels (µg/L)	Levels (µg/Kg)	RPD
C_5-C_8 Aliphatics	400	20000	-9.9
C_9-C_{12} Aliphatics	300	15000	5.2
C_9-C_{10} Aromatics	650	32500	3.0

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.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD011-2
Sample Matrix	Soil
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/09/99
Date Analyzed	07/12/99
Dry Weight	93.7
Dilution Factor	1
C_9-C_{18} Aliphatics*	4200 (mg/Kg)
C_{19}-C_{36} Aliphatics*	280 (mg/Kg)
C_{11}-C_{22} Aromatics*	95 (mg/Kg)
Aliphatic Surrogate % Recovery	110
Aromatic Surrogate % Recovery	100
Fractionation Surrogate 1 % Recovery	83

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-471-67249

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD015-6
Sample Matrix	Soil
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/09/99
Date Analyzed	07/12/99
Dry Weight	88.4
Dilution Factor	1
C_9-C_{18} Aliphatics*	4000 (mg/Kg)
C_{19}-C_{36} Aliphatics*	47 (mg/Kg)
C_{11}-C_{22} Aromatics*	85 (mg/Kg)
Aliphatic Surrogate % Recovery	71
Aromatic Surrogate % Recovery	77
Fractionation Surrogate 1 % Recovery	71

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-471-67250

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD021-2
Sample Matrix	Soil
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/09/99
Date Analyzed	07/12/99
Dry Weight	91.9
Dilution Factor	1
C_9-C_{18} Aliphatics*	15000 (mg/Kg)
C_{19}-C_{36} Aliphatics*	2100 (mg/Kg)
C_{11}-C_{22} Aromatics*	130 (mg/Kg)
Aliphatic Surrogate % Recovery	110
Aromatic Surrogate % Recovery	59
Fractionation Surrogate 1 % Recovery	100

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-471-67251

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD024-5
Sample Matrix	Soil
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/09/99
Date Analyzed	07/20/99
Dry Weight	89.5
Dilution Factor	1
C_9-C_{18} Aliphatics*	16000 (mg/Kg)
C_{19}-C_{36} Aliphatics*	2400 (mg/Kg)
C_{11}-C_{22} Aromatics*	220 (mg/Kg)
Aliphatic Surrogate % Recovery	130
Aromatic Surrogate % Recovery	54
Fractionation Surrogate 1 % Recovery	100

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-471-67252

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MOEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD031-2
Sample Matrix	Soil
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/09/99
Date Analyzed	07/12/99
Dry Weight	96.2
Dilution Factor	1
C_9-C_{18} Aliphatics*	27 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	28 (mg/Kg)
Aliphatic Surrogate % Recovery	83
Aromatic Surrogate % Recovery	70
Fractionation Surrogate 1 % Recovery	76

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-471-67253

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD034-5
Sample Matrix	Soil
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/14/99
Date Analyzed	07/15/99
Dry Weight	88.3
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 10 (mg/Kg)
C_{19}-C_{36} Aliphatics*	< 10 (mg/Kg)
C_{11}-C_{22} Aromatics*	< 10 (mg/Kg)
Aliphatic Surrogate % Recovery	120
Aromatic Surrogate % Recovery	110

Comments:

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

Lab info: G128-471-67254

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD01
Sample Matrix	Water
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/09/99
Date Analyzed	07/12/99
Dry Weight	
Dilution Factor	1
C_9-C_{18} Aliphatics*	13 (µg/mL)
C_{19}-C_{36} Aliphatics*	< 1 (µg/mL)
C_{11}-C_{22} Aromatics*	2.3 (µg/mL)
Aliphatic Surrogate % Recovery	67
Aromatic Surrogate % Recovery	56
Fractionation Surrogate 1 % Recovery	71

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-471-67256

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD02
Sample Matrix	Water
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/09/99
Date Analyzed	07/12/99
Dry Weight	
Dilution Factor	1
C_9-C_{18} Aliphatics*	2.1 (µg/mL)
C_{19}-C_{36} Aliphatics*	< 1 (µg/mL)
C_{11}-C_{22} Aromatics*	< 1 (µg/mL)
Aliphatic Surrogate % Recovery	110
Aromatic Surrogate % Recovery	85
Fractionation Surrogate 1 % Recovery	65

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-471-67257

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

EPH (Aliphatics/Aromatics) Results

by MDEP-EPH

Client Name: Richard Catlin & Associates

Project Name: MCAS Navy Boat Dock

Sample Information and Analytical Results	
Sample Identification	NBD03
Sample Matrix	Water
Date Collected	06/30/99
Date Received	07/01/99
Date Extracted	07/09/99
Date Analyzed	07/12/99
Dry Weight	
Dilution Factor	1
C_9-C_{18} Aliphatics*	< 1 (µg/mL)
C_{19}-C_{36} Aliphatics*	< 1 (µg/mL)
C_{11}-C_{22} Aromatics*	1.2 (µg/mL)
Aliphatic Surrogate % Recovery	120
Aromatic Surrogate % Recovery	110
Fractionation Surrogate 1 % Recovery	85

Comments:

* = Excludes any surrogates or internal standards.

Lab info: G128-471-67258

Reviewed By:

PARADIGM ANALYTICAL LABORATORIES, INC.

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 05/13/99

Calibration Ranges and Limits

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

Calibration Concentration Levels

Range	Levels (µg/mL)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	0.6	10	5.60	Calibration Factor
	1.5	25		
	3	50		
	6	100		
	12	200		
C_{19}-C_{36} Aliphatics	0.8	13.3	9.0	Calibration Factor
	2	33.3		
	4	66.7		
	8	133		
	16	267		
C_{11}-C_{22} Aromatics	1.2	20	10.5	Calibration Factor
	3	50		
	6	100		
	12	200		
	24	400		

Calibration Check Date: 07/12/99

Calibration Check

Range	Levels (µg/mL)	Levels (mg/Kg)	RPD
C_9-C_{18} Aliphatics	6	100	-12.4
C_{19}-C_{36} Aliphatics	8	133	5.5
C_{11}-C_{22} Aromatics	12	200	-14.6

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: 05/13/99

Calibration Ranges and Limits

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

Calibration Concentration Levels

Range	Levels		%RSD or CCC	Method of Quantitation
	(µg/mL)	(mg/Kg)		
C_9-C_{18} Aliphatics	0.6	10	5.60	Calibration Factor
	1.5	25		
	3	50		
	6	100		
	12	200		
C_{19}-C_{36} Aliphatics	0.8	13.3	9.0	Calibration Factor
	2	33.3		
	4	66.7		
	8	133		
	16	267		
C_{11}-C_{22} Aromatics	1.2	20	10.5	Calibration Factor
	3	50		
	6	100		
	12	200		
	24	400		

Calibration Check Date: 07/15/99

Calibration Check

Range	Levels		RPD
	(µg/mL)	(mg/Kg)	
C_9-C_{18} Aliphatics	6	100	6.4
C_{19}-C_{36} Aliphatics	8	133	10.4
C_{11}-C_{22} Aromatics	12	200	-3.2

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

PARADIGM ANALYTICAL LABORATORIES, INC.

Attachment 3

EPH Laboratory Reporting Form

Calibration and QA/QC Information

Initial Calibration Date: 07/20/99

Calibration Ranges and Limits

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

Calibration Concentration Levels

Range	Levels (µg/mL)	Levels (mg/Kg)	%RSD or CCC	Method of Quantitation
C_9-C_{18} Aliphatics	0.6	10	7.80	Calibration Factor
	1.5	25		
	3	50		
	6	100		
	12	200		
C_{19}-C_{36} Aliphatics	0.8	13.3	9.2	Calibration Factor
	2	33.3		
	4	66.7		
	8	133		
	16	267		
C_{11}-C_{22} Aromatics	1.2	20	2.6	Calibration Factor
	3	50		
	6	100		
	12	200		
	24	400		

Calibration Check Date: 07/20/99

Calibration Check

Range	Levels (µg/mL)	Levels (mg/Kg)	RPD
C_9-C_{18} Aliphatics	12	200	5.7
C_{19}-C_{36} Aliphatics	16	267	-12.9
C_{11}-C_{22} Aromatics	12	200	-1.3

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.

Results for Volatiles

by GC 601

Client Sample ID: NBD01
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67256
Lab Project ID: G128-471

Analyzed By: RNP
Date Collected: 06/30/99
Date Received: 07/01/99
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	7/8/99	25	25	BQL
Bromoform	7/8/99	25	50	BQL
Bromomethane	7/8/99	25	50	BQL
Carbon tetrachloride	7/8/99	25	25	BQL
Chlorobenzene	7/8/99	25	25	BQL
Chloroethane	7/8/99	25	25	BQL
Chloroform	7/8/99	25	25	BQL
Chloromethane	7/8/99	25	25	BQL
Dibromochloromethane	7/8/99	25	25	BQL
1,2-Dibromoethane (EDB)	7/8/99	25	25	BQL
1,2-Dichlorobenzene	7/8/99	25	25	BQL
1,3-Dichlorobenzene	7/8/99	25	25	BQL
1,4-Dichlorobenzene	7/8/99	25	25	BQL
1,1-Dichloroethane	7/8/99	25	25	BQL
1,2-Dichloroethane	7/8/99	25	25	BQL
1,1-Dichloroethene	7/8/99	25	25	BQL
cis-1,2-Dichloroethene	7/8/99	25	25	BQL
trans-1,2-Dichloroethene	7/8/99	25	25	BQL
1,2-Dichloropropane	7/8/99	25	25	BQL
cis-1,3-Dichloropropene	7/8/99	25	25	BQL
trans-1,3-Dichloropropene	7/8/99	25	25	BQL
Methylene Chloride	7/8/99	25	125	BQL
1,1,2,2-Tertrachloroethane	7/8/99	25	25	BQL
Tetrachloroethene	7/8/99	25	25	BQL
1,1,1-Trichloroethane	7/8/99	25	25	BQL
1,1,2-Trichloroethane	7/8/99	25	25	BQL
Trichloroethene	7/8/99	25	25	BQL
Trichlorofluoromethane	7/8/99	25	25	BQL
Vinyl Chloride	7/8/99	25	25	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	36	90

Comments:

All values corrected for dilution.
Sample diluted for non-target interference.

Flags:

BQL = Below quantitation limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 601

Client Sample ID: NBD02
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67257
Lab Project ID: G128-471

Analyzed By: RNP
Date Collected: 06/30/99
Date Received: 07/01/99
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	7/8/99	10	10	BQL
Bromoform	7/8/99	10	20	BQL
Bromomethane	7/8/99	10	20	BQL
Carbon tetrachloride	7/8/99	10	10	BQL
Chlorobenzene	7/8/99	10	10	BQL
Chloroethane	7/8/99	10	10	BQL
Chloroform	7/8/99	10	10	BQL
Chloromethane	7/8/99	10	10	BQL
Dibromochloromethane	7/8/99	10	10	BQL
1,2-Dibromoethane (EDB)	7/8/99	10	10	BQL
1,2-Dichlorobenzene	7/8/99	10	10	BQL
1,3-Dichlorobenzene	7/8/99	10	10	BQL
1,4-Dichlorobenzene	7/8/99	10	10	BQL
1,1-Dichloroethane	7/8/99	10	10	BQL
1,2-Dichloroethane	7/8/99	10	10	BQL
1,1-Dichloroethene	7/8/99	10	10	BQL
cis-1,2-Dichloroethene	7/8/99	10	10	BQL
trans-1,2-Dichloroethene	7/8/99	10	10	BQL
1,2-Dichloropropane	7/8/99	10	10	BQL
cis-1,3-Dichloropropene	7/8/99	10	10	BQL
trans-1,3-Dichloropropene	7/8/99	10	10	BQL
Methylene Chloride	7/8/99	10	50	BQL
1,1,2,2-Tertrachloroethane	7/8/99	10	10	BQL
Tetrachloroethene	7/8/99	10	10	BQL
1,1,1-Trichloroethane	7/8/99	10	10	BQL
1,1,2-Trichloroethane	7/8/99	10	10	BQL
Trichloroethene	7/8/99	10	10	BQL
Trichlorofluoromethane	7/8/99	10	10	BQL
Vinyl Chloride	7/8/99	10	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	35	88

Comments:

All values corrected for dilution.
Sample diluted for non-target interference.

Flags:

BQL = Below quantitation limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 601

Client Sample ID: NBD03
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67258
Lab Project ID: G128-471

Analyzed By: RNP
Date Collected: 06/30/99
Date Received: 07/01/99
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Bromodichloromethane	7/8/99	1	1	BQL
Bromoform	7/8/99	1	2	BQL
Bromomethane	7/8/99	1	2	BQL
Carbon tetrachloride	7/8/99	1	1	BQL
Chlorobenzene	7/8/99	1	1	BQL
Chloroethane	7/8/99	1	1	BQL
Chloroform	7/8/99	1	1	BQL
Chloromethane	7/8/99	1	1	BQL
Dibromochloromethane	7/8/99	1	1	BQL
1,2-Dibromoethane (EDB)	7/8/99	1	1	BQL
1,2-Dichlorobenzene	7/8/99	1	1	BQL
1,3-Dichlorobenzene	7/8/99	1	1	BQL
1,4-Dichlorobenzene	7/8/99	1	1	BQL
1,1-Dichloroethane	7/8/99	1	1	BQL
1,2-Dichloroethane	7/8/99	1	1	BQL
1,1-Dichloroethene	7/8/99	1	1	BQL
cis-1,2-Dichloroethene	7/8/99	1	1	BQL
trans-1,2-Dichloroethene	7/8/99	1	1	BQL
1,2-Dichloropropane	7/8/99	1	1	BQL
cis-1,3-Dichloropropene	7/8/99	1	1	BQL
trans-1,3-Dichloropropene	7/8/99	1	1	BQL
Methylene Chloride	7/8/99	1	5	BQL
1,1,2,2-Tertrachloroethane	7/8/99	1	1	BQL
Tetrachloroethene	7/8/99	1	1	BQL
1,1,1-Trichloroethane	7/8/99	1	1	BQL
1,1,2-Trichloroethane	7/8/99	1	1	BQL
Trichloroethene	7/8/99	1	1	BQL
Trichlorofluoromethane	7/8/99	1	1	BQL
Vinyl Chloride	7/8/99	1	1	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
1,4-Dichlorobutane	40	34	86

Comments:

All values corrected for dilution.
Sample diluted for non-target interference.

Flags:

BQL = Below quantitation limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: NBD01
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67256
Lab Project ID: G128-471

Analyzed By: RNP
Date Collected: 6/30/99
Date Received: 7/1/99
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	7/7/99	500	500	**5600**
Diisopropyl ether (DIPE)	7/7/99	500	500	BQL
Ethylbenzene	7/7/99	500	500	**730**
Methyl-tert-butyl ether (MTBE)	7/7/99	500	1000	**75000**
Toluene	7/7/99	500	500	**7600**
m/p-Xylene	7/7/99	500	1000	**3000**
o-Xylene	7/7/99	500	1000	**1600**

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	38	94

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: 

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: NBD02
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67257
Lab Project ID: G128-471

Analyzed By: RNP
Date Collected: 6/30/99
Date Received: 7/1/99
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	7/8/99	250	250	**6800**
Diisopropyl ether (DIPE)	7/8/99	250	250	BQL
Ethylbenzene	7/8/99	250	250	**980**
Methyl-tert-butyl ether (MTBE)	7/8/99	250	500	**5700**
Toluene	7/8/99	250	250	**10000**
m/p-Xylene	7/8/99	250	500	**3000**
o-Xylene	7/8/99	250	500	**1600**

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	37	92

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By: [signature]

PARADIGM ANALYTICAL LABORATORIES, INC.

Results for Volatiles

by GC 602

Client Sample ID: NBD03
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67258
Lab Project ID: G128-471

Analyzed By: RNP
Date Collected: 6/30/99
Date Received: 7/1/99
Matrix: Water

Compound	Date Analyzed	Dilution	Quantitation Limit (ug/L)	Result (ug/L)
Benzene	7/8/99	25	25	**120**
Diisopropyl ether (DIPE)	7/8/99	25	25	BQL
Ethylbenzene	7/8/99	25	25	BQL
Methyl-tert-butyl ether (MTBE)	7/8/99	25	50	**400**
Toluene	7/8/99	25	25	**82**
m/p-Xylene	7/8/99	25	50	BQL
o-Xylene	7/8/99	25	50	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
Trifluorotoluene	40	38	95

Comments:

All values corrected for dilution.

Flags:

BQL = Below quantitation limit

Reviewed By:

Results for Semivolatiles
by GCMS EPA 625

Client Sample ID: NBD01
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67256
Lab Project ID: G128-471
Matrix: Water

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/7/99
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	**62**
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 EPA 625

Client Sample ID: NBD01
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67256
Lab Project ID: G128-471
Matrix: Water

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/7/99
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	**210**
Nitrobenzene	10	BQL
2-Nitrophenol	10	BQL
4-Nitrophenol	50	BQL
Pentachlorophenol	50	BQL
Phenanthrene	10	BQL
Phenol	10	**72**
Pyrene	10	BQL
1,2,4-Trichlorobenzene	10	BQL
2,4,6-Trichlorophenol	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2,4,6-Tribromophenol	10	12.3	123
2-Fluorobiphenyl	10	8.5	85
2-Fluorophenol	10	7.7	77
4-Terphenyl-d14	10	7.5	75
Nitrobenzene-d5	10	9.6	96
Phenol-d6	10	8.3	83

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results of Library Search for Semivolatile Compounds

by GCMS

Client Sample ID: NBD01
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67256
Lab Project ID: G128-471
Matrix: Water

Date Analyzed: 7/7/99
Analyzed By: mrc
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 1.0

Num.	Compound	CAS#	Match Probability	Result (ug/L)
1	Benzoic acid, 2,5-dimethyl-	000610-72-0	93	91
2	Benzene, 1-ethyl-2-methyl-	000611-14-3	95	82
3	1 (3H) -Isobenzofuranone	000087-41-2	94	60
4	Unknown			53
5	Naphthalene, 2-methyl-	000091-57-6	96	33
6	Unknown			32
7	Unknown Aromatic			31
8	Unknown			29
9	Benzoic acid, 2,6-dimethyl-	000632-46-2	91	24
10	Benzene, 1,2,3,5-tetramethyl-	000527-53-7	97	23

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.

Results for Semivolatiles
by GCMS EPA 625

Client Sample ID: NBD02
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67257
Lab Project ID: G128-471
Matrix: Water

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/7/99
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 EPA 625

Client Sample ID: NBD02
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67257
Lab Project ID: G128-471
Matrix: Water

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/7/99
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	**140**
Nitrobenzene	10	BQL
2-Nitrophenol	10	BQL
4-Nitrophenol	50	BQL
Pentachlorophenol	50	BQL
Phenanthrene	10	BQL
Phenol	10	**42**
Pyrene	10	BQL
1,2,4-Trichlorobenzene	10	BQL
2,4,6-Trichlorophenol	10	BQL

Surrogate Spike Recoveries	Spike Added	Spike Result	Percent Recovered
2,4,6-Tribromophenol	10	10.1	101
2-Fluorobiphenyl	10	8.7	87
2-Fluorophenol	10	7.1	71
4-Terphenyl-d14	10	10.3	103
Nitrobenzene-d5	10	8.7	87
Phenol-d6	10	7.7	77

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____

PARADIGM ANALYTICAL LABORATORIES, INC.

Results of Library Search
for Semivolatile Compounds
by GCMS

Client Sample ID: NBD02
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67257
Lab Project ID: G128-471
Matrix: Water

Date Analyzed: 7/7/99
Analyzed By: mrc
Date Collected: 6/30/99
Date Received: 7/1/99
Dilution: 1.0

Num.	Compound	CAS#	Match Probability	Result (ug/L)
1	Benzene, 1-ethyl-2-methyl-	000611-14-3	95	606
2	Unknown Alkane			170
3	Unknown			102
4	Unknown Aromatic			54
5	Benzene, (1-methylethyl) -	000098-82-8	95	53
6	Phenol, 4-methyl-	000106-44-5	92	46
7	Unknown			31
8	Unknown Aromatic			28
9	Naphthalene, 1-methyl-	000090-12-0	94	21
10	Unknown Aromatic			17

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: _____

Results for Semivolatiles
by GCMS EPA 625

Client Sample ID: NBD03
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67258
Lab Project ID: G128-471
Matrix: Water

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/7/99
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 EPA 625

Client Sample ID: NBD03
Client Project ID: MCAS Navy Boat Dock
Lab Sample ID: 67258
Lab Project ID: G128-471
Matrix: Water

Date Collected: 6/30/99
Date Received: 7/1/99
Date Analyzed: 7/7/99
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
2,4,6-Tribromophenol	10	11.4	114
2-Fluorobiphenyl	10	9.2	92
2-Fluorophenol	10	7.7	77
4-Terphenyl-d14	10	10.5	105
Nitrobenzene-d5	10	8.6	86
Phenol-d6	10	8.3	83

Comments:

Results are corrected for %solids and dilution where applicable.
Analyzed By: MRC

Flags:

BQL = Below Quantitation Limit.

Reviewed By: _____