

N61165.AR.005627
CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK ASSESSMENT (UST) REPORT FOR BUILDING 590A
CNC CHARLESTON SC
03/16/1997
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

00956

Li 10.23.97
Lo 10.23.97

South Carolina Department of Health and Environmental Control (S.C.D.H.E.C.)
Underground Storage Tank (UST) Assessment Report

Date Received

State Use Only

Submit Completed Form to:
UST Regulatory Section
SCDHEC
2600 Bull Street
Columbia, South Carolina 29201
Telephone (803) 734-5331

I. OWNERSHIP OF UST(S)

Agency/Owner: Southern Division, Naval Facilities Engineering Command, Caretaker Site Office
Mailing Address: P.O. Box 190010
City: N. Charleston State: SC Zip Code: 29419-9010
Area Code: 803 Telephone Number: 743-9985 Contact Person: LCDR Paul Rose

II. SITE IDENTIFICATION AND LOCATION

RECEIVED

Site I.D. #: Unregulated 00956
Facility Name: Charleston Naval Base Complex, Building 590A JUL 15 1997
Street Address: River Road Groundwater Assessment and Development Section
City: North Charleston, 29405-2413 County: Charleston

III. CLOSURE INFORMATION

Closure Started: 28 Jan 1997 Closure Completed: 16 Mar 1997
Number of USTs Closed: 2
N/A Consultant SPORTENVDETCASN UST Removal Contractor

IV. CERTIFICATION (Read and Sign after completing entire submittal)

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete.
LCDR Paul Rose
Name (Type or Print)
Signature

V. UST INFORMATION

- A. Product.....
- B. Capacity.....
- C. Age.....
- D. Construction Material.....
- E. Month/Year of Last Use.....
- F. Depth (ft.) To Base of Tank.....
- G. Spill Prevention Equipment Y/N.....
- H. Overfill Prevention Equipment Y/N.....
- I. Method of Closure Removed/Filled.....
- J. Visible Corrosion or Pitting Y/N.....
- K. Visible Holes Y/N.....

590A-1	590A-2	Tank 3	Tank 4	Tank 5	Tank 6
Fuel oil	Fuel oil				
2260 gal.	576 gal.				
1935	1935				
Steel	Steel				
1995	Unk.				
7' 6"	5'				
N	N				
N	N				
R	R				
Y	Y				
Y	Y				

- L. Method of disposal for any USTs removed from the ground (attach disposal manifests)

USTs 590A-1 and 590A-2 were removed, drained, cut open at both ends, and cleaned with a steam cleaner. They were then cut up for recycling as scrap metal. (See Attachment III.)

- M. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the USTs (attach disposal manifests)

The residual fuel oil, waste water, and sludge were recycled.

- N. If any corrosion, pitting, or holes were observed, describe the location and extent for each UST

Both tanks were severely corroded and pitted. UST 590A-1 had a 3" hole in the end opposite the fill pipe connection. UST 590A-2 had three 1" holes in one end and a 2" hole in the other.

VI. PIPING INFORMATION

- A. Construction Material.....
- B. Distance from UST to Dispenser.....
- C. Number of Dispensers.....
- D. Type of System P/S.....
- E. Was Piping Removed from the Ground? Y/N....
- F. Visible Corrosion or Pitting Y/N.....
- G. Visible Holes Y/N.....
- H. Age.....

590A-1	590A-2	Tank 3	Tank 4	Tank 5	Tank 6
Steel & Cpr	Steel & Cpr				
7' 9"	8' 2"				
1 See note 1	1 See note 1				
S	S				
Y	Y				
Y	Y				
N	N				
1935	1935				

Note 1: The tanks provided fuel oil to Building 590A.

- I. If any corrosion, pitting, or holes were observed, describe the location and extent for each line.

The piping was severely corroded and pitted, but no holes were found. UST 590A-2's supply line was 3/8" copper tubing encased in 1 1/4" steel pipe.

VII. BRIEF SITE DESCRIPTION AND HISTORY

Building 590A served as the Radiological Control Office administration building for the Charleston Naval Shipyard. Building 590A was constructed in 1935 for the Coast Guard. UST 590A-1 provided heating fuel oil for the building, while UST 590A-2 provided fuel oil for a hot water heater and a kitchen stove that were in use when the building served as Coast Guard living quarters.

Holes were found in both tanks. Based on the mix of materials and sizes of the supply and return piping it can be assumed that piping failure occurred and was repaired sometime over the life of the tanks. While no petroleum sheen was noted in the groundwater at UST 590A-1, the groundwater at UST 590A-2 had a thin film of product after the tank was removed. The technician on site reported that the petroleum film may have been caused when the tank was lifted out from under the transformer slab and residual product leaked out of the 2" hole on the south end of the tank. The petroleum film was absorbed off the water prior to sampling.

VIII. SITE CONDITIONS

Yes No Unk

	Yes	No	Unk
<p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate depth and location on the site map.</p>	X		
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate location on site map and describe the odor (strong, mild, etc.) [Both UST excavations]</p>	X		
<p>C. Was water present in the UST excavation, soil borings, or trenches? If yes, how far below land surface (indicate location and depth)?</p> <p>590A-1: UST excavation, 7' 6" below GSL, 1' deep 590A-2: UST excavation, 5' below GSL, 6" deep</p>	X		
<p>D. Did contaminated soils remain stockpiled on site after closure? If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal: _____</p>			X*
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?</p> <p>If yes, indicate location and thickness on the site map.</p>	X**		

* All soils from the excavations were returned to the tank pits.

** Tank 590A-2 had a thin petroleum film on the groundwater.

(refer to section VII).

X. SAMPLING METHODOLOGY

Provide a detailed description of the methods used to collect and store (preserve) the samples.

Soil and groundwater samples were taken after the removal of USTs 590A-1 and 590A-2. Sampling was performed in accordance with SC DHEC R.61-92 Part 280 and SC DHEC UST Assessment Guidelines.

Sample jars were prepared by the testing laboratory. The grab method was utilized to fill the sample containers leaving as little head space as possible and immediately capped. Soil samples were extracted at the tank ends just above the groundwater level. Groundwater samples were taken from the bottom center of the excavations. UST piping soil samples were taken under the piping at the mechanical connections. Biased composite samples were taken from the excavation dirt piles to characterize the soil for reuse or remediation.

The samples were marked, logged, and immediately placed in sample coolers packed with ice to maintain an approximate temperature of 4° C. Tools were thoroughly cleaned and decontaminated with organic-free soap and water after each sample.

The samples remained in the custody of SPORTENVDETHASN until they were transferred to General Engineering Laboratories for analysis as documented in the attached Chain-of-Custody Record.

XI. RECEPTORS

Yes No

A.	<p>Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?</p> <p style="text-align: center;">[Cooper R. 325']</p> <p>If yes, indicate type of receptor, distance, and direction on site map.</p>	X	
B.	<p>Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?</p> <p>If yes, indicate type of well, distance, and direction on site map.</p>		X
C.	<p>Are there any underground structures (e.g., basements) located within 100 feet of the UST system?</p> <p>If yes, indicate the type of structure, distance, and direction on site map.</p>		X
D.	<p>Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination?</p> <p style="text-align: center;">[storm drain, electrical]</p> <p>If yes, indicate the type of utility, distance, and direction on the site map.</p>	X	
E.	<p>Has contaminated soil been identified at a depth of less than 3 feet below land surface in an area that is not capped by asphalt or concrete?</p> <p>If yes, indicate the area of contaminated soil on the site map.</p>		X

SITE MAP

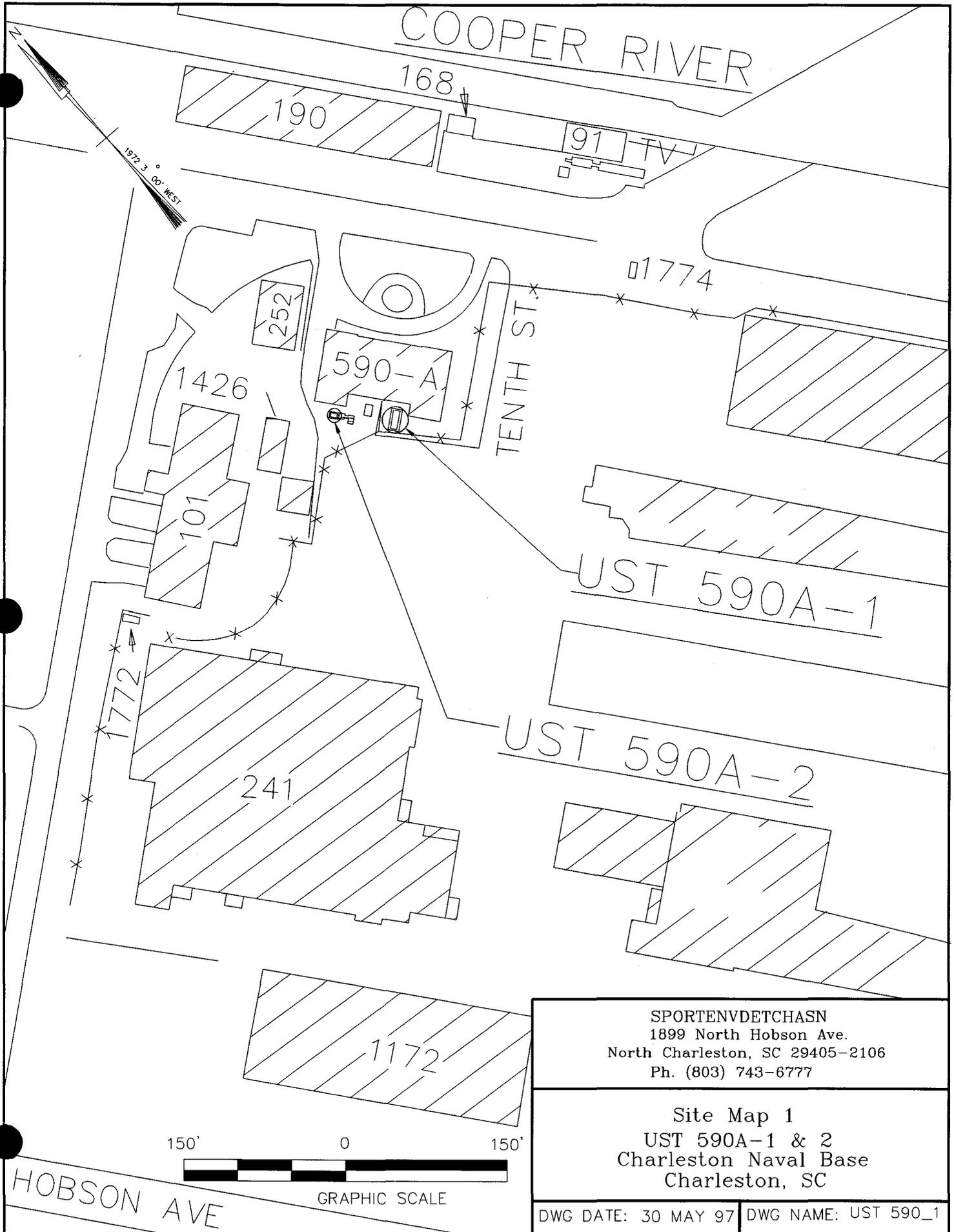
You must supply a scaled site map. It should include all buildings, road names, utilities, tank and pump island locations, sample locations, extent of excavation, and any other pertinent information.

Site Maps 1, 2, and 3

Photographs

UST 590A-1: 1, 2, and 3

UST 590A-2: 4 and 5



SPORTENVDETHASN
 1899 North Hobson Ave.
 North Charleston, SC 29405-2106
 Ph. (803) 743-6777

Site Map 1
 UST 590A-1 & 2
 Charleston Naval Base
 Charleston, SC

DWG DATE: 30 MAY 97 | DWG NAME: UST 590_1

BLDG 590-A

UST 590A-1 @ COOPER RIVER - 326'-

UST 590A-2 @ COOPER RIVER - 338'-

SIDEWALK

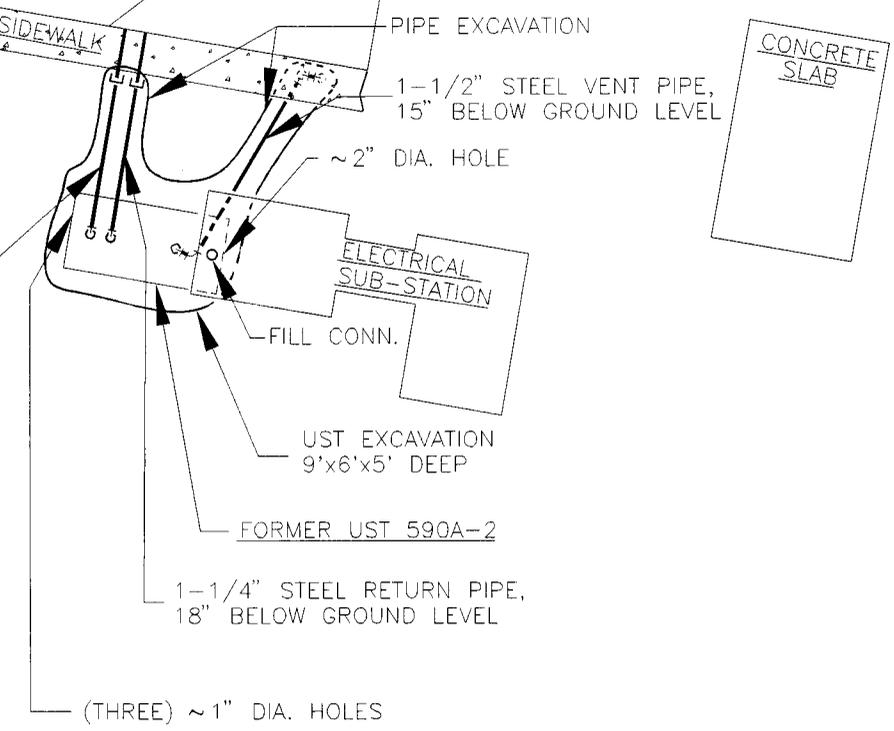
CONCRETE
SLAB

ELECTRICAL
SUB-STATION

3/8" OD COPPER SUPPLY TUBE,
ENCASED INSIDE 1-1/4" STEEL PIPE,
18" BELOW GROUND LEVEL



GRAPHIC SCALE

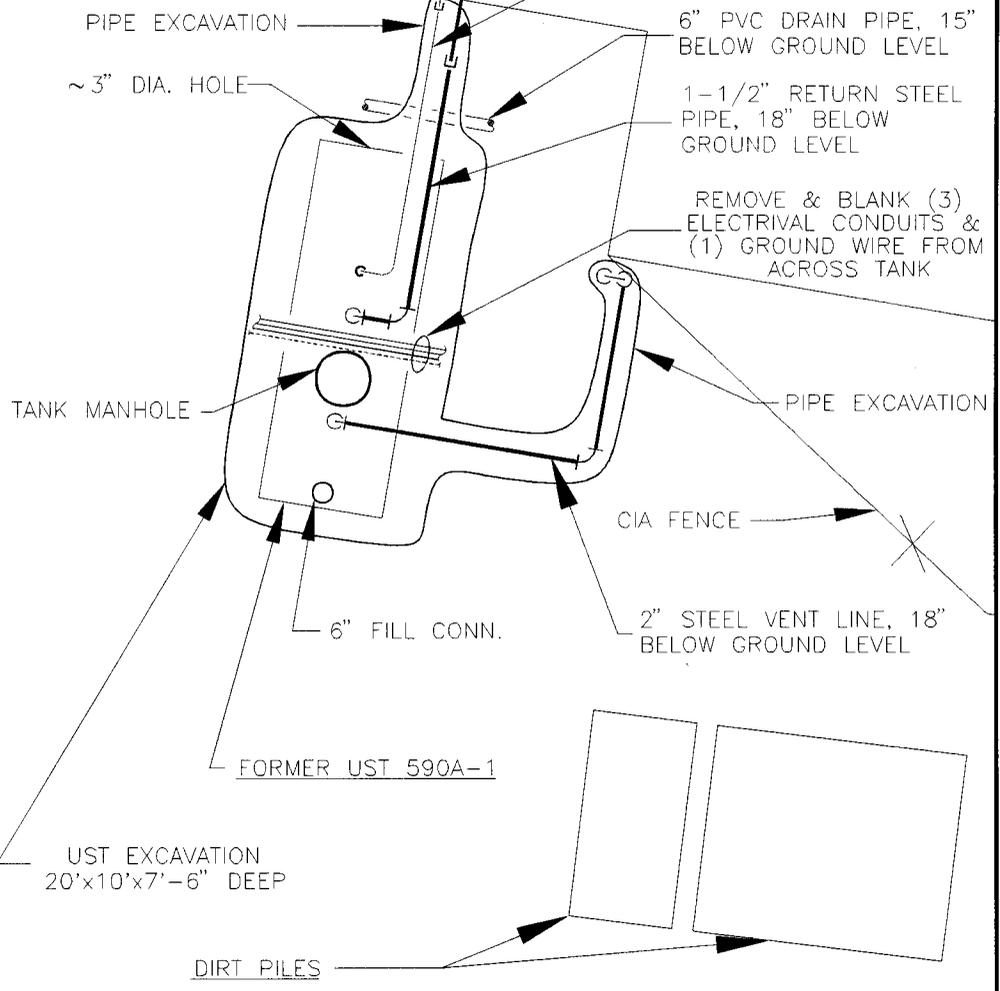


UST EXCAVATION
9'x6'x5' DEEP

FORMER UST 590A-2

1-1/4" STEEL RETURN PIPE,
18" BELOW GROUND LEVEL

(THREE) ~1" DIA. HOLES



3/8" OD COPPER SUPPLY,
18" BELOW GROUND LEVEL

6" PVC DRAIN PIPE, 15"
BELOW GROUND LEVEL

1-1/2" RETURN STEEL
PIPE, 18" BELOW
GROUND LEVEL

REMOVE & BLANK (3)
ELECTRICAL CONDUITS &
(1) GROUND WIRE FROM
ACROSS TANK

TANK MANHOLE

6" FILL CONN.

FORMER UST 590A-1

UST EXCAVATION
20'x10'x7'-6" DEEP

DIRT PILES

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North Charleston, SC
29405-2106
Ph. (803) 743-6777

Site Map 2
UST 590A-1 & 2
Charleston Naval Base
Charleston, SC

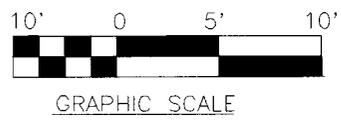
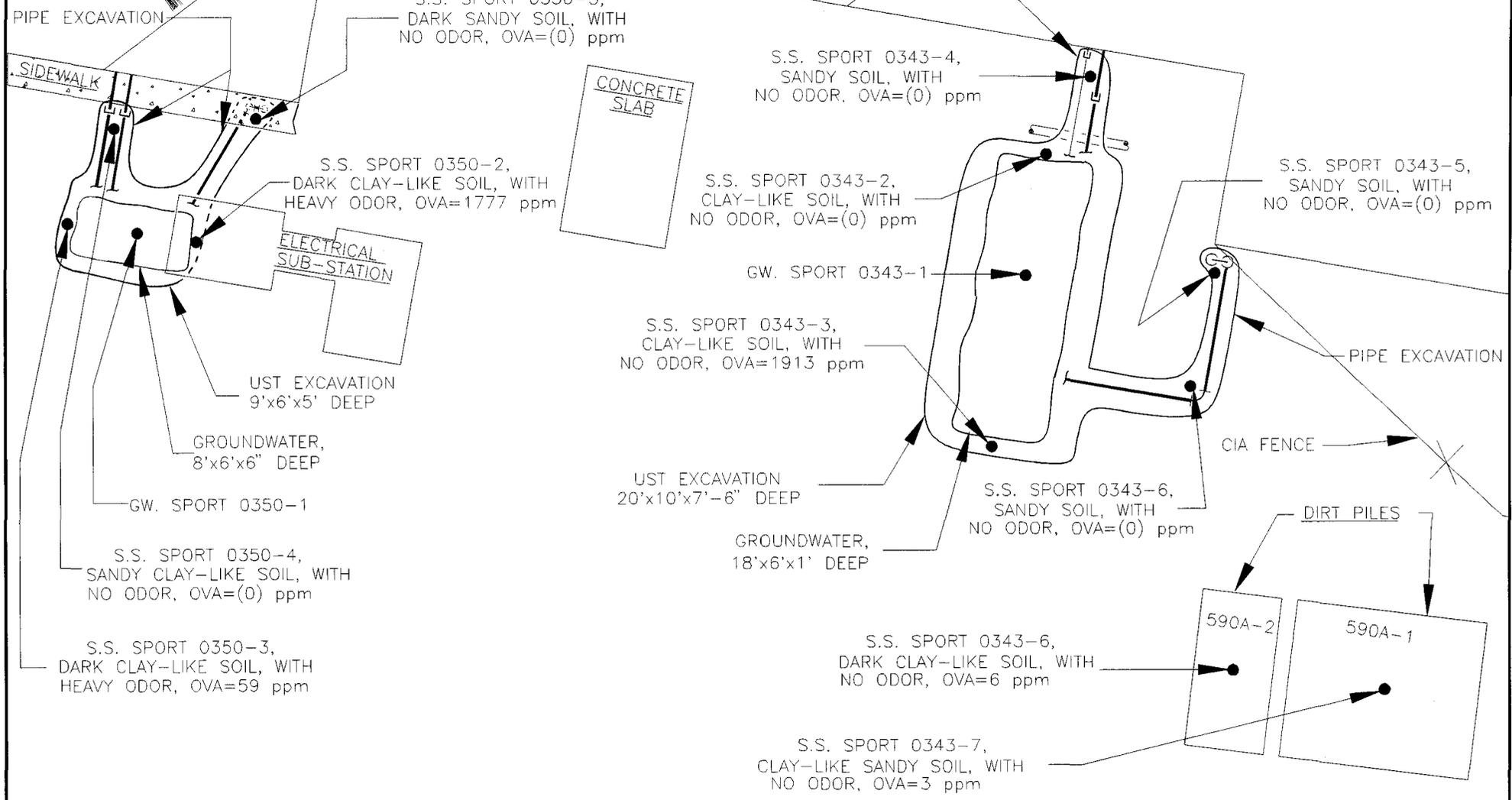
DWG DATE: 2 JUN 97

DWG NAME: UST 590_2

BLDG
590-A

UST 590A-1 @ COOPER RIVER - 326'

UST 590A-2 @ COOPER RIVER - 338'



LEGEND

GW. - GROUNDWATER
S.S. - SOIL SAMPLE

SPORTENVDETCHASN
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North Charleston, SC
29405-2106
Ph. (803) 743-6777

Site Map 3
UST 590A-1 & 2
Charleston Naval Base
Charleston, SC

DWG DATE: 2 JUN 97 DWG NAME: UST 590_3

UST 590A-1



Photo 1: UST 590A-1 being removed from the excavation.

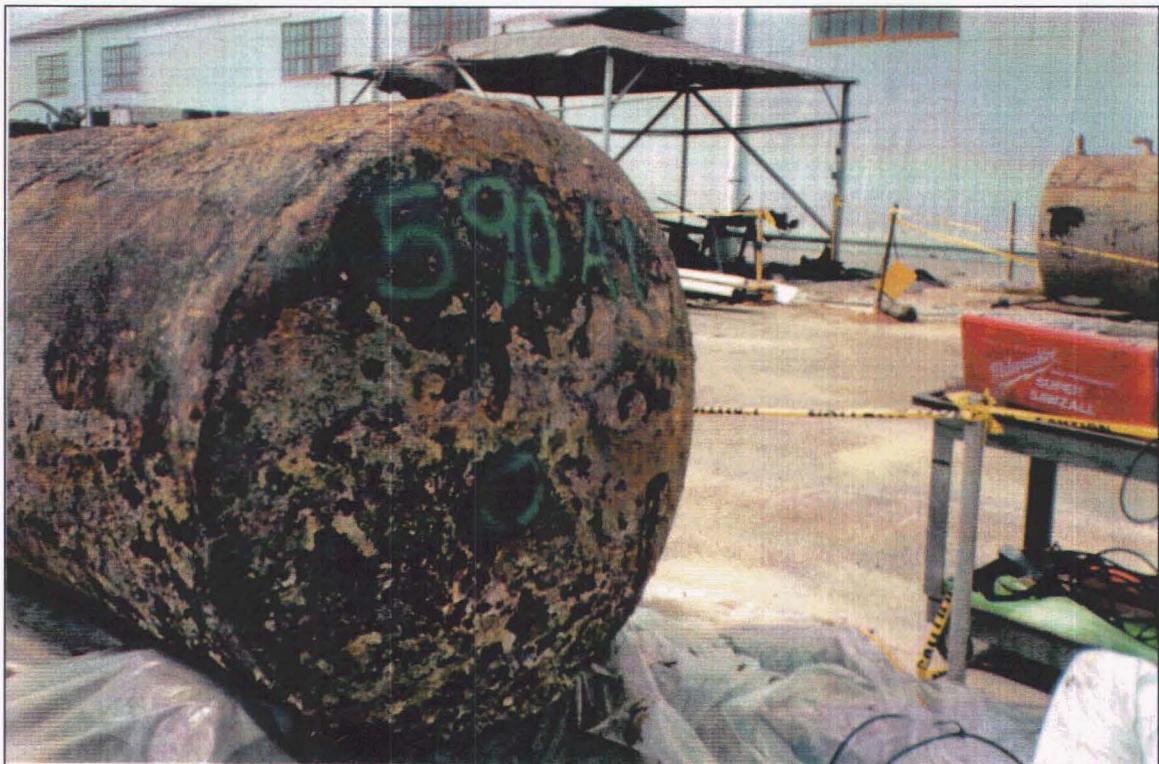


Photo 2: UST 590A-1 during cutting and cleaning. Three inch hole is circled with green paint.

UST 590A-1



Photo 3: UST 590A-1 during cutting and cleaning.

UST 590A-2



Photo 4: UST 590A-2 after removal from the excavation.



Photo 5: UST 590A-2 two inch hole is circled with green paint.

ANALYTICAL RESULTS

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

Certified Analytical Results
Chain-of-Custody



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8.
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 1 of 3

Sample ID : SPORT0343-1
 Lab ID : 9702393-01
 Matrix : GroundH2O
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	2.00	4.00	ug/l	2.0	RMB	02/20/97	1606	98121	1
Ethylbenzene	U	0.00	2.00	4.00	ug/l	2.0					
Toluene	U	0.00	2.00	4.00	ug/l	2.0					
Xylenes (TOTAL)	U	0.00	2.00	4.00	ug/l	2.0					
Methyl Tert Butyl Ether	U	0.00	2.00	4.00	ug/l	2.0					
Naphthalene	U	0.00	2.00	4.00	ug/l	2.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	5.70	11.4	ug/l	1.0	RLC	02/22/97	0050	98099	2
Acenaphthylene	U	0.00	5.70	11.4	ug/l	1.0					
Anthracene	U	0.00	5.70	11.4	ug/l	1.0					
Benzo(a)anthracene	U	0.00	5.70	11.4	ug/l	1.0					
Benzo(a)pyrene	U	0.00	5.70	11.4	ug/l	1.0					
Benzo(b)fluoranthene	U	4.10	5.70	11.4	ug/l	1.0					
Benzo(ghi)perylene	U	0.00	5.70	11.4	ug/l	1.0					
Benzo(k)fluoranthene	U	0.00	5.70	11.4	ug/l	1.0					
Chrysene	U	0.00	5.70	11.4	ug/l	1.0					
Dibenzo(a,h)anthracene	U	0.00	5.70	11.4	ug/l	1.0					
Fluoranthene	U	0.00	5.70	11.4	ug/l	1.0					
Fluorene	U	0.00	5.70	11.4	ug/l	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	5.70	11.4	ug/l	1.0					
Naphthalene	U	0.00	5.70	11.4	ug/l	1.0					
Phenanthrene	U	0.00	5.70	11.4	ug/l	1.0					
Pyrene	U	0.00	5.70	11.4	ug/l	1.0					

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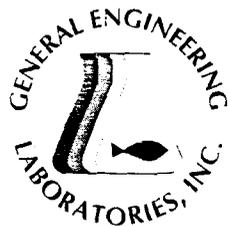
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9702393-01



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STATE	GEL	EPI
FL	E87156/87294	E87472/6
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 2 of 3

Sample ID : SPORT0343-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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The following prep procedures were performed:

GC/MS Base/Neutral Compounds

HDB 02/20/97 1100 98099 3

Comments:

A dilution was required for the Volatiles analysis due to hydrocarbons in the sample. As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	83.6	(43.0 - 108.)
Nitrobenzene-d5	M610	71.8	(35.0 - 111.)
p-Terphenyl-d14	M610	52.6	(33.0 - 125.)
Bromofluorobenzene	BTEX-8260	101.	(73.8 - 128.)
Dibromofluoromethane	BTEX-8260	98.0	(63.9 - 139.)
Toluene-d8	BTEX-8260	109.	(77.1 - 121.)
Bromofluorobenzene	MTBE-8260	101.	(73.8 - 128.)
Dibromofluoromethane	MTBE-8260	98.0	(63.9 - 139.)
Toluene-d8	MTBE-8260	109.	(77.1 - 121.)
Bromofluorobenzene	NAP-8260	101.	(73.8 - 128.)
Dibromofluoromethane	NAP-8260	98.0	(63.9 - 139.)
Toluene-d8	NAP-8260	109.	(77.1 - 121.)

M = Method

Method-Description

M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3510

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STATE	GEL	EPI
FL	E87156/87294	E87472/8.
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 3 of 3

Sample ID : SPORT0343-1

M = Method

Method-Description

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.



Reviewed By





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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 28, 1997

Page 1 of 2

Sample ID : SPORT0343-2
 Lab ID : 9702393-02
 Matrix : Soil
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/24/97	1840	98168	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	165	330	ug/kg	1.0	RLC	02/24/97	1917	98152	2
Acenaphthylene	U	0.00	165	330	ug/kg	1.0					
Anthracene	U	0.00	165	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	165	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	165	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	139	165	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	165	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	165	330	ug/kg	1.0					
Chrysene	U	15.8	165	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	165	330	ug/kg	1.0					
Fluoranthene	U	0.00	165	330	ug/kg	1.0					
Fluorene	U	0.00	165	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	165	330	ug/kg	1.0					
Naphthalene	U	0.00	165	330	ug/kg	1.0					
Phenanthrene	U	0.00	165	330	ug/kg	1.0					
Pyrene	U	0.00	165	330	ug/kg	1.0					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

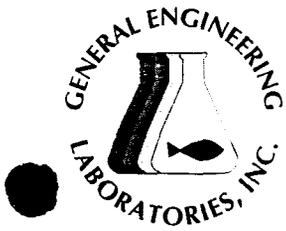
MCS 02/21/97 1313 98152 3

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9702393-02



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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 28, 1997

Page 2 of 2

Sample ID : SPORT0343-2

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	65.2	(30.0 - 115.)
Nitrobenzene-d5	M610	56.2	(23.0 - 120.)
p-Terphenyl-d14	M610	88.6	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	111.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	105.	(63.4 - 136.)
Toluene-d8	BTEX-8260	98.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	111.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	105.	(63.4 - 136.)
Toluene-d8	NAP-8260	98.6	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

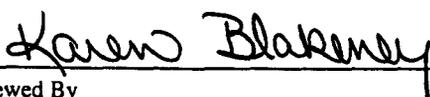
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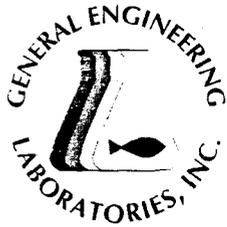

Reviewed By

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9702393-02

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8.
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 1 of 2

Sample ID : SPORT0343-3
 Lab ID : 9702393-03
 Matrix : Soil
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/21/97	1752	98168	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	162	330	ug/kg	1.0	RLC	02/24/97	1949	98152	2
Acenaphthylene	U	0.00	162	330	ug/kg	1.0					
Anthracene	U	0.00	162	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	162	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	162	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	130	162	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	162	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	162	330	ug/kg	1.0					
Chrysene	U	0.00	162	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	162	330	ug/kg	1.0					
Fluoranthene	U	0.00	162	330	ug/kg	1.0					
Fluorene	U	0.00	162	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	162	330	ug/kg	1.0					
Naphthalene	U	0.00	162	330	ug/kg	1.0					
Phenanthrene	U	0.00	162	330	ug/kg	1.0					
Pyrene	U	0.00	162	330	ug/kg	1.0					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

MCS 02/21/97 1313 98152 3

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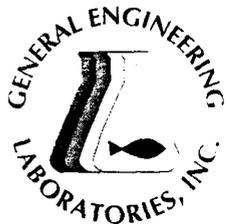
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SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 2 of 2

Sample ID : SPORT0343-3

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	88.9	(30.0 - 115.)
Nitrobenzene-d5	M610	72.3	(23.0 - 120.)
p-Terphenyl-d14	M610	116.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	112.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	100.	(63.4 - 136.)
Toluene-d8	BTEX-8260	101.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	112.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	100.	(63.4 - 136.)
Toluene-d8	NAP-8260	101.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

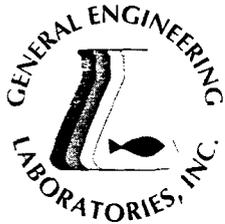
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Karen Blakeney

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NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 1 of 2

Sample ID : SPORT0343-4
 Lab ID : 9702393-04
 Matrix : Soil
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/24/97	1618	98168	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	163	330	ug/kg	1.0	RLC	02/24/97	2021	98152	2
Acenaphthylene	U	0.00	163	330	ug/kg	1.0					
Anthracene	U	0.00	163	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	163	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	163	330	ug/kg	1.0					
Benzo(b)fluoranthene	J	234	163	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	163	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	163	330	ug/kg	1.0					
Chrysene	U	71.5	163	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	163	330	ug/kg	1.0					
Fluoranthene	U	0.00	163	330	ug/kg	1.0					
Fluorene	U	0.00	163	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	163	330	ug/kg	1.0					
Naphthalene	U	0.00	163	330	ug/kg	1.0					
Phenanthrene	U	0.00	163	330	ug/kg	1.0					
Pyrene	U	0.00	163	330	ug/kg	1.0					

The following prep procedures were performed:
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TN	02934	02934

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 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: February 27, 1997

Page 2 of 2

Sample ID : SPORT0343-4

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	81.0	(30.0 - 115.)
Nitrobenzene-d5	M610	70.9	(23.0 - 120.)
p-Terphenyl-d14	M610	101.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	120.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	105.	(63.4 - 136.)
Toluene-d8	BTEX-8260	104.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	120.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	105.	(63.4 - 136.)
Toluene-d8	NAP-8260	104.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Karen Blakeney
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 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: February 27, 1997

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Sample ID : SPORT0343-5
 Lab ID : 9702393-05
 Matrix : Soil
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/24/97	1712	98168	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	163	330	ug/kg	1.0	RLC	02/24/97	2052	98152	2
Acenaphthylene	U	0.00	163	330	ug/kg	1.0					
Anthracene	U	0.00	163	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	163	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	163	330	ug/kg	1.0					
Benzo(b)fluoranthene		442	163	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	163	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	163	330	ug/kg	1.0					
Chrysene	U	124	163	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	163	330	ug/kg	1.0					
Fluoranthene	U	0.00	163	330	ug/kg	1.0					
Fluorene	U	0.00	163	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	163	330	ug/kg	1.0					
Naphthalene	U	0.00	163	330	ug/kg	1.0					
Phenanthrene	U	0.00	163	330	ug/kg	1.0					
Pyrene	U	0.00	163	330	ug/kg	1.0					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

MCS 02/21/97 1313 98152 3

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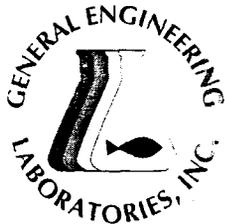
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TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 2 of 2

Sample ID : SPORT0343-5

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	80.4	(30.0 - 115.)
Nitrobenzene-d5	M610	61.3	(23.0 - 120.)
p-Terphenyl-d14	M610	102.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	123.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	109.	(63.4 - 136.)
Toluene-d8	BTEX-8260	108.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	123.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	109.	(63.4 - 136.)
Toluene-d8	NAP-8260	108.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

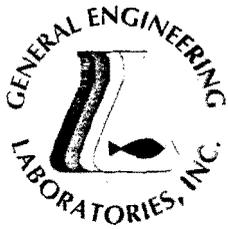
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

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SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 1 of 2

Sample ID : SPORT0343-6
 Lab ID : 9702393-06
 Matrix : Soil
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/24/97	1741	98168	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	163	330	ug/kg	1.0	RLC	02/24/97	2124	98152	2
Acenaphthylene	U	0.00	163	330	ug/kg	1.0					
Anthracene	U	0.00	163	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	163	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	163	330	ug/kg	1.0					
Benzo(b)fluoranthene	J	254	163	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	163	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	163	330	ug/kg	1.0					
Chrysene	U	88.0	163	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	163	330	ug/kg	1.0					
Fluoranthene	U	0.00	163	330	ug/kg	1.0					
Fluorene	U	0.00	163	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	163	330	ug/kg	1.0					
Naphthalene	U	0.00	163	330	ug/kg	1.0					
Phenanthrene	U	0.00	163	330	ug/kg	1.0					
Pyrene	U	0.00	163	330	ug/kg	1.0					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

MCS 02/21/97 1313 98152 3

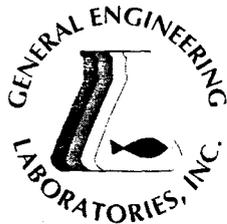
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SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
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 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 2 of 2

Sample ID : SPORT0343-6

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	86.5	(30.0 - 115.)
Nitrobenzene-d5	M610	67.7	(23.0 - 120.)
p-Terphenyl-d14	M610	106.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	121.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	106.	(63.4 - 136.)
Toluene-d8	BTEX-8260	106.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	121.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	106.	(63.4 - 136.)
Toluene-d8	NAP-8260	106.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

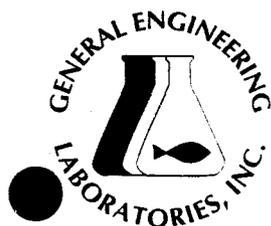
J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

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NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 21, 1997

Page 1 of 3

Sample ID : SPORT0343-7
 Lab ID : 9702393-07
 Matrix : Soil
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/24/97	1811	98168	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	165	330	ug/kg	1.0	RLC	02/24/97	2156	98152	2
Acenaphthylene	U	0.00	165	330	ug/kg	1.0					
Anthracene	U	0.00	165	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	165	330	ug/kg	1.0					
Benzo(a)pyrene		336	165	330	ug/kg	1.0					
Benzo(b)fluoranthene		658	165	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	165	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	165	330	ug/kg	1.0					
Chrysene	J	224	165	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	46.1	165	330	ug/kg	1.0					
Fluoranthene	U	0.00	165	330	ug/kg	1.0					
Fluorene	U	0.00	165	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	165	330	ug/kg	1.0					
Naphthalene	U	0.00	165	330	ug/kg	1.0					
Phenanthrene	U	0.00	165	330	ug/kg	1.0					
Pyrene	U	0.00	165	330	ug/kg	1.0					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

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TN	02934	02934

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 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 21, 1997

Page 2 of 3

Sample ID : SPORT0343-7

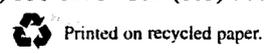
Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
-----------	-----------	--------	----	----	-------	----	---------	------	------	-------	---

Comments:
 Revised report.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	95.7	(30.0 - 115.)
Nitrobenzene-d5	M610	72.2	(23.0 - 120.)
p-Terphenyl-d14	M610	110.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	111.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	107.	(63.4 - 136.)
Toluene-d8	BTEX-8260	98.9	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	111.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	107.	(63.4 - 136.)
Toluene-d8	NAP-8260	98.9	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:
 The qualifiers in this report are defined as follows:
 ND indicates that the analyte was not detected at a concentration greater than the detection limit.
 J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).
 U indicates that the analyte was not detected at a concentration greater than the detection limit.
 * indicates that a quality control analyte recovery is outside of specified acceptance criteria.





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FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 21, 1997

Page 3 of 3

Sample ID : SPORT0343-7

M = Method

Method-Description

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Reviewed By

Karen Blakeney

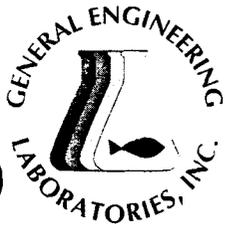
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NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 1 of 2

Sample ID : SPORT0343-8
 Lab ID : 9702393-08
 Matrix : GroundH2O
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/l	1.0	RMB	02/20/97	1534	98121	1
Ethylbenzene	U	0.00	1.00	2.00	ug/l	1.0					
Toluene	U	0.00	1.00	2.00	ug/l	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/l	1.0					
Methyl Tert Butyl Ether	U	0.00	1.00	2.00	ug/l	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/l	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	97.2	(73.8 - 128.)
Dibromofluoromethane	BTEX-8260	100.	(63.9 - 139.)
Toluene-d8	BTEX-8260	107.	(77.1 - 121.)
Bromofluorobenzene	MTBE-8260	97.2	(73.8 - 128.)
Dibromofluoromethane	MTBE-8260	100.	(63.9 - 139.)
Toluene-d8	MTBE-8260	107.	(77.1 - 121.)
Bromofluorobenzene	NAP-8260	97.2	(73.8 - 128.)
Dibromofluoromethane	NAP-8260	100.	(63.9 - 139.)
Toluene-d8	NAP-8260	107.	(77.1 - 121.)

M = Method	Method-Description
M 1	EPA 8260

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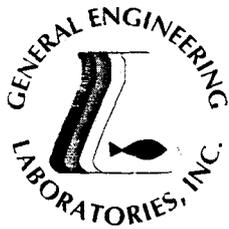
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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 1 of 2

Sample ID : SPORT0343-9
 Lab ID : 9702393-09
 Matrix : Soil
 Date Collected : 02/18/97
 Date Received : 02/19/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/21/97	1451	98168	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	100.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	98.0	(63.4 - 136.)
Toluene-d8	BTEX-8260	93.5	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	100.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	98.0	(63.4 - 136.)
Toluene-d8	NAP-8260	93.5	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260

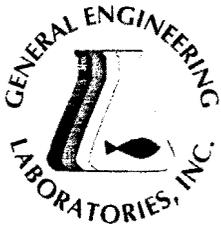
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STATE	GEL	EPI
FL	E87156/87294	E87472/8
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: February 27, 1997

Page 2 of 2

Sample ID : SPORT0343-9

M = Method

Method-Description

Notes:

The qualifiers in this report are defined as follows:

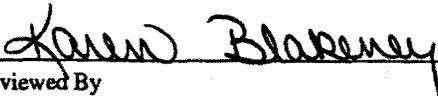
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.



Reviewed By

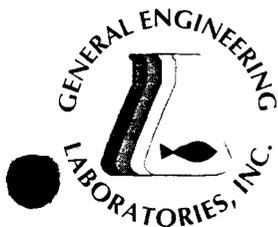
CHAIN OF CUSTODY RECORD

9702393

Page 1 of 1

Client Name/Facility Name		SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods											Use F or P in the boxes to indicate whether sample was filtered and/or preserved						
SPORT ENV DET CHASN		pH, conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method Required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	Cyanide	Coliform - specify type	STEX AND NAPTAL/EN/C	STEX AND NAPTAL/EN/C	LENEX MT/BE	Remarks
Collected by/Company	SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# OF CONTAINERS											
SPORT ENV DET CHASN	SPORT 343-1	2/18/97	1415					X									X	UST 590A-1-1 GW	.1
	SPORT 343-2	2/18/97	1425	X	X											X		UST 590A-1-2 Soil	.2
	SPORT 343-3	2/18/97	1435	X	X											X		UST 590A-1-3 Soil	.2
	SPORT 343-4	2/18/97	1445	X	X											X		UST 590A-1-4 Soil	.2
	SPORT 343-5	2/18/97	1455	X	X											X		UST 590A-1-5 Soil	.2
	SPORT 343-6	2/18/97	1505	X	X											X		UST 590A-1-6 Soil	.2
	SPORT 343-7	2/18/97	1515	X	X											X		UST 590A-1-7 DIRT PILE	.2
	SPORT 343-8	2/18/97	1400			X											X	UST 590A-1 H2O VOA TRIP BLANK	.3
	SPORT 343-9	2/18/97	1400	X												X		UST 590A-1 SOIL VOA TRIP BLANK	.4
Relinquished by: <i>Raymond Reed</i>		Date: 2/19/97	Time: 0850	Received by: <i>W. R. Hiers, Jr.</i>		Date: 2/19/97	Time: 1422	Relinquished by: <i>W. R. Hiers, Jr.</i>		Date: 2/19/97	Time: 1455	Received by: <i>Raymond Reed</i>		Remarks:					
Relinquished by: <i>Raymond Reed</i>		Date: 2-19-97	Time: 1455	Received by lab by: <i>Dionne Forester</i>		Date: 2/19/97	Time: 1455												

White = sample collector Yellow = file Pink = with report



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NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 1 of 3

Sample ID : SPORT0350-1
 Lab ID : 9702509-01
 Matrix : GroundH2O
 Date Collected : 02/25/97
 Date Received : 02/25/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	5.00	10.0	ug/l	5.0	RMB	02/28/97	1325	98389	1
Ethylbenzene		16.0	5.00	10.0	ug/l	5.0					
Toluene		18.5	5.00	10.0	ug/l	5.0					
Xylenes (TOTAL)		107	5.00	10.0	ug/l	5.0					
Methyl Tert Butyl Ether	J	6.00	5.00	10.0	ug/l	5.0					
Naphthalene		154	5.00	10.0	ug/l	5.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	444	888	ug/l	40.	RLC	03/05/97	1635	98364	2
Acenaphthylene	U	0.00	444	888	ug/l	40.					
Anthracene	U	0.00	444	888	ug/l	40.					
Benzo(a)anthracene	U	0.00	444	888	ug/l	40.					
Benzo(a)pyrene	U	0.00	444	888	ug/l	40.					
Benzo(b)fluoranthene	U	0.00	444	888	ug/l	40.					
Benzo(ghi)perylene	U	0.00	444	888	ug/l	40.					
Benzo(k)fluoranthene	U	0.00	444	888	ug/l	40.					
Chrysene	U	0.00	444	888	ug/l	40.					
Dibenzo(a,h)anthracene	U	0.00	444	888	ug/l	40.					
Fluoranthene	U	0.00	444	888	ug/l	40.					
Fluorene	U	0.00	444	888	ug/l	40.					
Indeno(1,2,3-c,d)pyrene	U	0.00	444	888	ug/l	40.					
Naphthalene		1050	444	888	ug/l	40.					
Phenanthrene	U	0.00	444	888	ug/l	40.					
Pyrene	U	0.00	444	888	ug/l	40.					

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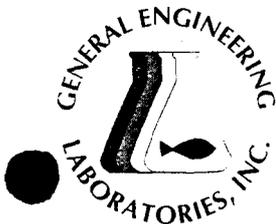
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NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 2 of 3

Sample ID : SPORT0350-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
-----------	-----------	--------	----	----	-------	----	---------	------	------	-------	---

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

GWL 02/27/97 1800 98364 3

Comments:

A dilution was required for Volatile Organics due to concentrations of target analytes. As a result, the detection limits are elevated.

A dilution was required for Extractable Organics due to matrix interference. As a result, the detection limits are elevated.

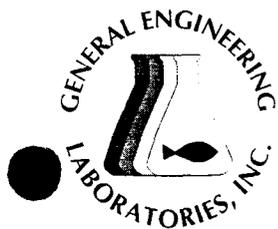
Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	0.00*	(43.0 - 108.)
Nitrobenzene-d5	M610	128.*	(35.0 - 111.)
p-Terphenyl-d14	M610	0.00*	(33.0 - 125.)
Bromofluorobenzene	BTEX-8260	95.2	(73.8 - 128.)
Dibromofluoromethane	BTEX-8260	116.	(63.9 - 139.)
Toluene-d8	BTEX-8260	108.	(77.1 - 121.)
Bromofluorobenzene	MTBE-8260	95.2	(73.8 - 128.)
Dibromofluoromethane	MTBE-8260	116.	(63.9 - 139.)
Toluene-d8	MTBE-8260	108.	(77.1 - 121.)
Bromofluorobenzene	NAP-8260	95.2	(73.8 - 128.)
Dibromofluoromethane	NAP-8260	116.	(63.9 - 139.)
Toluene-d8	NAP-8260	108.	(77.1 - 121.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3510

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NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 3 of 3

Sample ID : SPORT0350-1

M = Method

Method-Description

Notes:

The qualifiers in this report are defined as follows:

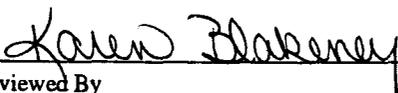
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

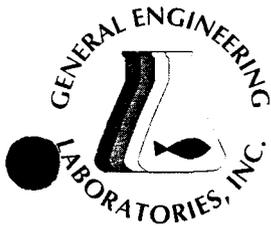
* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.



Reviewed By





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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 1 of 3

Sample ID : SPORT0350-2
 Lab ID : 9702509-02
 Matrix : Soil
 Date Collected : 02/24/97
 Date Received : 02/25/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	10.0	20.0	ug/kg	10.	SHJ	02/28/97	2229	98346	1
Ethylbenzene	U	0.00	10.0	20.0	ug/kg	10.					
Toluene	U	0.00	10.0	20.0	ug/kg	10.					
Xylenes (TOTAL)	U	0.00	10.0	20.0	ug/kg	10.					
Naphthalene	J	10.4	10.0	20.0	ug/kg	10.					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	J	211	163	325	ug/kg	10.	WAM	02/27/97	1806	98365	2
Acenaphthylene	U	0.00	163	325	ug/kg	10.					
Anthracene	U	0.00	163	325	ug/kg	10.					
Benzo(a)anthracene		683	163	325	ug/kg	10.					
Benzo(a)pyrene	U	84.5	163	325	ug/kg	10.					
Benzo(b)fluoranthene	J	221	163	325	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	163	325	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	163	325	ug/kg	10.					
Chrysene	U	0.00	163	325	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	163	325	ug/kg	10.					
Fluoranthene		325	163	325	ug/kg	10.					
Fluorene	U	0.00	163	325	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	71.5	163	325	ug/kg	10.					
Naphthalene	U	0.00	163	325	ug/kg	10.					
Phenanthrene	U	0.00	163	325	ug/kg	10.					
Pyrene	U	0.00	163	325	ug/kg	10.					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

MCS 02/27/97 1306 98365 3

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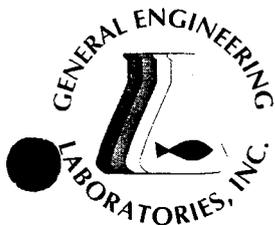
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STATE	GEL	EPI
FL	E87156/87294	E87472/8743
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 2 of 3

Sample ID : SPORT0350-2

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Volatile Organics due to a high concentration of hydrocarbons. A dilution was required for Extractable Organics due to matrix interference.

As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	84.2	(30.0 - 115.)
Nitrobenzene-d5	M610	44.1	(23.0 - 120.)
p-Terphenyl-d14	M610	146.*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	111.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	111.	(63.4 - 136.)
Toluene-d8	BTEX-8260	97.0	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	111.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	111.	(63.4 - 136.)
Toluene-d8	NAP-8260	97.0	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

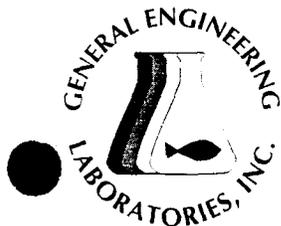
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.





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STATE	GEL	EPI
FL	E87156/87294	E87472/874.
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

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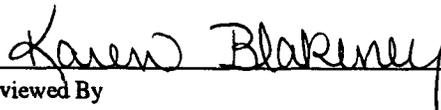
Sample ID : SPORT0350-2

M = Method

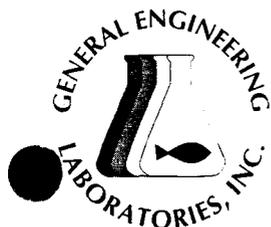
Method-Description

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STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 1 of 3

Sample ID : SPORT0350-3
 Lab ID : 9702509-03
 Matrix : Soil
 Date Collected : 02/24/97
 Date Received : 02/25/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	2.00	4.00	ug/kg	2.0	SHJ	02/26/97	2059	98346	1
Ethylbenzene	U	0.00	2.00	4.00	ug/kg	2.0					
Toluene	U	0.00	2.00	4.00	ug/kg	2.0					
Xylenes (TOTAL)	U	0.00	2.00	4.00	ug/kg	2.0					
Naphthalene		20.7	2.00	4.00	ug/kg	2.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	163	326	ug/kg	10.	WAM	02/27/97	1557	98365	2
Acenaphthylene	U	0.00	163	326	ug/kg	10.					
Anthracene	U	0.00	163	326	ug/kg	10.					
Benzo(a)anthracene	U	0.00	163	326	ug/kg	10.					
Benzo(a)pyrene	U	104	163	326	ug/kg	10.					
Benzo(b)fluoranthene	J	222	163	326	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	163	326	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	163	326	ug/kg	10.					
Chrysene	U	0.00	163	326	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	163	326	ug/kg	10.					
Fluoranthene	J	166	163	326	ug/kg	10.					
Fluorene	U	0.00	163	326	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	55.4	163	326	ug/kg	10.					
Naphthalene	U	0.00	163	326	ug/kg	10.					
Phenanthrene	U	0.00	163	326	ug/kg	10.					
Pyrene	U	0.00	163	326	ug/kg	10.					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

MCS 02/27/97 1306 98365 3

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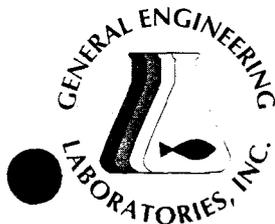
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NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

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Sample ID : SPORT0350-3

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Volatile Organics due to a high concentration of hydrocarbons. A dilution was required for Extractable Organics due to matrix interference.

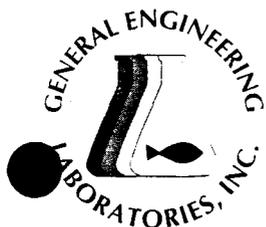
As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	81.9	(30.0 - 115.)
Nitrobenzene-d5	M610	48.0	(23.0 - 120.)
p-Terphenyl-d14	M610	140.*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	117.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	115.	(63.4 - 136.)
Toluene-d8	BTEX-8260	107.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	117.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	115.	(63.4 - 136.)
Toluene-d8	NAP-8260	107.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

The qualifiers in this report are defined as follows:
 ND indicates that the analyte was not detected at a concentration greater than the detection limit.
 J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).
 U indicates that the analyte was not detected at a concentration greater than the detection limit.
 indicates that a quality control analyte recovery is outside of specified acceptance criteria.



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STATE	GEL	EPI
FL	E87156/87294	E87472/87454
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

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Sample ID : SPORT0350-3

M = Method

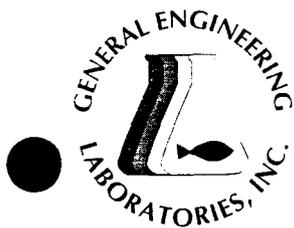
Method-Description

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Reviewed By

Karen Blakeney





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STATE	GEL	EPI
FL	E87156/87294	E87472/87-
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

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Sample ID : SPORT0350-4
 Lab ID : 9702509-04
 Matrix : Soil
 Date Collected : 02/24/97
 Date Received : 02/25/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/27/97	1158	98346	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.990	1.00	4.00	ug/kg	1.0					
Naphthalene	J	1.33	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	162	324	ug/kg	10.	WAM	02/27/97	1837	98365	2
Acenaphthylene	U	0.00	162	324	ug/kg	10.					
Anthracene	U	0.00	162	324	ug/kg	10.					
Benzo(a)anthracene		648	162	324	ug/kg	10.					
Benzo(a)pyrene	U	74.5	162	324	ug/kg	10.					
Benzo(b)fluoranthene	U	156	162	324	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	162	324	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	162	324	ug/kg	10.					
Chrysene	U	0.00	162	324	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	162	324	ug/kg	10.					
Fluoranthene	U	0.00	162	324	ug/kg	10.					
Fluorene	U	0.00	162	324	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	0.00	162	324	ug/kg	10.					
Naphthalene	U	0.00	162	324	ug/kg	10.					
Phenanthrene	U	0.00	162	324	ug/kg	10.					
Pyrene	U	0.00	162	324	ug/kg	10.					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

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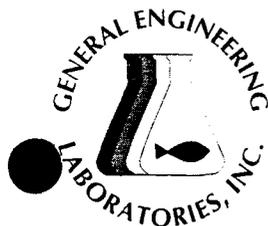
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FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 2 of 3

Sample ID : SPORT0350-4

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Extractable Organics due to matrix interference. As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	75.9	(30.0 - 115.)
Nitrobenzene-d5	M610	40.0	(23.0 - 120.)
p-Terphenyl-d14	M610	132.*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	120.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	115.	(63.4 - 136.)
Toluene-d8	BTEX-8260	103.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	120.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	115.	(63.4 - 136.)
Toluene-d8	NAP-8260	103.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

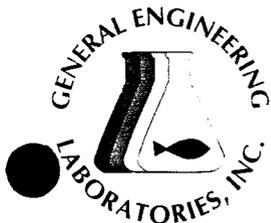
The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.



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NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
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North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

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Sample ID : SPORT0350-4

M = Method

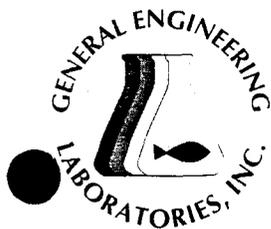
Method-Description

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Karen Blakeney

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FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

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Sample ID : SPORT0350-5
 Lab ID : 9702509-05
 Matrix : Soil
 Date Collected : 02/24/97
 Date Received : 02/25/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/27/97	1230	98346	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	164	328	ug/kg	10.	WAM	02/27/97	1909	98365	2
Acenaphthylene	U	0.00	164	328	ug/kg	10.					
Anthracene	U	0.00	164	328	ug/kg	10.					
Benzo(a)anthracene		656	164	328	ug/kg	10.					
Benzo(a)pyrene	U	72.2	164	328	ug/kg	10.					
Benzo(b)fluoranthene	J	167	164	328	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	164	328	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	164	328	ug/kg	10.					
Chrysene	U	0.00	164	328	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	164	328	ug/kg	10.					
Fluoranthene	U	0.00	164	328	ug/kg	10.					
Fluorene	U	0.00	164	328	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	0.00	164	328	ug/kg	10.					
Naphthalene	U	0.00	164	328	ug/kg	10.					
Phenanthrene	U	0.00	164	328	ug/kg	10.					
Pyrene	U	0.00	164	328	ug/kg	10.					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

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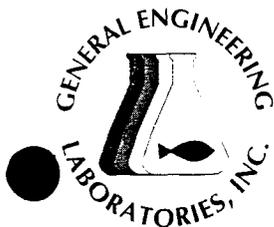
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SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: March 07, 1997

Page 2 of 3

Sample ID : SPORT0350-5

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Extractable Organics due to matrix interference. As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	70.0	(30.0 - 115.)
Nitrobenzene-d5	M610	40.0	(23.0 - 120.)
p-Terphenyl-d14	M610	114.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	104.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	113.	(63.4 - 136.)
Toluene-d8	BTEX-8260	104.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	104.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	113.	(63.4 - 136.)
Toluene-d8	NAP-8260	104.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

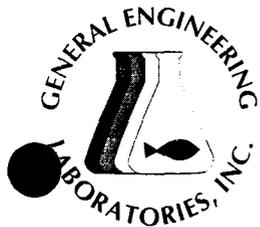
The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.



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STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: March 07, 1997

Page 3 of 3

Sample ID : SPORT0350-5

M = Method

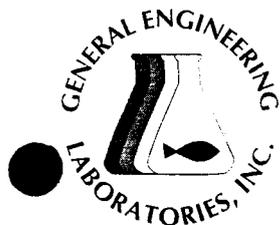
Method-Description

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Reviewed By

Karen Blakeney





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STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 1 of 3

Sample ID : SPORT0350-6
 Lab ID : 9702509-06
 Matrix : Soil
 Date Collected : 02/24/97
 Date Received : 02/25/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/28/97	1439	98346	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.740	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	166	331	ug/kg	10.	WAM	02/27/97	1941	98365	2
Acenaphthylene	U	0.00	166	331	ug/kg	10.					
Anthracene	U	0.00	166	331	ug/kg	10.					
Benzo(a)anthracene		662	166	331	ug/kg	10.					
Benzo(a)pyrene	U	66.2	166	331	ug/kg	10.					
Benzo(b)fluoranthene	U	156	166	331	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	166	331	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	166	331	ug/kg	10.					
Chrysene	U	0.00	166	331	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	166	331	ug/kg	10.					
Fluoranthene	U	0.00	166	331	ug/kg	10.					
Fluorene	U	0.00	166	331	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	0.00	166	331	ug/kg	10.					
Naphthalene	U	0.00	166	331	ug/kg	10.					
Phenanthrene	U	0.00	166	331	ug/kg	10.					
Pyrene	U	0.00	166	331	ug/kg	10.					

The following prep procedures were performed:
 GC/MS Base/Neutral Compounds

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8,
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 2 of 3

Sample ID : SPORT0350-6

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
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Comments:

A dilution was required for Extractable Organics due to matrix interference. As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	65.8	(30.0 - 115.)
Nitrobenzene-d5	M610	29.9	(23.0 - 120.)
p-Terphenyl-d14	M610	128.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	111.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	114.	(63.4 - 136.)
Toluene-d8	BTEX-8260	82.2	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	111.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	114.	(63.4 - 136.)
Toluene-d8	NAP-8260	82.2	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 3550

Notes:

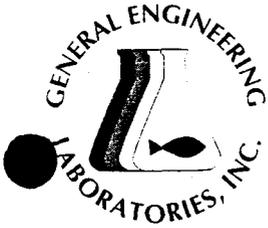
The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 3 of 3

Sample ID : SPORT0350-6

M = Method

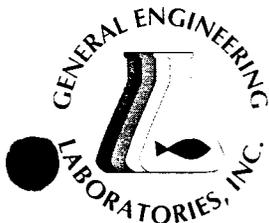
Method-Description

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Reviewed By

Karen Blakeney





GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 04, 1997

Page 1 of 2

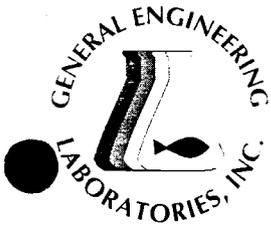
Sample ID : SPORT0350-7
 Lab ID : 9702509-07
 Matrix : GroundH2O
 Date Collected : 02/24/97
 Date Received : 02/25/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/l	1.0	RMB	02/27/97	1143	98389	1
Ethylbenzene	U	0.00	1.00	2.00	ug/l	1.0					
Toluene	U	0.00	1.00	2.00	ug/l	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/l	1.0					
Methyl Tert Butyl Ether	U	0.00	1.00	2.00	ug/l	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/l	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	92.0	(73.8 - 128.)
Dibromofluoromethane	BTEX-8260	107.	(63.9 - 139.)
Toluene-d8	BTEX-8260	106.	(77.1 - 121.)
Bromofluorobenzene	MTBE-8260	92.0	(73.8 - 128.)
Dibromofluoromethane	MTBE-8260	107.	(63.9 - 139.)
Toluene-d8	MTBE-8260	106.	(77.1 - 121.)
Bromofluorobenzene	NAP-8260	92.0	(73.8 - 128.)
Dibromofluoromethane	NAP-8260	107.	(63.9 - 139.)
Toluene-d8	NAP-8260	106.	(77.1 - 121.)

M = Method	Method-Description
M 1	EPA 8260





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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8743
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 04, 1997

Page 2 of 2

Sample ID : SPORT0350-7

M = Method Method-Description

Notes:

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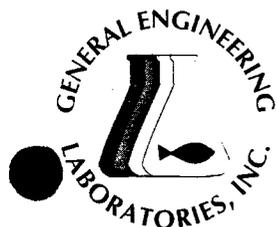
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Reviewed By

Karen Blakeney



GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 1 of 2

Sample ID : SPORT0350-8
 Lab ID : 9702509-08
 Matrix : Soil
 Date Collected : 02/24/97
 Date Received : 02/25/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	SHJ	02/26/97	1626	98346	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					

Comments:

This soil trip blank was received wet upon arrival at General Engineering Laboratories.

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	109.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	119.	(63.4 - 136.)
Toluene-d8	BTEX-8260	99.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	109.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	119.	(63.4 - 136.)
Toluene-d8	NAP-8260	99.6	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260





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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

Client: Supervisor of Ship Building & Conversion
SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: March 07, 1997

Page 2 of 2

Sample ID : SPOR0350-8

M = Method

Method-Description

Notes:

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* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

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Reviewed By

Karen Blakeney

PO Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29407

(803) 556-8171 • FAX (803) 766-1178

8702509-08



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NWDC00196

General Engineering Laboratories, Inc.
 2040 Savage Road
 Charleston, South Carolina 29414
 P.O. Box 30712
 Charleston, South Carolina 29417
 (803) 556-8171

CHAIN OF CUSTODY RECORD

9702589

Page 1 of 1

Client Name/Facility Name				SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods																Use F or P in the boxes to indicate whether sample was filtered and/or preserved	
SPORTENV DET CHASN																				CCL 25873	
Collected by/Company				# OF CONTAINERS	pH, conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCBs PAH	Cyanide	Coliform - specify type	Remarks	
SAMPLE ID	DATE	TIME	WELL																		SOIL
01 SPORT 350-1				1																X	UST 590A-2-1 GW
02 SPORT 350-2	2/24/97	1320	X	X	2															X	UST 590A-2-2 SOIL
03 SPORT 350-3	2/24/97	1340	X	X	2															X	UST 590A-2-3 SOIL
04 SPORT 350-4	2/24/97	1400	X	X	2															X	UST 590A-2-4 SOIL
05 SPORT 350-5	2/24/97	1420	X	X	2															X	UST 590A-2-5 SOIL
06 SPORT 350-6	2/24/97	1440	X	X	2															X	UST 590A-2-6 DIRT PILE
07 SPORT 350-7	2/24/97	1300			3															X	UST 590A-1 H ₂ O VOA TRIP BLANK
08 SPORT 350-8	2/24/97	1300	X		1															X	UST 590A-1 SOIL VOA TRIP BLANK
NOTE: SEE ATTACHED SHEET FOR LEVELS.																					
Relinquished by: <i>[Signature]</i>				Date: 2-25-97	Time: 1000	Received by: <i>[Signature]</i>				Relinquished by: <i>[Signature]</i>				Date: 2/25/97	Time: 1430	Received by: <i>[Signature]</i>					
Relinquished by: <i>[Signature]</i>				Date: 2/25/97	Time: 14:55	Received by lab by: <i>[Signature]</i>				Date: 2/25	Time: 1455	Remarks:									

White = sample collector Yellow = file Pink = with report

Attachment III

Certificate of Disposal (tanks)

UST Certificate of Disposal

CONTRACTOR

Supervisor of Shipbuilding, Conversion and Repair, USN
Portsmouth, VA
Environmental Detachment Charleston
1899 North Hobson Avenue
North Charleston 29405-2106

Telephone (803) 743-6482

TANK ID & LOCATION

UST 590A-1; Building 590, River Road, Charleston Naval Base, N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

SIZE (GAL)

Fuel oil

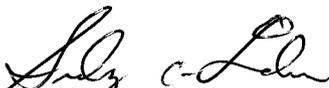
2,260 gal.

CLEANING/DISPOSAL METHOD

The tank was cut open on both ends, cleaned with a steam cleaner, cut into sections, and disposed of as recyclable scrap metal.

DISPOSAL CERTIFICATION

I certify that the above tank has been properly cleaned and disposed of as recyclable scrap metal.



Sidney C. Ladson

1 6/4/97
(Date)

UST Certificate of Disposal

CONTRACTOR

Supervisor of Shipbuilding, Conversion and Repair, USN
Portsmouth, VA
Environmental Detachment Charleston
1899 North Hobson Avenue
North Charleston 29405-2106

Telephone (803) 743-6482

TANK ID & LOCATION

UST 590A-2; Building 590, River Road, Charleston Naval Base, N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

SIZE (GAL)

Fuel oil

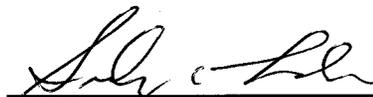
576 gal.

CLEANING/DISPOSAL METHOD

The tank was cut open on both ends, cleaned with a steam cleaner, cut into sections, and disposed of as recyclable scrap metal.

DISPOSAL CERTIFICATION

I certify that the above tank has been properly cleaned and disposed of as recyclable scrap metal.



Sidney C. Ladson

1 6/4/97
(Date)