

N61165.AR.005689  
CNC CHARLESTON  
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT FOR BUILDING 654 CNC  
CHARLESTON SC  
02/25/1997  
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

00963

L10.23.97  
L010.23.99

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**

Site I.D. #: Unregulated 00963  
Facility Name: Charleston Naval Base Complex, Building 654  
Street Address: West Osprey Street  
City: North Charleston, 29405-2413 County: Charleston

**III. CLOSURE INFORMATION**

Closure Started: 24 Jan 1997 Closure Completed: 25 Feb 1997  
Number of USTs Closed: 1  
N/A Consultant SPORTENVDETCNASN 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  
**RECEIVED**  
JUL 15 1997

Groundwater Assessment  
and Development Section

**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.....

654	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Fuel oil					
2,000 gal.					
Unk.					
Steel					
Unk.					
7'					
N					
N					
R					
N					
N					

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

UST 654 was removed, drained, cut open at both ends, and cleaned with a steam cleaner. It was 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)

UST 654 was found empty. The rinse water used to clean the tank was recycled.

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

The tank was in very good condition. It had no corrosion, pitting, or holes.

## 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.....

654	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Copper & PVC					
14'					
1 See note 1					
S					
Y					
N					
N					
Unk.					

Note 1: The tank provided fuel oil to Building 654.

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

The piping was in good condition, no corrosion, pitting, or holes were found.

## VII. BRIEF SITE DESCRIPTION AND HISTORY

UST 654 provided heating fuel oil to building 654, a former Charleston Naval Base Administration building.

The only applicable records found on Building 654 indicate the tank and piping were installed in 1962. Based on the good condition of the piping and tank, and the obvious contamination of the site, it was thought that the tank and/or piping had been replaced. The Steel Tank Institute (STI®) was called and it was verified that the "sti-P<sub>3</sub>" marking on the tank end (see attachment I photos) were not in use prior to 1970 and most likely not found on a tank prior to 1975. Therefore, it is assumed that the tank was replaced in the last 20 years due to failure.

## VIII. SITE CONDITIONS

Yes No Unk

		Yes	No	Unk
A.	<p>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. [UST excavation, 7']</p>	X		
B.	<p>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.) [UST excavation, mild]</p>	X		
C.	<p>Was water present in the UST excavation, soil borings, or trenches? If yes, how far below land surface (indicate location and depth)?</p> <p>_____</p>		X	
D.	<p>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*		
E.	<p>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>			N/A

\* Per conversation with DHEC, Mr. Tim Mettlen, and SouthDiv, Mr. Gabriel Magwood, petroleum contaminated soil may be removed from the excavation and stockpiled for disposal or remediation. The stockpiled soil has been transported to Building 1601, Detachment Charleston's Bioremediation Facility.



## X. SAMPLING METHODOLOGY

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

Soil samples were taken after the removal of UST 654. 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. UST piping soil samples were taken under the piping at the mechanical connections. A biased composite sample was taken from the excavation dirt pile 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

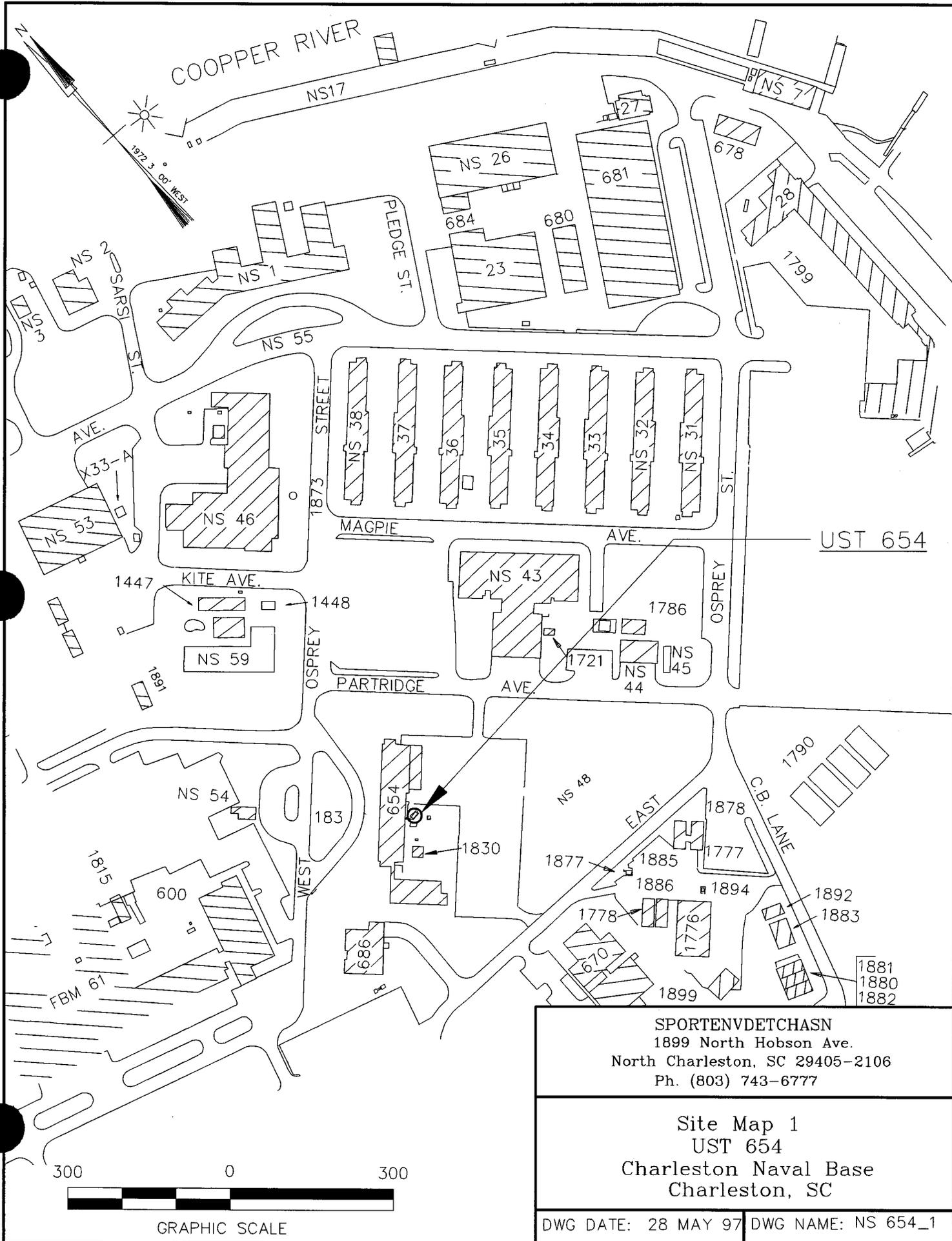
Yes    No

A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?  If yes, indicate type of receptor, distance, and direction on site map.		X
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?  If yes, indicate type of well, distance, and direction on site map.		X
C.	Are there any underground structures (e.g., basements) located within 100 feet of the UST system?  If yes, indicate the type of structure, distance, and direction on site map.		X
D.	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? <div style="text-align: center;">[electricity]</div> If yes, indicate the type of utility, distance, and direction on the site map.	X	
E.	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?  If yes, indicate the area of contaminated soil on the site map.		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.

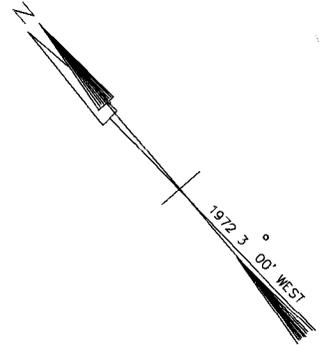
Site Maps 1, 2, and 3  
Photographs 1, 2, and 3



BLDG

654

DIRT PILE



1/2" OD. COPPER SUPPLY & RETURN PIPES, 1 FT. BELOW GROUND LEVEL

UST EXCAVATION

1-1/2" PVC FILL CONN.

FORMER UST 654

15000 VOLT SUB-STATION

2" PVC VENT LINE, 1 FT. BELOW GROUND LEVEL

CONCRETE SLAB

PIPE EXCAVATION

15' 0 15'



GRAPHIC SCALE

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

Site Map 2  
UST 654  
Charleston Naval Base  
Charleston, SC

DWG DATE: 29 MA7 97 DWG NAME: NS 654\_2

BLDG

654

DIRT PILE

S.S. SPORT 0368-1,  
COMPOSITE,  
SANDY/CLAY MIX,  
MILD ODOR, OVA=120 ppm

S.S. SPORT 0323-4,  
SANDY/CLAY SOIL,  
LIGHT ODOR, OVA=47.9 ppm

UST EXCAVATION

S.S. SPORT 0323-3,  
GREEN/GRAY CLAY SOIL,  
LIGHT ODOR, OVA=1285 ppm

FORMER UST 654

15000 VOLT  
SUB-STATION

CONCRETE  
SLAB

S.S. SPORT 0323-2,  
GREEN/GRAY CLAY SOIL,  
LIGHT ODOR, OVA=3014 ppm

PIPE EXCAVATION

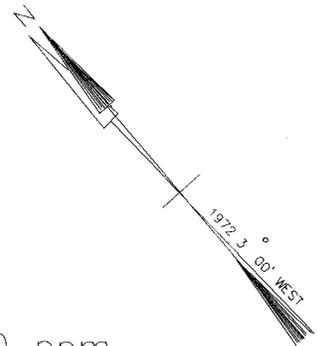
S.S. SPORT 0323-1,  
BROWN SANDY SOIL,  
NO ODOR, OVA=(0) ppm

LEGEND

S.S. - SOIL SAMPLE



GRAPHIC SCALE



SPORTENVDETHASN

1899 North Hobson Ave.

North Charleston, SC 29405-2106

Ph. (803) 743-6777

Site Map 3

UST 654

Charleston Naval Base

Charleston, SC

DWG DATE: 29 MA 7 97

DWG NAME: NS 654\_3

UST 654



Photo 1: UST 654 during excavation.



Photo 2: UST 654 being hoisted from the excavation.

UST 654

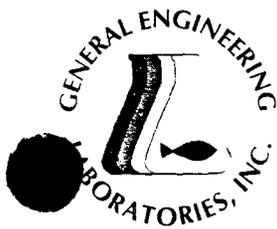


Photo 3: UST 654 during cutting and cleaning.

**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 07, 1997

Page 1 of 3

Sample ID : SPORT0323-1  
 Lab ID : 9701516-01  
 Matrix : Soil  
 Date Collected : 01/27/97  
 Date Received : 01/28/97  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatile Organics</b>											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JAC	01/31/97	2047	97209	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					
<b>Extractable Organics</b>											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	1620	3240	ug/kg	10.	WAM	02/03/97	2020	97163	2
Acenaphthylene	U	0.00	1620	3240	ug/kg	10.					
Anthracene	U	0.00	1620	3240	ug/kg	10.					
Benzo(a)anthracene		5220	1620	3240	ug/kg	10.					
Benzo(a)pyrene		4080	1620	3240	ug/kg	10.					
Benzo(b)fluoranthene		3950	1620	3240	ug/kg	10.					
Benzo(ghi)perylene	J	2330	1620	3240	ug/kg	10.					
Benzo(k)fluoranthene		4990	1620	3240	ug/kg	10.					
Chrysene		6420	1620	3240	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	1620	3240	ug/kg	10.					
Fluoranthene		11000	1620	3240	ug/kg	10.					
Fluorene	U	0.00	1620	3240	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	J	2300	1620	3240	ug/kg	10.					
Naphthalene	U	0.00	1620	3240	ug/kg	10.					
Phenanthrene		8390	1620	3240	ug/kg	10.					
Pyrene		8550	1620	3240	ug/kg	10.					

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

MS 01/31/97 1100 97163

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

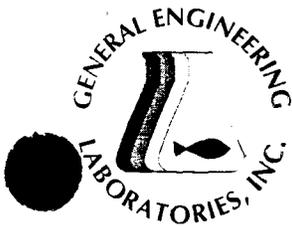
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\*9701516-01\*



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### Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/E
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 07, 1997

Page 2 of 3

Sample ID : SPORT0323-1

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	0.00*	(30.0 - 115.)
Nitrobenzene-d5	M610	0.00*	(23.0 - 120.)
p-Terphenyl-d14	M610	108.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	130.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	90.0	(63.4 - 136.)
Toluene-d8	BTEX-8260	95.2	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	130.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	90.0	(63.4 - 136.)
Toluene-d8	NAP-8260	95.2	(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:

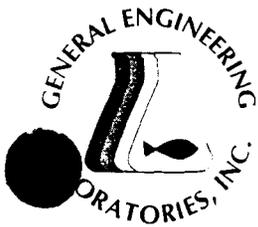
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

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

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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: February 07, 1997

Page 3 of 3

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Sample ID : SPORT0323-1

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**M = Method**

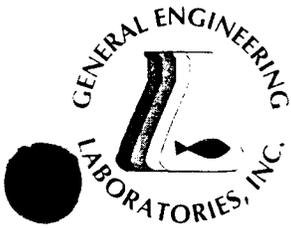
**Method-Description**

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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





# GENERAL ENGINEERING LABORATORIES

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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 07, 1997

Page 1 of 3

Sample ID : SPORT0323-2  
 Lab ID : 9701516-02  
 Matrix : Soil  
 Date Collected : 01/27/97  
 Date Received : 01/28/97  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatile Organics</b>											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	10.0	20.0	ug/kg	10.	JAC	01/31/97	2115	97209	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	U	0.00	10.0	20.0	ug/kg	10.					
<b>Extractable Organics</b>											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	1660	3320	ug/kg	10.	WAM	02/03/97	2053	97163	2
Acenaphthylene	U	0.00	1660	3320	ug/kg	10.					
Anthracene	U	0.00	1660	3320	ug/kg	10.					
Benzo(a)anthracene	U	0.00	1660	3320	ug/kg	10.					
Benzo(a)pyrene	U	0.00	1660	3320	ug/kg	10.					
Benzo(b)fluoranthene	U	0.00	1660	3320	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	1660	3320	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	1660	3320	ug/kg	10.					
Chrysene	U	0.00	1660	3320	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	1660	3320	ug/kg	10.					
Fluoranthene	U	0.00	1660	3320	ug/kg	10.					
Fluorene	U	0.00	1660	3320	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	0.00	1660	3320	ug/kg	10.					
Naphthalene	U	0.00	1660	3320	ug/kg	10.					
Phenanthrene	U	0.00	1660	3320	ug/kg	10.					
Pyrene	U	0.00	1660	3320	ug/kg	10.					

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

MS 01/31/97 1100 97163 3

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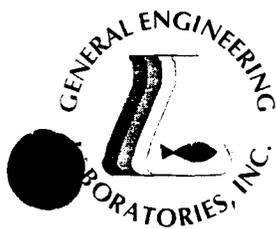
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\*9701516-02\*



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# 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: February 07, 1997

Page 2 of 3

Sample ID : SPORT0323-2

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	0.00*	(30.0 - 115.)
Nitrobenzene-d5	M610	0.00*	(23.0 - 120.)
p-Terphenyl-d14	M610	110.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	94.4	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	92.0	(63.4 - 136.)
Toluene-d8	BTEX-8260	101.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	94.4	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	92.0	(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:**

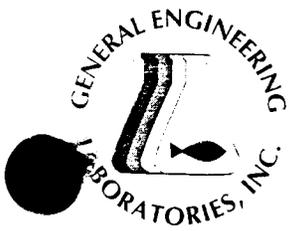
The qualifiers in this report are defined as follows:

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.

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



# GENERAL ENGINEERING LABORATORIES

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## Laboratory Certifications

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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 07, 1997

Page 3 of 3

Sample ID : SPORT0323-2

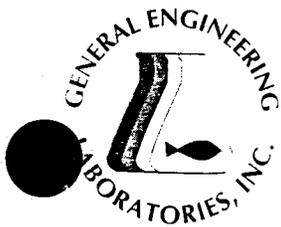
**M = Method** **Method-Description**

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

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 07, 1997

Page 1 of 3

Sample ID : SPORT0323-3  
 Lab ID : 9701516-03  
 Matrix : Soil  
 Date Collected : 01/27/97  
 Date Received : 01/28/97  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatile Organics</b>											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	10.0	20.0	ug/kg	10.	JAC	01/31/97	2143	97209	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	U	0.00	10.0	20.0	ug/kg	10.					
<b>Extractable Organics</b>											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	1650	3290	ug/kg	10.	WAM	02/03/97	2126	97163	2
Acenaphthylene	U	0.00	1650	3290	ug/kg	10.					
Anthracene	U	0.00	1650	3290	ug/kg	10.					
Benzo(a)anthracene	U	0.00	1650	3290	ug/kg	10.					
Benzo(a)pyrene	U	0.00	1650	3290	ug/kg	10.					
Benzo(b)fluoranthene	U	0.00	1650	3290	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	1650	3290	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	1650	3290	ug/kg	10.					
Chrysene	U	0.00	1650	3290	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	1650	3290	ug/kg	10.					
Fluoranthene	U	0.00	1650	3290	ug/kg	10.					
Fluorene	U	0.00	1650	3290	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	0.00	1650	3290	ug/kg	10.					
Naphthalene	U	0.00	1650	3290	ug/kg	10.					
Phenanthrene	U	0.00	1650	3290	ug/kg	10.					
Pyrene	U	0.00	1650	3290	ug/kg	10.					

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

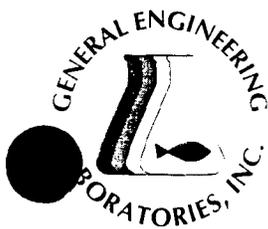
MS 01/31/97 1100 97163

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\*9701516-03\*



# 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: February 07, 1997

Page 2 of 3

Sample ID : SPORT0323-3

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

### 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	0.00*	(30.0 - 115.)
Nitrobenzene-d5	M610	0.00*	(23.0 - 120.)
p-Terphenyl-d14	M610	0.00*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	96.0	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	94.0	(63.4 - 136.)
Toluene-d8	BTEX-8260	105.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	96.0	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	94.0	(63.4 - 136.)
Toluene-d8	NAP-8260	105.	(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:

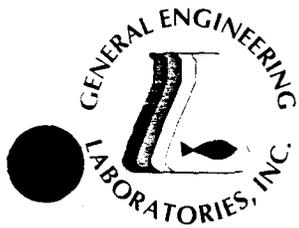
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

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.

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





# GENERAL ENGINEERING LABORATORIES

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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 07, 1997

Page 3 of 3

---

Sample ID : SPORT0323-3

---

**M = Method**

**Method-Description**

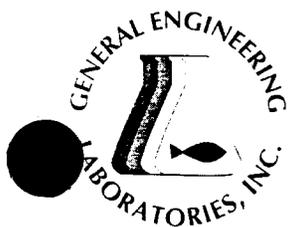
---

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







# GENERAL ENGINEERING LABORATORIES

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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 07, 1997

Page 1 of 3

Sample ID : SPORT0323-4  
 Lab ID : 9701516-04  
 Matrix : Soil  
 Date Collected : 01/27/97  
 Date Received : 01/28/97  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatile Organics</b>											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	10.0	20.0	ug/kg	10.	JAC	01/31/97	2211	97209	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	U	0.00	10.0	20.0	ug/kg	10.					
<b>Extractable Organics</b>											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	1650	3290	ug/kg	10.	WAM	02/05/97	1104	97163	2
Acenaphthylene	U	0.00	1650	3290	ug/kg	10.					
Anthracene	U	0.00	1650	3290	ug/kg	10.					
Benzo(a)anthracene	U	0.00	1650	3290	ug/kg	10.					
Benzo(a)pyrene	U	0.00	1650	3290	ug/kg	10.					
Benzo(b)fluoranthene	U	0.00	1650	3290	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	1650	3290	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	1650	3290	ug/kg	10.					
Chrysene	U	0.00	1650	3290	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	1650	3290	ug/kg	10.					
Fluoranthene	J	1710	1650	3290	ug/kg	10.					
Fluorene	U	0.00	1650	3290	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	0.00	1650	3290	ug/kg	10.					
Naphthalene	U	0.00	1650	3290	ug/kg	10.					
Phenanthrene	U	0.00	1650	3290	ug/kg	10.					
Pyrene	U	0.00	1650	3290	ug/kg	10.					

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

MS 01/31/97 1100 97163

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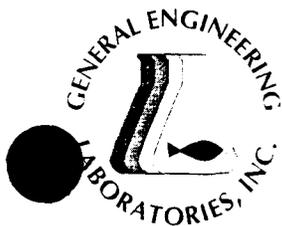


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\*9701516-04\*



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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 07, 1997

Page 2 of 3

Sample ID : SPORT0323-4

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	102.	(30.0 - 115.)
Nitrobenzene-d5	M610	0.00*	(23.0 - 120.)
p-Terphenyl-d14	M610	112.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	102.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	87.2	(63.4 - 136.)
Toluene-d8	BTEX-8260	105.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	102.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	87.2	(63.4 - 136.)
Toluene-d8	NAP-8260	105.	(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).

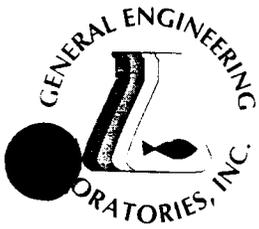
U indicates that the analyte was not detected at a concentration greater than the detection limit.

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

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\*9701516-04\*



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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: February 07, 1997

Page 3 of 3

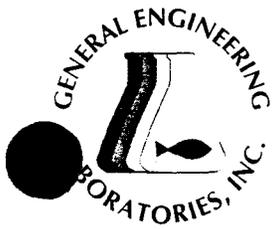
Sample ID : SPORT0323-4

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.

*Karen Blakeney*  
Reviewed By



# 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: February 07, 1997

Page 1 of 2

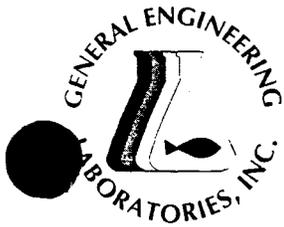
Sample ID : SPORT0323-5  
 Lab ID : 9701516-05  
 Matrix : Soil  
 Date Collected : 01/27/97  
 Date Received : 01/28/97  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatile Organics</b>											
<b>BTEX - 4 items</b>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JAC	02/04/97	1831	97389	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		2.83	1.00	2.00	ug/kg	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	96.3	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	83.2	(63.4 - 136.)
Toluene-d8	BTEX-8260	93.8	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	96.3	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	83.2	(63.4 - 136.)
Toluene-d8	NAP-8260	93.8	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260





# GENERAL ENGINEERING LABORATORIES

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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 07, 1997

Page 2 of 2

Sample ID : SPORT0323-5

M = Method Method-Description

### Notes:

The qualifiers in this report are defined as follows:

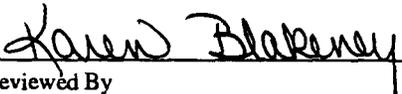
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

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



N7 C 00196

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

# CHAIN OF CUSTODY RECORD

Page 1 of 1

9701516

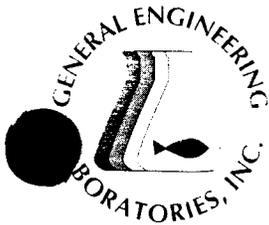
KBB

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								
SPORTENVDETCHASN		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	PCB's	Cyanide	Coliform - specify type	BTEX PLUS NAPTHALENE	PAH	Remarks	
SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# OF CONTAINERS													
01 SPORT 323-1	1/27/97	1330	X	X			Z										X	X	UST NS 654-1 Soil	
02 SPORT 323-2	1/27/97	1350	X	X			Z										X	X	UST NS 654-2 Soil	
03 SPORT 323-3	1/27/97	1412	X	X			Z										X	X	UST NS 654-3 Soil	
04 SPORT 323-4	1/27/97	1435	X	X			Z										X	X	UST NS 654-4 Soil DIRT Pile	
05 SPORT 323-5	1/27/97	1350	X	X			1										X		UST NS 654 Soil VOA TRIP BLANK	

Relinquished by: W. J. Hubert Date: 1/28/97 Time: 0823 Received by: Tom Sean Relinquished by: Tom Sean Date: 1/28/97 Time: 1450 Received by: Crystal Henderson

Relinquished by: Crystal Henderson Date: 1-28-97 Time: 15:15 Received by lab by: Dominic Date: 1/28/97 Time: 15:15 Remarks:

White = sample collector    Yellow = file    Pink = with report



# 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 13, 1997

Page 1 of 2

Sample ID : SPORT0368-1  
 Lab ID : 9703076-01  
 Matrix : Soil  
 Date Collected : 03/04/97  
 Date Received : 03/04/97  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Extractable Organics</b>											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	6580	13200	ug/kg	40.	JCB	03/07/97	1850	98604	1
Acenaphthylene	U	0.00	6580	13200	ug/kg	40.					
Anthracene	U	0.00	6580	13200	ug/kg	40.					
Benzo(a)anthracene	U	0.00	6580	13200	ug/kg	40.					
Benzo(a)pyrene	U	0.00	6580	13200	ug/kg	40.					
Benzo(b)fluoranthene	U	0.00	6580	13200	ug/kg	40.					
Benzo(ghi)perylene	U	0.00	6580	13200	ug/kg	40.					
Benzo(k)fluoranthene	U	0.00	6580	13200	ug/kg	40.					
Chrysene	U	0.00	6580	13200	ug/kg	40.					
Dibenzo(a,h)anthracene	U	0.00	6580	13200	ug/kg	40.					
Fluoranthene	U	0.00	6580	13200	ug/kg	40.					
Fluorene	U	0.00	6580	13200	ug/kg	40.					
Indeno(1,2,3-c,d)pyrene	U	0.00	6580	13200	ug/kg	40.					
Naphthalene	U	0.00	6580	13200	ug/kg	40.					
Phenanthrene	U	0.00	6580	13200	ug/kg	40.					
Pyrene	U	0.00	6580	13200	ug/kg	40.					

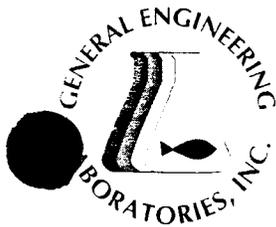
The following prep procedures were performed:  
 GC/MS Base/Neutral Compounds

TSD 03/05/97 1500 98604 2

### Comments:

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





# 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 13, 1997

Page 2 of 2

Sample ID : SPORT0368-1

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	0.00*	(30.0 - 115.)
Nitrobenzene-d5	M610	0.00*	(23.0 - 120.)
p-Terphenyl-d14	M610	0.00*	(37.3 - 128.)

M = Method	Method-Description
M 1	EPA 8270
M 2	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.

  
Reviewed By

ND 00000196

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 Charleston, South Carolina 29414  
 P.O. Box 30712  
 Charleston, South Carolina 29417  
 (803) 556-8171

# CHAIN OF CUSTODY RECORD

9703076

Page 1 of 1

Client Name/Facility Name				SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods													Remarks				
SPORTENVDETCHASN				<input type="checkbox"/> pH, conductivity <input type="checkbox"/> TOC/DOC <input type="checkbox"/> TOX <input type="checkbox"/> Chloride, Fluoride, Sulfide <input type="checkbox"/> Nitrite/Nitrate <input type="checkbox"/> VOC - Specify Method required <input type="checkbox"/> METALS - specify <input type="checkbox"/> Pesticide <input type="checkbox"/> Herbicide <input type="checkbox"/> Total Phenol <input type="checkbox"/> Acid Extractables <input type="checkbox"/> B/N Extractables <input type="checkbox"/> PCB's <input type="checkbox"/> Cyanide <input type="checkbox"/> Coliform - specify type <input checked="" type="checkbox"/> PAH																	
Collected by/Company				# OF CONTAINERS														Use F or P in the boxes to indicate whether sample was filtered and/or preserved			
SPORTENVDETCHASN J. AMEY																					
SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB														Remarks	
SPORT 368-1	3/4/97	1120	X	X			1														DIRT PRE - UST NS 654
NOTE: SEE ATTACHED SHEET FOR LIMITS.																					
Relinquished by:			Date:	Time:	Received by:			Relinquished by:			Date:	Time:	Received by:								
Ben J. King			3/4/97	1200	Fred B. McGehee Jr.			Fred B. McGehee Jr.			3/4/97	1500	Catharine H. B.								
Relinquished by:			Date:	Time:	Received by lab by:			Date:	Time:	Remarks:											
Catharine H. B.			3-4-97	1540	Desiree Francois			3/4/97	1540												

White = sample collector    Yellow = file    Pink = with report

**Attachment III**

Certificate of Disposal (tank)

# 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 654; Building 654, Partridge Ave., Charleston Naval Base, N. Charleston, SC

## DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning  
& Disposal Area  
Charleston Naval Complex

### TYPE OF TANK

Fuel oil

### SIZE (GAL)

2,000 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)