

N61165.AR.005257
CNC CHARLESTON
5090.3a

NO FURTHER ACTION (NFA) UNDERGROUND STORAGE TANK (UST) ASSESSMENT
REPORT DATED 28 JULY 1998 FOR QUARTERS DD HOUSING CNC CHARLESTON SC
09/02/1998
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



2 September 1998

2600 Bull Street
Columbia, SC 29201-1708

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Department of the Navy
Southern Division NFEC
P.O. Box 190010
North Charleston, SC 29419-9010
Attn: Mr. Gabriel Magwood

Re: Underground Storage Tank Assessment Report dated 28 July 1998
Quarters "DD" Housing (Site Identification # 15405-General File)
Charleston Naval Complex/Charleston Naval Base
Charleston, SC
Charleston County

Dear Mr. Magwood:

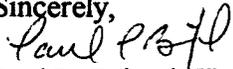
The author has completed technical review of the referenced document. As submitted, the report provides a narrative describing closure activities and analytical results of environmental sampling conducted to determine if releases have occurred as a result of operation of the referenced vessel and/or associated piping system. The analytical results provided indicate reportable concentrations of PAH compounds were detected in soil grab samples obtained from the UST excavation. The reported concentrations are below levels proposed in the SCAP (Soil Corrective Action Plan, amended July 1997). In this regard, the employed closure activities and sampling results appear to indicate that no additional endeavors for remedial actions and/or contaminant characterization are warranted for Quarters "DD" Housing at this time.

With consideration to the above, the Department has reviewed the referenced environmental data. Based on the information and analytical data submitted, the Department recognizes that the Department of the Navy and Charleston Naval Complex/Charleston Naval Base has adequately addressed the known environmental contamination identified on the property to date in accordance with the approved scope of work. Please note, this statement pertains only to the portion of the site addressed in the referenced report and does not apply to other areas of the site and/or any other potential regulatory violations. Further, the Department retains the right to request further investigation if deemed necessary.

Charleston Naval Complex/Charleston Naval Base
2 September 1998
page 2

Should you have any questions please contact me at (803) 734-5328.

Sincerely,


Paul L. Bristol, Hydrogeologist
Groundwater Quality Section
Bureau of Water


Tom Knight, Manager
Groundwater Quality Section
Bureau of Water

cc: Trident District EQC



DEPARTMENT OF THE NAVY

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
P.O. BOX 190010
2155 EAGLE DRIVE
NORTH CHARLESTON, S.C. 29419-9010

#15405

Li. 7.31.98
68.20.98

5090
Code 1849
28 July 1998

Mr. Paul Bristol
South Carolina Department of Health
And Environmental Control
Groundwater Quality Section
Bureau of Water
2600 Bull Street
Columbia, SC 29201

RECEIVED

JUL 28

Water Monitoring, Assessment &
Protection Division

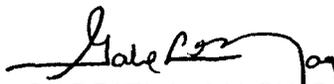
**UST ASSESSMENT REPORTS FOR CHARLESTON NAVAL COMPLEX,
CHARLESTON, SC**

Dear Mr. Bristol:

Enclosed are the Assessment Reports for the closure of Underground Storage Tanks 760, 763, DD, FF, HH, JJ, M5, M6, and M8 located at the Charleston Naval Complex, Charleston, SC.

If you have any questions please contact me at (843) 820-7307.

Sincerely,


GABRIEL L. MAGWOOD
Petroleum/UST

Encl:
(1) Assessment Reports

NFA

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

RECEIVED
JUL 28 1998

Submit Completed Form to:

Date Received
State Use Only

UST Regulatory Section
SCDHEC
2600 Bull Street
Columbia, South Carolina 29208
Telephone (803) 734-5331

Water Monitoring, Assessment &
Collection Division

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: 843 Telephone Number: 743-9985 Contact Person: Henry N. Shepard II, P. E.			

II SITE IDENTIFICATION AND LOCATION

Site I.D. #:	Unregulated		
Facility Name:	Charleston Naval Base Complex, Quarters DD		
Street Address:	1293 Avenue "G"		
City:	North Charleston, 29405-2413	County:	Charleston

NFA

III CLOSURE INFORMATION

Closure Started: 20 May 1998	Closure Completed: 20 May 1998
Number of USTs Closed: 1	
N/A	SPORTENVDETCNASN
Consultant	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.	
Henry Shepard II, P.E.	
Name (Type or Print)	
Signature	<i>Henry N. Shepard II PE 7/15/98</i>

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.....

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
Fuel oil					
1,000 gal					
Unk.					
Steel					
3/98					
6' 6"					
N					
N					
R					
Y					
N					

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

UST Quarters DD 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)

The sludge, waste water, and residual fuel oil from UST Quarters DD were recycled.

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

UST Quarters DD was covered with a thin protective coating. The tank was in fair condition. Surface corrosion present was throughout the exterior where the coating was missing, and heavier rust was present where the hold-down bands had encircled the tank. No holes were found.

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.....

Note 1: UST Quarters DD provided heating fuel oil to Quarters DD & EE.

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
Copper & Steel					
24' & 74' See note 1					
2 see note 1					
S					
Y					
Y					
N					
Unk.					

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

The steel fill pipe and the steel ventilation pipe were corroded throughout their length. But no holes were found in either pipe. The copper supply and return lines were in good condition.

VII. BRIEF SITE DESCRIPTION AND HISTORY

Double housing Quarters DD and EE was built in the 1940s, and served as housing for Naval families until base closure. UST Quarters DD provided heating fuel oil to both units.

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.)</p>		X	
<p>C. Was water present in the UST excavation, soil borings, or trenches?</p> <p>If yes, how far below land surface (indicate location and depth)?</p> <p>_____</p>		X	
<p>D. Did contaminated soils remain stockpiled on site after closure?</p> <p>If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p> <p>_____</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.</p>		X**	

* All excavated soil was returned to the tank pit.

** No groundwater was encountered.

X. SAMPLING METHODOLOGY

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

After the removal of UST Quarters DD, soil samples were taken. 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. Samples were extracted at the tank ends and from beneath the piping at the mechanical connections.

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 SPORTENVDETCHASN until they were transferred to General Engineering Laboratories for analysis as documented in the attached Chain-of-Custody Record.

XI. RECEPTORS

Yes No

<p>A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?</p> <p>If yes, indicate type of receptor, distance, and direction on site map.</p>		X
<p>B. 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
<p>C. 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
<p>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?</p> <p>If yes, indicate the type of utility, distance, and direction on the site map.</p> <p style="text-align: center;">[water]</p>	X	
<p>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?</p> <p>If yes, indicate the area of contaminated soil on the site map.</p>		X

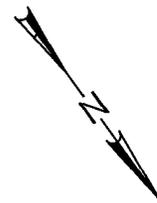
SITE MAP

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 and 2
Photographs 1 and 2

QUARTERS EE
1295 AVENUE 'G'

QUARTERS DD
1293 AVENUE 'G'



WATER SPIGOT

WATER SPIGOT

CUT AND CAPPED

CUT AND CAPPED

SUPPLY & RETURN
(COPPER)

SOIL SAMPLE SPORT 0688-6
(BLACK SOIL, NO DDOR,
DVA 0 ppm)

VENT
(STEEL)

SUPPLY & RETURN
(COPPER)

SOIL SAMPLE SPORT 0688-4
(BROWN SOIL, NO DDOR,
DVA 0 ppm)

SOIL SAMPLE SPORT 0688-7
(BROWN SOIL, NO DDOR,
DVA 0 ppm)

FORMER UST QUARTERS DD

FILL

GRASS

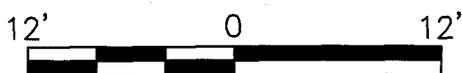
SOIL SAMPLE SPORT 0688-5
(BROWN SOIL, NO DDOR,
DVA 0 ppm)

UST EXCAVATION, 7' DEEP

GRASS

ASPHALT DRIVE

GRASS



GRAPHIC SCALE

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

Site Map 2
UST Quarters DD
Charleston Naval Base
Charleston, SC

DWG DATE: 18 JUNE 98 DWG NAME: QTR-DD_2

UST Quarters DD



Photo 1: UST Quarters DD prior to removal from the excavation.



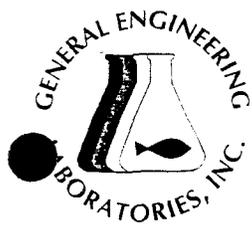
Photo 2: UST Quarters DD during cutting and cleaning.

Attachment II
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

M5, DD, BB



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: NPWC00197

Report Date: June 01, 1998

Page 1 of 2

Sample ID : SPORT0688-1
 Lab ID : 9805643-01
 Matrix : Soil
 Date Collected : 05/19/98
 Date Received : 05/21/98
 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	0.250	1.00	ug/kg	1.0	TCL	05/29/98	1600	123145	1
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	82.5	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	69.8	(63.4 - 136.)
Toluene-d8	BTEX-8260	70.7*	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	82.5	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	69.8	(63.4 - 136.)
Toluene-d8	NAP-8260	70.7*	(72.1 - 137.)

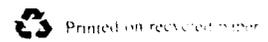
M = Method	Method-Description
M 1	EPA 8260

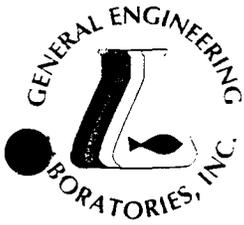
P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29414

(803) 556-8171 • Fax (803) 766-1178



9805643-01





GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
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1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: June 01, 1998

Page 2 of 2

Sample ID : SPORT0688-1

M = Method

Method-Description

Notes:

The qualifiers in this report are defined as follows:

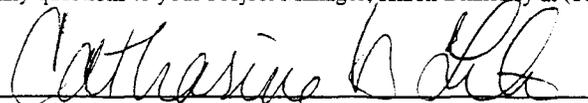
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

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

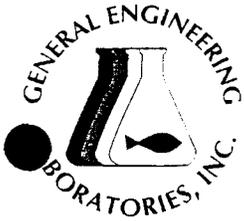
U indicates that the analyte was not detected at a concentration greater than the detection limit.

● 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





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: NPWC00197

Report Date: June 01, 1998

Page 1 of 2

Sample ID : SPORT0688-4
 Lab ID : 9805643-04
 Matrix : Soil
 Date Collected : 05/20/98
 Date Received : 05/21/98
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>TEX - 4 items</i>											
Benzene	U	0.00	0.250	1.00	ug/kg	1.0	TCL	05/29/98	1836	123145	1
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	165	330	ug/kg	1.0	RLC	05/28/98	2233	122731	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	0.00	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	0.00	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					

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

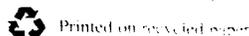
RDH 05/22/98 1540 122731 3

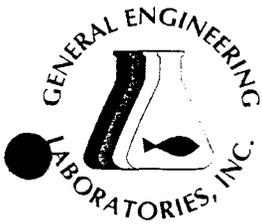
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9805643-04





GENERAL ENGINEERING LABORATORIES

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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: NPWC00197

Report Date: June 01, 1998

Page 2 of 2

Sample ID : SPORT0688-4

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	83.0	(30.0 - 115.)
Nitrobenzene-d5	M610	77.5	(23.0 - 120.)
p-Terphenyl-d14	M610	95.2	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	77.8	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	69.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	73.3	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	77.8	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	69.4	(63.4 - 136.)
Toluene-d8	NAP-8260	73.3	(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:

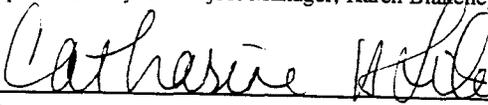
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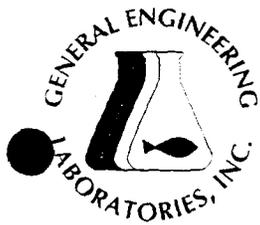
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U indicates that the analyte was not detected at a concentration greater than the detection limit.

* 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



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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: NPWC00197

Report Date: June 01, 1998

Page 1 of 2

Sample ID : SPORT0688-5
 Lab ID : 9805643-05
 Matrix : Soil
 Date Collected : 05/20/98
 Date Received : 05/21/98
 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	0.250	1.00	ug/kg	1.0	TCL	05/29/98	1907	123145	1
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene		1.21	0.420	1.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	166	331	ug/kg	1.0	RLC	05/28/98	2303	122731	2
Acenaphthylene	U	0.00	166	331	ug/kg	1.0					
Anthracene	U	0.00	166	331	ug/kg	1.0					
Benzo(a)anthracene		910	166	331	ug/kg	1.0					
Benzo(a)pyrene		788	166	331	ug/kg	1.0					
Benzo(b)fluoranthene		932	166	331	ug/kg	1.0					
Benzo(ghi)perylene	J	314	166	331	ug/kg	1.0					
Benzo(k)fluoranthene		753	166	331	ug/kg	1.0					
Chrysene		957	166	331	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	166	331	ug/kg	1.0					
Fluoranthene		1340	166	331	ug/kg	1.0					
Fluorene	U	0.00	166	331	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene		339	166	331	ug/kg	1.0					
Naphthalene	U	0.00	166	331	ug/kg	1.0					
Phenanthrene		374	166	331	ug/kg	1.0					
Pyrene		1240	166	331	ug/kg	1.0					

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

RDH 05/22/98 1540 122731 3

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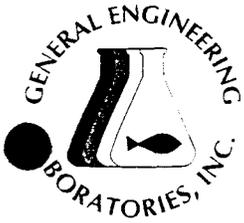
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9805643-05



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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: NPWC00197

Report Date: June 01, 1998

Page 2 of 2

Sample ID : SPORT0688-5

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	76.0	(30.0 - 115.)
Nitrobenzene-d5	M610	68.0	(23.0 - 120.)
p-Terphenyl-d14	M610	94.9	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	81.7	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	70.5	(63.4 - 136.)
Toluene-d8	BTEX-8260	73.4	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	81.7	(53.5 - 154.)
bromofluoromethane	NAP-8260	70.5	(63.4 - 136.)
Toluene-d8	NAP-8260	73.4	(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).

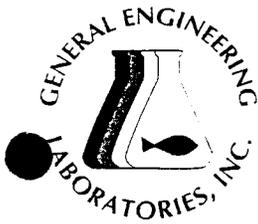
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* 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.


Catharine W. Cole

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: NPWC00197

Report Date: June 01, 1998

Page 1 of 2

Sample ID : SPORT0688-6
 Lab ID : 9805643-06
 Matrix : Soil
 Date Collected : 05/20/98
 Date Received : 05/21/98
 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	0.250	1.00	ug/kg	1.0	TCL	05/29/98	1937	123145	1
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	167	333	ug/kg	1.0	RLC	05/28/98	2332	122731	2
Acenaphthylene	U	0.00	167	333	ug/kg	1.0					
Anthracene	U	0.00	167	333	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	167	333	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	167	333	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	167	333	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	167	333	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	167	333	ug/kg	1.0					
Chrysene	U	0.00	167	333	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	167	333	ug/kg	1.0					
Fluoranthene	U	0.00	167	333	ug/kg	1.0					
Fluorene	U	0.00	167	333	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	167	333	ug/kg	1.0					
Naphthalene	U	0.00	167	333	ug/kg	1.0					
Phenanthrene	U	0.00	167	333	ug/kg	1.0					
Pyrene	U	0.00	167	333	ug/kg	1.0					

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

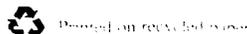
RDH 05/22/98 1540 122731 3

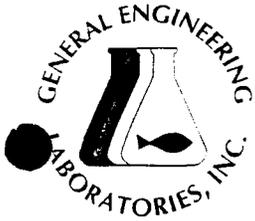
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9805643-06





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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: NPWC00197

Report Date: June 01, 1998

Page 1 of 2

Sample ID : SPORT0688-7
 Lab ID : 9805643-07
 Matrix : Soil
 Date Collected : 05/20/98
 Date Received : 05/21/98
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>PTEX - 4 items</i>											
Benzene	U	0.00	0.250	1.00	ug/kg	1.0	TCL	05/29/98	2008	123145	1
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	165	330	ug/kg	1.0	RLC	05/29/98	0002	122731	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	0.00	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	0.00	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

RDH 05/22/98 1540 122731 3

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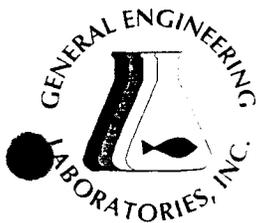
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Laboratory Certifications

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: NPWC00197

Report Date: June 01, 1998

Page 2 of 2

Sample ID : SPORT0688-7

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	76.8	(30.0 - 115.)
Nitrobenzene-d5	M610	67.9	(23.0 - 120.)
p-Terphenyl-d14	M610	93.0	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	78.8	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	69.1	(63.4 - 136.)
Toluene-d8	BTEX-8260	73.2	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	78.8	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	69.1	(63.4 - 136.)
Toluene-d8	NAP-8260	73.2	(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:

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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.

Catharine H. H. H.

Reviewed By

NO DC 00197

General Engineering Laboratories, Inc.
 2040 Savage Road
 Charleston, South Carolina 29407
 P.O. Box 30712
 Charleston, South Carolina 29417
 (803) 556-8171

CHAIN OF CUSTODY RECORD

9105643%

Page 1 of 1

Client Name/Facility Name SPORTENV DETCHASN						# OF CONTAINERS	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 CCL 32951 Remarks					
Collected by/Company SPORTENV DETCHASN							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/WAP	PAH		
SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB																				
01	SPORT0688-1	5-19-98	0800	X	X	1														X					SOIL TRIP BLANK	.1
02	SPORT0688-2	5-19-98	1430	X	X	2														X	X				UST M5 (EAST)	.2
03	SPORT0688-3	5-19-98	1435	X	X	2														X	X				UST M5 (WEST)	.2
04	SPORT0688-4	5-20-98	1315	X	X	2														X	X				UST-DD (WEST)	.2
05	SPORT0688-5	5-20-98	1320	X	X	2														X	X				UST-DD (EAST)	.2
06	SPORT0688-6	5-20-98	1325	X	X	2														X	X				UST-DD (PPG1)	.2
07	SPORT0688-7	5-20-98	1330	X	X	2														X	X				UST-DD (PPG2)	.2
08	SPORT0688-8	5-21-98	1105	X	X	2														X	X				UST-BB (WEST)	.2
09	SPORT0688-9	5-21-98	1110	X	X	2														X	X				UST-BB (EAST)	.2
10	SPORT0688-10	5-21-98	1115	X	X	2														X	X				UST-BB (PPG1)	.2
11	SPORT0688-11	5-21-98	1120	X	X	2														X	X				UST-BB (PPG2)	.2

Relinquished by: [Signature] Date: 5/21/98 Time: Received by: Virian Washorizer Relinquished by: Virian Washorizer Date: 5-21-98 Time: 1550 Received by: [Signature]

Relinquished by: [Signature] Date: 5/21/98 Time: 1620 Received by lab by: Karen Blakenny Date: 5/21/98 Time: 1620 Remarks:

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
Portsmouth, VA
Environmental Detachment Charleston
1899 North Hobson Avenue
North Charleston 29405-2106

Telephone (843) 743-6482

TANK ID & LOCATION

UST Quarters DD; Quarters DD, 1293 Avenue "G", North Charleston SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

Fuel oil

SIZE (GAL)

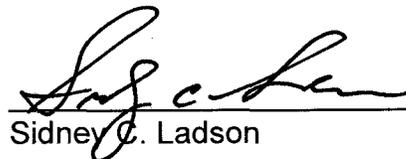
1,000 gal

CLEANING/DISPOSAL METHOD

The tank was cut open on both ends, cleaned with a steam cleaner, 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

104/10/98
(Date)