

N61165.AR.005578  
CNC CHARLESTON  
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT DATED 22 MAY 1998  
FOR QUARTERS P HOUSING WITH SOUTH CAROLINA DEPARTMENT OF HEALTH AND  
ENVIRONMENTAL CONTROL REVIEW LETTER CNC CHARLESTON SC  
07/14/1998  
NAVFAC SOUTHERN



14 July 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

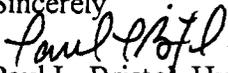
Re: Underground Storage Tank Assessment Report dated 22 May 1998  
Quarters "P" Housing (Site Identification # 15405-General File)  
Charleston Naval Complex/Charleston Naval Base  
Charleston, SC  
Charleston County

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 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 BTEX 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). Based on review of the employed closure activities and sampling results it appears that no additional endeavors for remedial actions and/or contaminant characterization is warranted for Quarters "P" Housing at this time. Please be aware this statement pertains only to the portion of the facility addressed in the referenced document and does not apply to other areas of the facility and/or any other potential regulatory violations. The Department retains the authority to request additional assessments and/or remedial endeavors, as appropriate, if future conditions or information warrant and are deemed necessary.

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

Li 5.28.98  
 Lu 7.14.98  
NFA

5090  
 Code 1849  
 22 May 1998

Mr. Paul Bristol  
 South Carolina Department of Health  
 And Environmental Control  
 Division of Underground Storage Tank  
 2600 Bull Street  
 Columbia, SC 29201

**RECEIVED**  
 MAY 26 1998

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

Naval Monitoring, Assessment &  
 Protection Division

Dear Mr. Bristol:

Enclosed are the Assessment Reports for the closure of Underground Storage Tanks D, J, O, P, Q, R, S, T and W 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 Report

D  
 O  
 P NFA 7.14 Low levels VOC soils  
 Q  
 R  
 S  
 T  
 W

L 528.98  
L 07.14.98

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

Submit Completed Form to:

Date Received
State Use Only

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: 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, Housing Quarters P
Street Address: 1565 Hobson Avenue
City: North Charleston, 29405-2413 County: Charleston

**III CLOSURE INFORMATION**

Closure Started: 16 April 1998	Closure Completed: 20 April 1998
Number of USTs Closed: 1	
N/A	SPORTENVDETHASN
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)

*W. A. Drawdy for*

Signature

**RECEIVED**  
MAY 26 1998  
Water Monitoring, Assessment  
Protection Division

**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					
550 gal					
Unk.					
Steel					
Unk.					
5'					
N					
N					
R					
N					
N					

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

UST Quarters P 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 P were recycled.

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

UST Quarters P was covered with a protective coating of pitch. The tank was in good condition. No holes, pitting, or corrosion 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 P provided heating fuel oil to housing Quarters P.

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
Copper & Steel					
46' See note 1					
1 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 ventilation pipe had minor corrosion throughout its length, but no holes were found. The copper supply and return lines were in good condition.

## VII. BRIEF SITE DESCRIPTION AND HISTORY

Quarters P was built in the late 1930s. It served as housing for Naval families until base closure.

### 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 P, 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.

The laboratory soil used for the soil trip blanks that accompanied the samples was taken from the wrong container. This soil exhibited contamination of naphthalene at approximately 6 ug/kg, toluene at ~1 ug/kg, and xylenes at ~ 1 ug/kg. Although this had no effect on the soil samples, the condition renders the use of these trip blanks as unsatisfactory for quality control purposes. Accordingly, the data is not included with the site samples. The problem has been corrected and the unsatisfactory soil has been removed from the lab.

## XI. RECEPTORS

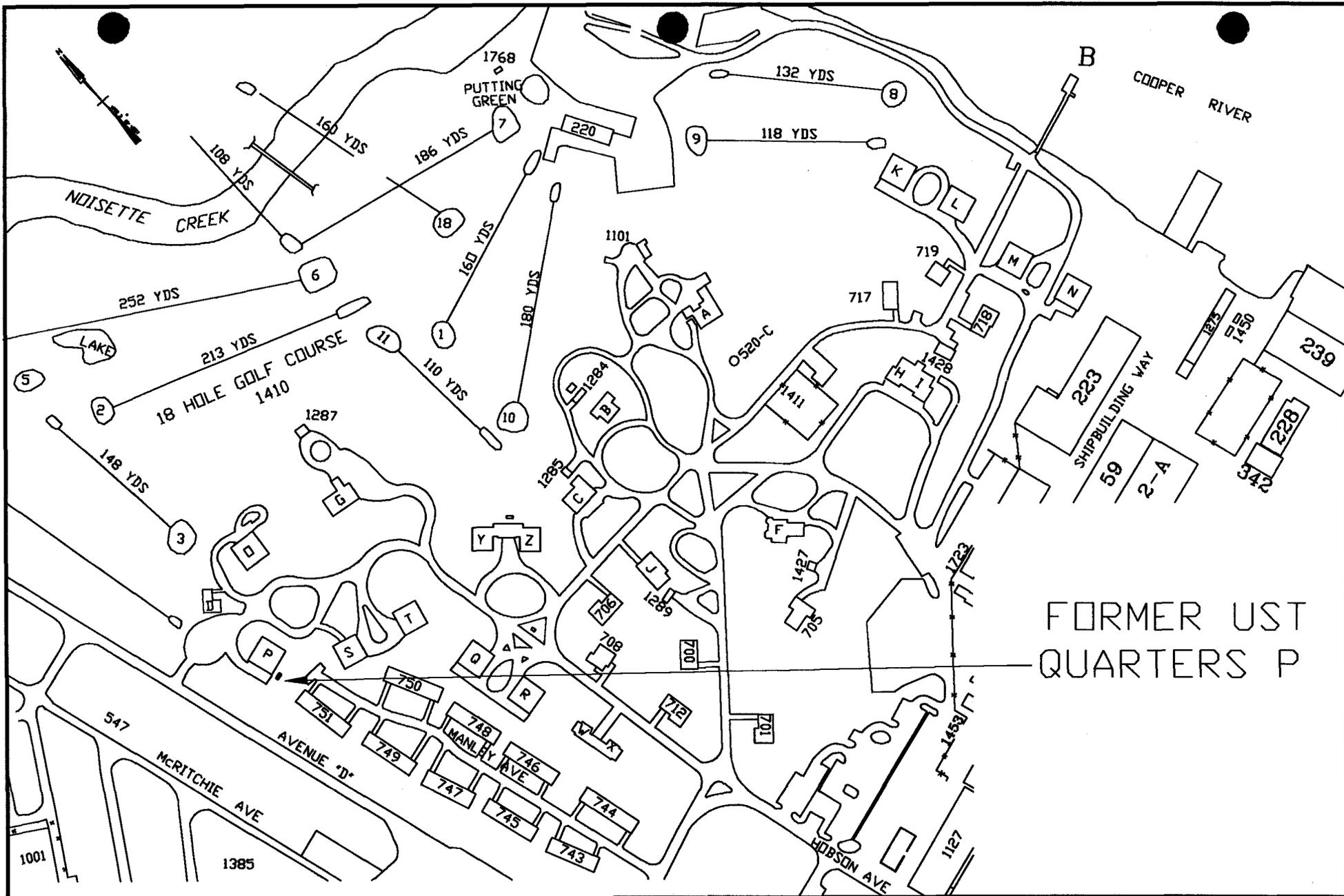
Yes No

<p>A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?  <b>[Noisette Creek ~ 978']</b>            If yes, indicate type of receptor, distance, and direction on site map.</p>	<p>X</p>	
<p>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.</p>		<p>X</p>
<p>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.</p>		<p>X</p>
<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?  <b>[water, communications, storm drain ]</b>            If yes, indicate the type of utility, distance, and direction on the site map.</p>	<p>X</p>	
<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?            If yes, indicate the area of contaminated soil on the site map.</p>		<p>X</p>

**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  
Photograph 1 and 2



FORMER UST  
QUARTERS P



GRAPHIC SCALE

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

Site Map 1  
 UST Quarters P  
 Charleston Naval Base  
 Charleston, SC

DWG DATE: 29 APR 98	DWG NAME: QT-P_1
---------------------	------------------



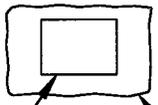
ASPHALT  
DRIVEWAY

UST QUARTERS P TO NOISETTE CREEK ~978'

QUARTERS P

GRASS

CONCRETE SIDEWALK



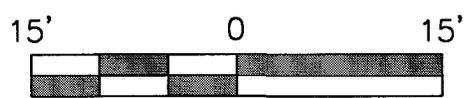
UST EXCAVATION

FORMER  
UST QUARTERS P

WATER LINE

MANHOLE

CABLE TV



GRAPHIC SCALE

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

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

DWG DATE: 30 APR 98 | DWG NAME: QT-P\_2



UST QUARTERS P TO NOISETTE CREEK ~978'

QUARTERS P

VENT

CUT AND CAPPED

SOIL SAMPLE SPORT 0659-2  
(OVA = 0 ppm)

SOIL SAMPLE SPORT 0665-6  
(OVA = 6.1 ppm)

SUPPLY & RETURN

SOIL SAMPLE SPORT 0665-7  
(OVA = 2.0 ppm)

FILL

SOIL SAMPLE SPORT 0659-3  
(OVA = 0 ppm)

FORMER  
UST QUARTERS P



GRAPHIC SCALE

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

Site Map 3  
UST Quarters P  
Charleston Naval Base  
Charleston, SC

DWG DATE: 30 APR 98

DWG NAME: QT-P\_3

# UST Quarters P



Photo 1: UST Quarters P after removal from the excavation.

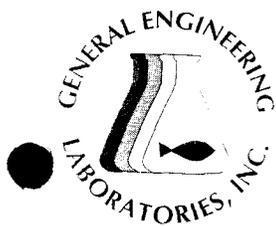


Photo 2: UST Quarters P after cutting and cleaning.

**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	E87472/87458
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: April 28, 1998

Page 1 of 2

Sample ID : SPORT0659-2  
 Lab ID : 9804460-02  
 Matrix : Soil  
 Date Collected : 04/16/98  
 Date Received : 04/17/98  
 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	TCL	04/25/98	1317	120885	1
Ethylbenzene	U	0.608	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	J	1.31	1.00	4.00	ug/kg	1.0					
Naphthalene	J	1.70	1.00	2.00	ug/kg	1.0					
<b>Extractable Organics</b>											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	166	331	ug/kg	1.0	RLC	04/26/98	2140	120497	2
Acenaphthylene	U	0.00	166	331	ug/kg	1.0					
Anthracene	U	0.00	166	331	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	166	331	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	166	331	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	166	331	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	166	331	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	166	331	ug/kg	1.0					
Chrysene	U	0.00	166	331	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	166	331	ug/kg	1.0					
Fluoranthene	U	0.00	166	331	ug/kg	1.0					
Fluorene	U	0.00	166	331	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	166	331	ug/kg	1.0					
Naphthalene	U	0.00	166	331	ug/kg	1.0					
Phenanthrene	U	0.00	166	331	ug/kg	1.0					
Pyrene	U	0.00	166	331	ug/kg	1.0					

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

HDB 04/21/98 1100 120497 3

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

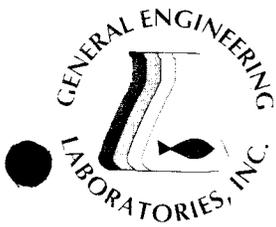
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\*9804460-02\*



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# 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: April 28, 1998

Page 2 of 2

Sample ID : SPORT0659-2

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	82.4	(30.0 - 115.)
Nitrobenzene-d5	M610	101.	(23.0 - 120.)
p-Terphenyl-d14	M610	95.5	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	93.6	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	92.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	87.2	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	93.6	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	92.4	(63.4 - 136.)
Toluene-d8	NAP-8260	87.2	(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.

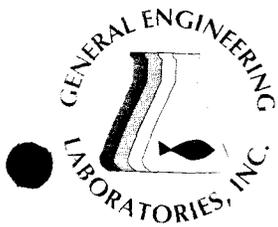
J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

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.

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

*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: April 28, 1998

Page 1 of 2

Sample ID : SPORT0659-3  
 Lab ID : 9804460-03  
 Matrix : Soil  
 Date Collected : 04/16/98  
 Date Received : 04/17/98  
 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	TCL	04/25/98	1348	120885	1
Ethylbenzene	U	0.550	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	J	1.34	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	165	330	ug/kg	1.0	RLC	04/26/98	2206	120497	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

HDB 04/21/98 1100 120497 3

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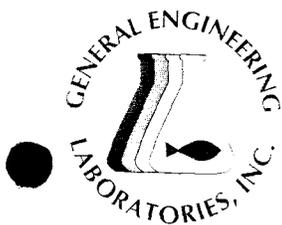
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# GENERAL ENGINEERING LABORATORIES

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## Laboratory Certifications

STATE	GEL	EPI
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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: NPWC00197

Report Date: April 28, 1998

Page 2 of 2

Sample ID : SPORT0659-3

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	85.0	(30.0 - 115.)
Nitrobenzene-d5	M610	100.	(23.0 - 120.)
p-Terphenyl-d14	M610	97.2	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	90.8	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	89.0	(63.4 - 136.)
Toluene-d8	BTEX-8260	84.8	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	90.8	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	89.0	(63.4 - 136.)
Toluene-d8	NAP-8260	84.8	(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).

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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

*Karen Blakeney*

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

(803) 556-8171 • Fax (803) 766-1178

\*9804460-03\*



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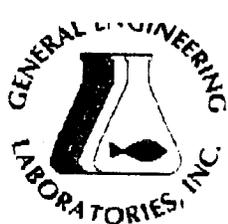
# CHAIN OF CUSTODY RECORD

9504460%

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 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/NAP	PAH	Remarks	
Collected by/Company																			# OF CONTAINERS	
SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB														
01 SPORT0659-1	4/16/98	0920	X	X													X		Soil Trip Blank	.1
02 SPORT0659-2	4/16/98	1115	X	X													X	X	QTR'S P EAST	.2
03 SPORT0659-3	4/16/98	1140	X	X													X	X	QTR'S P West	.2
04 Sport 0659-4	4/16/98	1530	X	X													X	X	QTR'S D North	.2
05 Sport 0659-5	4/16/98	1545	X	X													X	X	QTR'S D South	.2

Relinquished by: <u>BW of</u>	Date: <u>4/17/98</u>	Time: <u>0920</u>	Received by: <u>W.R. Hiers, Jr.</u>	Relinquished by: <u>W.R. Hiers, Jr.</u>	Date: <u>4/17/98</u>	Time: <u>1325</u>	Received by: <u>Raymond Reed</u>
Relinquished by: <u>Raymond Reed</u>	Date: <u>4/17/98</u>	Time: <u>1355</u>	Received by lab by: <u>Debbie Franco</u>	Date: <u>4/17/98</u>	Time: <u>1355</u>	Remarks:	

White = sample collector    Yellow = file    Pink = with report



# 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	C2934	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: April 30, 1998

Page 1 of 2

Sample ID : SPORT0665-6  
 Lab ID : 9804519-06  
 Matrix : Soil  
 Date Collected : 04/20/98  
 Date Received : 04/21/98  
 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	TCL	04/29/98	1352	121040	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 - 15 items</i>											
Acenaphthene	U	0.00	162	330	ug/kg	1.0	RLC	04/22/98	1828	120549	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	0.00	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

HDB 04/22/98 1130 120549 3

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\*9804519-06\*

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### Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10382
TN	02934	02914

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: April 30, 1998

Page 2 of 2

Sample ID : SPORT0665-6

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	81.2	(30.0 - 115.)
Nitrobenzene-d5	M610	87.1	(23.0 - 120.)
p-Terphenyl-d14	M610	78.9	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	89.6	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	91.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	84.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	89.6	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	91.4	(63.4 - 136.)
Toluene-d8	NAP-8260	84.6	(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:

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  
 Reviewed By

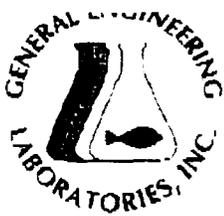
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# GENERAL ENGINEERING LABORATORIES

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### Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10882
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: April 30, 1998

Page 2 of 2

Sample ID : SPORT0665-6

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	81.2	(30.0 - 115.)
Nitrobenzene-d5	M610	87.1	(23.0 - 120.)
p-Terphenyl-d14	M610	78.9	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	89.6	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	91.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	84.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	89.6	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	91.4	(63.4 - 136.)
Toluene-d8	NAP-8260	84.6	(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:

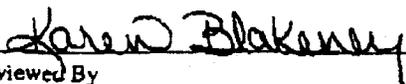
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\* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

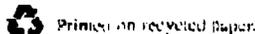
This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

  
 Reviewed By

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# GENERAL ENGINEERING LABORATORIES

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### Laboratory Certifications

STATE	QEL	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: April 30, 1998

Page 1 of 2

Sample ID : SPORT0665-7  
 Lab ID : 9804519-07  
 Matrix : Soil  
 Date Collected : 04/20/98  
 Date Received : 04/21/98  
 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	TCL	04/29/98	1422	121040	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	162	330	ug/kg	1.0	RLC	04/22/98	1858	120549	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	0.00	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

HDB 04/22/98 1130 120549 3

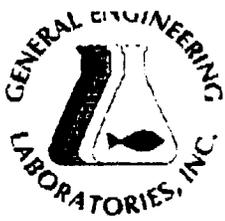
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### Laboratory Certifications

STATE	GEL	EPI
FL	087156/87294	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: April 30, 1998

Page 2 of 2

Sample ID : SPORT0665-7

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	72.0	(30.0 - 115.)
Nitrobenzene-d5	M610	76.3	(23.0 - 120.)
p-Terphenyl-d14	M610	78.1	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	98.3	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	89.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	88.4	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	98.8	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	89.4	(63.4 - 136.)
Toluene-d8	NAP-8260	88.4	(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:

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\* 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*

Reviewed By

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

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# CHAIN OF CUSTODY RECORD

9804519-

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					
SPORTEN V DETCHASN			# 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	PCB's	Cyanide	Coliform - specify type	BTEX/PAH's	PAH	Remarks			
SAMPLE ID	DATE	TIME																			WELL	SOIL	COMP	GRAB
01	SPORT 0665-1	4/20/98	0800		X	X	1														X	Soil Trip Blank	.1	
02	SPORT 0665-2	4/20/98	0900		X	X	2														X	X	QTR'S "D" PPG-1	.2
03	SPORT 0665-3	4/20/98	1010		X	X	2														X	X	QTR'S O South	.2
04	SPORT 0665-4	4/20/98	1020		X	X	2														X	X	QTR'S O North	.2
05	SPORT 0665-5	4/20/98	1030		X	X	2														X	X	QTR'S O Ppg	.2
06	SPORT 0665-6	4/20/98	1120		X	X	2														X	V	QTR'S P Ppg-1	.2
07	SPORT 0665-7	4/20/98	1130		X	X	2														X	X	QTR'S P Ppg 2	.2
08	SPORT 0665-8	4/20/98	1410		X	X	2														X	V	QTR'S J North	.2
09	SPORT 0665-9	4/20/98	1420		X	X	2														X	X	QTR'S J South	.2
10	SPORT 0665-10	4/20/98	1430		X	X	2														X	X	QTR'S J Ppg-1	.2
Relinquished by: <i>R W Coff</i>			Date: 4/21/98	Time: 0830	Received by: <i>Victoria Washington</i>			Date: 4/21/98	Time: 1130	Received by: <i>Karen Blackmer</i>														
Relinquished by: <i>Karen Blackmer</i>			Date: 4/21/98	Time: 1155	Received by lab by: <i>Dionne Francis</i>			Date: 4/21/98	Time: 1155	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 (803) 743-6482

## TANK ID & LOCATION

UST Quarters P; Quarters P, 1565 Hobson Ave., Charleston SC

---

## DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning  
& Disposal Area  
Charleston Naval Complex

### TYPE OF TANK

Fuel oil

### SIZE (GAL)

550 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

15 May 98  
\_\_\_\_\_  
(Date)