

N61165.AR.005086  
CNC CHARLESTON  
5090.3a

ABOVE GROUND STORAGE TANK (AST) ASSESSMENT REPORT ASTK 86 CNC  
CHARLESTON SC  
10/06/1997  
ENVIRONMENTAL DETACHMENT CHARLESTON



May 14, 1998

2600 Bull Street  
Columbia, SC 29201-1708

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Brian K. Smith

Rodney L. Grandy

Mr. Gabriel L. Magwood  
Southern Division NFEC  
P.O. Box 190010  
2155 Eagle Drive  
North Charleston, South Carolina 29419-9010

Re: Aboveground Storage Tank Assessment Report dated March 9, 1998  
Bldg. 86 (AST 86) (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/or 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 employed closure activities and sampling results appear to indicate that no additional endeavors for remedial actions and/or contaminant characterization is warranted at the referenced site at this time. If in the future contamination is identified which is attributable to this site, additional assessments and/or remedial endeavors may be required, as appropriate.

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

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

*Tom Knight*  
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 4.1.98  
RECEIVED  
MAR 19 1998  
Water Monitoring, Assessment &  
Protection Division  
5090  
Code 1849  
9 Mar 1998

Mr. Paul Bristol  
South Carolina Department of Health  
And Environmental Control  
Ground-Water Protection Division  
2600 Bull Street  
Columbia, SC 29201

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

Dear Mr. Bristol:

Enclosed are the Assessment Reports for the closure of storage tanks AST's 86,  
226-1 and 226-2, and 235 located at the Charleston Naval Complex, Charleston,  
SC.

If you have any questions please contact me at (803) 820-7307.

Sincerely,

  
GABRIEL L. MAGWOOD  
Petroleum/UST

Enclosures:  
Assessment Reports

RECEIVED  
MAR 19 1998  
Water Monitoring, Assessment &  
Protection Division

NFA  
Σ

RECEIVED  
MAR 12 1998  
L 4.1.98  
L 5.14.98

**Aboveground Storage Tank (AST) Assessment Report**

Date Received  
  
State Use Only

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

**I. OWNERSHIP OF AST(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

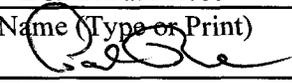
**II. SITE IDENTIFICATION AND LOCATION**

Site I.D. #: Unregulated  
Facility Name: Charleston Naval Base Complex, Cooper R. Recreation Center, Building 86  
Street Address: 2500 Everglades Drive  
City: North Charleston, 29405-2413 County: Charleston

**III. CLOSURE INFORMATION**

Closure Started: 6 Oct 1997 Closure Completed: 6 Oct 1997  
Number of ASTs Closed: 1  
N/A Consultant SPORTENVDETCNASN  
AST Removal Contractor

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

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

**V. AST INFORMATION**

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

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Fuel oil						
5,000 gal						
1972						
Steel						
Unk.						
N						
N						
R						
N						
N						

- L. Method of disposal for any ASTs removed.

AST 86 was removed, drained, and cleaned with a steam cleaner. It will be reused by Environmental Detachment Charleston. (See Attachment III.)

- M. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the ASTs.

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

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

AST 86 was in good condition. No holes, pitting, or corrosion were found.

## VI. PIPING INFORMATION

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

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Copper						
50' See note 1						
1 See note 1						
S						
Y						
N						
N						
1972						

Note 1: AST 86 provided heating fuel oil to building 86.

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

No corrosion, pitting, or holes were found in the lines.

## VII. BRIEF SITE DESCRIPTION AND HISTORY

Charleston Naval Base Building 86, known as the Cooper River Recreation Center, served as an officer's club. The facility was constructed in 1942.

AST 86 was situated in a cinder block berm. The tank was approximately 71 feet from the Cooper River. The supply and return piping was a continuous run without mechanical joints 2' below ground surface level. The piping was removed and soil sample SPORT 0538-1 was taken.



## **X. SAMPLING METHODOLOGY**

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

After the removal of UST 86, a soil sample was 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. The soil sample was taken from beneath the center of the piping run.

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

## XI. RECEPTORS

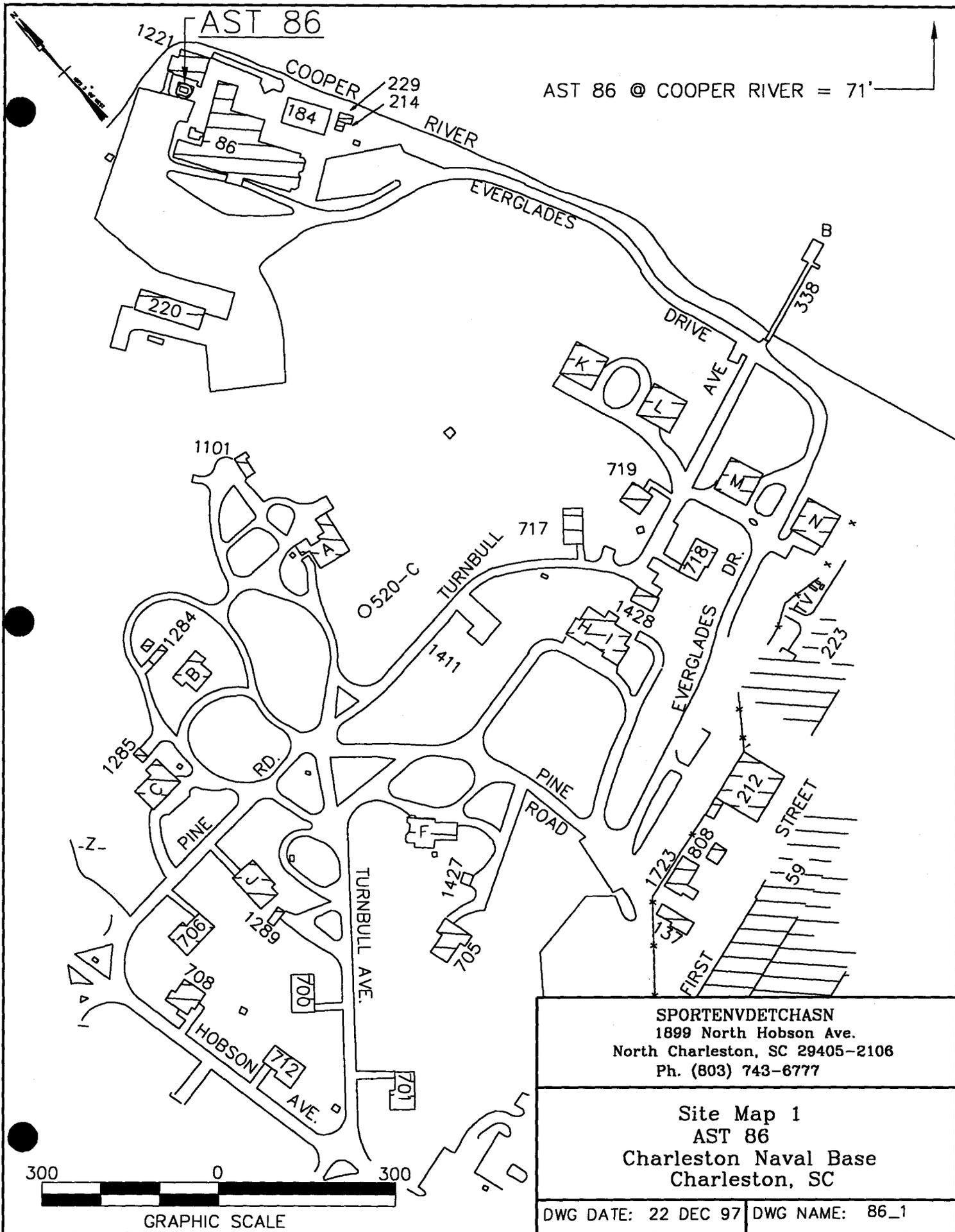
Yes No

<p>A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the AST system?  <span style="margin-left: 300px;">[Cooper River ~ 71']</span></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 AST 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 AST 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 AST 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;">[Sewer manhole ~ 5']</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  
Photograph 1



BLDG. 1221

AST 86 @ COOPER RIVER = 71'

FORMER AST 86

EXISTING BERM

CAPPED EXISTING 1/2"  
OD. COPPER PIPES

CAPPED EXISTING 3/4"  
OD. COPPER PIPE

~GRASSY  
AREA

EXISTING PIPES, 24"  
BELOW GROUND LEVEL

BLDG. 86

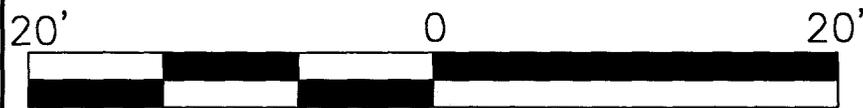
SEWER MANHOLE

S.S. SPORT 0538-1,  
MULTI-COLOR SOIL,  
NO ODOR

~ASPHALT~  
AREA

LEGEND

S.S. - SOIL SAMPLE



GRAPHIC SCALE

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

Site Map 2  
 AST 86  
 Charleston Naval Base  
 Charleston, SC

DWG DATE: 22 DEC 97

DWG NAME: 86\_2

AST 86

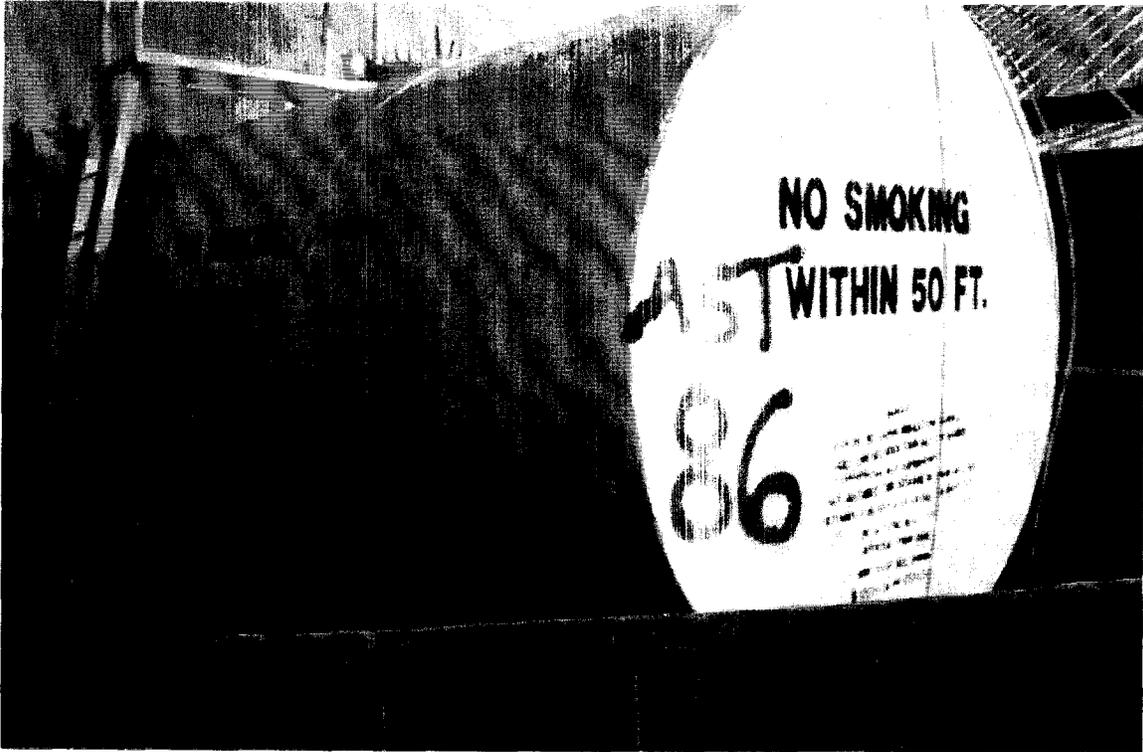


Photo 1: AST 86 in the berm, prior to removal.

AST 86

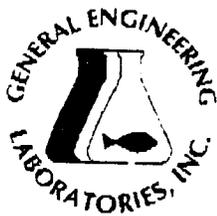


Photo 1: AST 86 in the berm, prior to removal.

**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

AST 86-1

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: October 16, 1997

Page 1 of 2

Sample ID : SPORT0538-1  
 Lab ID : 9710170-01  
 Matrix : Soil  
 Date Collected : 10/07/97  
 Date Received : 10/07/97  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatle Organics</b>											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	IAS	10/13/97	1244	109206	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	165	330	ug/kg	1.0	JCB	10/14/97	2341	109115	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

GWL 10/09/97 2000 109115 3

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(803) 556-8171 • Fax (803) 766-1178

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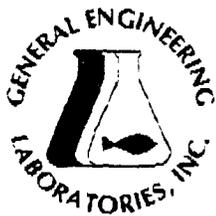


\*9710170-01\*

P. 002

TEL: 803-852-5812

OCT-16 97 (THU) 10:59 GEN. ENGINEERING



# GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

### Laboratory Certifications

STATE	QEL	EPT
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: October 16, 1997

Page 2 of 2

Sample ID : SPORT0538-1

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	70.2	(30.0 - 115.)
Nitrobenzene-d5	M610	66.2	(23.0 - 120.)
p-Terphenyl-d14	M610	119.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	101.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	94.5	(63.4 - 136.)
Toluene-d8	BTEX-8260	99.9	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	101.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	94.5	(63.4 - 136.)
Toluene-d8	NAP-8260	99.9	(72.1 - 137.)

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

**Notes:**

The qualifiers in this report are defined as follows:

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

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

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

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

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.

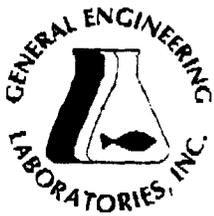
*Karen Blakeney*  
 Reviewed By

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

(803) 556-8171 • Fax (803) 766-1178

\*9710170-01\*





# GENERAL ENGINEERING LABORATORIES

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### Laboratory Certifications

STATE	GEL	EPI
FL	EF7156/87294	E87472/87458
NC	233	
SC	10120	10512
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: October 16, 1997

Page 1 of 2

Sample ID : SPORT0538-2  
 Lab ID : 9710170-02  
 Matrix : Soil  
 Date Collected : 10/07/97  
 Date Received : 10/07/97  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
<b>Volatle Organics</b>											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JAS	10/13/97	1311	109206	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.00	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	93.0	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	94.2	(63.4 - 136.)
Toluene-d8	BTEX-8260	96.5	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	93.0	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	94.2	(63.4 - 136.)
Toluene-d8	NAP-8260	96.5	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260

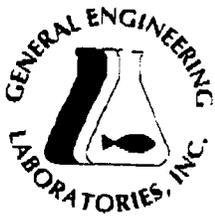
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\*9710170-02\*



# GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

### Laboratory Certifications

STATE	GEL	EPI
FL	EE7156/17294	EA7472/17458
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: October 16, 1997

Page 2 of 2

Sample ID : SPORT0538-2

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

#### Notes:

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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.

Karen Blakeney  
 Reviewed By

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\*9710170-02\*



**Attachment III**

Certificate of Reuse (tank)

# AST Certificate of Reuse

## 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 & PREVIOUS LOCATION

AST 86; Charleston Naval Base, Cooper R. Recreation Center, Building 86, 2500 Everglades Drive, N. Charleston, SC

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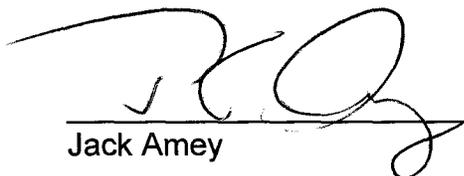
## RECEIVING FACILITY

Bldg. 1601 Tank Cleaning  
& Disposal Area  
Charleston Naval Complex

<u>TYPE OF TANK</u>	<u>SIZE (GAL)</u>
<hr/> Fuel oil	<hr/> 5,000 gal.

## REUSE CERTIFICATION

I certify that the above tank has been cleaned and will be put to reuse as an oil/oily water holding tank by the receiving facility.

  
\_\_\_\_\_  
Jack Amey

12/2/98  
\_\_\_\_\_  
(Date)