

N61165.AR.005699
CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT FOR BUILDING NS-3
CNC CHARLESTON SC
02/03/1997
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

00961

Li 10.23.97
L01023.97

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

Date Received

State Use Only

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

I. OWNERSHIP OF UST(S)

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

II. SITE IDENTIFICATION AND LOCATION

Site I.D. #: Unregulated 00961
Facility Name: Charleston Naval Base Complex, NS 3
Street Address: Pirate Street
City: North Charleston, 29405-2413 County: Charleston

III. CLOSURE INFORMATION

Closure Started: 9 Jan 1997 Closure Completed: 3 Feb 1997
Number of USTs Closed: 1
N/A Consultant SPORTENVDETHASN
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, on the basis of 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.....

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Waste oil						
280 gal.						
Unk.						
Steel						
Unk.						
7' 6"						
N						
N						
R						
Y						
Y						

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

UST NS3-1 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 NS3-1 had no sludge or residual waste oil. The waste water from the cleaning operation was recycled.

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

UST NS 3-1 was severely corroded and pitted. Holes were found throughout the tank ranging from 1/4" to 2" in diameter.

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.....

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Steel						
6'						
1 See note 1						
See note 1						
Y						
Y						
N						
Unk.						

Note 1: UST NS3-1 was a gravity fed holding tank for an oil water separator.

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

The piping had mild corrosion and pitting throughout its length, but no holes were found.

VII. BRIEF SITE DESCRIPTION AND HISTORY

UST NS 3-1 was a waste oil holding tank for an oil water separator on the grounds of Building NS3 on Naval Base Charleston. The building was a fuel pumping transfer station. The fuel transfer area was diked and sloped towards a storm drain in the east corner. The storm drain was connected to the storm sewer by two sets of valves and piping. The valves directed the storm water runoff either directly to the storm sewer during normal operations or through the oil water separator to the storm sewer in the case of a spill at the fuel transfer area.

Building NS 3 is a former pump house. The site is located near Area of Concern (AOC) 675, Fuel Storage tank NS-4; and AOC 677, the Grounds of Building NS-2. These sites are under investigation by the Navy and will be assessed as part of the Navy's Resource Conservation and Recovery Act (RCRA) Facility Investigation.

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? If yes, how far below land surface (indicate location and depth)?</p> <p><u>UST excavation, 7' 6" below GSL, 10" deep</u></p>	X		
<p>D. Did contaminated soils remain stockpiled on site after closure? If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p> <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 on the site map.</p>		X	

* Angular rock was used to fill the area covered by the groundwater. Geofabric was laid over the rock and then all soil from the excavation was returned to the tank pit.

X. SAMPLING METHODOLOGY

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

After the removal of UST NS3-1 soil and groundwater 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. Soil samples were extracted at the tank ends just above the groundwater level. The groundwater sample were taken from the bottom center of the excavation. 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

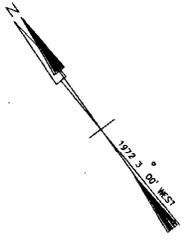
Yes No

A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? <div style="text-align: right;">[Cooper R. ~112']</div> 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;">[storm drain, steam line]</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

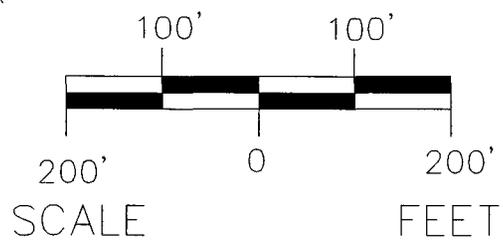
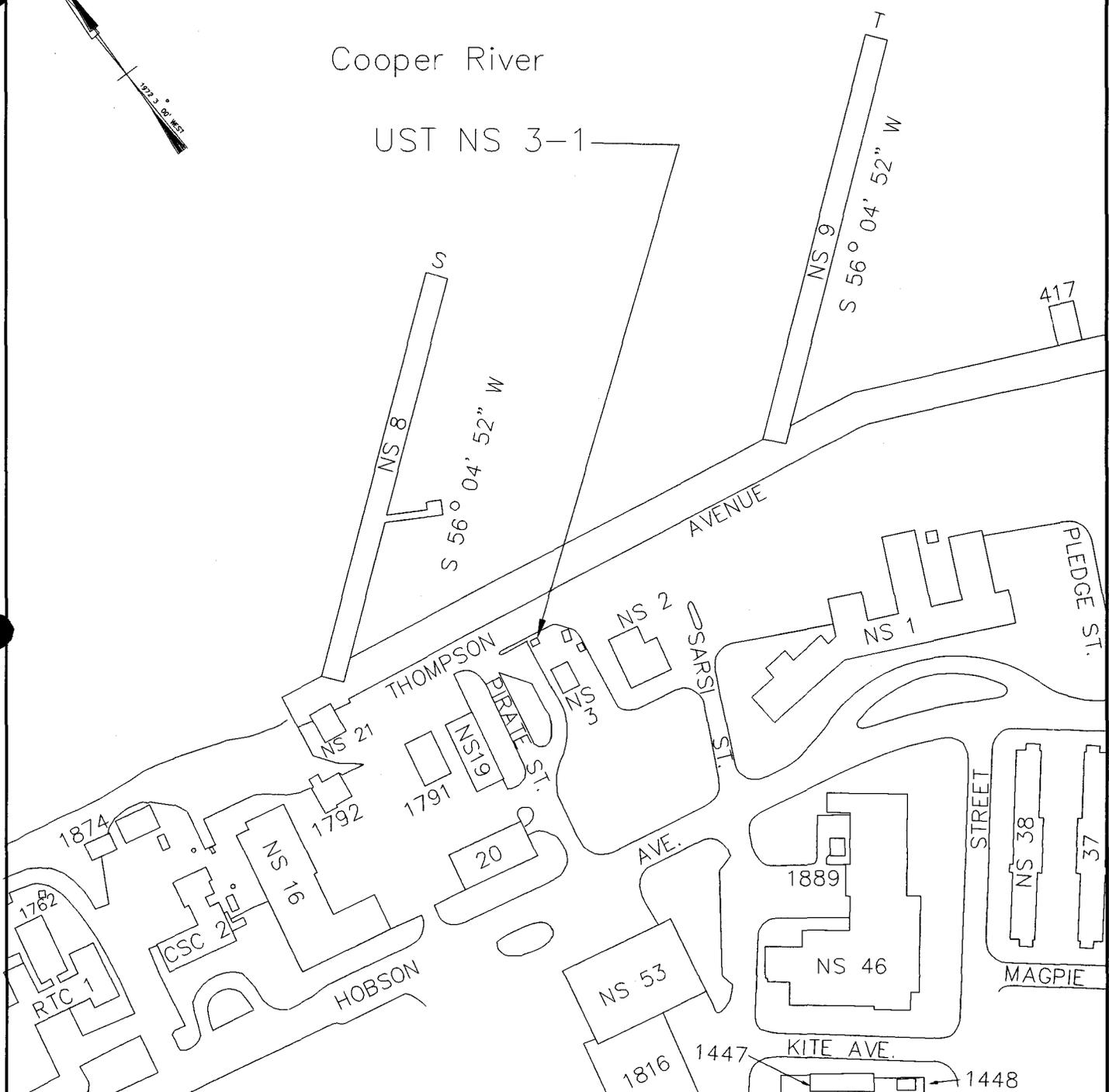
You must supply a scaled site map. It should include all buildings, road names, utilities, tank and pump island locations, sample locations, extent of excavation, and any other pertinent information.

Site Maps 1, 2, 3, and 4
Photographs 1 and 2



Cooper River

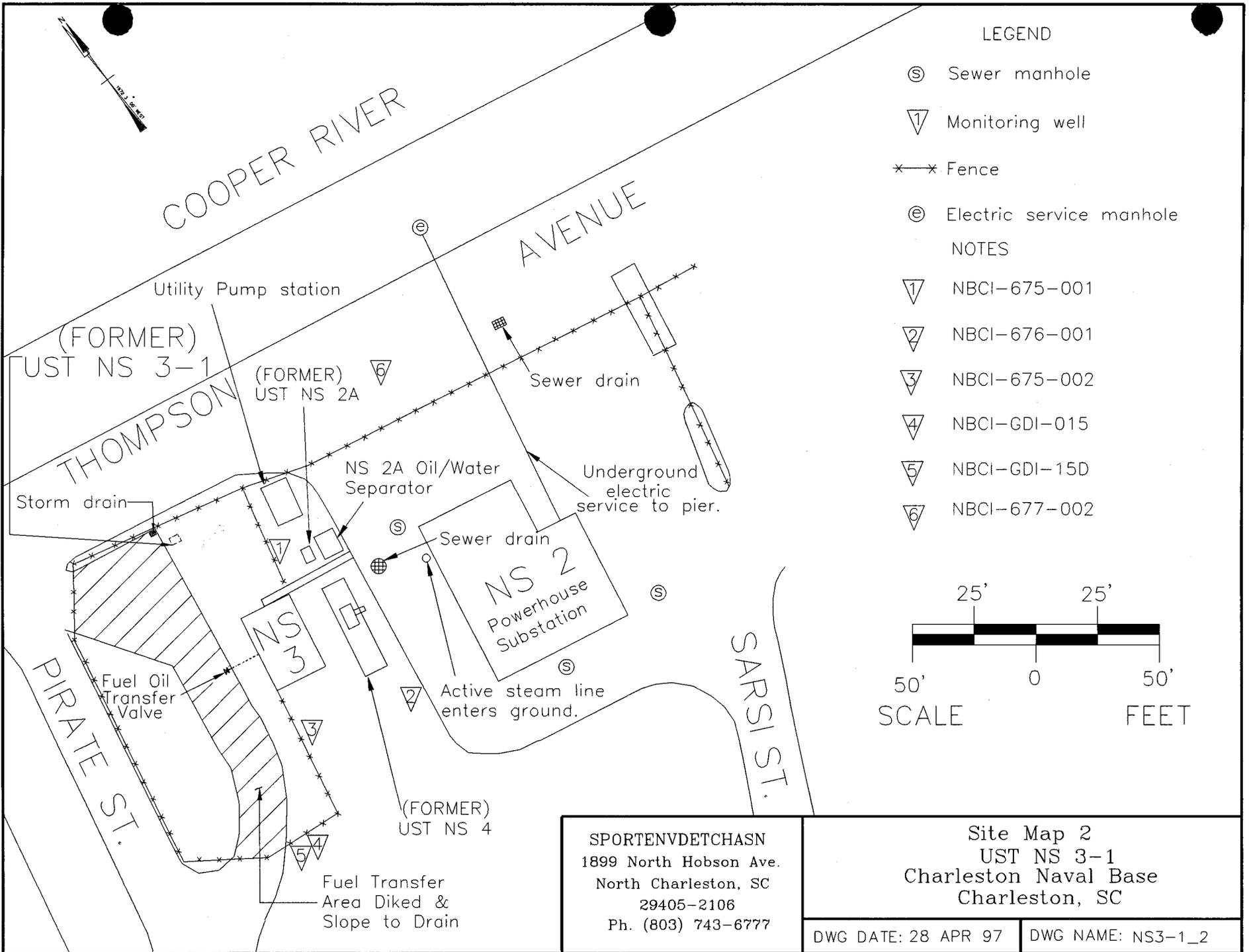
UST NS 3-1



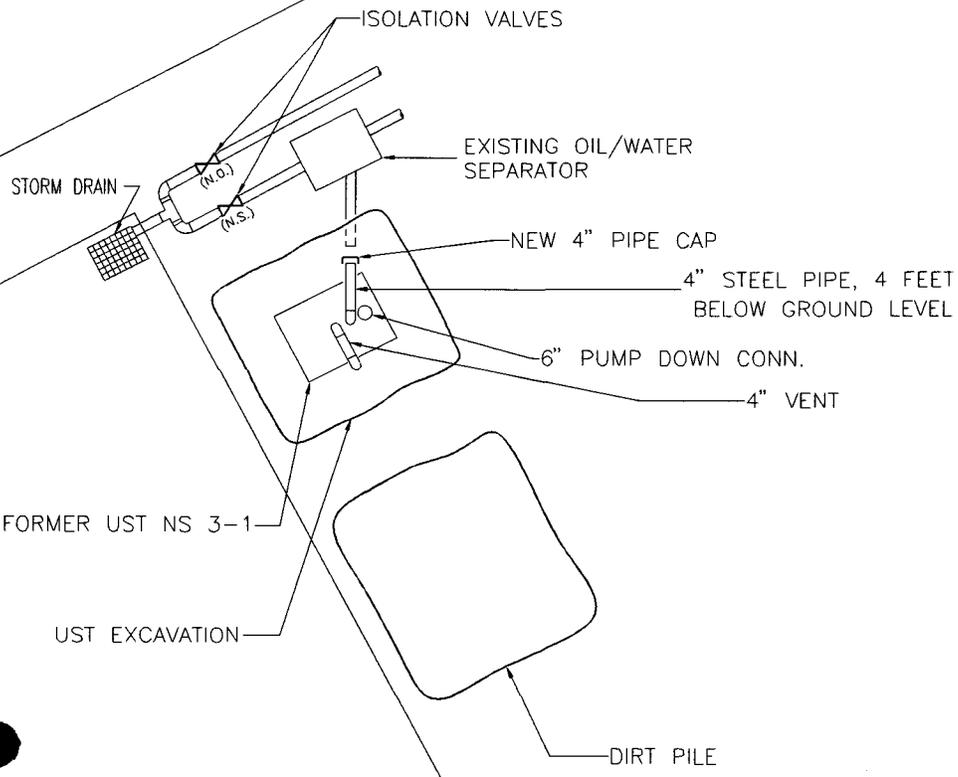
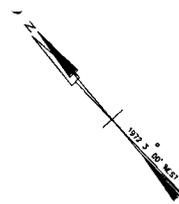
SPORTENVDETHASN
1899 North Hobson Ave.
North Charleston, SC 29405-2106
Ph. (803) 743-6777

Site Map 1
UST NS 3-1
Charleston Naval Base
Charleston, SC

DWG DATE: 28 APR 97 | DWG NAME: NS 3-1_1



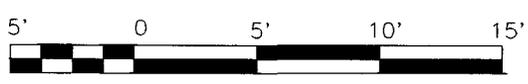
COOPER RIVER ~ 112'



BLDG
NS 3

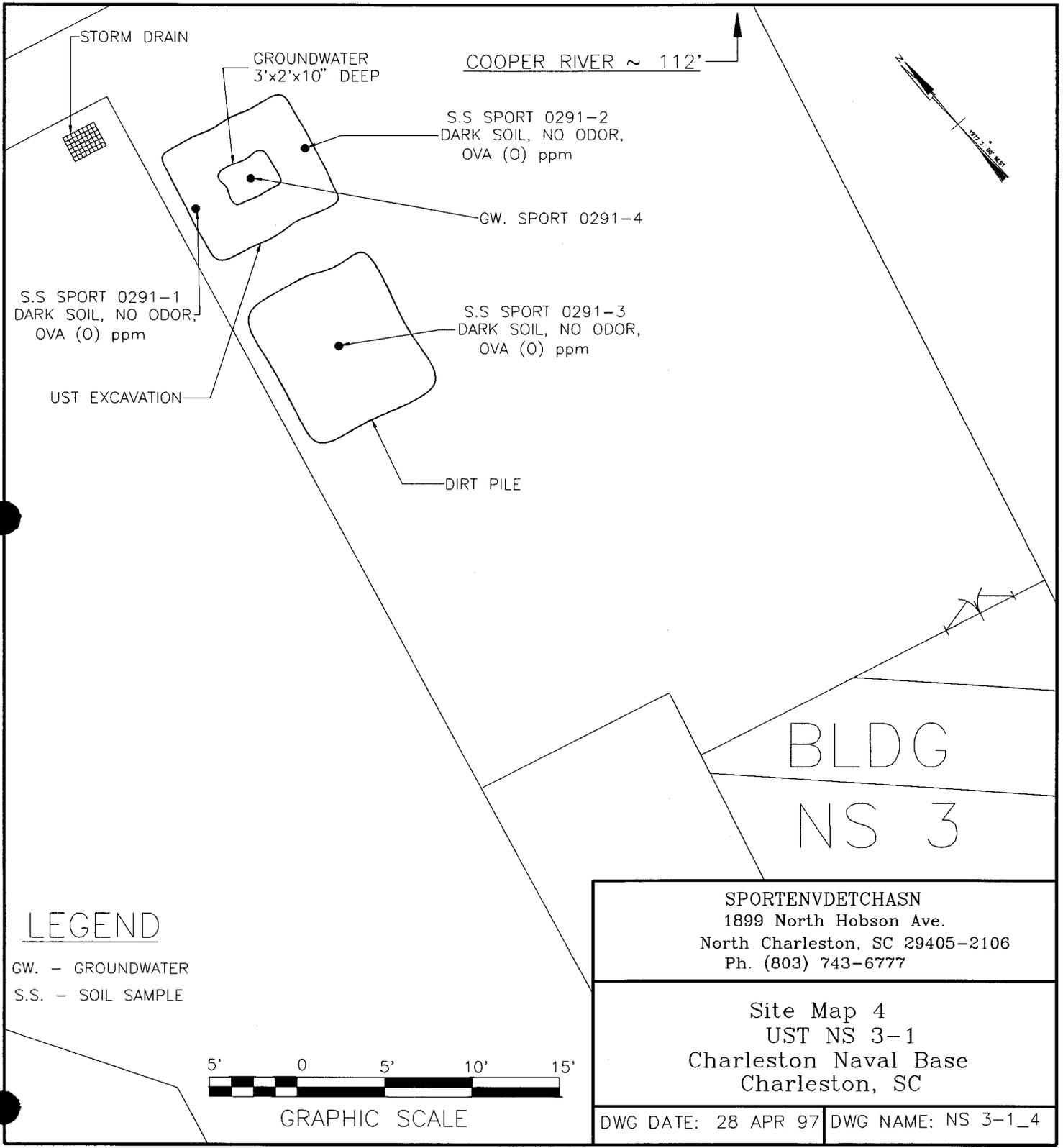
SPORTENVDETCHASN
 1899 North Hobson Ave.
 North Charleston, SC 29405-2106
 Ph. (803) 743-6777

Site Map 3
 UST NS 3-1
 Charleston Naval Base
 Charleston, SC



GRAPHIC SCALE

DWG DATE: 28 APR 97 | DWG NAME: NS 3-1_3



UST NS 3-1



Photo 1: UST NS3-1 being hoisted from the excavation. The crimp on the end was accidentally created during the excavation process, and is indicative of how thin the sheetmetal was.

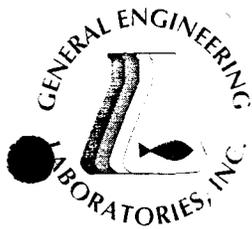


Photo 2: Close up of one end of UST NS3-1. The arrows point to holes created by corrosion.

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	E87472/874
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: January 21, 1997

Page 1 of 3

Sample ID : SPORT0291-1
 Lab ID : 9701179-01
 Matrix : Soil
 Date Collected : 01/10/97
 Date Received : 01/10/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JGS	01/15/97	1956	96314	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene		2.58	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	165	330	ug/kg	1.0	JCB	01/14/97	2019	96115	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	J	310	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	J	248	165	330	ug/kg	1.0					
Metals Analysis											
Mercury		0.323	0.00221	0.200	mg/kg	1.0	RMJ	01/15/97	1031	96172	N
Silver	U	13.2	40.4	952	ug/kg	2.0	NRM	01/15/97	1044	96155	
Arsenic		3050	263	952	ug/kg	2.0					

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

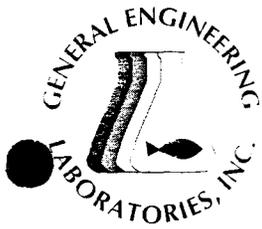
(803) 556-8171 • Fax (803) 766-1178



Printed on recycled paper.



9701179-01



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: January 21, 1997

Page 2 of 3

Sample ID : SPORT0291-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Barium		12900	23.5	952	ug/kg	2.0					
Cadmium	J	199	19.9	476	ug/kg	2.0	NRM	01/15/97	1044	96155	3
Chromium		18400	59.1	952	ug/kg	2.0					
Lead		15700	130	476	ug/kg	2.0					
Selenium		487	217	476	ug/kg	2.0					
General Chemistry											
Total Rec. Petro. Hydrocarbons	U	-80.0	10.0	50.0	mg/kg	1.0	SLR	01/14/97	1200	96153	4

The following prep procedures were performed:

GC/MS Base/Neutral Compounds	MS	01/13/97	1600	96115	5
Mercury	CRB	01/14/97	1900	96172	6
TRACE	CRB	01/14/97	1400	96155	7

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	78.2	(30.0 - 115.)
Nitrobenzene-d5	M610	64.2	(23.0 - 120.)
p-Terphenyl-d14	M610	75.6	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	129.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	111.	(63.4 - 136.)
Toluene-d8	BTEX-8260	119.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	129.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	111.	(63.4 - 136.)
Toluene-d8	NAP-8260	119.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 6010A
M 4	EPA 9071
M 5	EPA 3550

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

(803) 556-8171 • Fax (803) 766-1178

9701179-01



Printed on recycled paper.



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: January 21, 1997

Page 3 of 3

Sample ID : SPORT0291-1

M = Method	Method-Description
M 6	EPA 7471
M 7	EPA 3050

Notes:

The qualifiers in this report are defined as follows:

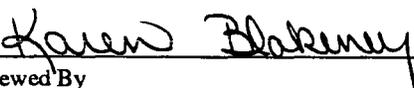
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

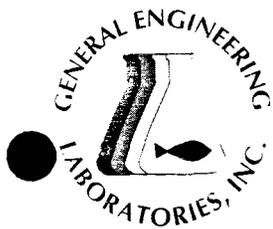
● indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

○ 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	E87472/87
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: January 21, 1997

Page 1 of 3

Sample ID : SPORT0291-2
 Lab ID : 9701179-02
 Matrix : Soil
 Date Collected : 01/10/97
 Date Received : 01/10/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JGS	01/16/97	1140	96314	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.250	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	163	330	ug/kg	1.0	JCB	01/15/97	1656	96115	2
Acenaphthylene	U	0.00	163	330	ug/kg	1.0					
Anthracene	U	0.00	163	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	163	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	163	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	163	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	163	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	163	330	ug/kg	1.0					
Chrysene	U	0.00	163	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	163	330	ug/kg	1.0					
Fluoranthene	U	0.00	163	330	ug/kg	1.0					
Fluorene	U	0.00	163	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	163	330	ug/kg	1.0					
Naphthalene	U	0.00	163	330	ug/kg	1.0					
Phenanthrene	U	0.00	163	330	ug/kg	1.0					
Pyrene	U	0.00	163	330	ug/kg	1.0					
Metals Analysis											
Mercury		0.260	0.00229	0.200	mg/kg	1.0	RMJ	01/15/97	1034	96172	N
Silver	U	21.4	40.0	944	ug/kg	2.0	NRM	01/15/97	1049	96155	
Arsenic		3490	260	944	ug/kg	2.0					

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

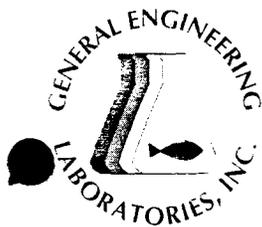
(803) 556-8171 • Fax (803) 766-1178



Printed on recycled paper.



9701179-02



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: January 21, 1997

Page 2 of 3

Sample ID : SPORT0291-2

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Barium		12600	23.3	944	ug/kg	2.0					
Cadmium	J	226	19.7	472	ug/kg	2.0	NRM	01/15/97	1049	96155	3
Chromium		17800	58.6	944	ug/kg	2.0					
Lead		20500	129	472	ug/kg	2.0					
Selenium		609	215	472	ug/kg	2.0					
General Chemistry											
Total Rec. Petro. Hydrocarbons		290	10.0	50.0	mg/kg	1.0	SLR	01/14/97	1200	96153	4

The following prep procedures were performed:

GC/MS Base/Neutral Compounds	MS	01/13/97	1600	96115	5
Mercury	CRB	01/14/97	1900	96172	6
TRACE	CRB	01/14/97	1400	96155	7

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	77.9	(30.0 - 115.)
Nitrobenzene-d5	M610	68.5	(23.0 - 120.)
p-Terphenyl-d14	M610	79.7	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	124.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	112.	(63.4 - 136.)
Toluene-d8	BTEX-8260	117.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	124.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	112.	(63.4 - 136.)
Toluene-d8	NAP-8260	117.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 6010A
M 4	EPA 9071
M 5	EPA 3550

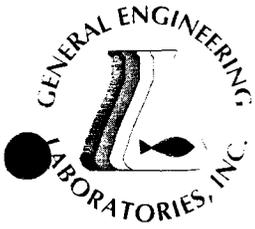
PO Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29407

(803) 556-8171 • Fax (803) 766-1178

9701179-02



Printed on recycled paper.



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: January 21, 1997

Page 3 of 3

Sample ID : SPORT0291-2

M = Method	Method-Description
M 6	EPA 7471
M 7	EPA 3050

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.

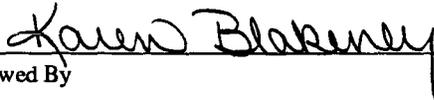
● indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

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

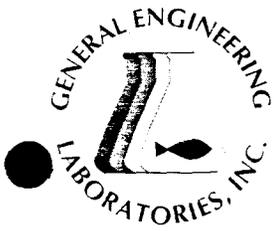
* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

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	E87472/874
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: January 21, 1997

Page 1 of 3

Sample ID : SPORT0291-3
 Lab ID : 9701179-03
 Matrix : Soil
 Date Collected : 01/10/97
 Date Received : 01/10/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JGS	01/16/97	1211	96314	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.405	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	662	1320	ug/kg	4.0	JCB	01/14/97	2127	96115	2
Acenaphthylene	U	0.00	662	1320	ug/kg	4.0					
Anthracene	U	0.00	662	1320	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	662	1320	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	662	1320	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	662	1320	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Chrysene	U	0.00	662	1320	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	662	1320	ug/kg	4.0					
Fluoranthene	U	0.00	662	1320	ug/kg	4.0					
Fluorene	U	0.00	662	1320	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	662	1320	ug/kg	4.0					
Naphthalene	U	0.00	662	1320	ug/kg	4.0					
Phenanthrene	U	0.00	662	1320	ug/kg	4.0					
Pyrene	U	0.00	662	1320	ug/kg	4.0					
Metals Analysis											
Mercury	J	0.0937	0.00232	0.200	mg/kg	1.0	RMJ	01/15/97	1036	96172	N
Silver	U	-7.44	41.6	980	ug/kg	2.0	NRM	01/15/97	1053	96155	?
Arsenic		4070	270	980	ug/kg	2.0					

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

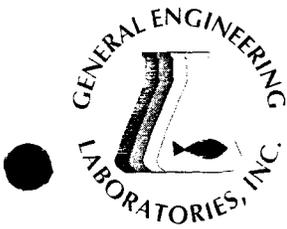
(803) 556-8171 • Fax (803) 766-1178



Printed on recycled paper.



9701179-03



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: January 21, 1997

Page 3 of 3

Sample ID : SPORT0291-3

M = Method	Method-Description
M 2	EPA 8270
M 3	EPA 6010A
M 4	EPA 9071
M 5	EPA 3550
M 6	EPA 7471
M 7	EPA 3050

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).

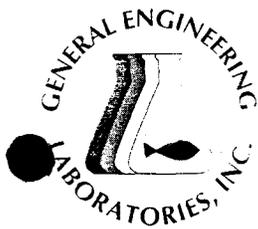
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* 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	E87472/874
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: January 22, 1997

Page 1 of 3

Sample ID : SPORT0291-4
 Lab ID : 9701179-04
 Matrix : GroundH2O
 Date Collected : 01/10/97
 Date Received : 01/10/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
Benzene	U	0.00	1.00	2.00	ug/l	1.0	RMB	01/17/97	1729	96414	1
Ethylbenzene	U	0.00	1.00	2.00	ug/l	1.0					
Toluene		7.40	1.00	2.00	ug/l	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/l	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/l	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	6.75	13.5	ug/l	1.0	RLC	01/21/97	1221	96454	2
Acenaphthylene	U	0.00	6.75	13.5	ug/l	1.0					
Anthracene	U	0.00	6.75	13.5	ug/l	1.0					
Benzo(a)anthracene	U	0.00	6.75	13.5	ug/l	1.0					
Benzo(a)pyrene	U	0.270	6.75	13.5	ug/l	1.0					
Benzo(b)fluoranthene	U	0.486	6.75	13.5	ug/l	1.0					
Benzo(ghi)perylene	U	0.00	6.75	13.5	ug/l	1.0					
Benzo(k)fluoranthene	U	0.00	6.75	13.5	ug/l	1.0					
Chrysene	U	0.00	6.75	13.5	ug/l	1.0					
Dibenzo(a,h)anthracene	U	0.00	6.75	13.5	ug/l	1.0					
Fluoranthene	U	1.22	6.75	13.5	ug/l	1.0					
Fluorene	U	0.00	6.75	13.5	ug/l	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	6.75	13.5	ug/l	1.0					
Naphthalene	U	0.00	6.75	13.5	ug/l	1.0					
Phenanthrene	U	0.00	6.75	13.5	ug/l	1.0					
Pyrene	U	0.824	6.75	13.5	ug/l	1.0					
Metals Analysis											
Mercury		14.7	0.0592	0.800	ug/l	1.0	RMJ	01/15/97	1453	96184	N
Silver	J	3.69	0.424	10.0	ug/l	1.0	NRM	01/15/97	1147	96152	E
Arsenic		411	2.76	10.0	ug/l	1.0					

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

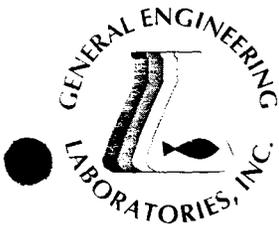
(803) 556-8171 • Fax (803) 766-1178



Printed on recycled paper.



9701179-04



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: January 22, 1997

Page 2 of 3

Sample ID : SPORT0291-4

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Barium		1510	0.247	10.0	ug/l	1.0					
Cadmium		70.8	0.209	5.00	ug/l	1.0	NRM	01/15/97	1147	96152	3
Chromium		1470	0.621	10.0	ug/l	1.0					
Lead		1850	1.36	5.00	ug/l	1.0					
Selenium	U	-6.21	2.28	5.00	ug/l	1.0					
General Chemistry											
Total Rec. Petro. Hydrocarbons		2.78	2.00	2.00	mg/l	1.0	SLR	01/16/97	1100	96358	4

The following prep procedures were performed:

GC/MS Base/Neutral Compounds	TSD	01/17/97	1100	96454	5
Mercury	RMJ	01/14/97	1700	96184	6
TRACE	FGD	01/14/97	1300	96152	7

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	65.2	(43.0 - 108.)
Nitrobenzene-d5	M610	0.00*	(35.0 - 111.)
p-Terphenyl-d14	M610	52.6	(33.0 - 125.)
Bromofluorobenzene	BTEX-8260	92.4	(73.8 - 128.)
Dibromofluoromethane	BTEX-8260	78.8	(63.9 - 139.)
Toluene-d8	BTEX-8260	111.	(77.1 - 121.)
Bromofluorobenzene	NAP-8260	92.4	(73.8 - 128.)
Dibromofluoromethane	NAP-8260	78.8	(63.9 - 139.)
Toluene-d8	NAP-8260	111.	(77.1 - 121.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 6010A
M 4	EPA 9070A
M 5	EPA 3510

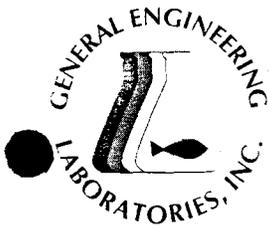
PO Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29407

(803) 556-8171 • Fax (803) 766-1178

9701179-04



Printed on recycled paper.



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: January 22, 1997

Page 3 of 3

Sample ID : SPORT0291-4

M = Method	Method-Description
M 6	EPA 7470
M 7	EPA 3005

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.

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

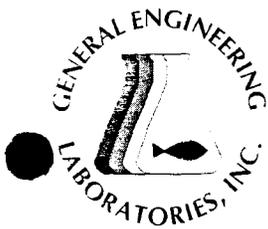
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* 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	E87472/87
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: January 21, 1997

Page 1 of 2

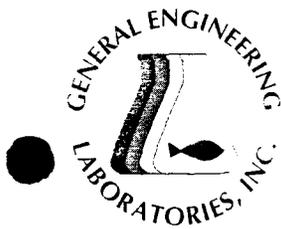
Sample ID : SPORT0291-5
 Lab ID : 9701179-05
 Matrix : GroundH2O
 Date Collected : 01/10/97
 Date Received : 01/10/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.00	2.00	ug/l	1.0	RMB	01/16/97	2028	96414	1
Ethylbenzene	U	0.00	1.00	2.00	ug/l	1.0					
Toluene	U	0.00	1.00	2.00	ug/l	1.0					
Xylenes (TOTAL)	U	0.00	1.00	4.00	ug/l	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/l	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	95.2	(73.8 - 128.)
Dibromofluoromethane	BTEX-8260	92.8	(63.9 - 139.)
Toluene-d8	BTEX-8260	108.	(77.1 - 121.)
Bromofluorobenzene	NAP-8260	95.2	(73.8 - 128.)
Dibromofluoromethane	NAP-8260	92.8	(63.9 - 139.)
Toluene-d8	NAP-8260	108.	(77.1 - 121.)

M = Method	Method-Description
M 1	EPA 8260





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: January 21, 1997

Page 2 of 2

Sample ID : SPORT0291-5

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).

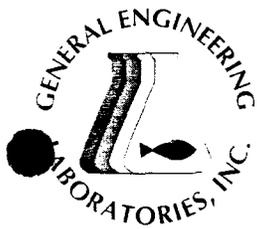
U indicates that the analyte was not detected at a concentration greater than the detection limit.

* 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





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: January 21, 1997

Page 1 of 2

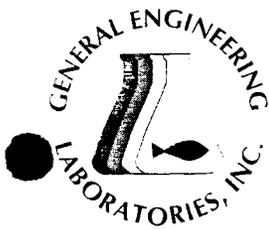
Sample ID : SPORT0291-6
 Lab ID : 9701179-06
 Matrix : Soil
 Date Collected : 01/10/97
 Date Received : 01/10/97
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
Benzene	U	0.00	1.00	2.00	ug/kg	1.0	JGS	01/16/97	1344	96314	1
Ethylbenzene	U	0.00	1.00	2.00	ug/kg	1.0					
Toluene	U	0.250	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	113.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	108.	(63.4 - 136.)
Toluene-d8	BTEX-8260	110.	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	113.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	108.	(63.4 - 136.)
Toluene-d8	NAP-8260	110.	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

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: January 21, 1997

Page 2 of 2

Sample ID : SPORT0291-6

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



N. JC 00196

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

CHAIN OF CUSTODY RECORD

Page 1 of 1

9701179

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														← CCL 25097						
Collected by/Company		# OF CONTAINERS	pH, conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PAH	Cyanide	Coliform - specify type	TPH	Remarks	
SPORTENVDETCHASN																				
SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB													Remarks	
01 SPORT0291-1	1/10/97	1355	X	X			4		X						X			X	X	UST-3-1 SOIL .1
02 SPORT0291-2	1/10/97	1405	X	X			4		X						X			X	X	UST-3-2 SOIL .1
03 SPORT0291-3	1/10/97	1415	XX				4		X						X			X	X	UST-3-3 SOIL DIET Pile .1
04 SPORT0291-4	1/10/97	1430					8		X						X			X	X	UST-3-4 GLW .2
05 SPORT0291-5	1/10/97	1315					3											X		UST-3 WATER UOATRIP Blank .3
06 SPORT0291-6	1/10/97	1315	X	X			1											X		UST-3 SOIL TRIP Blank .4

Relinquished by: <i>Kandi...</i>	Date: 1/10/97	Time: 1505	Received by: <i>J.D. Blakemey</i>	Relinquished by: <i>J.D. Blakemey</i>	Date: 1/10/97	Time: 1540	Received by: <i>Crystal Henderson</i>
Relinquished by: <i>Crystal Henderson</i>	Date: 1/10/97	Time: 16:07	Received by lab by: <i>Karen Blakemey</i>	Date: 1/10/97	Time: 16:07	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, USN
Portsmouth, VA
Environmental Detachment Charleston
1899 North Hobson Avenue
North Charleston 29405-2106

Telephone (803) 743-6482

TANK ID & LOCATION

NS 3-1; Building NS 3, Pirate St., Charleston Naval Base, N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

Waste oil

SIZE (GAL)

280 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

104-29-87
(Date)