N61165.AR.005706
CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT DATED 19 OCTOBER 1998 FOR BUILDING 224 WITH SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL REVIEW LETTER CNC CHARLESTON SC

12/07/1998

NAVFAC SOUTHERN

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

7 December 1998

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

Re: Underground Storage Tank Assessment Report dated 19 October 1998
Building 224 (Site Identification # 15405-General File)
Charleston Naval Complex/Charleston Naval Base
Charleston, SC
Charleston County

#01251

Dear Mr. Magwood:

The author has completed technical review of the referenced document. As submitted, the report provides a narrative describing closure activities and analytical results of environmental sampling conducted to determine if releases have occurred as a result of operation of the referenced vessel and/or associated piping system. The analytical results provided indicate that concentrations of BTEX and PAH compounds were detected above established method detection limits in soil and groundwater grab samples obtained from the UST excavation and/or piping run excavation. The soil analytical results are below levels proposed in the SCAP (Soil Corrective Action Plan amended 30 July 1997) for the Charleston Naval Complex. However, the reported concentrations from groundwater samples approach or exceed established MCL's and/or health advisories for Class GB groundwater.

It is recognized that the "groundwater" sample may actually represent storm water runoff which accumulated in the UST excavation during closure activities. With this consideration, the facility is requested to demonstrate that groundwater elevations do not intersect the UST excavation at base depth. The facility may submit an appropriate plan (including monitoring well installation) to document same to the author as soon as developed.

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

Sincerely,

Paul L. Bristol, Hydrogeologist
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 10.30.98
Lo 12.7.98

5090
Code 1849
19 Oct 98

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

#0125

UST ASSESSMENT REPORTS FOR CHARLESTON NAVAL COMPLEX, CHARLESTON, SC

Dear Mr. Bristol:

Enclosed are the Assessment Reports for the closure of Aboveground Storage Tanks 32-1,32-2, 32-E and 1640; and, Underground Storage Tanks NH 46, 224 and 644 located at the Charleston Naval Complex, Charleston, SC.

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

Sincerely,

GABRIEL L. MAGWOOD
Remedial Project Manager

Encl:
(1) Assessment Reports

Li 10.30.98
Co 12.7.98

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

#01251

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, Building 224

Street Address: Hobson Avenue

City: North Charleston, 29405-2413 County: Charleston

III CLOSURE INFORMATION

Closure Started: 18 Aug 1998 Closure Completed: 17 Sept 1998

Number of USTs Closed: 1

N/A — Consultant

SPORTENVDETCHASN — 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)

Henry N. Shepard II P.E. 10/8/98
Signature

RECEIVED
OCT 21
Water Monitoring, Assessment & Protection Division

V. UST INFORMATION

		Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
A.	Product	Fuel oil				
B.	Capacity	5,000 gal				
C.	Age	1972				
D.	Construction Material	Steel				
E.	Month/Year of Last Use	3/96				
F.	Depth (ft.) To Base of Tank	9'				
G.	Spill Prevention Equipment Y/N	N				
H..	Overfill Prevention Equipment Y/N	N				
I.	Method of Closure Removed/Filled	R				
J.	Visible Corrosion or Pitting Y/N	N				
K.	Visible Holes Y/N	N				

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

UST 224 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 224 were recycled.

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

UST 224 was covered with a 3/8" thick protective coating. The tank was in good condition, no pitting or holes were found.

VI. PIPING INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
A. Construction Material.....	Steel & Copper				
B. Distance from UST to Dispenser.....	20' See note 1				
C. Number of Dispensers.....	1 See note 1				
D. Type of System P/S.....	S				
E. Was Piping Removed from the Ground? Y/N....	Y				
F. Visible Corrosion or Pitting Y/N.....	N				
G. Visible Holes Y/N.....	N				
H. Age.....	1972				

Note 1: UST 224 supplied heating fuel oil to building 224.

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

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

VII. BRIEF SITE DESCRIPTION AND HISTORY

Building 224 was built in 1972. It was used as a submarine supply and a base supply warehouse, known as Servmart.

VIII. SITE CONDITIONS

		Yes	No	Unk
A.	Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells? If yes, indicate depth and location on the site map.		X	
B.	Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells? If yes, indicate location on site map and describe the odor (strong, mild, etc.)		X	
C.	Was water present in the UST excavation, soil borings, or trenches? If yes, how far below land surface (indicate location and depth)? See note 1.	X		
D.	Did contaminated soils remain stockpiled on site after closure? If yes, indicate the stockpile location on the site map. Name of DHEC representative authorizing soil removal: _____		X	
E.	Was a petroleum sheen or free product detected on any excavation or boring waters? If yes, indicate location and thickness.		X	

Note 1: UST excavation, at 9' below GSL, approximately 18" deep. During the preliminary phase of the excavation no groundwater was encountered, however, a storm drain was accidentally broken by the back hoe. It rained before work could be completed. Rainwater runoff from the roof of the building flooded the hole with 18" of water via the broken storm drain. This water was sampled as SPORT 0885-1.

X. SAMPLING METHODOLOGY

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

After the removal of UST 224 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. Samples for volatiles were taken using the Encore sampler and T-handle. The groundwater sample was taken from the bottom center of the excavation.

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.

IX. SAMPLE INFORMATION

A. SCDHEC Lab Certification Number 10120

B.

Sample #	Location	Sample Type (Soil/Water)	Soil Type (Sand/Clay)	Depth*	Date/Time of Collection	Collected By	OVA#
SPORT 0885-1	UST excavation	Water	-	~11'	18 Aug 98 1500	M. Baker	N/A
SPORT 0885-2	Trip Blank	Water					
SPORT 0885-3	Trip Blank	Soil					
SPORT 0885-4	UST excavation	Soil	Sand & clay	~13'	18 Aug 98 1430	M. Baker	0 ppm
SPORT 0885-5	North end of tank	Soil	Sand & clay	~13'	18 Aug 98 1413	M. Baker	0 ppm
SPORT 0885-6	South end of tank	Soil	Sand	~13'	18 Aug 98 1357	M. Baker	0 ppm

* = Depth Below the Surrounding Land Surface

XI. RECEPTORS

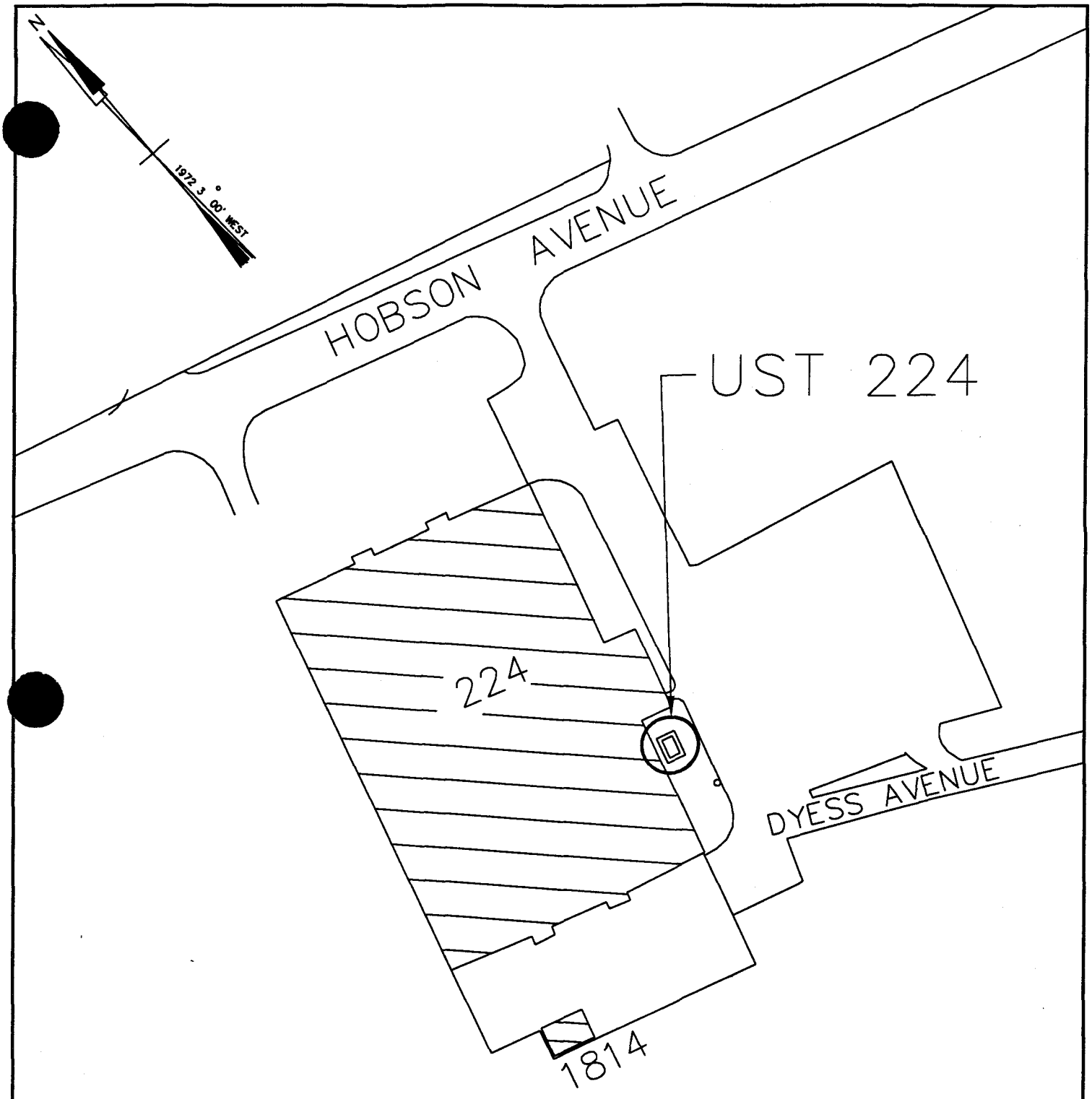
		Yes	No
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? If yes, indicate type of receptor, distance, and direction on site map.		X
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type of well, distance, and direction on site map.		X
C.	Are there any underground structures (e.g., basements) located within 100 feet of the UST system? If yes, indicate the type of structure, distance, and direction on site map.		X
D.	Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? If yes, indicate the type of utility, distance, and direction on the site map. **[water, storm drain, fire hydrant]**	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

Attachment I

SITE MAP

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

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



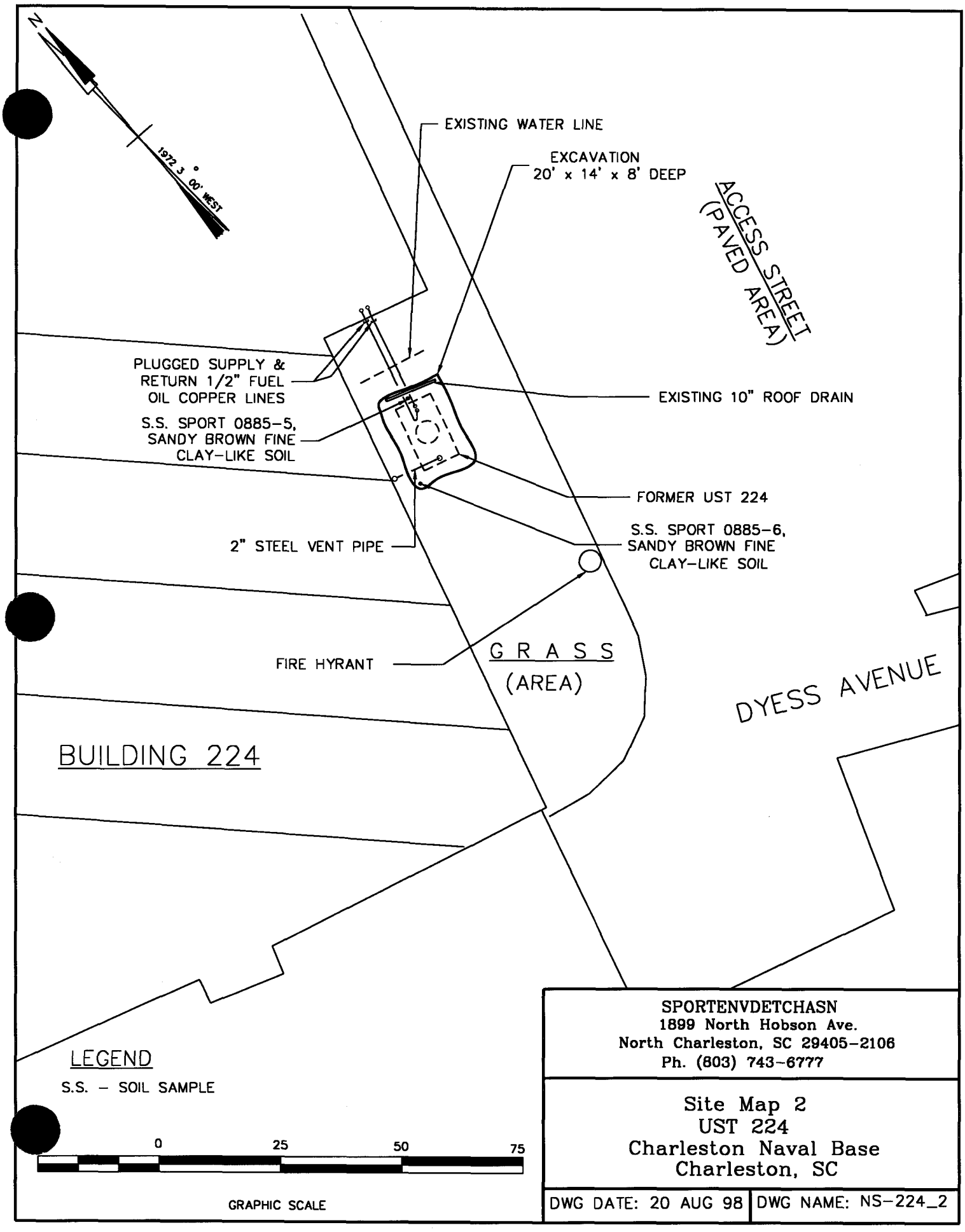
SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC 29405-2106
Ph. (803) 743-6777

Site Map 1
UST 224
Charleston Naval Base
Charleston, SC

0 100 200 300

GRAPHIC SCALE

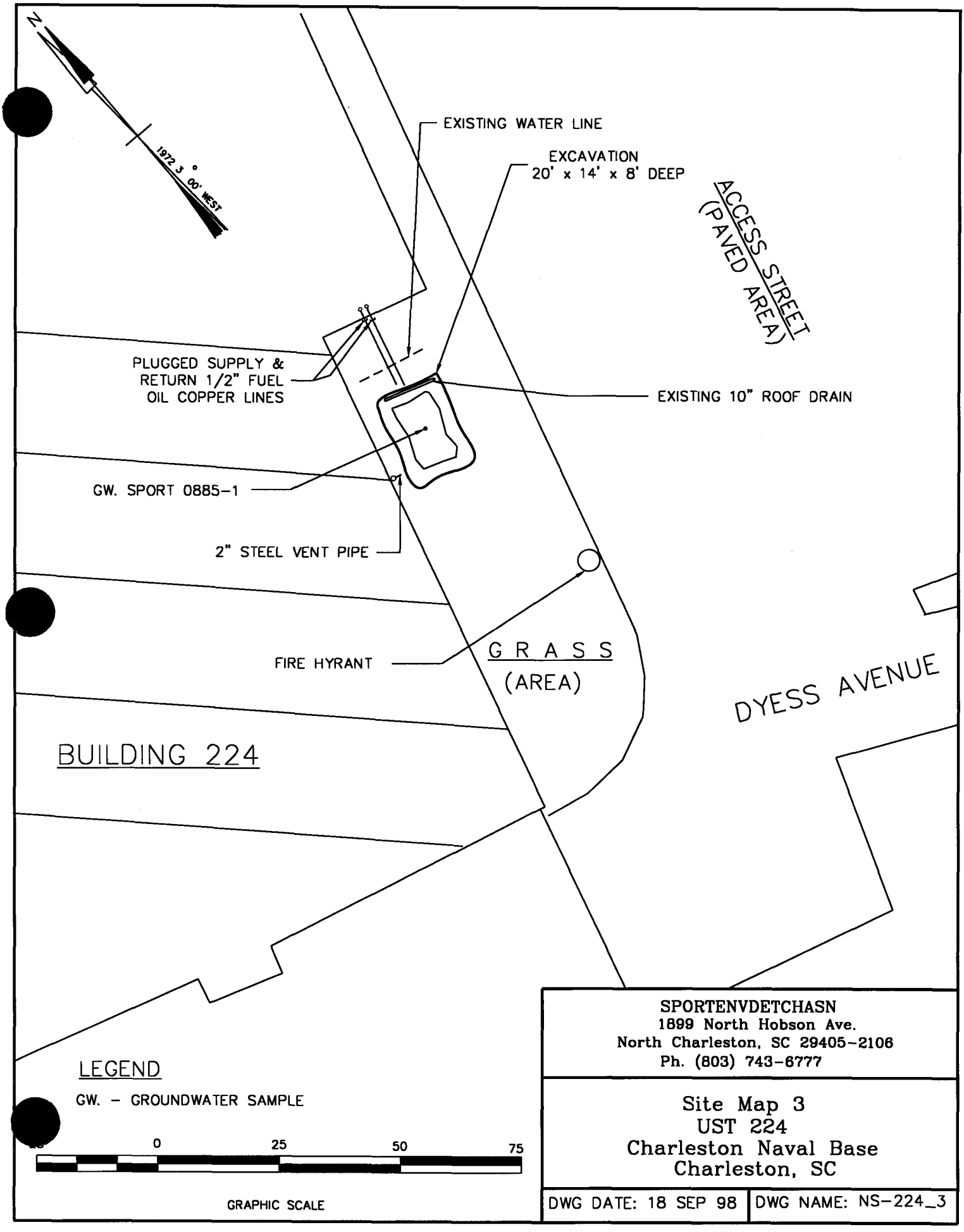
DWG DATE: 19 AUG 98 | DWG NAME: NS-224_1



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

Site Map 2
UST 224
Charleston Naval Base
Charleston, SC

DWG DATE: 20 AUG 98 | DWG NAME: NS-224_2



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

Site Map 3
UST 224
Charleston Naval Base
Charleston, SC

DWG DATE: 18 SEP 98 | DWG NAME: NS-224_3

UST 224

Photo 1: UST 224 site.

Photo 2: UST 224

UST 224

Photo 3: UST 224 during cutting and cleaning.

Attachment II

ANALYTICAL RESULTS

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

Certified Analytical Results
Chain-of-Custody

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: NPWC00197 Report Date: August 26, 1998

Sample ID	: SPORT0885-1
Lab ID	: 9808666-01
Matrix	: GroundH2O
Date Collected	: 08/18/98
Date Received	: 08/19/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX + NAPTH. - 5 items											
Benzene		6.47	0.250	1.00	ug/l	1.0	TCL	08/21/98	2145	129327	
Ethylbenzene		9.93	0.230	1.00	ug/l	1.0					
Naphthalene		41.7	0.420	1.00	ug/l	1.0					
Toluene		7.90	0.220	1.00	ug/l	1.0					
Xylenes (TOTAL)		55.3	0.620	2.00	ug/l	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX+NAP-8260B	79.9	(60.2 - 139.)
Dibromofluoromethane	BTEX+NAP-8260B	112.	(70.6 - 152.)
Toluene-d8	BTEX+NAP-8260B	95.8	(68.4 - 135.)

M = Method	Method-Description
M 1	SW846 8260B

Notes:
The qualifiers in this report are defined as follows:
ND indicates that the analyte was not detected at a concentration greater than the detection limit.
J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).
U indicates that the analyte was not detected at a concentration greater than the detection limit.
* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

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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: NPWC00197 Report Date: August 26, 1998

Sample ID : SPORT0885-1

M = Method **Method-Description**

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

Karen Blakeney
Reviewed By

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

(803) 556-8171 • Fax (803) 766-1178

9808666-01

GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: August 26, 1998

Sample ID	: SPORT0885-2
Lab ID	: 9808666-02
Matrix	: GroundH2O
Date Collected	: 08/18/98
Date Received	: 08/19/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX + NAPTH. - 5 items											
Benzene	U	ND	0.250	1.00	ug/l	1.0	TCL	08/21/98	1537	129327	
Ethylbenzene	U	ND	0.230	1.00	ug/l	1.0					
Naphthalene	U	ND	0.420	1.00	ug/l	1.0					
Toluene	U	ND	0.220	1.00	ug/l	1.0					
Xylenes (TOTAL)	U	ND	0.620	2.00	ug/l	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX+NAP-8260B	80.8	(60.2 - 139.)
Dibromofluoromethane	BTEX+NAP-8260B	99.6	(70.6 - 152.)
Toluene-d8	BTEX+NAP-8260B	79.5	(68.4 - 135.)

M = Method	Method-Description
M 1	SW846 8260B

Notes:
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J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).
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* indicates that a quality control analyte recovery is outside of specified acceptance criteria.

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9808666-02

GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: August 26, 1998

Sample ID . SPORT0885-2

M = Method **Method-Description**

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

Karen Blakeney
Reviewed By

P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29414
(803) 556-8171 • Fax (803) 766-1178

9808666-02

GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: August 26, 1998

Sample ID	: SPORT0885-3
Lab ID	: 9808666-03
Matrix	: Soil
Date Collected	: 08/18/98
Date Received	: 08/19/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX + NAPTH. - 5 items											
Benzene	U	ND	0.250	2.00	ug/kg	1.0	TCL	08/21/98	1431	129229	
Ethylbenzene	U	ND	0.230	2.00	ug/kg	1.0					
Naphthalene	U	ND	0.420	2.00	ug/kg	1.0					
Toluene	U	ND	0.220	2.00	ug/kg	1.0					
Xylenes (TOTAL)	J	5.19	0.620	6.00	ug/kg	1.0					

The following prep procedures were performed:

GC/MS Volatiles (8260 High Level) TCL 08/20/98 0800 129229 2

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX+NAP-8260B	78.7	(53.5 - 154.)
Dibromofluoromethane	BTEX+NAP-8260B	100.	(63.4 - 136.)
Toluene-d8	BTEX+NAP-8260B	80.0	(72.1 - 137.)

M = Method	Method-Description
M 1	SW846 8260B
M 2	EPA 5035

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9808666-03

GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: August 26, 1998

Sample ID : SPORT0885-3

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

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

(803) 556-8171 • Fax (803) 766-1178

9808666-03

GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: August 26, 1998

Sample ID	: SPORT0885-4
Lab ID	: 9808666-04
Matrix	: GroundH2O
Date Collected	: 08/18/98
Date Received	: 08/19/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	J	127	71.5	143	ug/l	10.	RLC	08/25/98	1203	129147	
Acenaphthylene	U	ND	71.5	143	ug/l	10.					
Anthracene	J	123	71.5	143	ug/l	10.					
Benzo(a)anthracene	J	118	71.5	143	ug/l	10.					
Benzo(a)pyrene	U	ND	71.5	143	ug/l	10.					
Benzo(b)fluoranthene	U	ND	71.5	143	ug/l	10.					
Benzo(ghi)perylene	U	ND	71.5	143	ug/l	10.					
Benzo(k)fluoranthene	U	ND	71.5	143	ug/l	10.					
Chrysene	J	124	71.5	143	ug/l	10.					
Dibenzo(a,h)anthracene	U	ND	71.5	143	ug/l	10.					
Fluoranthene		509	71.5	143	ug/l	10.					
Fluorene		179	71.5	143	ug/l	10.					
Indeno(1,2,3-c,d)pyrene	U	ND	71.5	143	ug/l	10.					
Naphthalene	U	ND	71.5	143	ug/l	10.					
Phenanthrene		728	71.5	143	ug/l	10.					
Pyrene		481	71.5	143	ug/l	10.					

The following prep procedures were performed:

GC/MS Base/Neutral Compounds GMS 08/20/98 1500 129147 2

Comments:

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

GENERAL ENGINEERING LABORATORIES

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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: August 26, 1998

Sample ID : SPORT0885-4

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	0.00*	(43.0 - 108.)
Nitrobenzene-d5	M610	0.00*	(35.0 - 111.)
p-Terphenyl-d14	M610	0.00*	(33.0 - 125.)

M = Method	Method-Description
M 1	EPA 8270
M 2	EPA 3510

Notes:
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any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Karen Blakeney
Reviewed By

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9808666-04

GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/
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: August 26, 1998

Sample ID	: SPORT0885-5
Lab ID	: 9808666-05
Matrix	: Soil
Date Collected	: 08/18/98
Date Received	: 08/19/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX + NAPTH. - 5 items											
Benzene	J	0.603	0.232	2.00	ug/kg	1.0	TCL	08/20/98	2256	129229	
Ethylbenzene	U	ND	0.213	2.00	ug/kg	1.0					
Naphthalene	U	ND	0.390	2.00	ug/kg	1.0					
Toluene	U	ND	0.204	2.00	ug/kg	1.0					
Xylenes (TOTAL)	J	0.752	0.575	6.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	ND	85.0	330	ug/kg	1.0	JPA	08/24/98	2248	129262	2
Acenaphthylene	U	ND	91.6	330	ug/kg	1.0					
Anthracene	U	ND	62.1	330	ug/kg	1.0					
Benzo(a)anthracene	U	ND	58.9	330	ug/kg	1.0					
Benzo(a)pyrene	U	ND	55.6	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	ND	101	330	ug/kg	1.0					
Benzo(ghi)perylene	U	ND	58.9	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	ND	85.0	330	ug/kg	1.0					
Chrysene	U	ND	45.8	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	ND	55.6	330	ug/kg	1.0					
Fluoranthene	U	ND	78.5	330	ug/kg	1.0					
Fluorene	U	ND	78.5	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	ND	137	330	ug/kg	1.0					
Naphthalene	U	ND	75.2	330	ug/kg	1.0					
Phenanthrene	U	ND	75.2	330	ug/kg	1.0					
Pyrene	U	ND	62.1	330	ug/kg	1.0					

The following prep procedures were performed:

GC/MS Volatiles (8260 High Level) TCL 08/20/98 0955 129229 3

P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29414
(803) 556-8171 • Fax (803) 766-1178

9808666-05

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: NPWC00197 Report Date: August 26, 1998

Sample ID : SPORT0885-5

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
GC/MS Base/Neutral Compounds							HDB	08/21/98	1200	129262	4

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	88.7	(30.0 - 115.)
Nitrobenzene-d5	M610	90.1	(23.0 - 120.)
p-Terphenyl-d14	M610	75.1	(37.3 - 128.)
Bromofluorobenzene	BTEX+NAP-8260B	86.8	(53.5 - 154.)
Dibromofluoromethane	BTEX+NAP-8260B	84.5	(63.4 - 136.)
Toluene-d8	BTEX+NAP-8260B	79.8	(72.1 - 137.)

M = Method	Method-Description
M 1	SW846 8260B
M 2	EPA 8270
M 3	EPA 5035
M 4	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

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197

Report Date: August 26, 1998

Sample ID	: SPORT0885-6
Lab ID	: 9808666-06
Matrix	: Soil
Date Collected	: 08/18/98
Date Received	: 08/19/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX + NAPTH. - 5 items											
Benzene	J	0.940	0.222	2.00	ug/kg	1.0	TCL	08/20/98	2325	129229	
Ethylbenzene	J	0.630	0.204	2.00	ug/kg	1.0					
Naphthalene	J	0.878	0.373	2.00	ug/kg	1.0					
Toluene	J	1.26	0.195	2.00	ug/kg	1.0					
Xylenes (TOTAL)	J	2.30	0.550	6.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	ND	85.0	330	ug/kg	1.0	JPA	08/24/98	2318	129262	2
Acenaphthylene	U	ND	91.6	330	ug/kg	1.0					
Anthracene	U	ND	62.1	330	ug/kg	1.0					
Benzo(a)anthracene	U	ND	58.9	330	ug/kg	1.0					
Benzo(a)pyrene	U	ND	55.6	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	ND	101	330	ug/kg	1.0					
Benzo(ghi)perylene	U	ND	58.9	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	ND	85.0	330	ug/kg	1.0					
Chrysene	U	ND	45.8	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	ND	55.6	330	ug/kg	1.0					
Fluoranthene	U	ND	78.5	330	ug/kg	1.0					
Fluorene	U	ND	78.5	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	ND	137	330	ug/kg	1.0					
Naphthalene	U	ND	75.2	330	ug/kg	1.0					
Phenanthrene	U	ND	75.2	330	ug/kg	1.0					
Pyrene	U	ND	62.1	330	ug/kg	1.0					

The following prep procedures were performed:

GC/MS Volatiles (8260 High Level) TCL 08/20/98 1000 129229 3

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9808666-06

GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: August 26, 1998

Sample ID : SPORT0885-6

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
GC/MS Base/Neutral Compounds							HDB	08/21/98	1200	129262	4

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	87.0	(30.0 - 115.)
Nitrobenzene-d5	M610	84.0	(23.0 - 120.)
p-Terphenyl-d14	M610	78.2	(37.3 - 128.)
Bromofluorobenzene	BTEX+NAP-8260B	106.	(53.5 - 154.)
Dibromofluoromethane	BTEX+NAP-8260B	89.5	(63.4 - 136.)
Toluene-d8	BTEX+NAP-8260B	79.7	(72.1 - 137.)

M = Method	Method-Description
M 1	SW846 8260B
M 2	EPA 8270
M 3	EPA 5035
M 4	EPA 3550

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

N[redacted]C00197

BB

CHAIN OF CUSTODY RECORD

9808666%

Page 1 of 1

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

Client Name/Facility Name: SPORTENVDETCHASN

Collected by/Company: SPORTENVDETCHASN

Use F or P in the boxes to indicate whether sample was filtered and/or preserved

CCL 34810

	SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB	# 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 + MTBE	PAH	Remarks	
01	SPORT0885-1	8/18/98	1500	X				3																✓	[redacted]	B-224 middle	.3
02	SPORT0885-2	8/18/98	1400	X				3																✓	[redacted]	Trip Blanks 224	.3
03	SPORT0885-3	8/18/98	1200		X			1 3 [redacted]																✓	[redacted]	TripBlank 224	.1
04	SPORT0885-4	8/18/98	1430	X				9																[redacted]	✓	B 224 middle	.4
05	SPORT0885-5	8/18/98	1413		X			4																J.	✓	B 224 East	.2
06	SPORT0885-6	8/18/98	1357		X			4																✓	✓	West	.2

Relinquished by:	Date:	Time:	Received by:	Relinquished by:	Date:	Time:	Received by:
[redacted]	8/18/98	600	W. R. Hiers, Jr.	W. R. Hiers, Jr.	8/19/98	1506	[redacted]
[redacted]	8/18/98	1530	[redacted]	8/19/98			

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 (843) 743-6482

TANK ID & LOCATION

UST 224; Building 224, Hobson Ave., Charleston Naval Base, N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK	SIZE (GAL)
Fuel oil	5,000 gal.

CLEANING/DISPOSAL METHOD

The tank was cut open on both ends, cleaned with a steam cleaner, cut into sections, and disposed of as recyclable scrap metal.

DISPOSAL CERTIFICATION

I certify that the above tank has been properly cleaned and disposed of as recyclable scrap metal.

Carl Jenkins 9/17/98
(Date)