N61165.AR.005090
CNC CHARLESTON
5090.3a

ABOVE GROUND STORAGE TANK (AST) ASSESSMENT REPORT QUARTERS G CNC CHARLESTON SC

11/08/1996

ENVIRONMENTAL DETACHMENT CHARLESTON

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

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 May 2, 1997
Quarters "G" Housing (Site Identification # 00945)
Charleston Naval Complex/Charleston Naval Base
Charleston, SC
Charleston County

Date: October 22, 1997

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 from operation of the referenced vessel and/or associated piping system. Based on the data presented, it appears that no additional endeavors for remedial actions and/or contaminant characterization are 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, Hydrogeologist
Groundwater Quality Section
Bureau of Water

cc: Trident District EQC

Li 5.12.97
Lo below

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

5090
Code 1849
2 May 1997

RECEIVED
MAY 0 7 1997
Groundwater Assessment
and Development Section

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 is the Assessment Reports for the closure of storage tanks AST 39L, UST G and UST NS 26 located at the Charleston Naval Complex, Charleston, SC.

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

Sincerely,

AST39 00943
USTNS26 00944 (Req Status?) Not logged as of 10.21
E Mark B. 10.20.97
Qtr "G" 00945

Drafts as of 10.21

GABRIEL L. MAGWOOD
Petroleum/UST

15405 (Gen) Li 5.12.97
Δ= 00945 Lo 10.21.97

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

RECEIVED
MAY 07 1997
Groundwater Assessment and Development Section

Date Received "NFA"
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 00945

Facility Name: Charleston Naval Base Complex, Quarters G

Street Address: 1600 Hobson Avenue

City: North Charleston, 29405-2413 County: Charleston

III CLOSURE INFORMATION

Closure Started: 8 Nov 96 Closure Completed: 18 Nov 96

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.

LCDR Paul Rose
Name (Type or Print)

Signature

V. UST INFORMATION

		Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A.	Product.....	Fuel oil					
B.	Capacity.....	550 gal.					
C.	Age.....	> 20 yrs.					
D.	Construction Material.....	Steel					
E.	Month/Year of Last Use.....	Unk.					
F.	Depth (ft.) To Base of Tank.....	7'					
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)

The UST 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 residual fuel oil and waste water were recycled. The sludge was found too thick to be pumped into our collection facility and will be shipped out as non-regulated sludge waste.

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

UST Quarters G had a protective coating. The tank was in very good condition, and had no corrosion, pitting, or holes.

VI. PIPING INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A. Construction Material.....	Copper & steel					
B. Distance from UST to Dispenser.....	18'					
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.....	> 20 yrs.					

Note 1: The tank provided fuel oil to Quarters G.

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

UST Quarters G piping was in good condition. No corrosion, pitting, or holes were found.

VII. BRIEF SITE DESCRIPTION AND HISTORY

Quarters G, 1600 Hobson Avenue, served as naval housing. The tank, piping, and excavation were found to be in very good condition.

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)? _____		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: _____		N/A	
E.	Was a petroleum sheen or free product detected on any excavation or boring waters? If yes, indicate location and thickness on the site map.		X	

IX. SAMPLE INFORMATION

S.C.D.H.E.C. Lab Certification Number 10120

Sample #	Location	Sample Type (Soil/Water)	Depth*	Date/Time of Collection	Collected By	OVA#
SPORT 0238-1	Beneath supply & return piping at the house.	Soil	1' 6"	12 Nov 96 1030	W. Nesbit	Not Taken
SPORT 0238-2	Beneath vent pipe union.	Soil	2'	12 Nov 96 1047	W. Nesbit	Not Taken
SPORT 0238-3	South end of tank.	Soil	7'	12 Nov 96 1105	W. Nesbit	Not Taken
SPORT 0238-4	North end of tank.	Soil	7'	12 Nov 96 1121	W. Nesbit	Not Taken
SPORT 0238-5	Dirt pile.	Soil	-	12 Nov 96 1138	W. Nesbit	Not Taken

* = Depth Below the Surrounding Land Surface

X. SAMPLING METHODOLOGY

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

After the removal of UST Quarters G, soil samples were taken. Sampling was performed in accordance with SC DHEC R.61-92 Part 280 and SC DHEC UST Assessment Guidelines.

The samples are identified as follows:

	Detachment Charleston		General Engineering Labs
Soil Sample	UST-G-1	=	SPORT -0238-1
Soil Sample	UST-G-2	=	SPORT -0238-2
Soil Sample	UST-G-3	=	SPORT -0238-3
Soil Sample	UST-G-4	=	SPORT -0238-4
Soil Sample	UST-G-5	=	SPORT -0238-5
VOA Soil Sample Blank	UST-G-6	=	SPORT -0238-6

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. UST piping soil samples were taken under the piping at the mechanical connections.

The samples were marked, logged, and immediately placed in sample coolers packed with ice to maintain an approximate temperature of 4° C. Tools were thoroughly cleaned and decontaminated with organic-free soap and water after each sample.

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

XI. RECEPTORS

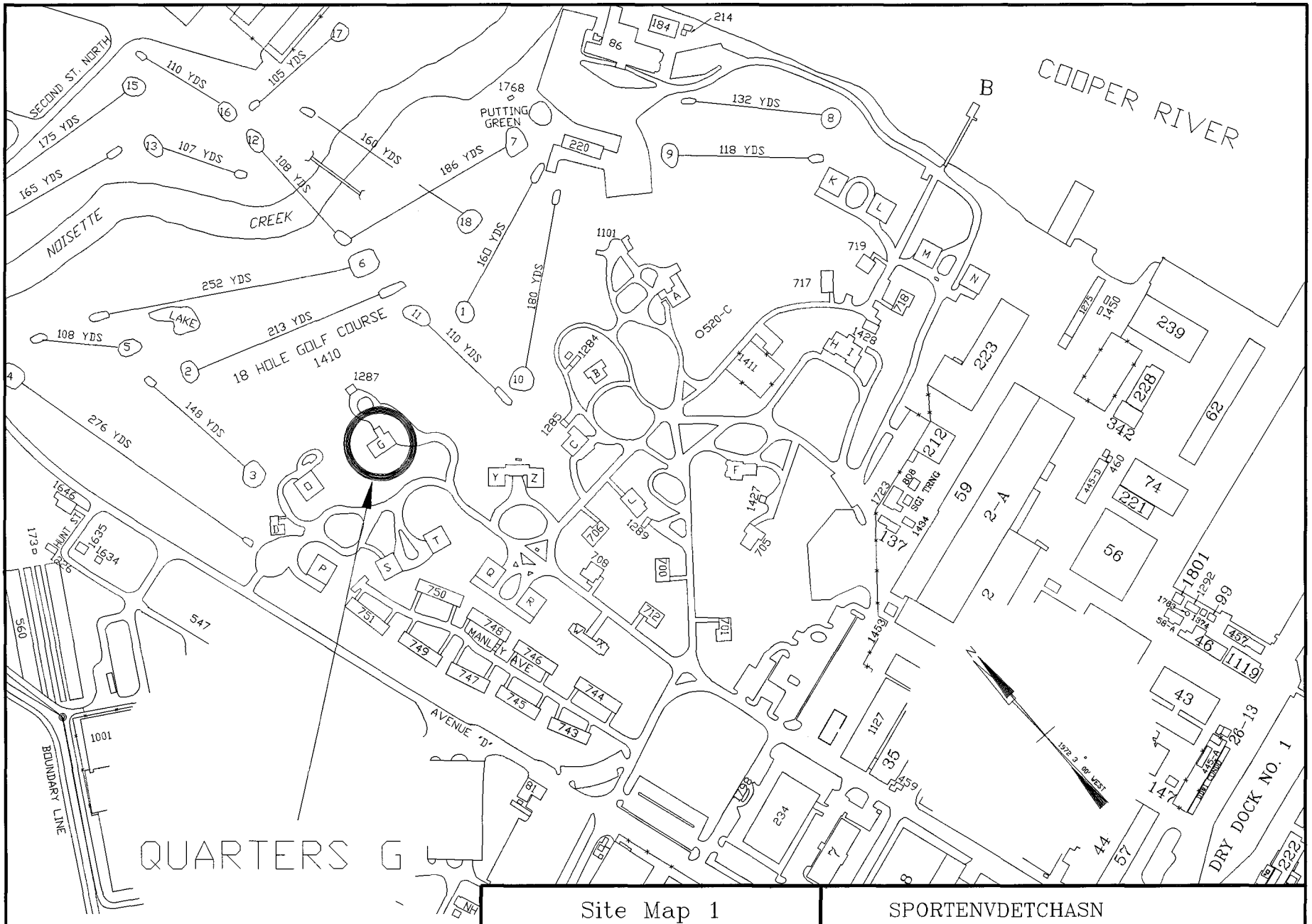
		Yes	No
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? **[Noisette Creek ~600']** If yes, indicate type of receptor, distance, and direction on site map.	X	
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? 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? **[Quarters G has a partial basement for the furnace and water heater]** 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? **[electricity]** 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

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 and 2

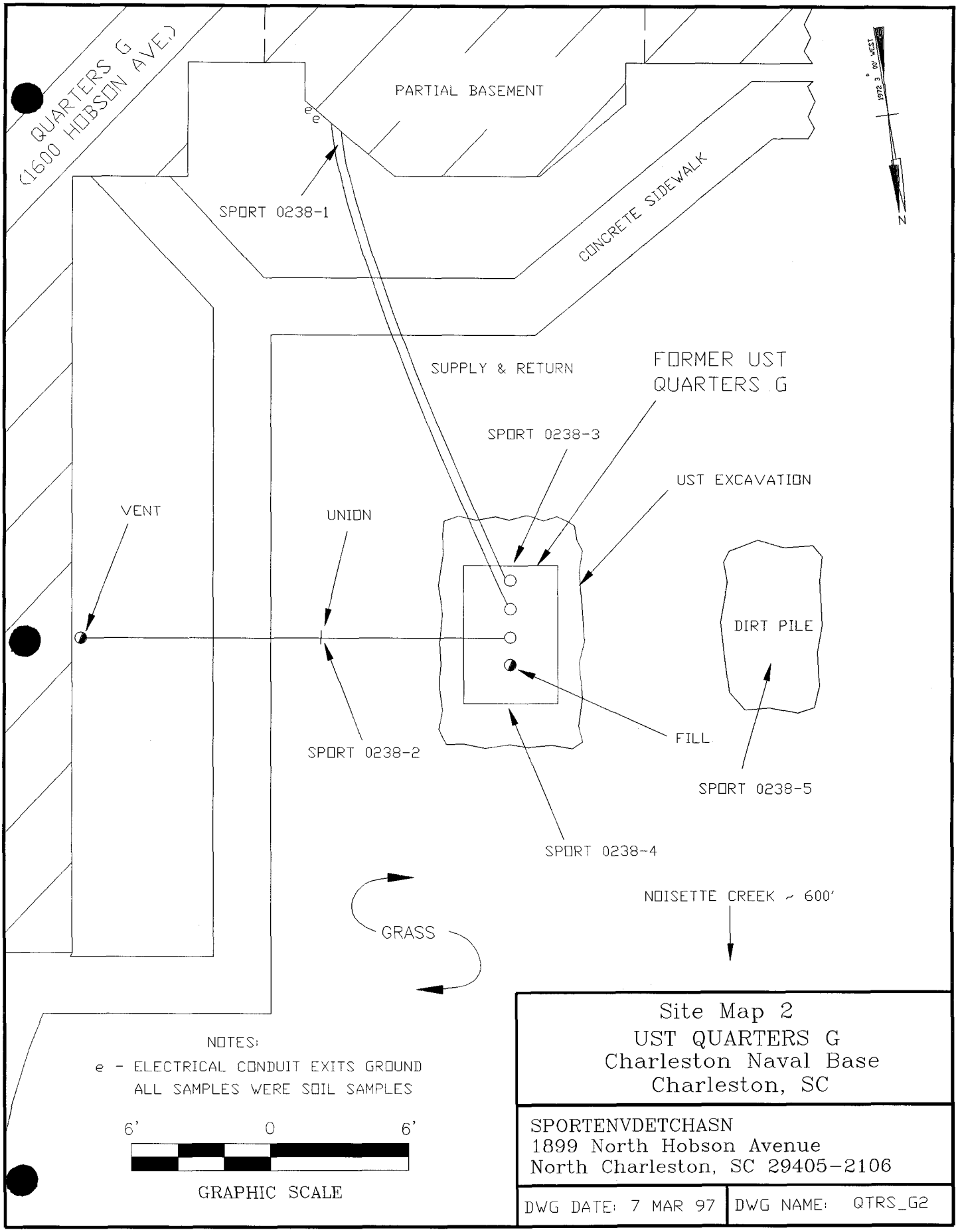


Site Map 1
UST QUARTERS G
Charleston Naval Base
Charleston, SC

SPORTENVDETCHASN
1899 North Hobson Avenue
North Charleston, SC 29405-2106

DWG DATE: 3 MAR 97

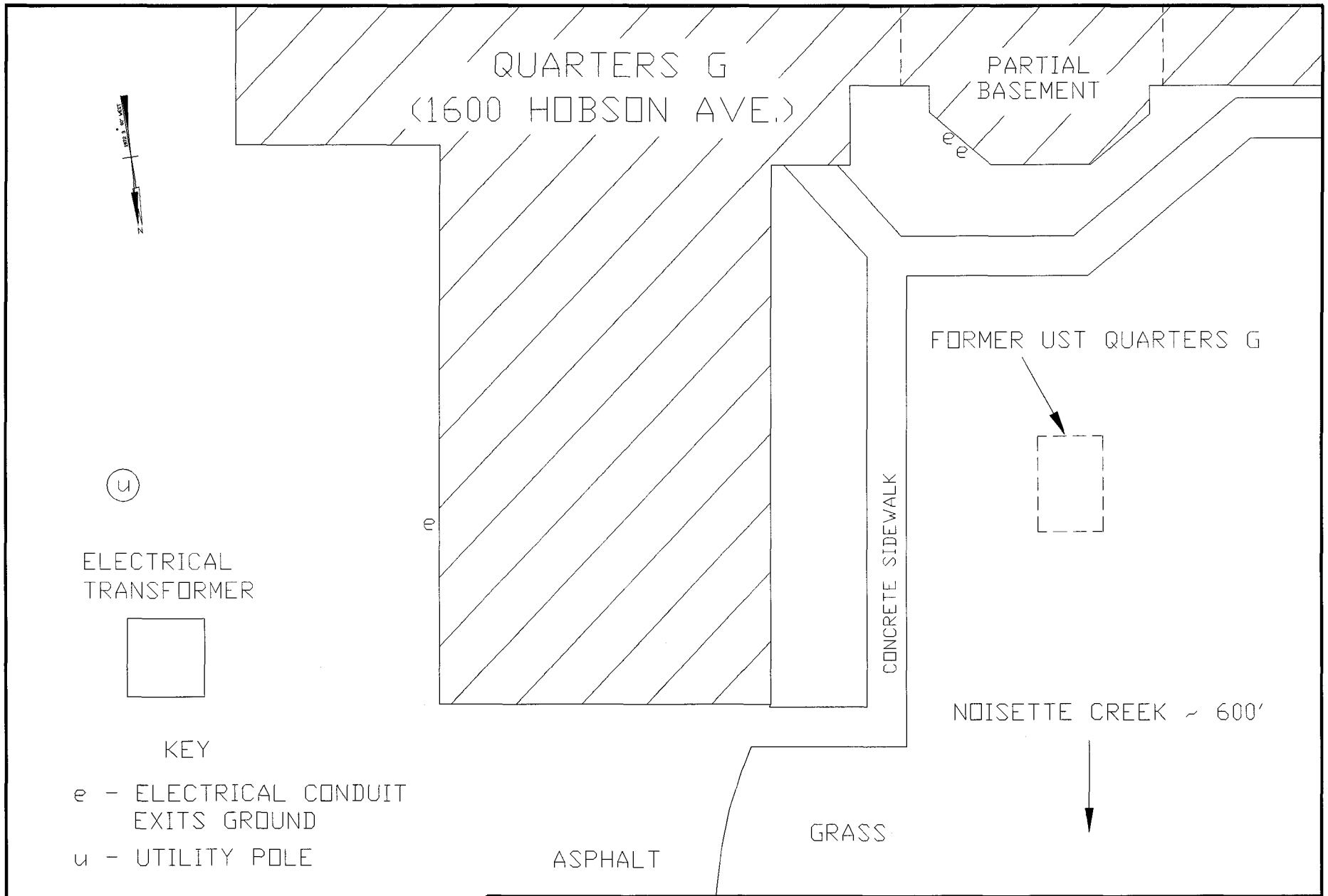
DWG NAME: QTRS_G1



Site Map 2
UST QUARTERS G
Charleston Naval Base
Charleston, SC

SPORTENVDETCHASN
1899 North Hobson Avenue
North Charleston, SC 29405-2106

DWG DATE: 7 MAR 97 | DWG NAME: QTRS_G2



Site Map 3
UST QUARTERS G
Charleston Naval Base
Charleston, SC

SPORTENVDETCHASN
1899 North Hobson Avenue
North Charleston, SC 29405-2106

DWG DATE: 7 MAR 97

DWG NAME: QTRS_G3

UST Quarters G

Photo 1: UST Quarters G being removed from the excavation.

Photo 2: UST Quarters G being readied for transport from the site. This is the opposite end from that shown in Photo 1.

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

623
Gr 6

GENERAL ENGINEERING LABORATORIES

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

co: NPWC00196

Report Date: November 22, 1996

Sample ID	: SPORT238-1
Lab ID	: 9611245-01
Matrix	: Soil
Date Collected	: 11/12/96
Date Received	: 11/13/96
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	JGS2	11/18/96	1305	93845	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	J	1.90	1.00	2.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	658	1320	ug/kg	4.0	TSD	11/19/96	1937	93739	2
Acenaphthylene	U	0.00	658	1320	ug/kg	4.0					
Anthracene	U	0.00	658	1320	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	658	1320	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	658	1320	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	658	1320	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	658	1320	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	658	1320	ug/kg	4.0					
Chrysene	U	0.00	658	1320	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	658	1320	ug/kg	4.0					
Fluoranthene	U	0.00	658	1320	ug/kg	4.0					
Fluorene	U	0.00	658	1320	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	658	1320	ug/kg	4.0					
Naphthalene	U	0.00	658	1320	ug/kg	4.0					
Phenanthrene	U	0.00	658	1320	ug/kg	4.0					
Pyrene	U	0.00	658	1320	ug/kg	4.0					

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

TSD 11/15/96 1300 93739 3

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9611245-01

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196 Report Date: November 22, 1996

Sample ID : SPORT238-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M

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

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	0.00*	(30.0 - 115.)
Nitrobenzene-d5	M610	0.00*	(23.0 - 120.)
p-Terphenyl-d14	M610	123.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	95.3	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	95.5	(74.0 - 128.)
Toluene-d8	BTEX-8260	98.7	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	95.3	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	95.5	(74.0 - 128.)
Toluene-d8	NAP-8260	98.7	(53.4 - 163.)

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.

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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: November 22, 1996

Sample ID : SPORT238-1

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

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9611245-01

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00196 Report Date: November 22, 1996

Sample ID : SPORT238-2
Lab ID : 9611245-02
Matrix : Soil
Date Collected : 11/12/96
Date Received : 11/13/96
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	2.00	4.00	ug/kg	2.0	JGS2	11/18/96	1618	93845	1
Ethylbenzene	U	0.00	2.00	4.00	ug/kg	2.0					
Toluene	U	0.00	2.00	4.00	ug/kg	2.0					
Xylenes (TOTAL)	U	0.00	2.00	4.00	ug/kg	2.0					
Naphthalene	U	1.10	2.00	4.00	ug/kg	2.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	666	1330	ug/kg	4.0	TSD	11/19/96	2015	93739	2
Acenaphthylene	U	0.00	666	1330	ug/kg	4.0					
Anthracene	U	0.00	666	1330	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	666	1330	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	666	1330	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	666	1330	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	666	1330	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	666	1330	ug/kg	4.0					
Chrysene	U	0.00	666	1330	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	666	1330	ug/kg	4.0					
Fluoranthene	U	0.00	666	1330	ug/kg	4.0					
Fluorene	U	0.00	666	1330	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	666	1330	ug/kg	4.0					
Naphthalene	U	0.00	666	1330	ug/kg	4.0					
Phenanthrene	U	0.00	666	1330	ug/kg	4.0					
Pyrene	U	0.00	666	1330	ug/kg	4.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds TSD 11/15/96 1300 93739 3

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9611245-02

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196 Report Date: November 22, 1996

Sample ID : SPORT238-2

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M

Comments:
A dilution was required for Volatile Organics due to a high concentration of hydrocarbons. A dilution was required for Extractable Organics due to matrix interference.

As a result, the detection limits are elevated.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	89.4	(30.0 - 115.)
Nitrobenzene-d5	M610	67.0	(23.0 - 120.)
p-Terphenyl-d14	M610	114.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	87.1	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	88.0	(74.0 - 128.)
Toluene-d8	BTEX-8260	91.8	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	87.1	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	88.0	(74.0 - 128.)
Toluene-d8	NAP-8260	91.8	(53.4 - 163.)

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.

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9611245-02

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Laboratory Certifications

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NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: November 22, 1996

Sample ID : SPORT238-2

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

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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: NPWC00196 | Report Date: November 22, 1996 |

Sample ID	: SPORT238-3
Lab ID	: 9611245-03
Matrix	: Soil
Date Collected	: 11/12/96
Date Received	: 11/13/96
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	JGS2	11/18/96	1649	93845	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)	J	1.20	1.00	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	165	330	ug/kg	1.0	TSD	11/19/96	2053	93739	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 — TSD 11/15/96 1300 93739 3

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Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196 Report Date: November 22, 1996

Sample ID : SPORT238-3

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M

Comments:
Volatile Organics contained matrix interferences.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	78.9	(30.0 - 115.)
Nitrobenzene-d5	M610	75.7	(23.0 - 120.)
p-Terphenyl-d14	M610	98.3	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	98.9	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	98.6	(74.0 - 128.)
Toluene-d8	BTEX-8260	101.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	98.9	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	98.6	(74.0 - 128.)
Toluene-d8	NAP-8260	101.	(53.4 - 163.)

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.

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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: NPWC00196 Report Date: November 22, 1996

Sample ID : SPORT238-3

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

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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: NPWC00196

Report Date: November 22, 1996

Sample ID	: SPORT238-4
Lab ID	: 9611245-04
Matrix	: Soil
Date Collected	: 11/12/96
Date Received	: 11/13/96
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	JGS2	11/18/96	1336	93845	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					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	166	332	ug/kg	1.0	TSD	11/19/96	2132	93739	2
Acenaphthylene	U	0.00	166	332	ug/kg	1.0					
Anthracene	U	0.00	166	332	ug/kg	1.0					
Benzo(a)anthracene		544	166	332	ug/kg	1.0					
Benzo(a)pyrene		442	166	332	ug/kg	1.0					
Benzo(b)fluoranthene		724	166	332	ug/kg	1.0					
Benzo(ghi)perylene	J	239	166	332	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	166	332	ug/kg	1.0					
Chrysene		521	166	332	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	166	332	ug/kg	1.0					
Fluoranthene		1080	166	332	ug/kg	1.0					
Fluorene	U	0.00	166	332	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	J	239	166	332	ug/kg	1.0					
Naphthalene	U	0.00	166	332	ug/kg	1.0					
Phenanthrene		959	166	332	ug/kg	1.0					
Pyrene		993	166	332	ug/kg	1.0					

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

TSD 11/15/96 1300 93739 3

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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: NPWC00196 Report Date: November 22, 1996

Sample ID : SPORT238-4

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	68.4	(30.0 - 115.)
Nitrobenzene-d5	M610	56.8	(23.0 - 120.)
p-Terphenyl-d14	M610	101.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	93.3	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	90.2	(74.0 - 128.)
Toluene-d8	BTEX-8260	96.5	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	93.3	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	90.2	(74.0 - 128.)
Toluene-d8	NAP-8260	96.5	(53.4 - 163.)

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

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

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

Karen Blakeney
Reviewed By

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STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196 Report Date: November 22, 1996

Sample ID	: SPORT238-5
Lab ID	: 9611245-05
Matrix	: Soil
Date Collected	: 11/12/96
Date Received	: 11/13/96
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	2.00	4.00	ug/kg	2.0	JGS2	11/18/96	1406	93845	1
Ethylbenzene	U	0.00	2.00	4.00	ug/kg	2.0					
Toluene	U	0.00	2.00	4.00	ug/kg	2.0					
Xylenes (TOTAL)	U	0.00	2.00	4.00	ug/kg	2.0					
Naphthalene	U	0.00	2.00	4.00	ug/kg	2.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	164	330	ug/kg	1.0	TSD	11/19/96	2210	93739	2
Acenaphthylene	U	0.00	164	330	ug/kg	1.0					
Anthracene	U	0.00	164	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	164	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	164	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	164	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	164	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	164	330	ug/kg	1.0					
Chrysene	U	0.00	164	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	164	330	ug/kg	1.0					
Fluoranthene	U	0.00	164	330	ug/kg	1.0					
Fluorene	U	0.00	164	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	164	330	ug/kg	1.0					
Naphthalene	U	0.00	164	330	ug/kg	1.0					
Phenanthrene	U	0.00	164	330	ug/kg	1.0					
Pyrene	U	0.00	164	330	ug/kg	1.0					

The following prep procedures were performed:

GC/MS Base/Neutral Compounds TSD 11/15/96 1300 93739 3

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NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196 Report Date: November 22, 1996

Sample ID : SPORT238-5

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M

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

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	79.8	(30.0 - 115.)
Nitrobenzene-d5	M610	74.4	(23.0 - 120.)
p-Terphenyl-d14	M610	97.8	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	93.2	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	91.8	(74.0 - 128.)
Toluene-d8	BTEX-8260	96.5	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	93.2	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	91.8	(74.0 - 128.)
Toluene-d8	NAP-8260	96.5	(53.4 - 163.)

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.

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NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00196 Report Date: November 22, 1996

Sample ID : SPORT238-5

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

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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: NPWC00196 Report Date: November 21, 1996

Sample ID	: SPORT238-6
Lab ID	: 9611245-06
Matrix	: Soil
Date Collected	: 11/12/96
Date Received	: 11/13/96
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
Benzene	U	0.890	1.00	2.00	ug/kg	1.0	JGS2	11/18/96	1851	93845	1
Ethylbenzene		4.89	1.00	2.00	ug/kg	1.0					
Toluene		6.50	1.00	2.00	ug/kg	1.0					
Xylenes (TOTAL)		23.0	1.00	4.00	ug/kg	1.0					
Naphthalene		2.87	1.00	2.00	ug/kg	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	110.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	102.	(74.0 - 128.)
Toluene-d8	BTEX-8260	103.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	110.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	102.	(74.0 - 128.)
Toluene-d8	NAP-8260	103.	(53.4 - 163.)

M = Method	Method-Description
M 1	EPA 8260

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NC	233	
SC	10120	10982
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: November 21, 1996

Sample ID : SPORT238-6

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.

Karen Blakeney
Reviewed By

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CHAIN OF CUSTODY RECORD

Page 1 of 1 9611245 K13B

Client Name/Facility Name: SPORT ENV DET CHASN
Collected by/Company: NESBITT SPORT ENV DET CHASN

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

CCL 24179

SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods

	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	SPORT0238-1	11/12/96	1030				x	2																x	x	UST QTRS G-1	.1
-02	SPORT0238-2	11/12/96	1047				x	2																x	x	UST QTRS G-2	.1
-03	SPORT0238-3	11/12/96	1105				x	2																x	x	UST QTRS G-3	.1
-04	SPORT0238-4	11/12/96	1121				x	2																x	x	UST QTRS G-4	.1
-05	SPORT0238-5	11/12/96	1138				x	2																x	x	UST QTRS G-5	.1
-06	SPORT0238-6	11/12/96	1030				x	1																x		VOA SOIL BLANK	.2

Relinquished by:	Date:	Time:	Received by:	Relinquished by:	Date:	Time:	Received by:
[signature]	11/12/96	1350	[signature]	[signature]	11/13/96	1445	[signature]

Relinquished by:	Date:	Time:	Received by lab by:	Date:	Time:	Remarks:
[signature]	11/13/96	15.08	[signature]	11/14/96	1500	

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

UST Quarters G; Charleston Naval Base, Quarters G, 1600 Hobson Ave., N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK	SIZE (GAL)
Fuel Oil	550 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.

02-18-97
(Date)

Sidney C. Ladson