N61165.AR.005624
CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK ASSESSMENT (UST) REPORT FOR BUILDING 42 CNC CHARLESTON SC

09/18/1996

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

L 3.11.97
Lo 7.25.97

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

RECEIVED
FEB 07 1997
Groundwater Assessment and Development Section

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

Facility Name: Charleston Naval Base Complex, B42 17780

Street Address: South Hobson Avenue

City: North Charleston, 29405-2413 County: Charleston

III CLOSURE INFORMATION

Closure Started: 9 Aug 1996 Closure Completed: 18 Sept 1996

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.....	560 gal.					
C.	Age.....	> 20 years					
D.	Construction Material.....	steel					
E.	Month/Year of Last Use.....	Unk.					
F.	Depth (ft.) To Base of Tank.....	5'					
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.....	Y					

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, waste water, and sludge were recycled.

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

No corrosion or pitting were found. One 1/4" hole was discovered in the end during steam cleaning. See Attachment I, photograph 2.

VI. PIPING INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A. Construction Material.....	Copper					
B. Distance from UST to Dispenser.....	6'					
C. Number of Dispensers.....	1 see note 1					
D. Type of System P/S.....	S					
E. Was Piping Removed from the Ground? Y/N....	N					
F. Visible Corrosion or Pitting Y/N.....	N					
G. Visible Holes Y/N.....	N					
H. Age.....	> 20 years					

Note 1: UST B42 provided fuel oil to building 42's boiler.

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

The piping contained no corrosion, pitting, or holes; however, during excavation, the supply and return lines were found unattached to the tank. The lines were capped by Detachment Charleston technicians.

VII. BRIEF SITE DESCRIPTION AND HISTORY

Building 42 is a store room/boiler house for the former green house on the Naval base. UST B42 supplied fuel oil for the boiler.

On 2 Aug 90 approximately 10 gallons of kerosene overflowed from the uncapped fill pipe of the abandoned UST B42 onto the asphalt parking lot during a rainstorm. Charleston Naval Base Public Works personnel cleaned up the spill and pumped the tank dry.

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? [*under piping] 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.) [*excavation, strong]	*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: See Note 2. _____	X		
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	

Note 2: The stockpiled soil has been transported to building 1601 as part of a future bioremediation pilot project. Per conversation with DHEC, Mr. Tim Mettlen, and SouthDiv, Mr. Gabriel Magwood, petroleum contaminated soil may be removed from the excavation and stockpiled for disposal or remediation.

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 0138-1	East end of tank.	Soil	5'	15 Aug 96 0830	R. Adkins	Not Taken
SPORT 0138-2	West end of tank.	Soil	5'	15 Aug 96 0830	R. Adkins	Not Taken
SPORT 0138-3	Under piping	Soil	5'	15 Aug 96 0830	R. Adkins	Not Taken
SPORT 0138-4	East end of dirt pile.	Soil	-	15 Aug 96 0830	R. Adkins	Not Taken
SPORT 0138-5	West end of dirt pile.	Soil	-	15 Aug 96 0830	R. Adkins	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 B42 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	UST42-1	=	SPORT -0138-1
Soil Sample	UST42-2	=	SPORT -0138-2
Soil Sample	UST42-3	=	SPORT -0138-3
Soil Sample	UST42-4	=	SPORT -0138-4
Soil Sample	UST42-5	=	SPORT -0138-5

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 below their open ends.

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

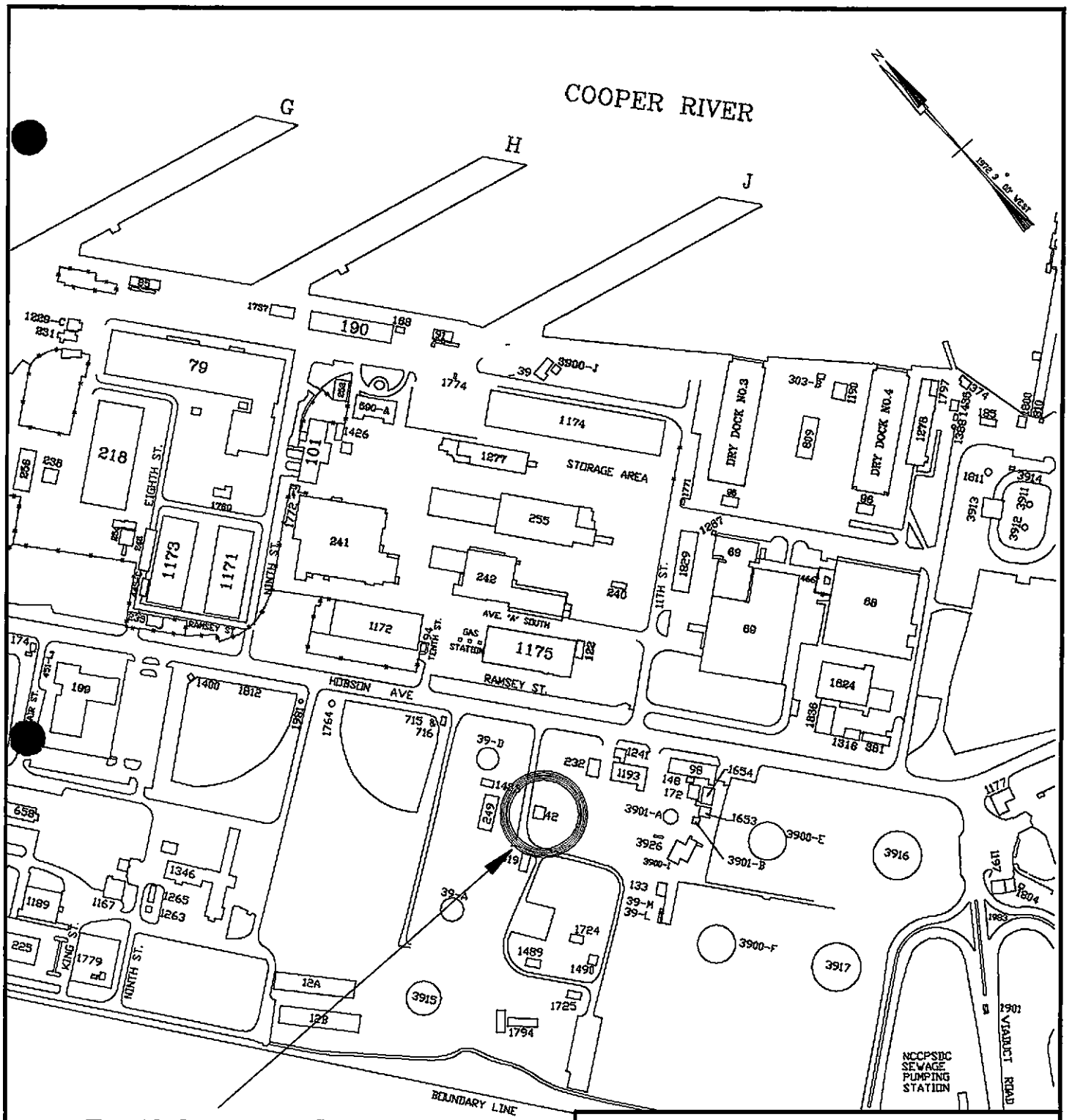
		Yes	No
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? If yes, indicate type of receptor, distance, and direction on site map.		X
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type 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? [*Storm drain] 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, 3, and 4
Photographs 1 and 2



Building 42

CHARLESTON NAVAL BASE
CHARLESTON, SC

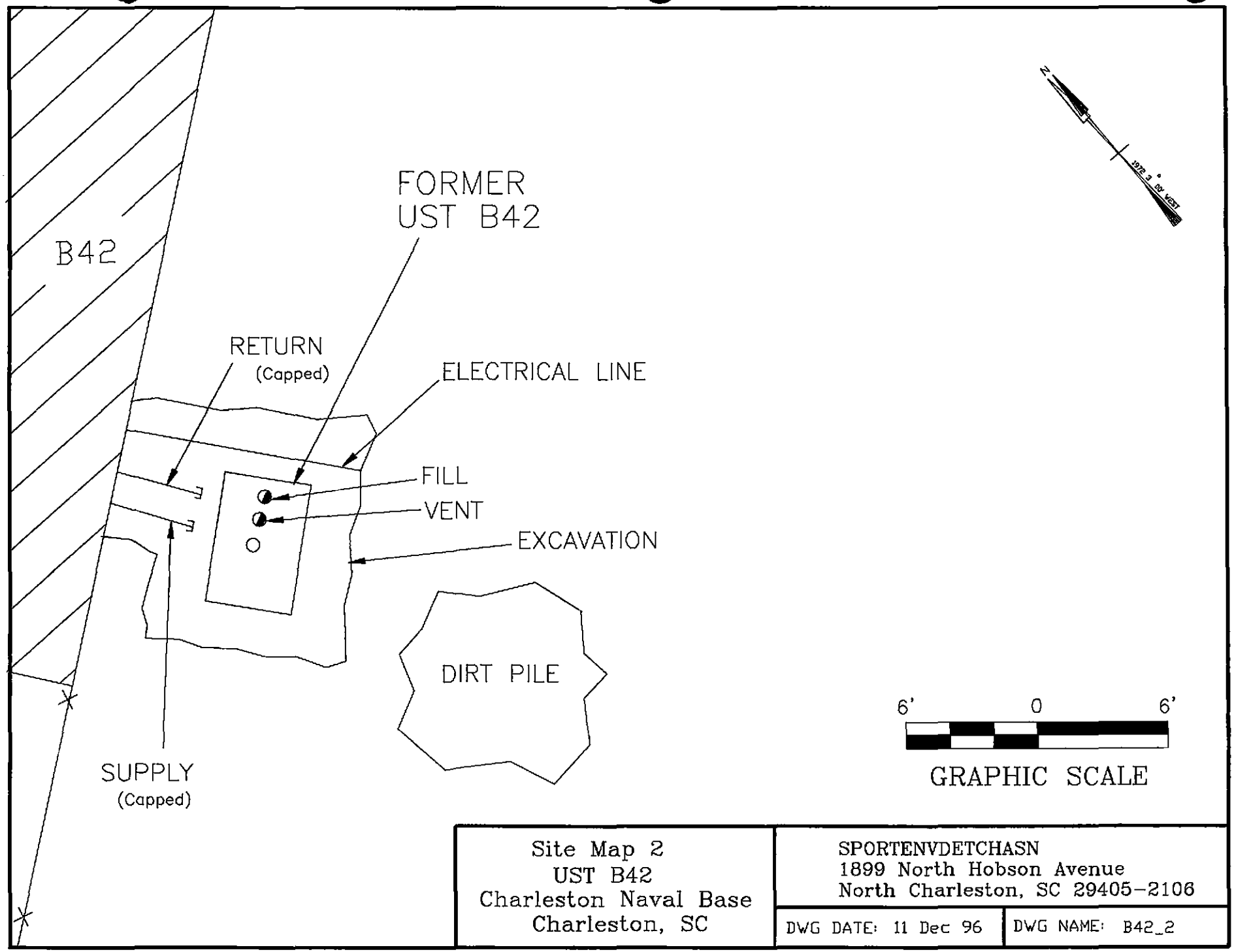
300 0 300 600

GRAPHIC SCALE

Site Map 1
UST B42
Charleston Naval Base
Charleston, SC

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

DWG NAME: B42_1	DWG DATE: 11 Dec 96

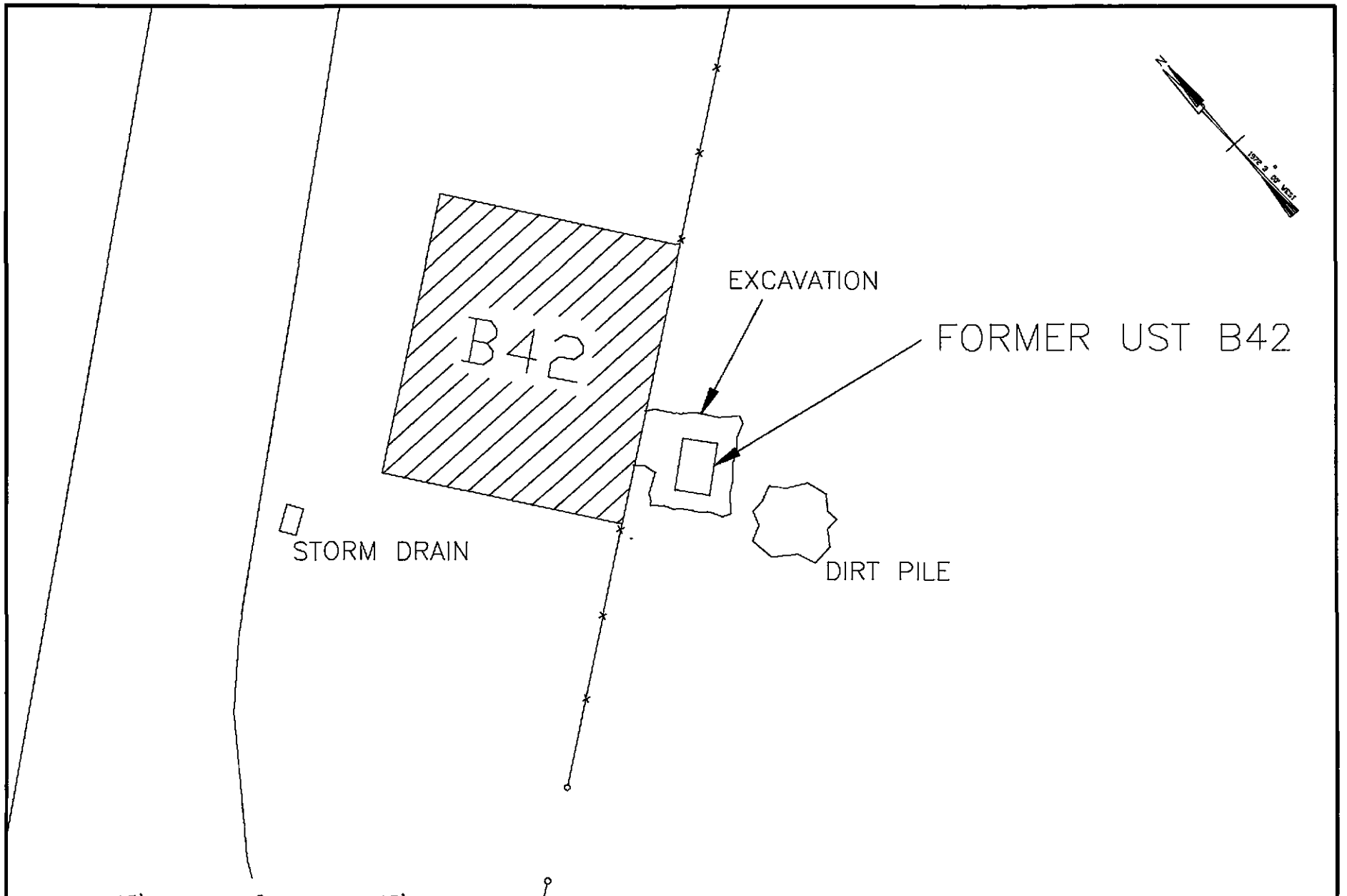


Site Map 2
UST B42
Charleston Naval Base
Charleston, SC

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

DWG DATE: 11 Dec 96

DWG NAME: B42_2



15' 0 15'

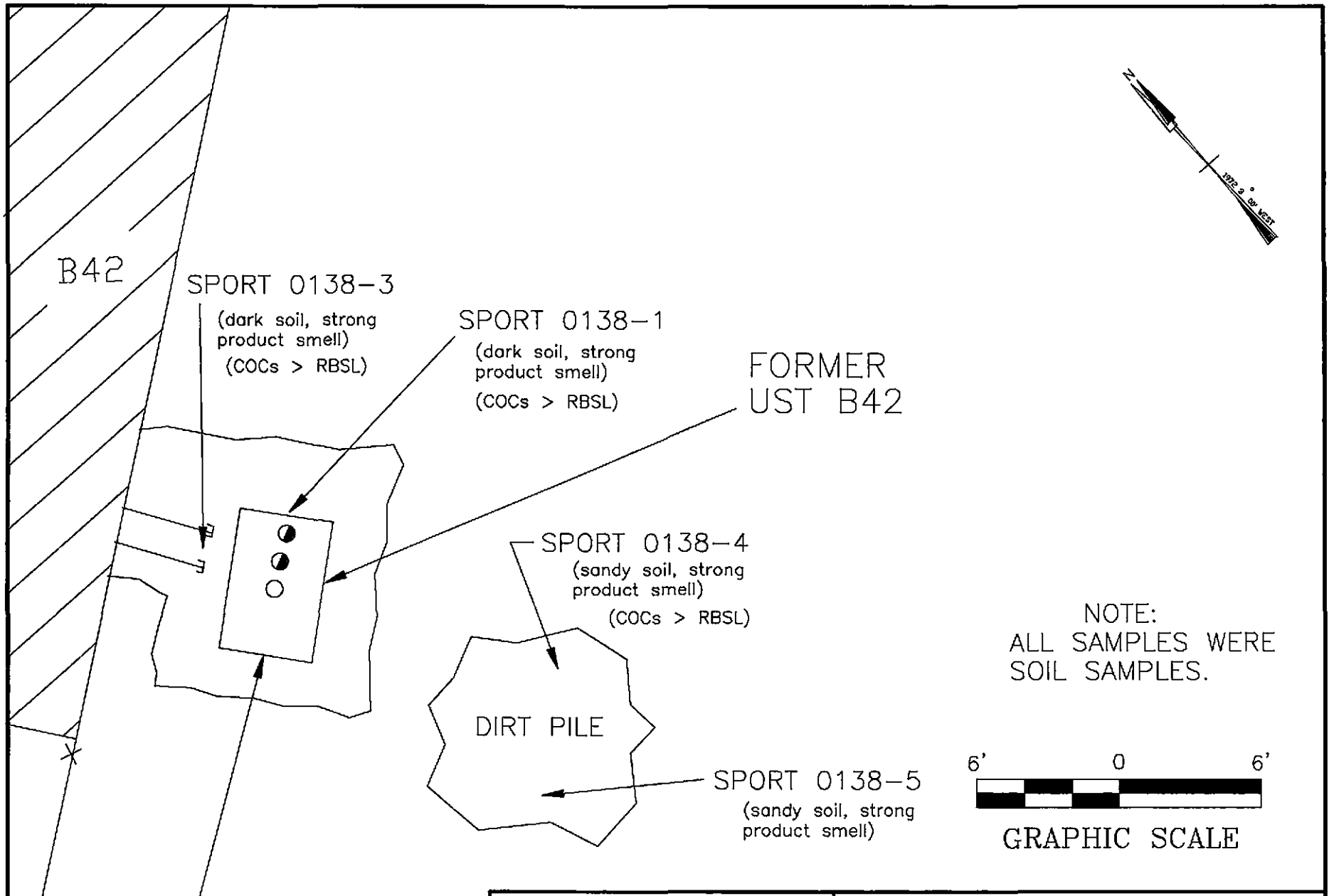
GRAPHIC SCALE

Site Map 3
UST B42
Charleston Naval Base
Charleston, SC

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

DWG DATE: 11 Dec 96

DWG NAME: B42_3



Site Map 4
UST B42
Charleston Naval Base
Charleston, SC

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

DWG DATE: 13 Dec 96 | DWG NAME: B42_4

UST B42

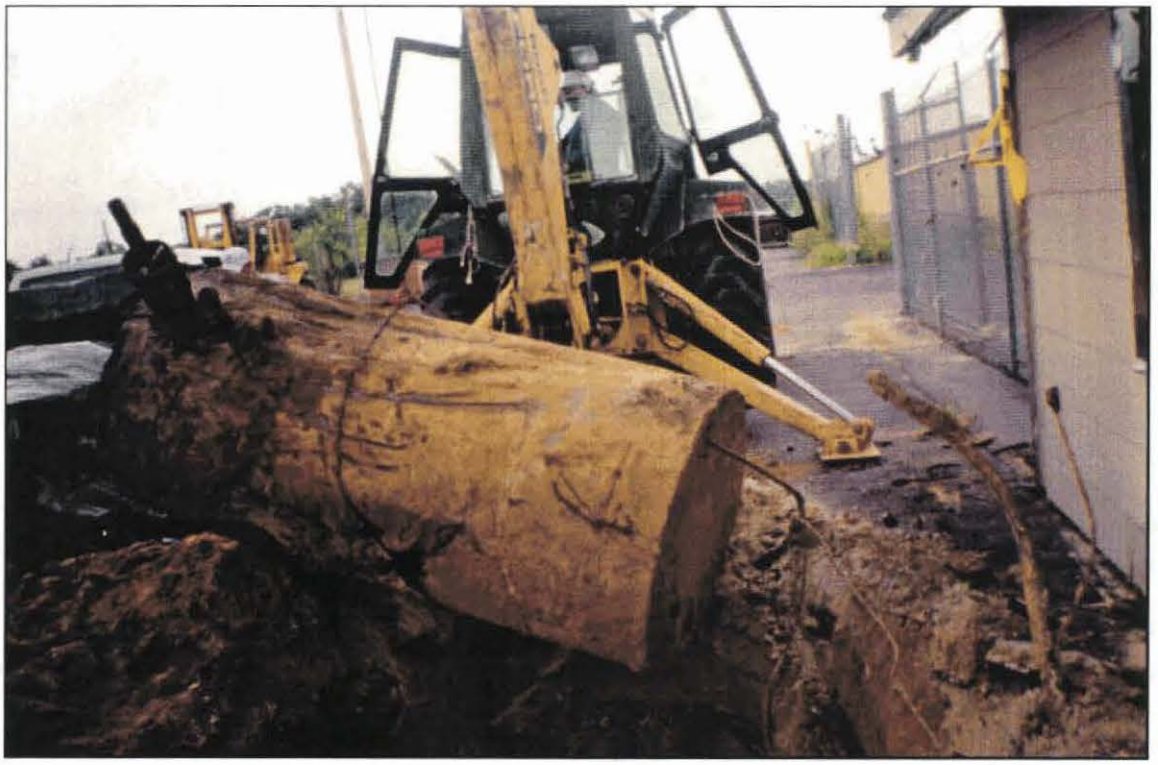


Photo 1: UST B42 during removal. The 12" hole in the side of the tank was caused by the backhoe during excavation. No product release occurred.

UST B42

Photo 2: UST B42 during cleaning and dissection. Note the ¼" hole circled in chalk.

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.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID	: SPORT0138-1
Lab ID	: 9608328-01
Matrix	: Soil
Date Collected	: 08/15/96
Date Received	: 08/15/96
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	50.0	100	ug/kg	50.	THL	08/20/96	2124	89190	1
Ethylbenzene	U	41.5	50.0	100	ug/kg	50.					
Toluene		217	50.0	100	ug/kg	50.					
Xylenes (TOTAL)		196	50.0	100	ug/kg	50.					
Naphthalene		5830	100	200	ug/kg	100	THL	08/21/96	1332	89190	1
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	6620	13200	ug/kg	40.	RLC	08/20/96	1450	89027	2
Acenaphthylene	U	0.00	6620	13200	ug/kg	40.					
Anthracene	U	0.00	6620	13200	ug/kg	40.					
Benzo(a)anthracene	U	0.00	6620	13200	ug/kg	40.					
Benzo(a)pyrene	U	0.00	6620	13200	ug/kg	40.					
Benzo(b)fluoranthene	U	0.00	6620	13200	ug/kg	40.					
Benzo(ghi)perylene	U	0.00	6620	13200	ug/kg	40.					
Benzo(k)fluoranthene	U	0.00	6620	13200	ug/kg	40.					
Chrysene	U	0.00	6620	13200	ug/kg	40.					
Dibenzo(a,h)anthracene	U	0.00	6620	13200	ug/kg	40.					
Fluoranthene	U	0.00	6620	13200	ug/kg	40.					
Fluorene	U	0.00	6620	13200	ug/kg	40.					
Indeno(1,2,3-c,d)pyrene	U	0.00	6620	13200	ug/kg	40.					
Naphthalene	J	11000	6620	13200	ug/kg	40.					
Phenanthrene	U	0.00	6620	13200	ug/kg	40.					
Pyrene	U	0.00	6620	13200	ug/kg	40.					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds TNF 08/17/96 0930 89027 3

P O Box 30712 • Charleston, SC 29417 • (803) 556-8171 • Fax (803) 766-1178 *9608328-01*

Printed on recycled paper

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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

oc: NPWC00196 Report Date: August 26, 1996

Sample ID : SPORT0138-1

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	160.*	(30.0 - 115.)
Nitrobenzene-d5	M610	120.	(23.0 - 120.)
p-Terphenyl-d14	M610	168.*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	102.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	104.	(74.0 - 128.)
Toluene-d8	BTEX-8260	101.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	102.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	104.	(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.

GEL Laboratory Certifications EPI Laboratory Certifications

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

Printed on recycled paper

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID : SPORT0138-1

GEL Laboratory Certifications		EPI Laboratory Certifications	
AL - 41040	AZ - AZ0514	AL - 41050	AZ - AZ0514
CA - 2089	CT - PH-0169	CA - I-1023/2056	CT - PH-0175
DE - SC012	FL - E87156/87294	FL - E87472/87458	MS - 29417
ME - SC012	MS - 10120	NY - 11502	RI - 138
NC - 233	NY - 11501	SC - 10582	TN - 02934
RI - 135	SC - 10120	UT - E-227	VA - 00111
TN - 02934	UT - E-251	WA - C225	NJ - 79002
VA - 00151	WA - C223	PA - 68-485	WV - 235
WI - 999887790	WV - 236		

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
Analytical Report Specialist

9608328-01

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

Printed on recycled paper.

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID	: SPORT0138-2
Lab ID	: 9608328-02
Matrix	: Soil
Date Collected	: 08/15/96
Date Received	: 08/15/96
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	5.00	10.0	ug/kg	5.0	THL	08/21/96	1401	89190	1
Ethylbenzene	U	0.00	5.00	10.0	ug/kg	5.0					
Toluene	U	1.40	5.00	10.0	ug/kg	5.0					
Xylenes (TOTAL)	U	0.00	5.00	10.0	ug/kg	5.0					
Naphthalene		11.7	5.00	10.0	ug/kg	5.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	167	333	ug/kg	1.0	RLC	08/20/96	1237	89027	2
Acenaphthylene	U	0.00	167	333	ug/kg	1.0					
Anthracene	U	0.00	167	333	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	167	333	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	167	333	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	167	333	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	167	333	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	167	333	ug/kg	1.0					
Chrysene	U	0.00	167	333	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	167	333	ug/kg	1.0					
Fluoranthene	U	0.00	167	333	ug/kg	1.0					
Fluorene	U	0.00	167	333	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	167	333	ug/kg	1.0					
Naphthalene	U	0.00	167	333	ug/kg	1.0					
Phenanthrene	U	93.2	167	333	ug/kg	1.0					
Pyrene	U	0.00	167	333	ug/kg	1.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds TNF 08/17/96 0930 89027 3

P O Box 30712 • Charleston, SC 29417 • (803) 556-8171 • Fax (803) 766-1178 *9608328-02*

Printed on recycled paper.

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID : SPORT0138-2

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	72.4	(30.0 - 115.)
Nitrobenzene-d5	M610	59.6	(23.0 - 120.)
p-Terphenyl-d14	M610	102.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	77.8	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	107.	(74.0 - 128.)
Toluene-d8	BTEX-8260	99.9	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	77.8	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	107.	(74.0 - 128.)
Toluene-d8	NAP-8260	99.9	(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.

GEL Laboratory Certifications EPI Laboratory Certifications

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

Printed on recycled paper

AUG. -26' 96 (MON) 13:58 GEN. ENGINEERING TEL:803-852-5812 P. 02

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID : SPORT0138-2

GEL Laboratory Certifications		EFI Laboratory Certifications	
AL - 41040	AZ - AZ0514	AL - 41050	AZ - AZ0514
CA - 2089	CT - PH-0169	CA - I-1023/2056	CT - PH-0175
DE - SC012	FL - E87156/87294	FL - E87472/87458	MS - 29417
ME - SC012	MS - 10120	NY - 11502	RI - 138
NC - 233	NY - 11501	SC - 10582	TN - 02934
RI - 135	SC - 10120	UT - E-227	VA - 00111
TN - 02934	UT - E-251	WA - C225	NJ - 79002
VA - 00151	WA - C223	PA - 68-485	WV - 235
WI - 999887790	WV - 236		

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

Analytical Report Specialist

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

Printed on recycled paper.

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID	: SPORT0138-3
Lab ID	: 9608328-03
Matrix	: Soil
Date Collected	: 08/15/96
Date Received	: 08/15/96
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	50.0	100	ug/kg	50.	THL	08/20/96	2221	89190	1
Ethylbenzene	U	0.00	50.0	100	ug/kg	50.					
Toluene	U	0.00	50.0	100	ug/kg	50.					
Xylenes (TOTAL)	U	0.00	50.0	100	ug/kg	50.					
Naphthalene		3650	50.0	100	ug/kg	50.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	664	1330	ug/kg	4.0	RLC	08/20/96	1326	89027	2
Acenaphthylene	U	0.00	664	1330	ug/kg	4.0					
Anthracene	U	0.00	664	1330	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	664	1330	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	664	1330	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	664	1330	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	664	1330	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	664	1330	ug/kg	4.0					
Chrysene	U	0.00	664	1330	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	664	1330	ug/kg	4.0					
Fluoranthene	U	0.00	664	1330	ug/kg	4.0					
Fluorene	U	0.00	664	1330	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	664	1330	ug/kg	4.0					
Naphthalene	J	1120	664	1330	ug/kg	4.0					
Phenanthrene	U	0.00	664	1330	ug/kg	4.0					
Pyrene	U	0.00	664	1330	ug/kg	4.0					

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

TNF 08/17/96 0930 89027 3

P O Box 30712 • Charleston, SC 29417 • (803) 556-8171 • Fax (803) 766-1178 *9608328-03*

Printed on recycled paper.

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID : SPORT0138-3

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	88.8	(30.0 - 115.)
Nitrobenzene-d5	M610	67.2	(23.0 - 120.)
p-Terphenyl-d14	M610	100.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	104.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	105.	(74.0 - 128.)
Toluene-d8	BTEX-8260	102.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	104.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	105.	(74.0 - 128.)
Toluene-d8	NAP-8260	102.	(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.

9608328-03

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

Printed on recycled paper

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID : SPORT0138-3

GEL Laboratory Certifications		EPI Laboratory Certifications	
AL - 41040	AZ - AZ0514	AL - 41050	AZ - AZ0514
CA - 2089	CT - PH-0169	CA - I-1023/2056	CT - PH-0175
DE - SC012	FL - E87156/87294	FL - E87472/87458	MS - 29417
ME - SC012	MS - 10120	NY - 11502	RI - 138
NC - 233	NY - 11501	SC - 10582	TN - 02934
RI - 135	SC - 10120	UT - E-227	VA - 00111
TN - 02934	UT - E-251	WA - C225	NJ - 79002
VA - 00151	WA - C223	PA - 68-485	WV - 235
WI - 999887790	WV - 236		

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

Analytical Report Specialist

9608328-03

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

Printed on recycled paper.

AUG.-26'96(MON) 13:59 GEN. ENGINEERING TEL:803-852-5812 P.031

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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

oo: NFWC00196 Report Date: August 26, 1996

Sample ID : SPORT0138-4
Lab ID : 9608328-04
Matrix : Soil
Date Collected : 08/15/96
Date Received : 08/15/96
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	50.0	100	ug/kg	50.	THL	08/20/96	2250	89190	1
Ethylbenzene	U	0.00	50.0	100	ug/kg	50.					
Toluene	U	0.00	50.0	100	ug/kg	50.					
Xylenes (TOTAL)	U	0.00	50.0	100	ug/kg	50.					
Naphthalene		1370	50.0	100	ug/kg	50.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	662	1320	ug/kg	4.0	RLC	08/20/96	1559	89027	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					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds TNF 08/17/96 0930 89027 3

P O Box 30712 • Charleston, SC 29417 • (803) 556-8171 • Fax (803) 766-1178 *9608328-04*

Printed on recycled paper.

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: August 26, 1996

Sample ID : SPORT0138-4

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	89.8	(30.0 - 115.)
Nitrobenzene-d5	M610	75.4	(23.0 - 120.)
p-Terphenyl-d14	M610	98.6	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	76.8	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	106.	(74.0 - 128.)
Toluene-d8	BTEX-8260	101.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	76.8	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	106.	(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.
I 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.

GEL Laboratory Certifications EPI Laboratory Certifications

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

Printed on recycled paper.

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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

on: NPWC00196 Report Date: August 26, 1996

Sample ID : SPORT0138-4

GEL Laboratory Certifications		EPI Laboratory Certifications	
AL - 41040	AZ - AZ0514	AL - 41050	AZ - AZ0514
CA - 2089	CT - PH-0169	CA - I-1023/2056	CT - PH-0175
DE - SC012	FL - E87156/87294	FL - E87472/87458	MS - 29417
ME - SC012	MS - 10120	NY - 11502	RI - 138
NC - 233	NY - 11501	SC - 10582	TN - 02934
RI - 135	SC - 10120	UT - E-227	VA - 00111
TN - 02934	UT - E-251	WA - C225	NJ - 79002
VA - 00151	WA - C223	PA - 68-485	WV - 235
WI - 999887790	WV - 236		

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

Analytical Report Specialist

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

Printed on recycled paper.

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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: NFWC00196 Report Date: August 26, 1996

Sample ID : SPORT0138-5
Lab ID : 9608328-05
Matrix : Soil
Date Collected : 08/15/96
Date Received : 08/15/96
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	5.00	10.0	ug/kg	5.0	THL	08/21/96	1430	89190	1
Ethylbenzene	U	0.00	5.00	10.0	ug/kg	5.0					
Toluene	U	0.00	5.00	10.0	ug/kg	5.0					
Xylenes (TOTAL)	U	0.00	5.00	10.0	ug/kg	5.0					
Naphthalene		38.5	5.00	10.0	ug/kg	5.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	167	333	ug/kg	1.0	RLC	08/20/96	1417	89027	2
Acenaphthylene	U	0.00	167	333	ug/kg	1.0					
Anthracene	U	0.00	167	333	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	167	333	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	167	333	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	167	333	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	167	333	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	167	333	ug/kg	1.0					
Chrysene	U	0.00	167	333	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	167	333	ug/kg	1.0					
Fluoranthene	U	0.00	167	333	ug/kg	1.0					
Fluorene	U	0.00	167	333	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	167	333	ug/kg	1.0					
Naphthalene	U	0.00	167	333	ug/kg	1.0					
Phenanthrene	U	153	167	333	ug/kg	1.0					
Pyrene	U	59.9	167	333	ug/kg	1.0					

The following prep procedures were performed:
GC/MS Base/Neutral Compounds TNF 08/17/96 0930 89027 3

P O Box 30712 • Charleston, SC 29417 • (803) 556-8171 • Fax (803) 766-1178 *9608328-05*

Printed on recycled paper

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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

oc: NPWC00196 Report Date: August 26, 1996

Sample ID : SPORT0138-5

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	78.8	(30.0 - 115.)
Nitrobenzene-d5	M610	66.4	(23.0 - 120.)
p-Terphenyl-d14	M610	99.4	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	101.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	108.	(74.0 - 128.)
Toluene-d8	BTEX-8260	104.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	101.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	108.	(74.0 - 128.)
Toluene-d8	NAP-8260	104.	(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.

GEL Laboratory Certifications EPI Laboratory Certifications

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

Printed on recycled paper

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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

ce: NPWC00196 Report Date: August 26, 1996

Sample ID : SPORT0138-S

GEL Laboratory Certifications		EPI Laboratory Certifications	
AL - 41040	AZ - AZ0514	AL - 41030	AZ - AZ0514
CA - 2089	CT - PH-0169	CA - I-1023/2056	CT - PH-0175
DE - SC012	FL - E87156/87294	FL - E87472/87458	MS - 29417
ME - SC012	MS - 10120	NY - 11502	RI - 138
NC - 233	NY - 11501	SC - 10582	TN - 02934
RI - 135	SC - 10120	UT - E-227	VA - 00111
TN - 02934	UT - E-251	WA - C225	NJ - 79002
VA - 00151	WA - C223	PA - 68-485	WV - 235
WI - 999887790	WV - 236		

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

Analytical Report Specialist

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

Printed on recycled paper.

NPWC 00196 BB

CHAIN OF CUSTODY RECORD

Page 1 of 1 9608328

General Engineerin atories, Inc.
2040 Savage Road
Charleston, South Carolina 29414
P.O. Box 30712
Charleston, South Carolina 29417
(803) 556-8171

Client Name/Facility Name: SPORTENVDETCHASN

Collected by/Company: SPORTENVDETCHASN

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

CCL 22803

	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	BTEX+NAPTHALENE+MTBE	Cyanide	Coliform - specify type	BTEX PLUS NAPTHALENE	PAH	Remarks	
-01	SPORT0138-1	8/15/96	0830		X		X	2																X	X	UST 42-1 Soil	.1
-02	SPORT0138-2	8/15/96	0830		X		X	2																X	X	UST 42-2 Soil	.1
-03	SPORT0138-3	8/15/96	0830		X		X	2																X	X	UST 42-3 Soil	.1
-04	SPORT0138-4	8/15/96	0830		X		X	2																X	X	UST 42-4 Soil	.1
-05	SPORT0138-5	8/15/96	0830		X		X	2																X	X	UST 42-5 Soil	.1
-06	SPORT0138-6	8/15/96	0830				X	3													X					UST 42 VOA TRIP BLANK	.2

Relinquished by:	Date:	Time:	Received by:	Relinquished by:	Date:	Time:	Received by:
[signature]	8/15/96	0930	W.R. Hiers, Jr.	W.R. Hiers, Jr.	8/15/96	1440	Kelly M Bono
Kelly M Bono	8/15/96	1505	Received by lab by: [signature]	Date: 8-15-96	Time: 1505	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

UST B42, Charleston Naval Base, Bldg 42, Hobson Ave., N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK	SIZE (GAL)
Fuel oil	560 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 (Name) 12/9/96 (Date)