N61165.AR.005360
CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT DATED 9 SEPTEMBER 1998 FOR BUILDING NS-71 AND ABOVE GROUND STORAGE TANK NS-71 (AST NS-71) WITH SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL REVIEW LETTER CNC CHARLESTON SC
10/06/1998
NAVFAC SOUTHERN

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

6 October 1998

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

Re: Underground Storage Tank Assessment Report dated 9 September 1998
Building NS 71 (AST NS 71) (Site Identification # 15405-General File)
Charleston Naval Complex/Charleston Naval Base 0164
Charleston, SC
Charleston County

Dear Mr. Magwood:

The author has completed technical review of the referenced document. As submitted, the report provides a narrative describing closure activities and analytical results of environmental sampling to determine if releases have occurred as a result of operation of the referenced vessel and/or associated piping system. The analytical results provided and visual observations appear to indicate petroleum contaminated soils are present at the subject site. Although several soil sample results obtained during closure are reported as BDL (below detection limits), the detection limits for these samples were elevated due to matrix interference. As noted in previous correspondence (Bristol to Amey, 2 September 1997), when contaminant concentrations are reported as zero (0) or BDL it will be assumed that the chemical constituent is equal to the elevated detection limit. With this consideration, the reported concentrations approach or exceed levels proposed in the SCAP (Soil Corrective Action Plan amended July 1997) for the Charleston Naval Complex and appear to indicate that additional endeavors for remedial actions and contaminant characterization are warranted at the referenced site. In this regard, assessment/corrective action activities proposed in the Tank Management Plan (dated October 1996) should be implemented in an appropriate and timely manner. Employed activities should be technically sufficient and reasonable to determine the extent and severity of suspected contamination. Please be reminded that groundwater sampling, if necessary, will require construction of sampling points and will need to be submitted for prior review and approval, 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

* Need # (under Zone H AP)

Li 9.30.98
Lo 10.6.98

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
9 Sep 98

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

UST ASSESSMENT REPORTS FOR CHARLESTON NAVAL COMPLEX, CHARLESTON, SC

Dear Mr. Bristol:

Enclosed are the Assessment Reports for the closure of Underground Storage Tanks NS 71 and 686 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

Ci 9.30.98
Co 10.6.98

Aboveground Storage Tank (AST) Assessment Report

Date Received State Use Only

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

#01166

I. OWNERSHIP OF AST(S)

Agency/Owner: Southern Division, Naval Facilities Engineering Command, Caretaker Site Office

Mailing Address: P.O. Box 190010

City: N. Charleston State: SC Zip Code: 29419-9010

Area Code: 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, NS 71

Street Address: Bordelon Avenue

City: North Charleston, 29405-2413 County: Charleston

III. CLOSURE INFORMATION

Closure Started: 19 May 1998 Closure Completed: 8 July 1998

Number of ASTs Closed: 1

N/A	SPORTENVDETCHASN
Consultant	AST Removal Contractor

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

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete.

Henry Shepard II, P. E.
Name (Type or Print)

Henry N. Shepard II 9/3/98
Signature

RECEIVED
[illegible] 1998

Water Monitoring, Assessment & Protection Division

V. AST INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A. Product	Fuel oil					
B. Capacity	2,200 gal					
C. Age	1987					
D. Construction Material	Steel					
E. Month/Year of Last Use	3/96					
F. Spill Prevention Equipment Y/N	N					
G. Overfill Prevention Equipment Y/N	N					
H. Method of Closure Removed/Filled	R					
I. Visible Corrosion or Pitting Y/N	N					
J. Visible Holes Y/N	N					

L. Method of disposal for any ASTs removed.

AST NS71 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 ASTs.

The residual fuel oil, waste water, and sludge from NS71 were recycled.

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

AST NS71 was in very good condition. No corrosion, pitting, or holes were found in the tank.

VI. PIPING INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A. Construction Material.....	Steel					
B. Distance from AST to Dispenser.....	~90' see note 1					
C. Number of Dispensers.....	1 see note 1					
D. Type of System P/S.....	S					
E. Was Piping Removed Y/N.....	Y					
F. Visible Corrosion or Pitting Y/N.....	Y					
G. Visible Holes Y/N.....	N					
H. Age.....	1987					

Note 1: AST NS71 provided heating fuel oil to the boiler of building NS71.

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

AST NS71 utilized 3/4" steel supply and return piping encased in plastic sheathing. This piping was in sound condition throughout its run, with the exceptions being where it exited the ground near the tank and at the building. In both locations corrosion and pitting were severe, but no holes were found.

VII. BRIEF SITE DESCRIPTION AND HISTORY

Facility NS-71 was constructed in 1963 to serve as a mess hall. It functioned as a mini-mart and liquor packaging store at the time of base closure. This site has been designated Area of Concern (AOC) 656 by the Resource Conservation and Recovery Act (RCRA) Facility Investigation.

Above ground storage tank NS71 provided heating fuel oil to building NS-71 at base closure. AST NS71 occupied the same location as structure 602, an 8,000 gallon above ground storage tank which AST NS71 replaced in 1987. The ASTs were situated inside a shrubbery-rimmed earthen berm approximately 90 feet from the building. This site has been designated AOC 656 because of a ruptured fuel line associated with structure 602.

An expanded soil excavation took place near building NS-71, where heavy petroleum staining and a strong petroleum odor were present. Approximately 36 cubic yards of impacted soil was removed.

A second expanded excavation took place inside the berm to remove impacted soil near the AST foundation. During the excavation, a set of severely corroded, abandoned, open-ended, 2" steel supply and return pipes for structure 602 were discovered buried 6-8" below AST NS71's piping. Also, fuel oil was found to have drained by gravity flow from the abandoned piping and collected at the base of the AST. Approximately 9 cubic yards of impacted soil was removed.

All excavated soil was disposed of at Chambers Oakridge Landfill, a subtitle "D" landfill. Oakridge is located at 2183 Highway 78, PO Box 145, Dorchester, SC, 29437.

VIII. SITE CONDITIONS

		Yes	No	Unk
A.	Were any petroleum-stained or contaminated soils found near the AST?	X		
B.	Were any petroleum odors detected? If yes, indicate location on site map and describe the odor (strong, mild, etc.) **[strong]**	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 0697-2	Beneath 3/4" piping	Soil	3'	5/27/98 0900	W. Nesbit	4,077 ppm
SPORT 0697-3	Beneath 3/4" piping	Soil	3'	5/27/98 0930	W. Nesbit	227 ppm
SPORT 0697-4	Beneath 3/4" piping	Soil	3'	5/27/98 0954	W. Nesbit	1,120 ppm
SPORT 0697-5	Beneath 3/4" piping	Soil	4'	5/27/98 1025	W. Nesbit	119 ppm
SPORT 0697-6	Beneath 3/4" piping	Soil	1'	5/27/98 1049	W. Nesbit	746 ppm
SPORT 0703-2	Expanded bldg excavation	Soil	5'	5/29/98 0929	W. Nesbit	2,097 ppm
SPORT 0703-3	Expanded bldg excavation	Soil	5'	5/29/98 1000	W. Nesbit	2,190 ppm
SPORT 0703-4	Expanded bldg excavation	Soil	5'	5/29/98 1028	W. Nesbit	3,156 ppm
SPORT 0703-5	Expanded bldg excavation	Soil	5'	5/29/98 1105	W. Nesbit	3,004 ppm
SPORT 0703-6	Expanded bldg excavation	Soil	5'	5/29/98 1138	W. Nesbit	2,250 ppm
SPORT 0707-2	Beneath 2" piping, bldg end	Soil	4'	6/2/98 1030	W. Nesbit	254 ppm
SPORT 0707-3	Beneath 2" piping, berm end	Soil	4'	6/3/98 1300	W. Nesbit	425 ppm
SPORT 0707-4	Dirt pile	Soil	-	6/3/98 1400	W. Nesbit	Not Taken
SPORT 0707-5	Dirt pile	Soil	-	6/3/98 1420	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 AST NS71, soil 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 taken under the piping at the mechanical connections, and at strategic points in the expanded excavations to characterize the sites.

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

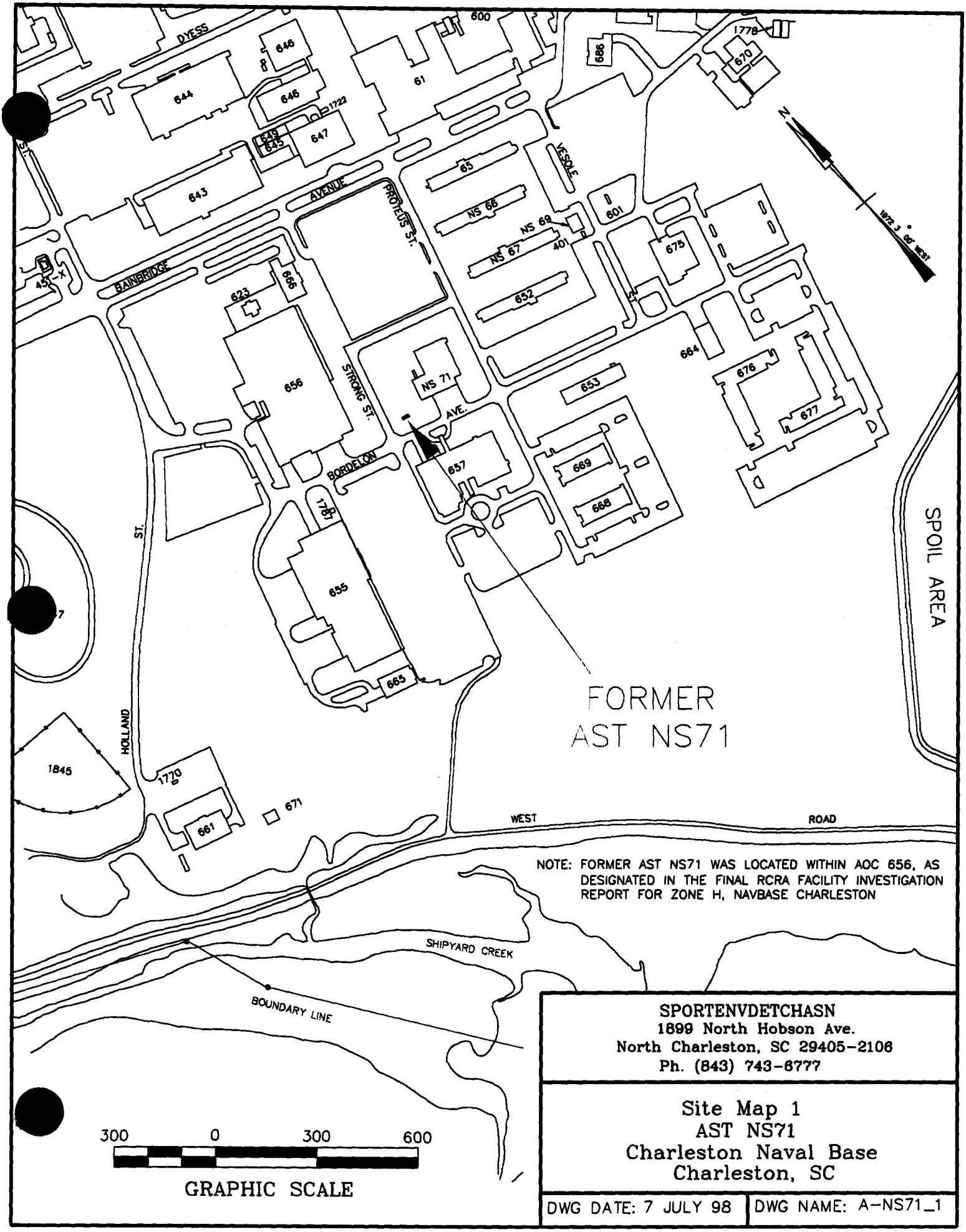
		Yes	No
A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the AST system? If yes, indicate type of receptor, distance, and direction on site map.		X
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the AST system? If yes, indicate type of well, distance, and direction on site map.		X
C.	Are there any underground structures (e.g., basements) located within 100 feet of the AST 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 AST system that could potentially come in contact with the contamination? If yes, indicate the type of utility, distance, and direction on the site map. **[sewer]**	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 through 4
Photographs 1 through 7

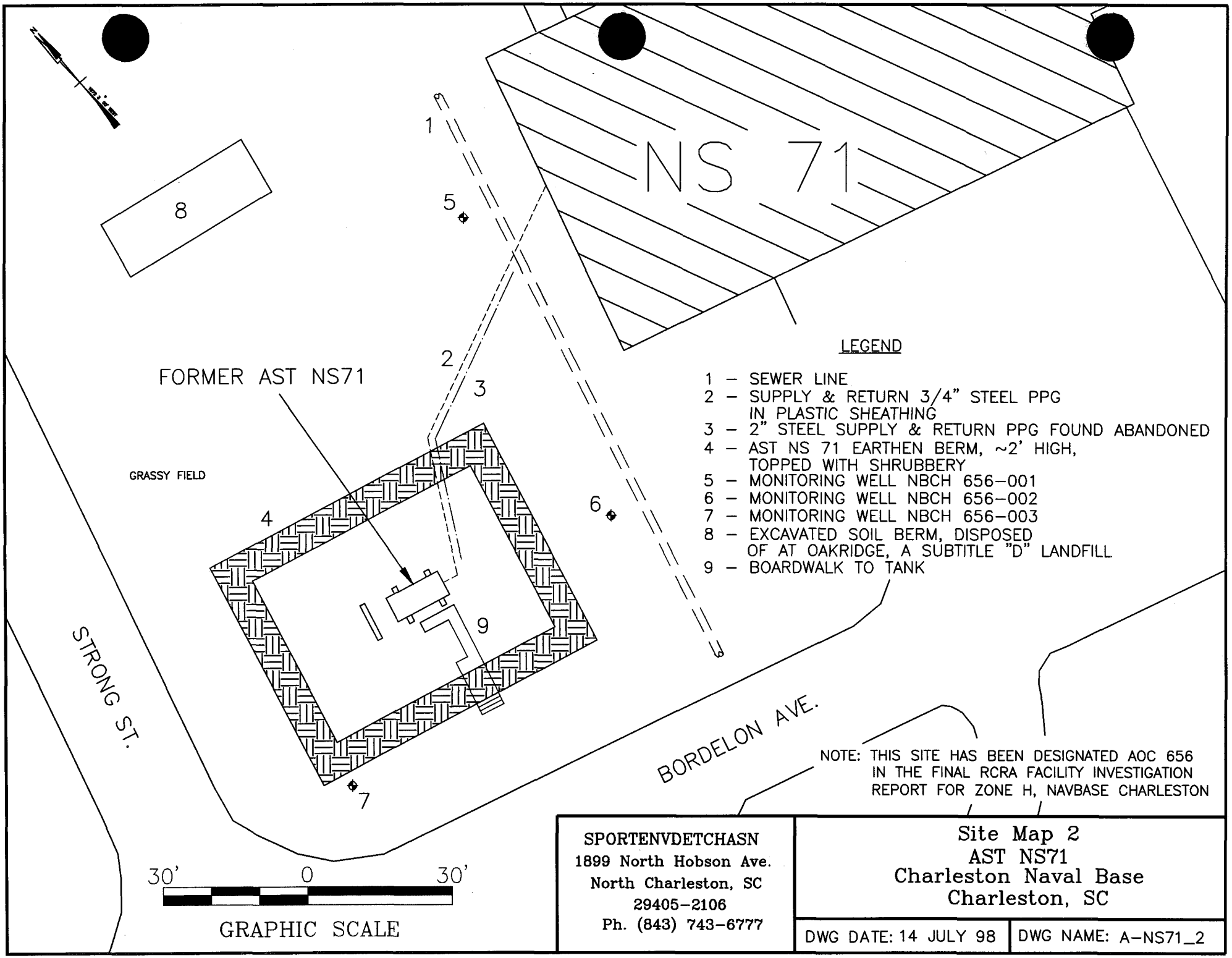


NOTE: FORMER AST NS71 WAS LOCATED WITHIN AOC 656, AS DESIGNATED IN THE FINAL RCRA FACILITY INVESTIGATION REPORT FOR ZONE H, NAVBASE CHARLESTON

SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC 29405-2106
Ph. (843) 743-6777

Site Map 1
AST NS71
Charleston Naval Base
Charleston, SC

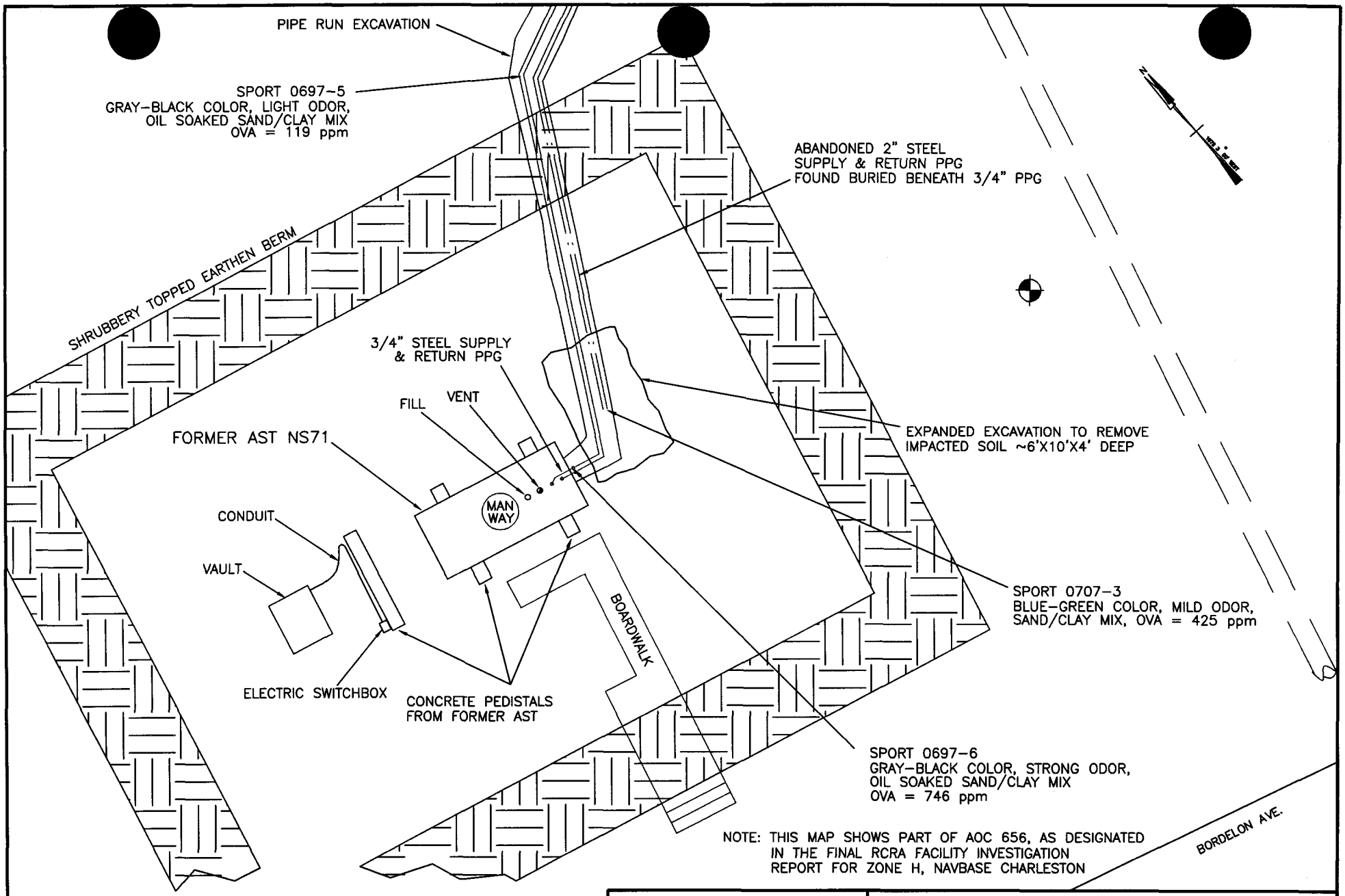
DWG DATE: 7 JULY 98 | DWG NAME: A-NS71_1



SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29405–2106
Ph. (843) 743–6777

Site Map 2
AST NS71
Charleston Naval Base
Charleston, SC

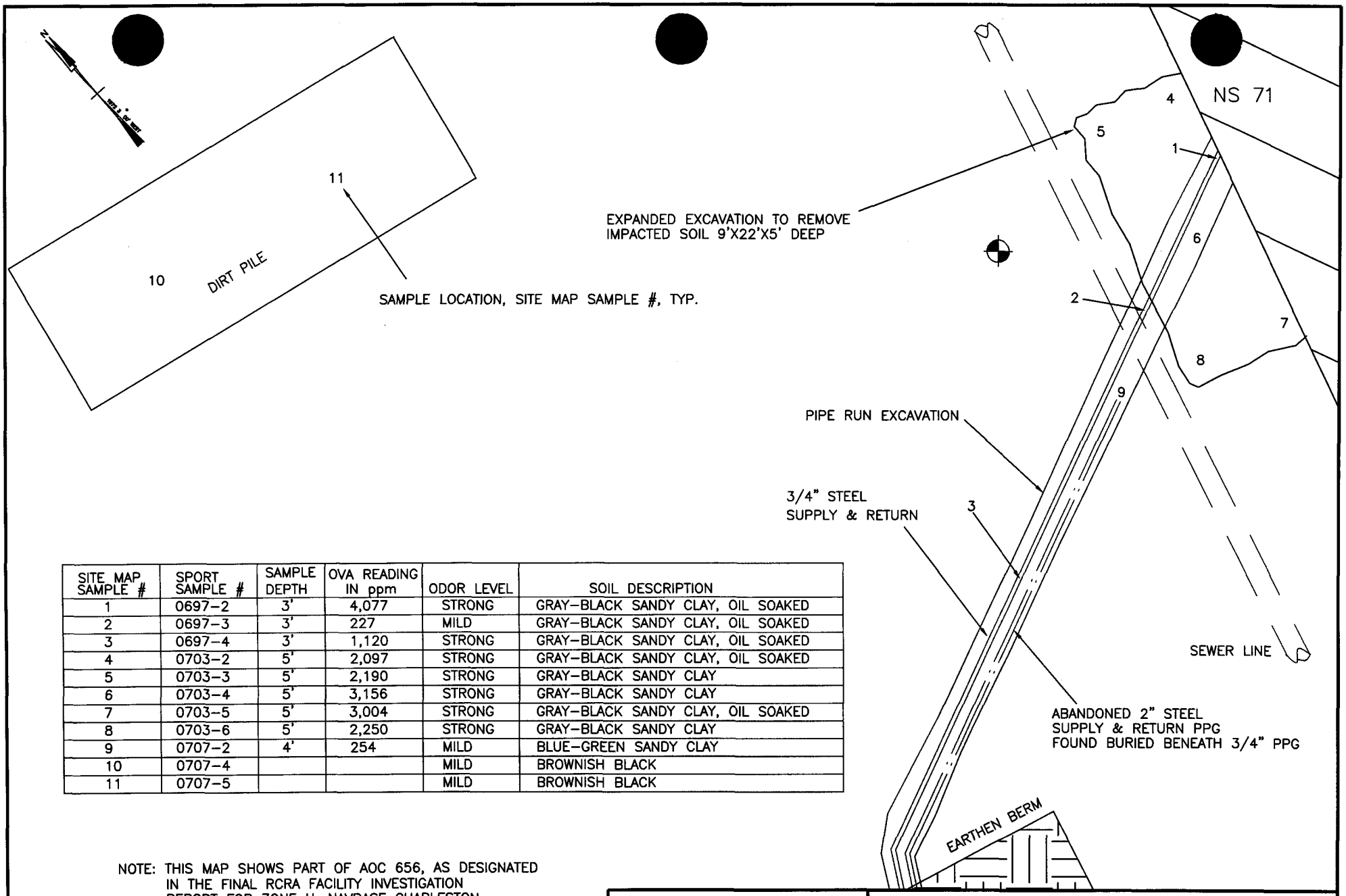
DWG DATE: 14 JULY 98 | DWG NAME: A–NS71_2



SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29405-2106
Ph. (843) 743-6777

Site Map 3
AST NS71
Charleston Naval Base
Charleston, SC

DWG DATE: 21 JULY 98 | DWG NAME: A-NS71_3



SITE MAP SAMPLE #	SPORT SAMPLE #	SAMPLE DEPTH	OVA READING IN ppm	ODOR LEVEL	SOIL DESCRIPTION
1	0697-2	3'	4,077	STRONG	GRAY-BLACK SANDY CLAY, OIL SOAKED
2	0697-3	3'	227	MILD	GRAY-BLACK SANDY CLAY, OIL SOAKED
3	0697-4	3'	1,120	STRONG	GRAY-BLACK SANDY CLAY, OIL SOAKED
4	0703-2	5'	2,097	STRONG	GRAY-BLACK SANDY CLAY, OIL SOAKED
5	0703-3	5'	2,190	STRONG	GRAY-BLACK SANDY CLAY
6	0703-4	5'	3,156	STRONG	GRAY-BLACK SANDY CLAY
7	0703-5	5'	3,004	STRONG	GRAY-BLACK SANDY CLAY, OIL SOAKED
8	0703-6	5'	2,250	STRONG	GRAY-BLACK SANDY CLAY
9	0707-2	4'	254	MILD	BLUE-GREEN SANDY CLAY
10	0707-4			MILD	BROWNISH BLACK
11	0707-5			MILD	BROWNISH BLACK

NOTE: THIS MAP SHOWS PART OF AOC 656, AS DESIGNATED IN THE FINAL RCRA FACILITY INVESTIGATION REPORT FOR ZONE H, NAVBASE CHARLESTON

9' 0 9'

GRAPHIC SCALE

SPORTENVDETCHASN
1899 North Hobson Ave.
North Charleston, SC
29405-2106
Ph. (843) 743-6777

Site Map 4
AST NS71
Charleston Naval Base
Charleston, SC

DWG DATE: 17 JULY 98 | DWG NAME: A-NS71_4

AST NS71

Photo 1: AST NS71 in the berm prior to removal.

Photo 2: AST NS71 location after removal.

AST NS71

Photo 3: Site of AST NS71 and AOC 656. AST NS71 was located behind the shrubbery on the left. The corner of building NS71 is on the right.

Photo 4: AST NS71's supply and return piping exit the ground and enter building NS-71's crawl space through this access.

Photo 5: AST NS71's supply and return piping.

Photo 6: AST NS71's expanded excavation site after completion of work.

Photo 7: AST NS71 after cleaning and cutting for scrap.

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	E87472/87459
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: June 08, 1998

Sample ID	: SPORT0697-1
Lab ID	: 9805745-01
Matrix	: Soil
Date Collected	: 05/27/98
Date Received	: 05/27/98
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	0.250	1.00	ug/kg	1.0	TCL	06/02/98	0043	123258	1
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	J	0.660	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	101.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	77.3	(63.4 - 136.)
Toluene-d8	BTEX-8260	72.2	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	101.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	77.3	(63.4 - 136.)
Toluene-d8	NAP-8260	72.2	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260

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

(803) 556-8171 • Fax (803) 766-1178

9805745-01

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745[illegible]
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: June 08, 1998

Sample ID : SPORT0697-1

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.

[redacted] 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

9805745-01

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745[c]
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: June 08, 1998

Sample ID	: SPORT0697-2
Lab ID	: 9805745-02
Matrix	: Soil
Date Collected	: 05/27/98
Date Received	: 05/27/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
[illegible]enzene		128	2.50	10.0	ug/kg	10.	TCL	06/02/98	0112	123258	1
[illegible]hylbenzene		424	2.30	10.0	ug/kg	10.					
Toluene		43.5	2.20	10.0	ug/kg	10.					
Xylenes (TOTAL)		1860	62.0	200	ug/kg	100	TCL	06/05/98	1430	123258	1
Naphthalene		2700	42.0	100	ug/kg	100					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	346	1330	ug/kg	4.0	RLC	06/02/98	1506	123079	2
Acenaphthylene	U	0.00	373	1330	ug/kg	4.0					
Anthracene	U	0.00	253	1330	ug/kg	4.0					
Benzo(a)anthracene	U	0.00	240	1330	ug/kg	4.0					
Benzo(a)pyrene	U	0.00	226	1330	ug/kg	4.0					
Benzo(b)fluoranthene	U	0.00	413	1330	ug/kg	4.0					
Benzo(ghi)perylene	U	0.00	240	1330	ug/kg	4.0					
Benzo(k)fluoranthene	U	0.00	346	1330	ug/kg	4.0					
Chrysene	U	0.00	186	1330	ug/kg	4.0					
Dibenzo(a,h)anthracene	U	0.00	226	1330	ug/kg	4.0					
Fluoranthene	U	0.00	320	1330	ug/kg	4.0					
Fluorene	U	0.00	320	1330	ug/kg	4.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	559	1330	ug/kg	4.0					
Naphthalene	J	1200	306	1330	ug/kg	4.0					
Phenanthrene	J	1250	306	1330	ug/kg	4.0					
Pyrene	U	0.00	253	1330	ug/kg	4.0					

The following prep procedures were performed:
[illegible]MS Base/Neutral Compounds

RDH 05/29/98 0800 123079 3

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

9805745-02

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: June 08, 1998

Sample ID : SPORT0697-2

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
[illegible]robiphenyl	M610	77.5	(30.0 - 115.)
[illegible]enzene-d5	M610	73.6	(23.0 - 120.)
p-Terphenyl-d14	M610	77.8	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	94.0	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	68.3	(63.4 - 136.)
Toluene-d8	BTEX-8260	73.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	94.0	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	68.3	(63.4 - 136.)
Toluene-d8	NAP-8260	73.6	(72.1 - 137.)

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

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

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

cc: NPWC00197

Report Date: June 08, 1998

Sample ID : SPORT0697-2

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

9805745-02

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

cc: NPWC00197

Report Date: June 08, 1998

Sample ID	: SPORT0697-3
Lab ID	: 9805745-03
Matrix	: Soil
Date Collected	: 05/27/98
Date Received	: 05/27/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
[illegible]zene	U	0.00	2.50	10.0	ug/kg	10.	TCL	06/05/98	1222	123258	1
[illegible]ylbenzene	U	0.00	2.30	10.0	ug/kg	10.					
Toluene	U	0.00	2.20	10.0	ug/kg	10.					
Xylenes (TOTAL)	U	0.00	6.20	20.0	ug/kg	10.					
Naphthalene	U	0.00	4.20	10.0	ug/kg	10.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	86.3	332	ug/kg	1.0	RLC	06/02/98	1534	123079	2
Acenaphthylene	U	0.00	93.0	332	ug/kg	1.0					
Anthracene	U	0.00	63.1	332	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	59.8	332	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	56.4	332	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	103	332	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	59.8	332	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	86.3	332	ug/kg	1.0					
Chrysene	U	0.00	46.5	332	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	56.4	332	ug/kg	1.0					
Fluoranthene	U	0.00	79.7	332	ug/kg	1.0					
Fluorene	U	0.00	79.7	332	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	139	332	ug/kg	1.0					
Naphthalene	U	0.00	76.4	332	ug/kg	1.0					
Phenanthrene	U	0.00	76.4	332	ug/kg	1.0					
Pyrene	U	0.00	63.1	332	ug/kg	1.0					

The following prep procedures were performed:
[illegible]S Base/Neutral Compounds

RDH 05/29/98 0800 123079 3

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

(803) 556-8171 • Fax (803) 766-1178

Printed on recycled paper.

9805745-03

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745[illegible]
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: June 08, 1998

Sample ID : SPORT0697-3

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	67.3	(30.0 - 115.)
Nitrobenzene-d5	M610	75.9	(23.0 - 120.)
p-Terphenyl-d14	M610	80.3	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	88.8	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	76.8	(63.4 - 136.)
Toluene-d8	BTEX-8260	85.2	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	88.8	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	76.8	(63.4 - 136.)
[illegible]uene-d8	NAP-8260	85.2	(72.1 - 137.)

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

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

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

Karen Blakeney
Reviewed By

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87459
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: June 08, 1998

Sample ID	: SPORT0697-4
Lab ID	: 9805745-04
Matrix	: Soil
Date Collected	: 05/27/98
Date Received	: 05/27/98
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	2.50	10.0	ug/kg	10.	TCL	06/05/98	1254	123258	1
Ethylbenzene	U	0.00	2.30	10.0	ug/kg	10.					
Toluene	U	0.00	2.20	10.0	ug/kg	10.					
Xylenes (TOTAL)	U	0.00	6.20	20.0	ug/kg	10.					
Naphthalene	U	0.00	4.20	10.0	ug/kg	10.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	3430	13200	ug/kg	40.	RLC	06/02/98	1603	123079	2
Acenaphthylene	U	0.00	3700	13200	ug/kg	40.					
Anthracene	U	0.00	2510	13200	ug/kg	40.					
Benzo(a)anthracene	U	0.00	2380	13200	ug/kg	40.					
Benzo(a)pyrene	U	0.00	2240	13200	ug/kg	40.					
Benzo(b)fluoranthene	U	0.00	4090	13200	ug/kg	40.					
Benzo(ghi)perylene	U	0.00	2380	13200	ug/kg	40.					
Benzo(k)fluoranthene	U	0.00	3430	13200	ug/kg	40.					
Chrysene	U	0.00	1850	13200	ug/kg	40.					
Dibenzo(a,h)anthracene	U	0.00	2240	13200	ug/kg	40.					
Fluoranthene	U	0.00	3170	13200	ug/kg	40.					
Fluorene	U	0.00	3170	13200	ug/kg	40.					
Indeno(1,2,3-c,d)pyrene	U	0.00	5540	13200	ug/kg	40.					
Naphthalene	U	0.00	3040	13200	ug/kg	40.					
Phenanthrene	J	8090	3040	13200	ug/kg	40.					
Pyrene	U	0.00	2510	13200	ug/kg	40.					

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

RDH 05/29/98 0800 123079 3

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

9805745-04

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: June 08, 1998

Sample ID : SPORT0697-4

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	0.00*	(30.0 - 115.)
Nitrobenzene-d5	M610	0.00*	(23.0 - 120.)
p-Terphenyl-d14	M610	0.00*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	179.*	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	80.2	(63.4 - 136.)
Toluene-d8	BTEX-8260	91.4	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	179.*	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	80.2	(63.4 - 136.)
Toluene-d8	NAP-8260	91.4	(72.1 - 137.)

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

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

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

cc: NPWC00197

Report Date: June 08, 1998

Sample ID : SPORT0697-4

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

9805745-04

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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: June 08, 1998

Sample ID	: SPORT0697-5
Lab ID	: 9805745-05
Matrix	: Soil
Date Collected	: 05/27/98
Date Received	: 05/27/98
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	2.50	10.0	ug/kg	10.	TCL	06/05/98	1326	123258	1
Ethylbenzene	U	0.00	2.30	10.0	ug/kg	10.					
Toluene	U	0.00	2.20	10.0	ug/kg	10.					
Xylenes (TOTAL)		22.4	6.20	20.0	ug/kg	10.					
Naphthalene	U	0.00	4.20	10.0	ug/kg	10.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	J	2250	863	3320	ug/kg	10.	RLC	06/04/98	1024	123079	2
Acenaphthylene	U	0.00	930	3320	ug/kg	10.					
Anthracene		3640	631	3320	ug/kg	10.					
Benzo(a)anthracene		4800	598	3320	ug/kg	10.					
Benzo(a)pyrene		4130	564	3320	ug/kg	10.					
Benzo(b)fluoranthene		4350	1030	3320	ug/kg	10.					
Benzo(ghi)perylene	J	2130	598	3320	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	863	3320	ug/kg	10.					
Chrysene		5010	465	3320	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	564	3320	ug/kg	10.					
Fluoranthene		10800	797	3320	ug/kg	10.					
Fluorene	J	2380	797	3320	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	J	2030	1390	3320	ug/kg	10.					
Naphthalene	U	0.00	764	3320	ug/kg	10.					
Phenanthrene		10800	764	3320	ug/kg	10.					
Pyrene		8410	631	3320	ug/kg	10.					

following prep procedures were performed:
MS Base/Neutral Compounds

RDH 05/29/98 0800 123079 3

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

(803) 556-8171 • Fax (803) 766-1178

9805745-05

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: June 08, 1998

Sample ID : SPORT0697-5

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	117.	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	90.0	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	77.2	(63.4 - 136.)
Toluene-d8	BTEX-8260	87.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	90.0	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	77.2	(63.4 - 136.)
Toluene-d8	NAP-8260	87.6	(72.1 - 137.)

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

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

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874[illegible]
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: June 08, 1998

Sample ID : SPORT0697-5

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

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

(803) 556-8171 • Fax (803) 766-1178

9805745-05

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874[illegible]
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: June 08, 1998

Sample ID	: SPORT0697-6
Lab ID	: 9805745-06
Matrix	: Soil
Date Collected	: 05/27/98
Date Received	: 05/27/98
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	2.50	10.0	ug/kg	10.	TCL	06/05/98	1358	123258	1
Ethylbenzene	J	7.28	2.30	10.0	ug/kg	10.					
Toluene		14.1	2.20	10.0	ug/kg	10.					
Xylenes (TOTAL)	J	18.2	6.20	20.0	ug/kg	10.					
Naphthalene	U	0.00	4.20	10.0	ug/kg	10.					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	3440	13200	ug/kg	40.	RLC	06/02/98	1701	123079	2
Acenaphthylene	U	0.00	3710	13200	ug/kg	40.					
Anthracene	U	0.00	2520	13200	ug/kg	40.					
Benzo(a)anthracene	U	0.00	2380	13200	ug/kg	40.					
Benzo(a)pyrene	U	0.00	2250	13200	ug/kg	40.					
Benzo(b)fluoranthene	U	0.00	4100	13200	ug/kg	40.					
Benzo(ghi)perylene	U	0.00	2380	13200	ug/kg	40.					
Benzo(k)fluoranthene	U	0.00	3440	13200	ug/kg	40.					
Chrysene	U	0.00	1850	13200	ug/kg	40.					
Dibenzo(a,h)anthracene	U	0.00	2250	13200	ug/kg	40.					
Fluoranthene	U	0.00	3180	13200	ug/kg	40.					
Fluorene	U	0.00	3180	13200	ug/kg	40.					
Indeno(1,2,3-c,d)pyrene	U	0.00	5560	13200	ug/kg	40.					
Naphthalene	U	0.00	3050	13200	ug/kg	40.					
Phenanthrene	U	0.00	3050	13200	ug/kg	40.					
Pyrene	U	0.00	2520	13200	ug/kg	40.					

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

RDH 05/29/98 0800 123079 3

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

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

Sample ID : SPORT0697-6

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	0.00*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	121.	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	81.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	93.8	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	121.	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	81.4	(63.4 - 136.)
Toluene-d8	NAP-8260	93.8	(72.1 - 137.)

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

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

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: June 08, 1998

Sample ID : SPORT0697-6

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

9805745-06

NPWC 0197

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

CHAIN OF CUSTODY RECORD

9805745%

Page 1 of 1

Client Name/Facility Name: SPORTENVDETCHASN

Collected by/Company: SPORTENVDETCHASN

	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/NAP	PAH	Remarks
-01	SPORT0697-1	5/27/98	0800		✓		✓	1			-													✓		AST NS 71-1 SOIL TRIP BLANKS
-02	SPORT0697-2	5/27/98	0900		✓		✓	2																✓	✓	AST NS 71-2
-03	SPORT0697-3	5/27/98	0930		✓		✓	2																✓	✓	AST NS 71-3
-04	SPORT0697-4	5/27/98	0954 ~~1025~~		✓		✓	2																✓	✓	AST NS 71-4
-05	SPORT0697-5	5/27/98	1025		✓		✓	2																✓	✓	AST NS 71-5
-06	SPORT0697-6	5/27/98	1049		✓		✓	2																✓	✓	AST NS 71-6

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

Q# 33009

Remarks

·1 ·2

Relinquished by:	Date:	Time:	Received by:	Relinquished by:	Date:	Time:	Received by:
L. J. [redacted]	5-27-98	1450	Virginia Washington	Virginia Washington	5/27/98	1450	Stephanie Bordeaux
Relinquished by: Stephanie Bordeaux	Date: 5-27-98	Time: 1510	Received by lab by: [redacted]	Date: 5/27/98	Time: 1510	Remarks:	

White = sample collector Yellow = file Pink = with report

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: June 09, 1998

Sample ID	: SPORT 0703-1
Lab ID	: 9805827-01
Matrix	: Soil
Date Collected	: 05/29/98
Date Received	: 05/29/98
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	0.250	1.00	ug/kg	1.0	TCL	06/05/98	1607	123272	
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	89.4	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	85.4	(63.4 - 136.)
Toluene-d8	BTEX-8260	85.8	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	89.4	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	85.4	(63.4 - 136.)
Toluene-d8	NAP-8260	85.8	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260

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

9805827-01

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

cc: NPWC00197

Report Date: June 09, 1998

Sample ID : SPORT 0703-1

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 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

9805827-01

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: June 09, 1998

Sample ID	: SPORT 0703-2
Lab ID	: 9805827-02
Matrix	: Soil
Date Collected	: 05/29/98
Date Received	: 05/29/98
Priority	. Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
enzene	U	0.00	0.250	1.00	ug/kg	1.0	TCL	06/02/98	1259	123272	
thylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	86.6	333	ug/kg	1.0	RLC	06/03/98	1408	123205	2
Acenaphthylene	U	0.00	93.2	333	ug/kg	1.0					
Anthracene	U	0.00	63.3	333	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	59.9	333	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	56.6	333	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	103	333	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	59.9	333	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	86.6	333	ug/kg	1.0					
Chrysene	U	0.00	46.6	333	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	56.6	333	ug/kg	1.0					
Fluoranthene	U	0.00	79.9	333	ug/kg	1.0					
Fluorene	U	0.00	79.9	333	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	140	333	ug/kg	1.0					
Naphthalene	U	0.00	76.6	333	ug/kg	1.0					
Phenanthrene	U	0.00	76.6	333	ug/kg	1.0					
Pyrene	U	0.00	63.3	333	ug/kg	1.0					

e following prep procedures were performed:
MS Base/Neutral Compounds

CPU 06/01/98 2050 123205

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

(803) 556-8171 • Fax (803) 766-1178

9805827-02

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

c: NPWC00197

Report Date: June 09, 1998

Sample ID : SPORT 0703-2

rrogate Recovery	Test	Percent%	Acceptable Limits
Fluorobiphenyl	M610	70.8	(30.0 - 115.)
robenzene-d5	M610	71.0	(23.0 - 120.)
erphenyl-d14	M610	89.5	(37.3 - 128.)
omofluorobenzene	BTEX-8260	89.9	(53.5 - 154.)
romofluoromethane	BTEX-8260	70.9	(63.4 - 136.)
uene-d8	BTEX-8260	76.4	(72.1 - 137.)
mofluorobenzene	NAP-8260	89.9	(53.5 - 154.)
romofluoromethane	NAP-8260	70.9	(63.4 - 136.)
uene	NAP-8260	76.4	(72.1 - 137.)

= Method	Method-Description
	EPA 8260
	EPA 8270
	EPA 3550

:

ualifiers in this report are defined as follows:
dicates that the analyte was not detected at a concentration greater than the detection limit.
ates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).
cates that the analyte was not detected at a concentration greater than the detection limit.
ates that a quality control analyte recovery is outside of specified acceptance criteria.

ata report has been prepared and reviewed
rdance with General Engineering Laboratories
rd operating procedures. Please direct
estions to your Project Manager, Karen Blakeney at (803) 769-7386.

Karen D Blakeney

ed By

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

(803) 556-8171 • Fax (803) 766-1178

9805827-02

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874[illegible]
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: June 09, 1998

Sample ID	: SPORT 0703-3
Lab ID	: 9805827-03
Matrix	: Soil
Date Collected	: 05/29/98
Date Received	: 05/29/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
[illegible]ne	U	0.00	0.250	1.00	ug/kg	1.0	TCL	06/02/98	1329	123272	1
[illegible]enzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	86.6	333	ug/kg	1.0	RLC	06/03/98	1438	123205	2
Acenaphthylene	U	0.00	93.2	333	ug/kg	1.0					
Anthracene	U	0.00	63.3	333	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	59.9	333	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	56.6	333	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	103	333	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	59.9	333	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	86.6	333	ug/kg	1.0					
Chrysene	U	0.00	46.6	333	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	56.6	333	ug/kg	1.0					
Fluoranthene	U	0.00	79.9	333	ug/kg	1.0					
Fluorene	U	0.00	79.9	333	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	140	333	ug/kg	1.0					
Naphthalene	U	0.00	76.6	333	ug/kg	1.0					
Phenanthrene	U	0.00	76.6	333	ug/kg	1.0					
Pyrene	U	0.00	63.3	333	ug/kg	1.0					

The [illegible]owing prep procedures were performed:
C[illegible]Base/Neutral Compounds

CPU 06/01/98 2050 123205 3

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

9805827-03

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/8745[illegible]
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: June 09, 1998

Sample ID : SPORT 0703-3

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	59.1	(30.0 - 115.)
Nitrobenzene-d5	M610	59.8	(23.0 - 120.)
p-Terphenyl-d14	M610	89.0	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	88.3	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	72.1	(63.4 - 136.)
Toluene-d8	BTEX-8260	76.9	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	88.3	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	72.1	(63.4 - 136.)
[illegible]uene-d8	NAP-8260	76.9	(72.1 - 137.)

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

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

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

Karen Blakeney
Reviewed By

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874[illegible]
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: June 09, 1998

Sample ID	: SPORT 0703-4
Lab ID	: 9805827-04
Matrix	: Soil
Date Collected	: 05/29/98
Date Received	: 05/29/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
BTEX - 4 items											
[illegible]nzene	U	0.00	0.250	1.00	ug/kg	1.0	TCL	06/02/98	1401	123272	1
[illegible]thylbenzene		1.07	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)		9.62	0.620	2.00	ug/kg	1.0					
Naphthalene		2.31	0.420	1.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	86.6	333	ug/kg	1.0	RLC	06/03/98	1508	123205	2
Acenaphthylene	U	0.00	93.2	333	ug/kg	1.0					
Anthracene	U	0.00	63.3	333	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	59.9	333	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	56.6	333	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	103	333	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	59.9	333	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	86.6	333	ug/kg	1.0					
Chrysene	U	0.00	46.6	333	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	56.6	333	ug/kg	1.0					
Fluoranthene	U	0.00	79.9	333	ug/kg	1.0					
Fluorene	U	0.00	79.9	333	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	140	333	ug/kg	1.0					
Naphthalene	U	0.00	76.6	333	ug/kg	1.0					
Phenanthrene	U	0.00	76.6	333	ug/kg	1.0					
Pyrene	U	0.00	63.3	333	ug/kg	1.0					

[illegible]following prep procedures were performed:
[illegible]MS Base/Neutral Compounds

CPU 06/01/98 2050 123205 3

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

(803) 556-8171 • Fax (803) 766-1178

9805827-04

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

cc: NPWC00197 Report Date: June 09, 1998

Sample ID : SPORT 0703-4

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	69.3	(30.0 - 115.)
Nitrobenzene-d5	M610	69.7	(23.0 - 120.)
p-Terphenyl-d14	M610	97.7	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	80.6	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	69.8	(63.4 - 136.)
Toluene-d8	BTEX-8260	77.0	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	80.6	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	69.8	(63.4 - 136.)
Toluene-d8	NAP-8260	77.0	(72.1 - 137.)

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

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

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

Karen Blakeney
Reviewed By

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197

Report Date: June 09, 1998

Sample ID	: SPORT 0703-5
Lab ID	: 9805827-05
Matrix	: Soil
Date Collected	: 05/29/98
Date Received	: 05/29/98
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	0.250	1.00	ug/kg	1.0	TCL	06/02/98	1433	123272	
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	86.6	333	ug/kg	1.0	RLC	06/03/98	1537	123205	2
Acenaphthylene	U	0.00	93.2	333	ug/kg	1.0					
Anthracene	U	0.00	63.3	333	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	59.9	333	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	56.6	333	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	103	333	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	59.9	333	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	86.6	333	ug/kg	1.0					
Chrysene	U	0.00	46.6	333	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	56.6	333	ug/kg	1.0					
Fluoranthene	U	0.00	79.9	333	ug/kg	1.0					
Fluorene	U	0.00	79.9	333	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	140	333	ug/kg	1.0					
Naphthalene	U	0.00	76.6	333	ug/kg	1.0					
Phenanthrene	U	0.00	76.6	333	ug/kg	1.0					
Pyrene	U	0.00	63.3	333	ug/kg	1.0					

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

CPU 06/01/98 2050 123205 3

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

(803) 556-8171 • Fax (803) 766-1178

9805827-05

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874'
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: June 09, 1998

Sample ID : SPORT 0703-5

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	72.6	(30.0 - 115.)
Nitrobenzene-d5	M610	73.2	(23.0 - 120.)
p-Terphenyl-d14	M610	98.2	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	79.3	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	72.0	(63.4 - 136.)
Toluene-d8	BTEX-8260	77.6	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	79.3	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	72.0	(63.4 - 136.)
Toluene-d8	NAP-8260	77.6	(72.1 - 137.)

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

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

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

Karen Blakeney
Reviewed By

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

(803) 556-8171 • Fax (803) 766-1178

9805827-05

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

cc: NPWC00197

Report Date: June 09, 1998

Sample ID	: SPORT 0703-6
Lab ID	: 9805827-06
Matrix	: Soil
Date Collected	: 05/29/98
Date Received	: 05/29/98
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	0.250	1.00	ug/kg	1.0	TCL	06/02/98	1507	123272	1
Ethylbenzene		9.67	0.230	1.00	ug/kg	1.0					
Toluene	J	0.960	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)		112	0.620	2.00	ug/kg	1.0					
Naphthalene		70.2	0.840	2.00	ug/kg	2.0	TCL	06/05/98	1640	123272	1
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	1730	6660	ug/kg	20.	RLC	06/03/98	1607	123205	2
Acenaphthylene	U	0.00	1860	6660	ug/kg	20.					
Anthracene	U	0.00	1270	6660	ug/kg	20.					
Benzo(a)anthracene	U	0.00	1200	6660	ug/kg	20.					
Benzo(a)pyrene	U	0.00	1130	6660	ug/kg	20.					
Benzo(b)fluoranthene	U	0.00	2060	6660	ug/kg	20.					
Benzo(ghi)perylene	U	0.00	1200	6660	ug/kg	20.					
Benzo(k)fluoranthene	U	0.00	1730	6660	ug/kg	20.					
Chrysene	U	0.00	932	6660	ug/kg	20.					
Dibenzo(a,h)anthracene	U	0.00	1130	6660	ug/kg	20.					
Fluoranthene	U	0.00	1600	6660	ug/kg	20.					
Fluorene	J	4820	1600	6660	ug/kg	20.					
Indeno(1,2,3-c,d)pyrene	U	0.00	2800	6660	ug/kg	20.					
Naphthalene		6720	1530	6660	ug/kg	20.					
Phenanthrene		9750	1530	6660	ug/kg	20.					
Pyrene	U	0.00	1270	6660	ug/kg	20.					

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

CPU 06/01/98 2050 123205 3

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

9805827-06

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: June 09, 1998

Sample ID : SPORT 0703-6

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	0.00*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	82.2	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	70.2	(63.4 - 136.)
Toluene-d8	BTEX-8260	74.9	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	82.2	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	70.2	(63.4 - 136.)
Toluene-d8	NAP-8260	74.9	(72.1 - 137.)

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

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

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197

Report Date: June 09, 1998

Sample ID : SPORT 0703-6

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

9805827-06

NPW 00197

980527

CHAIN OF CUSTODY RECORD

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

Page 1 of 1

Client Name/Facility Name: SPORT ENV DET CHASN

Collected by/Company: SPORT ENV DET CHASN

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

Q= 33076

	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/MAP	PAH	Remarks
01	SPORT0703-1	5/29/98	0815		✓		✓	1			-													✓		ASTNS 71-1A Soil Trip Blank
02	SPORT0703-2	5/29/98	0929		✓		✓	2																✓	✓	ASTNS 71-2A
03	SPORT0703-3	5/29/98	1000		✓		✓	2																✓	✓	ASTNS 71-3A
04	SPORT0703-4	5/29/98	1028		✓		✓	2																✓	✓	ASTNS 71-4A
05	SPORT0703-5	5/29/98	1105		✓		✓	2																✓	✓	ASTNS 71-5A
06	SPORT0703-6	5/29/98	1138		✓		✓	2																✓	✓	ASTNS 71-6A

.1

.2

Relinquished by:	Date:	Time:	Received by:	Relinquished by:	Date:	Time:	Received by:
W. J. Mahon	5-29-98	1355	Fred S McSween Jr	Fred S McSween Jr.	5/29/98	1550	Stephanie Berkeley
Relinquished by:	Date:	Time:	Received by lab by:	Date:	Time:	Remarks:	
Stephanie Berkeley	5/29/98	16:11	Paul Power	5-29-98	16:11		

White = sample collector Yellow = file Pink = with report

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87459
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: June 12, 1998

Sample ID	: SPORT0707-1
Lab ID	: 9806112-01
Matrix	: Soil
Date Collected	: 06/02/98
Date Received	: 06/03/98
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	0.250	1.00	ug/kg	1.0	TCL	06/09/98	1928	123691	1
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.00	0.620	2.00	ug/kg	1.0					
Naphthalene	U	0.00	0.420	1.00	ug/kg	1.0					

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX-8260	79.8	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	78.1	(63.4 - 136.)
Toluene-d8	BTEX-8260	79.5	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	79.8	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	78.1	(63.4 - 136.)
Toluene-d8	NAP-8260	79.5	(72.1 - 137.)

M = Method	Method-Description
M 1	EPA 8260

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197

Report Date: June 12, 1998

Sample ID : SPORT0707-1

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

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

(803) 556-8171 • Fax (803) 766-1178

9806112-01

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197

Report Date: June 12, 1998

Sample ID : SPORT0707-2
Lab ID : 9806112-02
Matrix : Soil
Date Collected : 06/02/98
Date Received : 06/03/98
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	0.250	1.00	ug/kg	1.0	TCL	06/09/98	0207	123691	
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	J	1.93	0.620	2.00	ug/kg	1.0					
Naphthalene		3.50	0.420	1.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	85.5	330	ug/kg	1.0	RLC	06/10/98	1048	123657	2
Acenaphthylene	U	0.00	92.1	330	ug/kg	1.0					
Anthracene	U	0.00	62.5	330	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	59.2	330	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	55.9	330	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	102	330	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	59.2	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	85.5	330	ug/kg	1.0					
Chrysene	U	0.00	46.1	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	55.9	330	ug/kg	1.0					
Fluoranthene	U	0.00	79.0	330	ug/kg	1.0					
Fluorene	U	0.00	79.0	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	138	330	ug/kg	1.0					
Naphthalene	U	0.00	75.7	330	ug/kg	1.0					
Phenanthrene	U	0.00	75.7	330	ug/kg	1.0					
Pyrene	U	0.00	62.5	330	ug/kg	1.0					

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

RDH 06/08/98 1325 123657 3

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

(803) 556-8171 • Fax (803) 766-1178

Printed on recycled paper.

9806112-02

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: June 12, 1998

Sample ID : SPORT0707-2

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	68.8	(30.0 - 115.)
Nitrobenzene-d5	M610	68.5	(23.0 - 120.)
p-Terphenyl-d14	M610	91.3	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	82.5	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	70.9	(63.4 - 136.)
Toluene-d8	BTEX-8260	73.3	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	82.5	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	70.9	(63.4 - 136.)
Toluene-d8	NAP-8260	73.3	(72.1 - 137.)

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

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

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

Karen Blakeney
Reviewed By

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: June 12, 1998

Sample ID	: SPORT0707-3
Lab ID	: 9806112-03
Matrix	: Soil
Date Collected	: 06/03/98
Date Received	: 06/03/98
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	0.250	1.00	ug/kg	1.0	TCL	06/09/98	0238	123691	
Ethylbenzene	U	0.00	0.230	1.00	ug/kg	1.0					
Toluene	U	0.00	0.220	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	0.620	0.620	2.00	ug/kg	1.0					
Naphthalene	J	0.700	0.420	1.00	ug/kg	1.0					
Extractable Organics											
Polynuclear Aromatic Hydrocarbons - 16 items											
Acenaphthene	U	0.00	86.1	331	ug/kg	1.0	RLC	06/10/98	1117	123657	2
Acenaphthylene	U	0.00	92.7	331	ug/kg	1.0					
Anthracene	U	0.00	62.9	331	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	59.6	331	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	56.3	331	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	103	331	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	59.6	331	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	86.1	331	ug/kg	1.0					
Chrysene	U	0.00	46.3	331	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	56.3	331	ug/kg	1.0					
Fluoranthene	U	0.00	79.4	331	ug/kg	1.0					
Fluorene	U	0.00	79.4	331	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	139	331	ug/kg	1.0					
Naphthalene	U	0.00	76.1	331	ug/kg	1.0					
Phenanthrene	U	0.00	76.1	331	ug/kg	1.0					
Pyrene	U	0.00	62.9	331	ug/kg	1.0					

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

RDH 06/08/98 1325 123657

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

(803) 556-8171 • Fax (803) 766-1178

Printed on recycled paper.

9806112-03

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874'
NC	233	
SC	10120	10582
TN	02934	02934

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

cc: NPWC00197 Report Date: June 12, 1998

Sample ID : SPORT0707-3

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	65.0	(30.0 - 115.)
Nitrobenzene-d5	M610	68.5	(23.0 - 120.)
p-Terphenyl-d14	M610	92.9	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	84.2	(53.5 - 154.)
Dibromofluoromethane	BTEX-8260	72.3	(63.4 - 136.)
Toluene-d8	BTEX-8260	73.8	(72.1 - 137.)
Bromofluorobenzene	NAP-8260	84.2	(53.5 - 154.)
Dibromofluoromethane	NAP-8260	72.3	(63.4 - 136.)
Toluene-d8	NAP-8260	73.8	(72.1 - 137.)

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

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

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

Karen Blakeney
Reviewed By

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

(803) 556-8171 • Fax (803) 766-1178

9806112-03

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

cc: NPWC00197

Report Date: June 12, 1998

Sample ID	: SPORT0707-4
Lab ID	: 9806112-04
Matrix	: Soil
Date Collected	: 06/03/98
Date Received	: 06/03/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons		1440	10.0	50.0	mg/kg	1.0	AAT	06/08/98	1500	123700	1

M = Method	Method-Description
M 1	EPA 9071A

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

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

Karen Blakeney
Reviewed By

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

9806112-04

GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/874[illegible]
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: June 12, 1998

Sample ID	: SPORT0707-5
Lab ID	: 9806112-05
Matrix	: Soil
Date Collected	: 06/03/98
Date Received	: 06/03/98
Priority	: Routine
Collector	: Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
General Chemistry											
Total Rec. Petro. Hydrocarbons		2840	10.0	50.0	mg/kg	1.0	AAT	06/08/98	1500	123700	1

M = Method	Method-Description
M 1	EPA 9071A

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

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

Karen Blakeney
Reviewed By

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

9806112-05

NPL 00197

BB

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

CHAIN OF CUSTODY RECORD

Page____ of ____

9806112%

Client Name/Facility Name: SPORTENVDETCHASN

Collected by/Company: SPORTENVDETCHASN

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	~~Resin~~ TPH	Cyanide	Coliform - specify type	BTEX/NAP	PAH	Remarks
01 SPORT0707	6-2-98	0800		✓		✓	1			-													✓		ASTNS 71-3B SOIL TRIP BLANK .1
02 SPORT0707-2	6-2-98	1030		✓		✓	2																✓	✓	ASTNS 71-1B .2
03 SPORT0707-3	6-3-98	1300		✓		✓	2																✓	✓	ASTNS 71-2B .2
04 SPORT0707-4	6-3-98	1400		✓	✓		1													✓					ASTNS 71 DP North End .3
05 SPORT0707-5	6-3-98	1420		✓	✓		1													✓					ASTNS 71 DP South End .3

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

CCL 33151

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

Relinquished by:	Date:	Time:	Received by:	Relinquished by:	Date:	Time:	Received by:
B. J. [illegible]	6-3-98	1540	Virginia Washington	Virginia Washington	6/3/98	1540	Stephanie Beaterson
Relinquished by: Stephanie Beaterson	Date: 6/3/98	Time: 1603	Received by lab by: [illegible]	Date: 6/3/98	Time: 1603	Remarks:	

White = sample collector Yellow = file Pink = with report

Attachment III

Certificate of Disposal (tank)
Disposal Manifests (hazardous waste)

AST 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

AST NS71; Building NS-71, Bordelon Ave., N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK	SIZE (GAL)
Fuel oil	2,200 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 — 15 Feb 98 (Date)

OAKRIDGE LANDFILL
SPECIAL WASTE DISPOSAL APPLICATION

803-563-2607

NS-71

SALES PERSON: MATTLE

APPLICATION ID #:

DISPOSAL FACILITY: OAKRIDGE

APPLICATION DATE: 6-19-98

A. GENERAL INFORMATION

Customer Name: SUPERVISOR OF SHIPBUILDING CONV
Address: 1899 N HORSON AVE
NORTH CHARLESTON SC 29405-2106
Phone: 743-6777
Contact: TODD DAILEY
USEPA ID#:

Waste Type: DIESEL CONTAMINATED SOIL
Quantity: 90 TONS Per: TETRA
Delivery Method: TRUCK
Contractor: CHANNELS
Contractor's Phone: 821-1662
State of Origin: SC State of Disposal: SC

B. WASTE DESCRIPTION

Physical State: Solid (+) Liquid ( ) Gas ( ) Semi-Solid ( )
Single Phased: Yes (+) No ( )
% Solids: 100 pH: NT
% Free Liquids: 0 Color: BROWN / BLACK
% Radioactive Waste: 0 Odor: PETRO
% Asbestos: 0 Flash Point: >140°F
Reactive Sulfides (ppm): NT
Reactive Cyanides (ppm): NT

PROCESS OF WASTE GENERATION:
SPILL OF VIRGIN DIESEL FUEL

CONTENTS OF WASTE BY VOLUME IN %:
100% VIRGIN DIESEL FUEL CONTAMINATED SOIL

C. HAZARDOUS CONSTITUENTS

	Total (ppm)	TCLP (ppm)
PCB's	<2L	
TPH	2840	
BTEX	<2L	
TOX	<2L	
TCLP METALS		
Arsenic	<2L	
Barium		
Cadmium		
Chromium		
Lead		
Mercury		
Selenium		
Silver		
TCLP VOLATILES/SEMI-VOLATILES		
Benzene		
Carbon Tetrachloride		
Chlorobenzene		
Chloroform		
m-Cresol		
o-Cresol		
p-Cresol		
1,4-Dichlorobenzene		
1,2-Dichloroethane		
1,1-Dichloroethene		
2,4-Dinitrotoluene		
Hexachlorobenzene		
Hexachlorobutadiene		
Hexachloroethane		
Methyl Ethyl Ketone		
Nitrobenzene		
Pentachlorophenol		
Pyridine		
Tetrachloroethene		
Trichloroethene		
2,4,5-Trichlorophenol		
2,4,6-Trichlorophenol		
Vinyl Chloride		
TCLP HERBICIDES/PESTICIDES		
Chlordane		
Endrin		
Heptachlor		
Lindane (Gamma-BHC)		
Methoxychlor		
Silvex (2,4,5-TP)		
Toxaphene		
2,4-D		

D. CERTIFICATIONS

I certify that the laboratory results identified below are attached as support to the data certified on this application form.

lab name(s): GENERAL ENGINEERING LABS

report date(s): 6-12-98

sample ID#(s): SPORT0707-4 & -5

By signing this form I certify that:

<2L = LESS THAN DETECTION LIMIT PER GENERATORS KNOWLEDGE.

1. I am the legal generator of the waste described on this form.
2. The waste described on this form is not a regulated Hazardous Waste as defined by the USEPA, the State of Origin or the State of Disposal listed above.
3. This form and its attachments contain true and accurate descriptions of the waste.
4. Any laboratory data used to support the information presented on this form has been obtained from the analysis of a volumetrically representative sample, obtained and analyzed according to 40 CFR 261, EPA Document SW-846, or other applicable regulations or guidelines, of EXACTLY THE SAME WASTE that I will deliver to Chambers for either hauling or disposal.

Certified Signature: x Todd M. Dailey Date: 6/19/98

Printed/Typed Name, Title & Employer: TODD M. DAILEY, WASTE MANAGEMENT SUPERVISOR, CEERD

mod 12-93

OAKRIDGE LANDFILL
A WASTE INDUSTRIES COMPANY

2183 Highway 78
P.O. Box 145
Dorchester, SC 29437
(803) 563-2607
(803) 563-4158 Fax

SPECIAL WASTE MANIFEST

Approval # OR 9806022
Expiration 09/19/98

Generator: SUPERVISOR OF SHIPBUILDING

Account Number: 490-299

Location/Address: 1899 N HOBSON AV N CHARLESTON SC

Tele Number: 843-743-6777 **Contact:** TODD DAILEY

Generator Signature: _____

********** TO BE COMPLETED BY TRANSPORTER **********

Transporter of Waste: C E CHINNERS

Date: 7-1-98 **Truck #** 28

Driver Signature: Haney Wright

********** TO BE COMPLETED BY OAKRIDGE LANDFILL **********

Disposal Site: Chambers Oakridge Landfill DPW 130

Description of Waste: SOL / DIESEL CONTAMINATED SOIL

Ticket Number: 49593 **Tonnage:** 23.71

Received By: Cassie M

OAKRIDGE LANDFILL

2183 Highway 78
P.O. Box 145
Dorchester, SC 29437
(803) 563-3607
(803) 563-4158 Fax

SPECIAL WASTE MANIFEST

Approval # OR 9806022
Expiration 09/19/98

Generator: SUPERVISOR OF SHIPBUILDING

Account Number: 490-299

Location/Address: 1899 N HOBSON AV N CHARLESTON SC

Tele Number: 843-743-6777 **Contact:** TODD DAILEY

Generator Signature: Todd M. Daily

********** TO BE COMPLETED BY TRANSPORTER **********

Transporter of Waste: Butler Waste C E CHINNERS

Date: 7-1-98 **Truck #** 18

Driver Signature: J. R. McMillan

********** TO BE COMPLETED BY OAKRIDGE LANDFILL **********

Disposal Site: Chambers Oakridge Landfill DPW 130

Description of Waste: SOL / DIESEL CONTAMINATED SOIL

Ticket Number: 69610 **Tonnage** 27.68

Received By: Cassie