

N61165.AR.005691
CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT FOR BUILDING NS-2A
CNC CHARLESTON SC
08/26/1996
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



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

L^o 10.8.96
L^o 10.10.96 PMW

5090
Code 1849
26 Aug 1996

Mr. Paul Bristol
South Carolina Department of Health
and Environmental Control
Ground-Water Protection Division
2600 Bull Street
Columbia, SC 29201

17595

UST ASSESSMENT REPORT, NS 2A, CHARLESTON NAVAL COMPLEX, CHARLESTON, SC

Dear Mr. Bristol:

Enclosed is the Assessment Report for the closure of underground storage tank NS 2A located at the Charleston Naval Complex, Charleston, SC.

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

Sincerely,


GABRIEL L. MAGWOOD
Petroleum/UST

Enclosure:
(1) Assessment Report

RECEIVED

AUG 29 1996

Groundwater Protection
Division

17595

Ser: 109

31 JUL 1996

MEMORANDUM

From: Director, Supervisor of Shipbuilding, Conversion and Repair, USN, Portsmouth Environmental Detachment Charleston, SC (SPORTENVDETCHASN)

To: Southern Division Naval Facilities Engineering Command (Code 18B- Hayes Patterson)

Subj: UST ASSESSMENT REPORT FOR UST NS 2A

Ref: (a) DHEC Underground Storage Tank Assessment Guidelines for Permanent Closure, Change-In-Owner and Change-In-Service, dated June, 1995

(b) SC Underground Storage Tank Control Regulations, R.61-92, Part 280

(c) South Carolina Department of Health and Environmental Control (SCDHEC) Comments on the Tank Management Plan, dated June 18, 1996

Encl: (1) UST Assessment Report for UST NS 2A

1. Enclosure (1) is the UST Assessment Report for UST NS 2A. The UST was an unregulated 560 gallon waste oil holding tank connected to the oily water separator at Building NS 2 on Naval Base Charleston. Removal was completed April 24, 1996. This report documents the tank's removal and serves as SPORTENVDETCHASN's work completion report for all work associated with the removal of the subject tank.

2. The UST Assessment Report (AR) contains the information required by Appendix 4 of reference (a). Although reference (b) does not require an AR for unregulated UST's, reference (c) comments request that all reports be forwarded to the South Carolina Department of Health and Environmental Control's DOD petroleum contact.



E. R. Dearhart

RECEIVED
APR 27 1999
SCDHEC - Bureau of
Land & Waste Management

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

Date Received
State Use Only

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

I OWNERSHIP OF UST(S)

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

II SITE IDENTIFICATION AND LOCATION

Site I.D. #:	N/A Unregulated		
Facility Name:	Charleston Naval Base, NS 2A		
Street Address:	South Hobson Avenue		
City:	North Charleston, 29405-2413	County:	Charleston

III CLOSURE INFORMATION

Closure Started: 9 April 1996	Closure Completed: 24 April 1996
N/A	SPORTENVDETHASN
Consultant	UST Removal Contractor
Number of USTs Closed: 1	

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.

Name (Type or Print)	RECEIVED MAY 6 1996
Signature	

Water Monitoring, Assessment &
Protection Division

V. UST INFORMATION

- A. Product.....
- B. Capacity.....
- C. Age.....
- D. Construction Material.....
- E. Month/Year of Last Use.....
- F. Depth (ft.) To Base of Tank.....
- G. Spill Prevention Equipment Y/N.....
- H. Overfill Prevention Equipment Y/N.....
- I. Method of Closure Removed/Filled.....
- J. Visible Corrosion or Pitting Y/N.....
- K. Visible Holes Y/N.....

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Waste Oil						
560 gal.						
< 20 years						
Steel						
Unknown						
9'						
N						
N						
RG						
N						
N						

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

UST NS 2A was removed, drained and cleaned. 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).

Residual waste oil was pumped into a 55 gallon drum and disposed of by Chem-Met Services, Inc; 1855 Allen Road; Wyandotte, MI 48192. (See Attachment III, manifest number 13105, paragraph 11a.)

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

UST NS 2A was found intact with no holes and no pitting. Its exterior surface was coated with a rubberized paint approximately 1/8" thick.

VI. PIPING INFORMATION

- A. Construction Material.....
- B. Distance from UST to Dispenser.....
- C. Number of Dispensers.....(oil holding tank).....
- D. Type of System P/S.....
- E. Was Piping Removed from the Ground? Y/N....
- F. Visible Corrosion or Pitting Y/N.....
- G. Visible Holes Y/N.....
- H. Age.....
- I. If any corrosion, pitting, or holes were observed, describe the location and extent for each line.

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Steel						
N/A						
N/A						
N/A						
Y						
N						
N						
Unknown						

N/A

VII. BRIEF SITE DESCRIPTION AND HISTORY

UST NS 2A was an unregulated underground holding tank for an oil/water separator. It was located on the Charleston Naval Base in Charleston, South Carolina in a grass-covered patch of ground between buildings NS 2 and NS 3. NS 2 is a one and one-half story, red brick powerhouse substation at the south end of the base. UST NS 2A was approximately 120' from the Cooper River.

The area which includes UST NS 2A, Building NS 2, Building NS 3, and UST NS 4 (see site map 3) is under investigation by the Navy under the Resource Conservation and Recovery Act (RCRA) program. Specifically, site UST NS 2A is adjacent to Building NS 2 and UST NS 4. These sites are listed as areas of concern (AOC 677 and AOC 675) and will be assessed as a part of the Navy's RCRA Facility Investigation.

VIII. SITE CONDITIONS

Yes No Unk

	Yes	No	Unk
<p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate depth and location on the site map.</p>		X	
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?</p> <p>If yes, indicate location on site map and describe the odor (strong, mild, etc.)</p>		X	
<p>C. Was water present in the UST excavation, soil borings, or trenches?</p> <p>If yes, how far below land surface (indicate location and depth)? 8' below GSL, 6" deep</p>	X		
<p>D. Did contaminated soils remain stockpiled on site after closure?</p> <p>If yes, indicate the stockpile location on the site map.</p> <p>Name of DHEC representative authorizing soil removal:</p>		X	
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?</p> <p>If yes, indicate location and thickness.</p>		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#
NS2-1.	Bottom of pit, river end of tank.	Soil	8'	4/12/96 @ 10:45AM	Randy Atkins	Not taken.
NS2-2.	Bottom of pit, opposite river.	Soil	8'	4/12/96 @ 10:55AM	Randy Atkins	Not taken.
NS2-3.	Bottom of pit, center of excavation.	Water	8'	4/12/96 @ 11:05AM	Randy Atkins	Not taken.
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						
15.						
16.						
17.						
18.						
19.						
20.						

* = 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 NS 2A, soil samples NS 2-1, NS 2-2, and ground water sample NS 2-3 were taken. The soil samples were taken from the bottom of the excavation from native soils at a depth of eight feet below land surface as shown in Site Map Number 3. 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:

Soil Sample NS 2-1 = SPORT - 0005-3
Soil Sample NS 2-2 = SPORT - 0005-4
Ground water NS 2-3 = SPORT - 0005-1

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. Samples NS 2-1 and NS 2-2 were extracted where the ends of the tank had rested; ground water sample NS 2-3 was taken from beneath it.

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 SPORTENVDETCNASN until they were transferred to General Engineering Laboratories for analysis as documented in the attached Chain-of-Custody Record.

XI. RECEPTORS

Yes No

A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? <div style="text-align: right;">[*Cooper River]</div> If yes, indicate type of receptor, distance, and direction on site map.	X*	
B.	Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system? If yes, indicate type of well, distance, and direction on site map.		X
C.	Are there any underground structures (e.g., basements) located within 100 feet of the UST system? <div style="text-align: right;">[*NS 2A oil/water separator]</div> If yes, indicate the type of structure, distance, and direction on site map.	X*	
D.	Are there any underground utilities (e.g., telephone, electricity, gas, water, sewer, storm drain) located within 100 feet of the UST system that could potentially come in contact with the contamination? <div style="text-align: right;">[*sewer & electricity]</div> If yes, indicate the type of utility, distance, and direction on the site map.	X*	
E.	Has contaminated soil been identified at a depth of less than 3 feet below land surface in an area that is not capped by asphalt or concrete? If yes, indicate the area of contaminated soil on the site map.		X

SITE MAP

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

Site Maps 1, 2, and 3.
Photographs

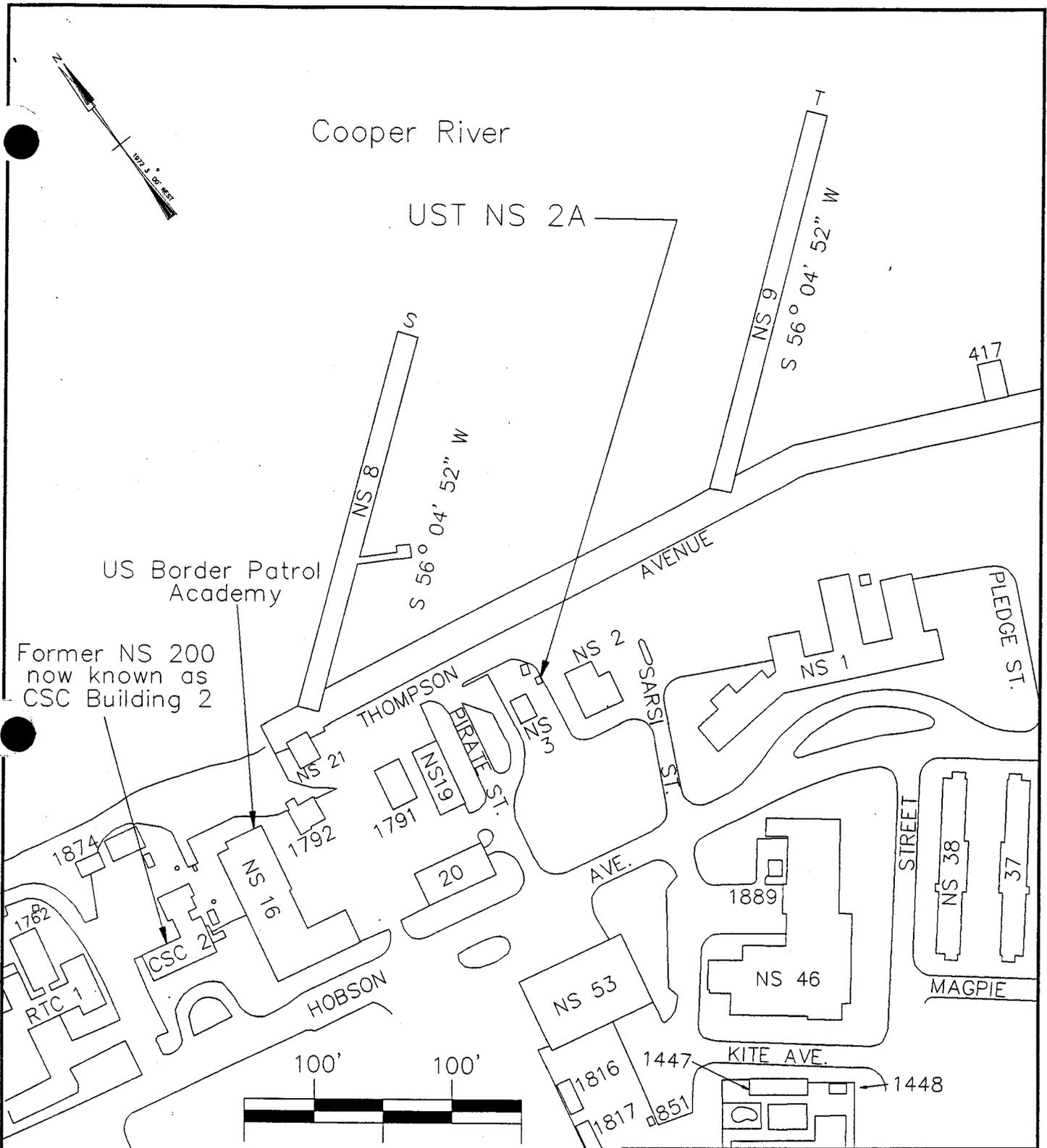
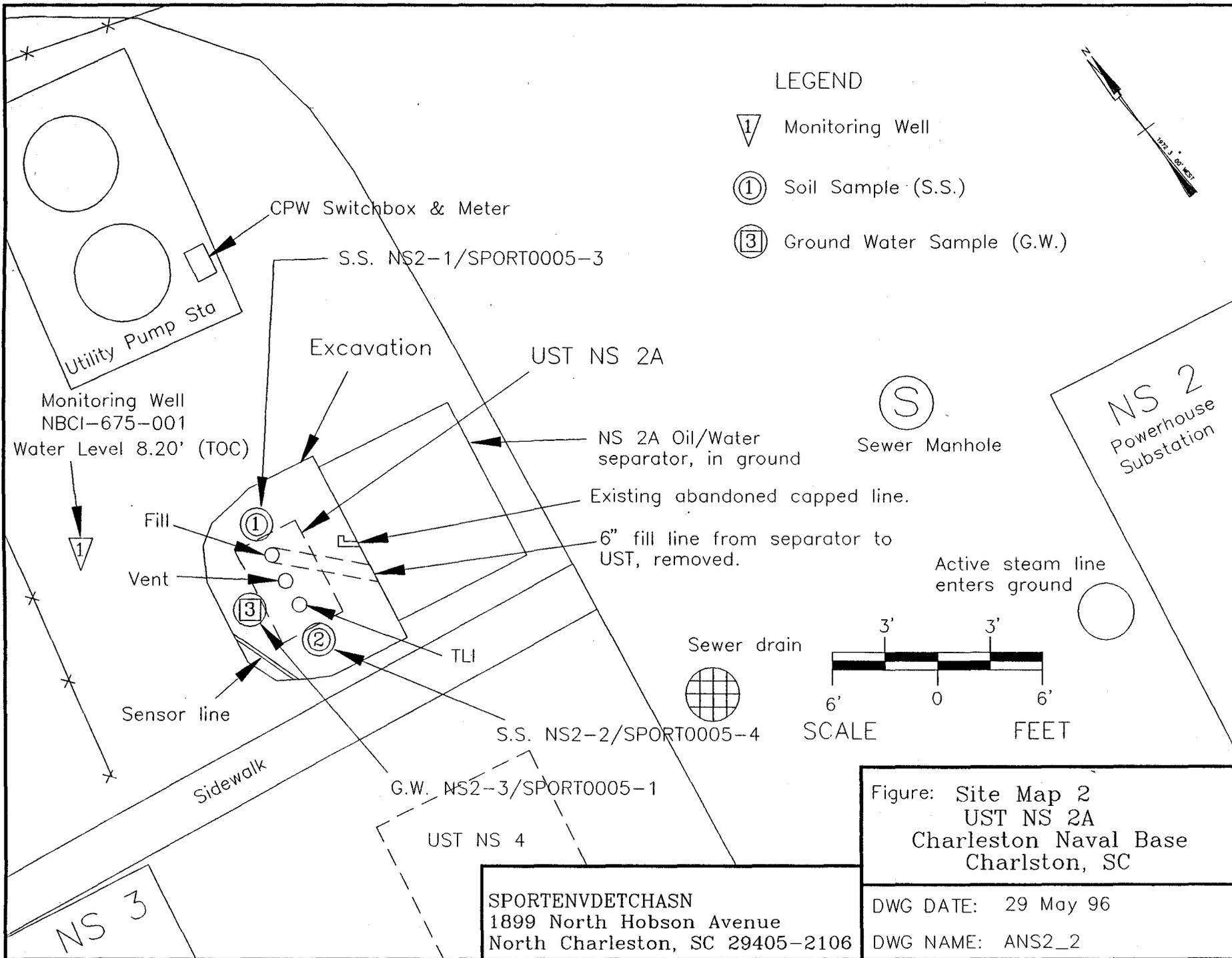


Figure: Site Map 1
UST at NS 2A
Naval Base Charleston
Charleston, SC

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

DWG DATE: 23 May 96
DWG NAME: ANS20_1



LEGEND

- ▽ 1 Monitoring Well
- ① Soil Sample (S.S.)
- ③ Ground Water Sample (G.W.)

Ⓢ Sewer Manhole

NS 2
Powerhouse
Substation

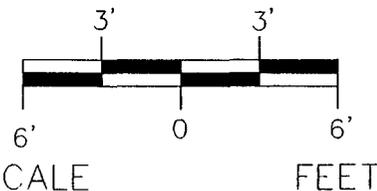
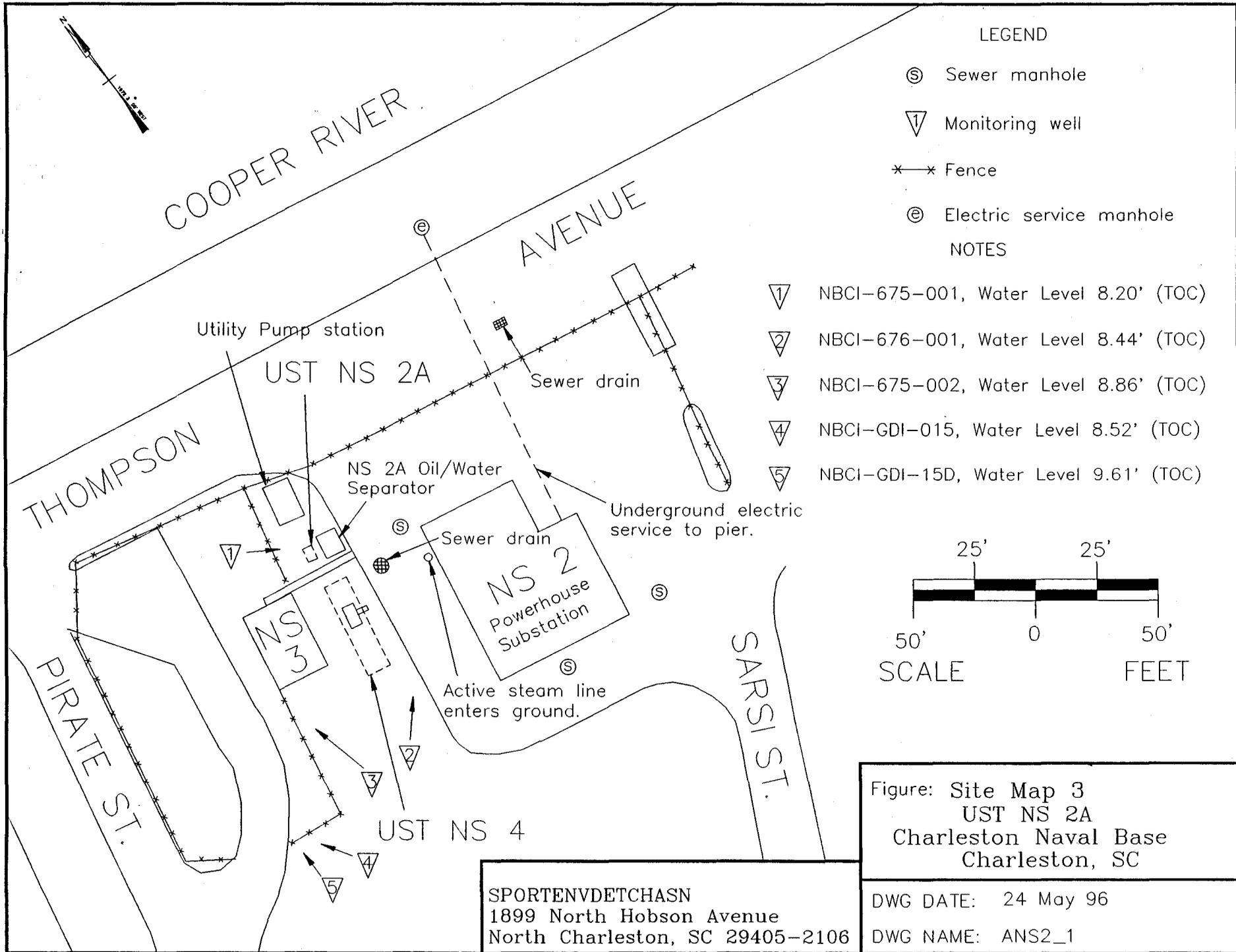


Figure: Site Map 2
UST NS 2A
Charleston Naval Base
Charlston, SC

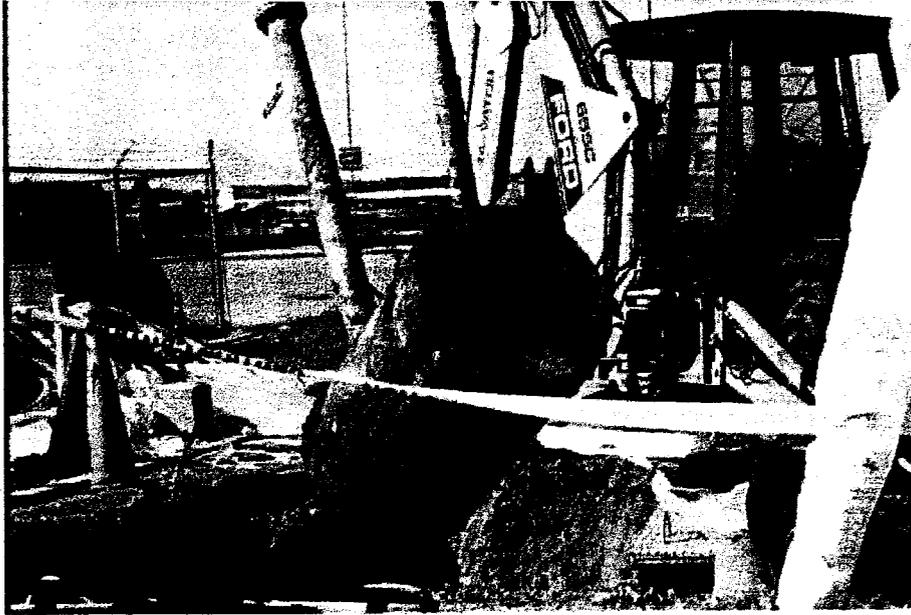
DWG DATE: 29 May 96
DWG NAME: ANS2_2

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



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

NS 2A REMOVAL



NS 2A CLEANING AND DISPOSAL



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

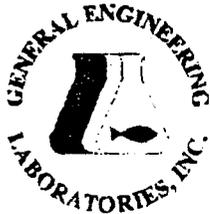
CHAIN OF CUSTODY RECORD

Page 1 of 1 9604204

Client Name/Facility Name SPORTENVDET 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 CCL 20953 Remarks		
Collected by/Company Jack Arney				# OF CONTAINERS	pH. conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	PCRA METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	BN Extractables	PCPs TPH	Cyanide	Coliform - specify type	BTEX AND NAPHTHALENE		PAH	
SAMPLE ID	DATE	TIME	WELL SOIL COMP GRAB																				
01	SPORT-0005-1	4/12/96	1105							X							X			X	X		GROUNDH2O - UST NS-2-3 .1
02	SPORT-0005-2	4/12/96	1105																	X			TRIP BLANK .2
03	SPORT-0005-3	4/12/96	1045	X						X							X			X	X		UST NS2-1 .3
04	SPORT-0005-4	4/12/96	1055	X						X							X			X	X		UST NS-2-2 .3

Relinquished by: <i>[Signature]</i>	Date: 4/12/96	Time: 1300	Received by: W.R. Hiers, Jr.	Relinquished by: W.R. Hiers, Jr.	Date: 4/12/96	Time: 1520	Received by: <i>[Signature]</i>
Relinquished by: <i>[Signature]</i>	Date: 4/12/96	Time: 1550	Received by lab by: <i>[Signature]</i>	Date: 4/12/96	Time: 1550	Remarks:	

White = sample collector Yellow = file Pink = with report



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: April 19, 1996

Page 1 of 4

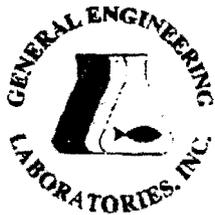
Sample ID : SPORT-0005-1
 Lab ID : 9604264-01
 Matrix : GroundH2O
 Date Collected : 04/12/96
 Date Received : 04/12/96
 Priority : Rush
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.430	1.00	2.00	ug/l	1.0	RMB	04/17/96	1753	83505	1
Ethylbenzene	J	1.30	1.00	2.00	ug/l	1.0					
Toluene	U	0.240	1.00	2.00	ug/l	1.0					
Xylenes (TOTAL)		4.40	1.00	4.00	ug/l	1.0					
Naphthalene	U	0.00	1.00	2.00	ug/l	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene		16.3	5.00	10.0	ug/l	1.0	HNM	04/17/96	1726	83381	2
Acenaphthylene	U	0.00	5.00	10.0	ug/l	1.0					
Anthracene	U	0.00	5.00	10.0	ug/l	1.0					
Benzo(a)anthracene	U	0.00	5.00	10.0	ug/l	1.0					
Benzo(a)pyrene	U	0.00	5.00	10.0	ug/l	1.0					
Benzo(b)fluoranthene	U	0.00	5.00	10.0	ug/l	1.0					
Benzo(ghi)perylene	U	0.00	5.00	10.0	ug/l	1.0					
Benzo(k)fluoranthene	U	0.00	5.00	10.0	ug/l	1.0					
Chrysene	U	0.00	5.00	10.0	ug/l	1.0					
Dibenzo(a,h)anthracene	U	0.00	5.00	10.0	ug/l	1.0					
Fluoranthene	U	0.00	5.00	10.0	ug/l	1.0					
Fluorene	U	0.00	5.00	10.0	ug/l	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	5.00	10.0	ug/l	1.0					
Naphthalene	J	5.10	5.00	10.0	ug/l	1.0					
Phenanthrene	U	0.00	5.00	10.0	ug/l	1.0					
Pyrene	U	0.00	5.00	10.0	ug/l	1.0					
Metals Analysis											
Silver		0.818	0.0210	0.200	ug/l	1.0	NRM	04/16/96	0223	83314	N
Arsenic		3.62	0.380	3.00	ug/l	1.0					
Barium		35.7	0.0360	0.300	ug/l	1.0					



P O Box 30712 • Charleston, SC 29417 • (803) 556-8171 • Fax (803) 766-1178 *9604264-01*

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 Hiera

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: April 19, 1996

Page 2 of 4

Sample ID : SPORT-0005-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Cadmium		0.550	0.0430	0.400	ug/l	1.0					
Chromium		10.3	0.390	3.00	ug/l	1.0					
Lead		8.29	0.0260	0.200	ug/l	1.0					
Selenium		2.03	0.240	2.00	ug/l	1.0					
Mercury	J	0.198	0.0148	0.500	ug/l	1.0	RMI	04/16/96	1315	83358	N
General Chemistry											
Total Rec. Petro. Hydrocarbons	U	0.160	1.67	10.0	mg/l	1.0	SDW	04/17/96	1430	83426	3

The following prep procedures were performed:

GC/MS Base/Neutral Compounds
 ICP Mass Spec
 Mercury

DDT 04/15/96 2230 83381 4
 DVW 04/12/96 2030 83314 5
 RMI 04/15/96 1730 83358 6

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	67.6	(43.0 - 108.)
Nitrobenzene-d5	M610	55.2	(35.0 - 111.)
p-Terphenyl-d14	M610	61.8	(33.0 - 125.)
Bromofluorobenzene	BTEX-8260	98.0	(80.0 - 128.)
Dibromofluoromethane	BTEX-8260	100.	(67.7 - 135.)
Toluene-d8	BTEX-8260	97.6	(76.8 - 122.)
Bromofluorobenzene	NAP-8260	98.0	(80.0 - 128.)
Dibromofluoromethane	NAP-8260	100.	(67.7 - 135.)
Toluene-d8	NAP-8260	97.6	(76.8 - 122.)

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 8270
M 3	EPA 9070A
M 4	EPA 3510
M 5	EPA 3005

9604264-01

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: April 19, 1996

Page 3 of 4

Sample ID : SPORT-0005-1

M = Method	Method-Description
M 6	EPA 7470

Notes:

The qualifiers in this report are defined as follows:

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.

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

GEL Laboratory Certifications

AL - 41040
 CA - 2089
 DE - SC012
 ME - SC012
 NC - 233
 RI - 135
 TN - 02934
 VA - 00151
 WI - 999887790

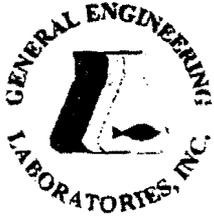
AZ - AZ0514
 CT - PH-0169
 FL - E87156/87294
 MS - 10120
 NY - 11501
 SC - 10120
 UT - E-251
 WA - C223

EPI Laboratory Certifications

AL - 41050
 CA - I-1023/2056
 FL - E87472/87458
 NY - 11502
 SC - 10582
 UT - E-227
 WA - C225
 PA - 68-485

AZ - AZ0514
 CT - PH-0175
 MS - 29417
 RI - 138
 TN - 02934
 VA - 00111
 NJ - 79002
 WV - 235





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 Hiern

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: April 19, 1996

Page 4 of 4

Sample ID : SPORT-0005-1

GEL Laboratory Certifications

EPI Laboratory Certifications

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.

Analytical Report Specialist



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: April 19, 1996

Page 1 of 4

Sample ID : SPORT-0005-3
 Lab ID : 9604264-03
 Matrix : Soil
 Date Collected : 04/12/96
 Date Received : 04/12/96
 Priority : Rush
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.37	2.74	ug/kg	1.0	IGS	04/15/96	1058	83356	1
Ethylbenzene	U	0.00	1.37	2.74	ug/kg	1.0					
Toluene	U	1.07	1.37	2.74	ug/kg	1.0					
Xylenes (TOTAL)	J	1.44	1.37	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.37	2.74	ug/kg	1.0					
Organic Prep											
Evaporative Loss @ 105 C		27.0	1.00	1.00	wt%	1.0	TNF	04/15/96	1650	83344	2
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	226	452	ug/kg	1.0	HNM	04/18/96	1204	83382	3
Acenaphthylene	U	0.00	226	452	ug/kg	1.0					
Anthracene	U	0.00	226	452	ug/kg	1.0					
Benzo(a)anthracene	U	0.00	226	452	ug/kg	1.0					
Benzo(a)pyrene	U	0.00	226	452	ug/kg	1.0					
Benzo(b)fluoranthene	U	0.00	226	452	ug/kg	1.0					
Benzo(ghi)perylene	U	0.00	226	452	ug/kg	1.0					
Benzo(k)fluoranthene	U	0.00	226	452	ug/kg	1.0					
Chrysene	U	0.00	226	452	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	0.00	226	452	ug/kg	1.0					
Fluoranthene	U	0.00	226	452	ug/kg	1.0					
Fluorene	U	0.00	226	452	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	0.00	226	452	ug/kg	1.0					
Naphthalene	U	0.00	226	452	ug/kg	1.0					
Phenanthrene	U	0.00	226	452	ug/kg	1.0					
Pyrene	U	0.00	226	452	ug/kg	1.0					
Metals Analysis											
Mercury	J	0.00501	0.00323	0.200	mg/kg	1.0	RMJ	04/17/96	1948	83362	N



P O Box 30712 • Charleston, SC 29417 • (803) 556-8171 • Fax (803) 766-1178 *9604264-03*

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: April 19, 1996

Page 2 of 4

Sample ID : SPORT-0005-3

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Silver	U	-74.0	171	685	ug/kg	1.0	NRM	04/17/96	2042	83446	4
Arsenic		5330	127	685	ug/kg	1.0	NRM	04/17/96	2042	83446	4
Barium		14900	4.54	685	ug/kg	1.0					
Cadmium	J	166	6.64	343	ug/kg	1.0					
Chromium		195000	40.8	685	ug/kg	1.0					
Lead		7350	77.4	343	ug/kg	1.0					
Selenium		890	98.0	343	ug/kg	1.0					
General Chemistry											
Total Rec. Petra. Hydrocarbons		429	13.7	50.0	mg/kg	1.0	SDW	04/17/96	1000	83428	5

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

Mercury

TRACE

GWL 04/15/96 2100 83382 2

RMJ 04/16/96 1800 83362 6

DVW 04/16/96 2150 83446 7

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	91.0	(30.0 - 115.)
Nitrobenzene-d5	M610	71.8	(23.0 - 120.)
p-Terphenyl-d14	M610	84.8	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	118.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	120.	(74.0 - 128.)
Toluene-d8	BTEX-8260	99.9	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	118.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	120.	(74.0 - 128.)
Toluene-d8	NAP-8260	99.9	(53.4 - 163.)

M = Method

Method-Description

M 1

EPA 8260

M 2

EPA 3550

M 3

EPA 8270

9604264-03

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: April 19, 1996

Page 3 of 4

Sample ID : SPORT-0005-3

M = Method	Method-Description
M 4	EPA 6010A
M 5	EPA 9071
M 6	EPA 7471
M 7	EPA 3050

Notes:

The qualifiers in this report are defined as follows:

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.

Data reported in mass/mass units is reported as 'dry weight'.

GEL Laboratory Certifications

AL - 41040
 CA - 2089
 DE - SC012
 ME - SC012
 NC - 233
 RI - 135

AZ - AZ0514
 CT - PH-0169
 FL - E87156/87294
 MS - 10120
 NY - 11501
 SC - 10120

EPI Laboratory Certifications

AL - 41050
 CA - I-1023/2056
 FL - E87472/87458
 NY - 11502
 SC - 10582
 UT - E-227

AZ - AZ0514
 CT - PH-0175
 MS - 29417
 RI - 138
 TN - 02934
 VA - 00111



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: April 19, 1996

Page 4 of 4

Sample ID : SPORT-0005-3

GEL Laboratory Certifications

EPI Laboratory Certifications

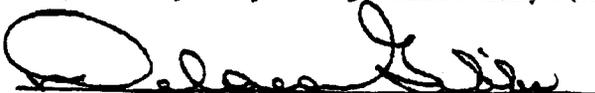
TN - 02934
 VA - 00151
 WI - 999887790

UT - E-251
 WA - C223

WA - C225
 PA - 68-485

NJ - 79002
 WV - 235

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.


 Analytical Report Specialist



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: April 19, 1996

Page 1 of 4

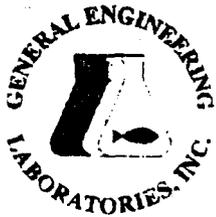
Sample ID : SPORT-0005-4
 Lab ID : 9604264-04
 Matrix : Soil
 Date Collected : 04/12/96
 Date Received : 04/12/96
 Priority : Rush
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX - 4 items</i>											
Benzene	U	0.00	1.14	2.28	ug/kg	1.0	JGS	04/15/96	1630	83356	1
Ethylbenzene	U	0.00	1.14	2.28	ug/kg	1.0					
Toluene	U	0.809	1.14	2.28	ug/kg	1.0					
Xylenes (TOTAL)	U	0.969	1.14	4.00	ug/kg	1.0					
Naphthalene	U	0.00	1.14	2.28	ug/kg	1.0					
Organic Prep											
Evaporative Loss @ 105 C		12.0	1.00	1.00	wt%	1.0	TNF	04/15/96	1650	83344	2
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	0.00	1880	3760	ug/kg	10.	HNM	04/17/96	1438	83382	3
Acenaphthylene	U	0.00	1880	3760	ug/kg	10.					
Anthracene	U	0.00	1880	3760	ug/kg	10.					
Benzo(a)anthracene	U	0.00	1880	3760	ug/kg	10.					
Benzo(a)pyrene	U	0.00	1880	3760	ug/kg	10.					
Benzo(b)fluoranthene	U	0.00	1880	3760	ug/kg	10.					
Benzo(ghi)perylene	U	0.00	1880	3760	ug/kg	10.					
Benzo(k)fluoranthene	U	0.00	1880	3760	ug/kg	10.					
Chrysene	U	0.00	1880	3760	ug/kg	10.					
Dibenzo(a,h)anthracene	U	0.00	1880	3760	ug/kg	10.					
Fluoranthene	U	0.00	1880	3760	ug/kg	10.					
Fluorene	U	0.00	1880	3760	ug/kg	10.					
Indeno(1,2,3-c,d)pyrene	U	0.00	1880	3760	ug/kg	10.					
Naphthalene	U	0.00	1880	3760	ug/kg	10.					
Phenanthrene	U	0.00	1880	3760	ug/kg	10.					
Pyrene	U	0.00	1880	3760	ug/kg	10.					
Metals Analysis											
Mercury	J	0.00823	0.00259	0.200	mg/kg	1.0	RMJ	04/17/96	1950	83362	N



P O Box 30712 • Charleston, SC 29417 • (803) 556-3171 • Fax (803) 766-1178 *9604264-04*

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

cc: NPWC00196

Report Date: April 19, 1996

Page 2 of 4

Sample ID : SPORT-0005-4

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Silver	U	-5.58	130	521	ug/kg	1.0	NRM	04/17/96	2046	83446	4
Arsenic		3640	96.9	521	ug/kg	1.0	NRM	04/17/96	2046	83446	4
Barium		48200	3.45	521	ug/kg	1.0					
Cadmium	J	65.3	5.05	261	ug/kg	1.0					
Chromium		39400	31.1	521	ug/kg	1.0					
Lead		14800	58.9	261	ug/kg	1.0					
Selenium		632	74.5	261	ug/kg	1.0					
General Chemistry											
Total Rec. Petro. Hydrocarbons		291	11.4	50.0	mg/kg	1.0	SDW	04/17/96	1000	83428	5

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

Mercury

TRACE

GWL 04/15/96 2100 83382 2

RMI 04/16/96 1800 83362 6

DVW 04/16/96 2150 83446 7

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	106.	(30.0 - 115.)
Nitrobenzene-d5	M610	0.00*	(23.0 - 120.)
p-Terphenyl-d14	M610	0.00*	(37.3 - 128.)
Bromofluorobenzene	BTEX-8260	120.	(59.7 - 159.)
Dibromofluoromethane	BTEX-8260	113.	(74.0 - 128.)
Toluene-d8	BTEX-8260	102.	(53.4 - 163.)
Bromofluorobenzene	NAP-8260	120.	(59.7 - 159.)
Dibromofluoromethane	NAP-8260	113.	(74.0 - 128.)
Toluene-d8	NAP-8260	102.	(53.4 - 163.)

9604264-04

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 Hiars

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: April 19, 1996

Page 3 of 4

Sample ID : SPORT-0005-4

M = Method	Method-Description
M 1	EPA 8260
M 2	EPA 3550
M 3	EPA 8270
M 4	EPA 6010A
M 5	EPA 9071
M 6	EPA 7471
M 7	EPA 3050

Notes:

The qualifiers in this report are defined as follows:

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.

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

Data reported in mass/mass units is reported as 'dry weight'.

GEL Laboratory Certifications

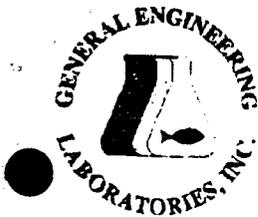
AL - 41040
 CA - 2089
 DE - SC012
 ME - SC012
 NC - 233

AZ - AZ0514
 CT - PH-0169
 FL - E87156/87294
 MS - 10120
 NY - 11501

EPI Laboratory Certifications

AL - 41050
 CA - I-1023/2056
 FL - E87472/87458
 NY - 11502
 SC - 10582

AZ - AZ0514
 CT - PH-0175
 MS - 29417
 RI - 138
 TN - 02934



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: April 19, 1996

Page 4 of 4

Sample ID : SPORT-0005-4

GEL Laboratory Certifications

RI - 135
TN - 02934
VA - 00151
WI - 999887790

SC - 10120
UT - E-251
WA - C223

EPI Laboratory Certifications

UT - E-227
WA - C225
PA - 68-485

VA - 00111
NJ - 79002
WV - 235

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.

Analytical Report Specialist

Attachment III

Certificate of Disposal (tank)
Disposal Manifest (sludge)

UST Certificate of Disposal

CONTRACTOR

Charleston Environmental Engineering
& Remediation Detachment
1899 North Hobson Ave
North Charleston 29405-2106.
Telephone (803) 743- 6482

TANK ID & LOCATION

NS - 2A at Bldg. NS - 4

DISPOSAL LOCATION

Bldg. 1632 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

Waste Oil

SIZE (GAL)

560

CLEANING/DISPOSAL METHOD

The tank was cut open on both ends, cleaned with a steam cleaner, 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.

A. J. Utter

(Name)

1 7/25/96

(Date)

READ INSTRUCTIONS ON BACK OF MANIFEST

Required under authority of Act 64, P.A. 1979, as amended and Act 136, P.A. 1969. Failure to file is punishable under section 299.548 MCL or Section 10 of Act 136, P.A. 1969.

DNR
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

DO NOT WRITE IN THIS SPACE
ATT. DIS. REJ. PR.

Please print or type. Form Approved. OMB No. 2050-0038 Expires 9-30-94

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. SC0170022560		Manifest Document No. 173105		2. Page 1 of 1		Information in the shaded areas is not required by Federal law.							
3. Generator's Name and Mailing Address SOUTH DIV NAV FAC ENG COM CARETAKER SITE OFFICE P.O. BOX 190010 N. CHARLESTON, SC 29 803-743-6444 ATTN: Rick Nielson						A. State Manifest Document Number MI 3530737									
4. Generator's Phone 9985						B. State Generator's ID									
5. Transporter 1 Company Name TRI-STATE MOTOR TRANSIT, CO.			6. US EPA ID Number M0D095038998			C. State Transporter's ID									
7. Transporter 2 Company Name			8. US EPA ID Number			D. Transporter's Phone 800-568-1856									
9. Designated Facility Name and Site Address Chem-Met Services, Inc. 1855 Allen Road Wyandotte, MI 48192			10. US EPA ID Number MID096963194			E. State Transporter's ID									
						F. Transporter's Phone									
						G. State Facility's ID									
						H. Facility's Phone 313-282-9250									
11. US DOT Description (including Proper Shipping Name, Hazard Class, and HM ID NUMBER)						12. Containers No. Type		13. Total Quantity		14. Unit Wt/Vol		15. Waste No.		N/H	
a. (RQ) Hazardous waste, liquid, n.o.s., 9, NA3082, PG III D004, D006, D007, D008 (Fuel Oil Sludge c/w Cadmium, Lead) 363						001 Dm		010424		P		D004		H	
b. (RQ) Hazardous waste, liquid, n.o.s., 9, NA3082, PG III D005, D006, D007, D008 (Fuel Oil Sludge c/w Barium, Lead) 185						2106 Dm		012542		P		D005		H	
c. (RQ) Hazardous waste, solid, n.o.s., 9, NA3077, PG III D004, D005, D006, D008, D009 (PPE c/w Barium, Lead, Paint Chips) 405						002		010155		P		D004		H	
d.															
A) CHA56070ERG# 31 ITEM#-10 (D006, D007, D008) 155						K. Handling Codes for Wastes Listed Above						a/ T / 21			
B) CHA56070ERG# 31 ITEM#-11 (D006, D007, D008) 8/55												b/ T / 21			
C) CHA56070ERG# 31 ITEM#-12 (D005, D006, D008, D009) 2/55												c/ T / 21			
												d/ /			
15. Special Handling Instructions and Additional Information Forward all invoices and CD's to Tri State Government Services, Inc. SP4400-95-D-0059 24 Hr Emerg. # 1-800-673-6604 P.O.C. Michael Johnson/Agent for Generator Del. Order # 99															
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR: if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford. COR [Signature] 6/26/96										J. HALL					
Printed/Typed Name RICHARD G. NIELSON					Signature Richard G. Nielson					Date 06/26/96					
17. Transporter 1 Acknowledgement of Receipt of Materials										Date					
Printed/Typed Name DALLAS PELLEHEL TES					Signature Dallas Pellehel					Date 06/26/96					
18. Transporter 2 Acknowledgement or Receipt of Materials										Date					
Printed/Typed Name					Signature					Date					
19. Discrepancy Indication Space															
20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item 19.															
Date															

ALL SHILLS MUST BE RE-PRINTED TO THE MICHIGAN POLLUTION EMERGENCY ALERTING SYSTEM, IN MICHIGAN AT 1-800-292-4706 OR OUT OF STATE AT 517-373-7660 AND THE NATIONAL RESPONSE CENTER AT 1-800-424-2000