

N61165.AR.005715  
CNC CHARLESTON  
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT FOR QUARTERS H AND  
I CNC CHARLESTON SC  
11/25/1996  
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

15465 (Gen) L: 5.12.97  
Δ = 00948

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

**RECEIVED**  
MAY 02 1997  
Groundwater Assessment  
and Development Section

Date Received "NFA"  
State Use Only

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

**I OWNERSHIP OF UST(S)**

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

**II SITE IDENTIFICATION AND LOCATION**

Site I.D. #: Unregulated 00948  
Facility Name: Charleston Naval Base Complex, Quarters H & I  
Street Address: 96 & 98 Navy Way  
City: North Charleston, 29405-2413 County: Charleston

**III CLOSURE INFORMATION**

Closure Started: 18 Nov 96 Closure Completed: 25 Nov 96  
Number of USTs Closed: 1  
N/A Consultant SPORTENVDETCHASN UST Removal Contractor

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

I certify that I have personally examined and am familiar with the information submitted in this and all attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate and complete.  
LCDR Paul Rose  
Name (Type or Print)  
Signature

**V. UST INFORMATION**

- 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
Fuel oil						
1000 gal.						
>20 yrs						
Steel						
Unk						
74"						
N						
N						
R						
N						
N						

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

The UST was removed, drained, cut open at both ends, and cleaned with a steam cleaner. It was then cut up for recycling as scrap metal. (See Attachment III.)

- M. Method of disposal for any liquid petroleum, sludges, or waste waters removed from the USTs (attach disposal manifests)

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

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

UST Quarters H & I had a protective coating of paint. The tank had light corrosion, but no pitting or holes were found.

## VI. PIPING INFORMATION

- A. Construction Material.....
- B. Distance from UST to Dispenser.....
- C. Number of Dispensers.....
- 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.....

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
Copper & Steel						
57'						
1 See Note 1						
S						
Y						
Y						
N						
>20 Yrs.						

Note 1: The tank provided fuel oil to Quarters H & I.

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

The only corrosion and pitting found was on the vent line at ground level at the point where the piping rose out of the ground.

## VII. BRIEF SITE DESCRIPTION AND HISTORY

Quarters H & I, at 96 & 98 Navy Way, served as Naval Housing and shared a 1000 gallon UST used for storing heating fuel.

## 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)?</p> <p>_____</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> <p>_____</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 on the site map.</p>		X	

\* All soils from the excavation were returned to the tank pit.



## X. SAMPLING METHODOLOGY

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

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

The samples are identified as follows:

	Detachment Charleston	Navy Public Works Center NAS Pensacola, Fla
Soil Sample	UST Qtrs H&I-1 = 96CNS004-1 =	64680
Soil Sample	UST Qtrs H&I-2 = 96CNS004-2 =	64681
Soil Sample	UST Qtrs H&I-3 = 96CNS004-3 =	64682
Soil Sample	UST Qtrs H&I-4 = 96CNS004-4 =	64683
Soil Sample	UST Qtrs H&I-5 = 96CNS004-5 =	64684
Soil Sample	UST Qtrs H&I-6 = 96CNS004-6 =	64685
Trip Blank	UST Qtrs H&I-7 = 96CNS004-7 =	64686

Sample jars were prepared by the testing laboratory. The grab method was utilized to fill the sample containers leaving as little head space as possible and immediately capped. Soil samples were extracted at the tank ends. UST piping soil samples were taken under the piping at the mechanical connections (if present).

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 Navy Public Works Center Environmental Laboratory, Pensacola Florida for analysis as documented in the attached Chain-of-Custody Record.

## XI. RECEPTORS

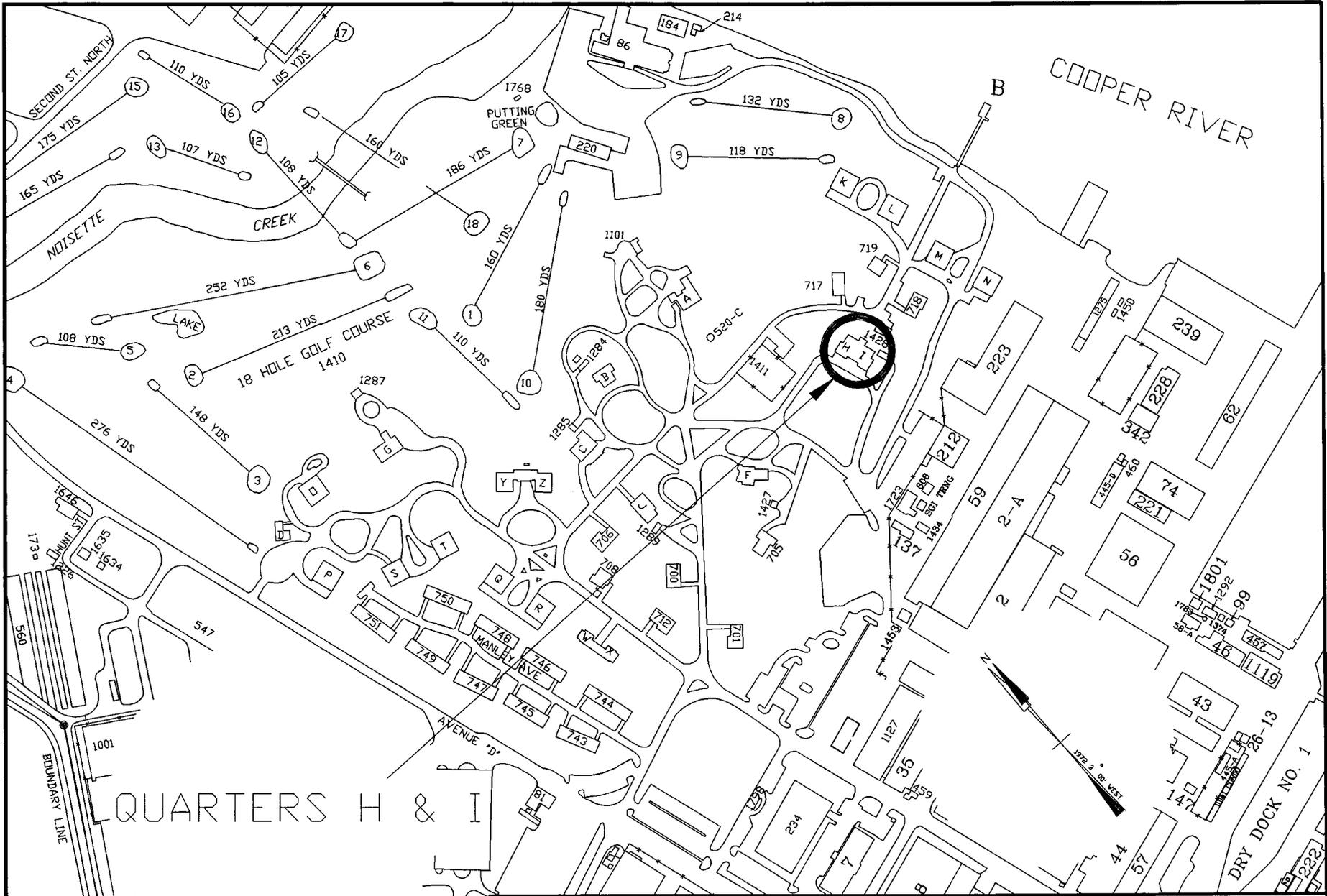
Yes    No

A.	Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system? <p style="text-align: center;"><b>[Cooper River ~ 515 feet]</b></p> 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? <b>[Quarters H&amp;I have a joint basement w/hot water heaters and boiler]</b>  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? <p style="text-align: center;"><b>[cable TV, telephone, sewer &amp; electricity]</b></p> 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 1, 2, and 3



QUARTERS H & I



GRAPHIC SCALE

Site Map 1  
 UST QUARTERS H & I  
 Charleston Naval Base  
 Charleston, SC

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

DWG DATE: 8 MAR 97

DWG NAME: QTRS\_HI

CINDER BLOCK RETAINING WALL

TO QUARTERS H & I

VENT, 1 1/2" STEEL

NPWC SAMPLE 64683

STEAM COFF.

NPWC SAMPLE 64684

SHRUB, TYP

STONE STEPS

SUPPLY & RETURN  
1/2" COPPER

NPWC SAMPLE 64682

UST EXCAVATION

NPWC SAMPLE 64680

NPWC SAMPLE 64681

FILL

COBBLE SIDEWALK

FORMER  
UST QUARTERS H & I

COOPER R. ~ 515'

DIRT PILE

NPWC SAMPLE 64685

TV JUNCTION BOX

TREE

PHONE JUNCTION BOX

NOTE:

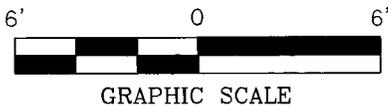
ALL SAMPLES WERE SOIL SAMPLES

Site Map 2  
UST QUARTERS H & I  
Charleston Naval Base  
Charleston, SC

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

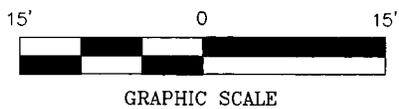
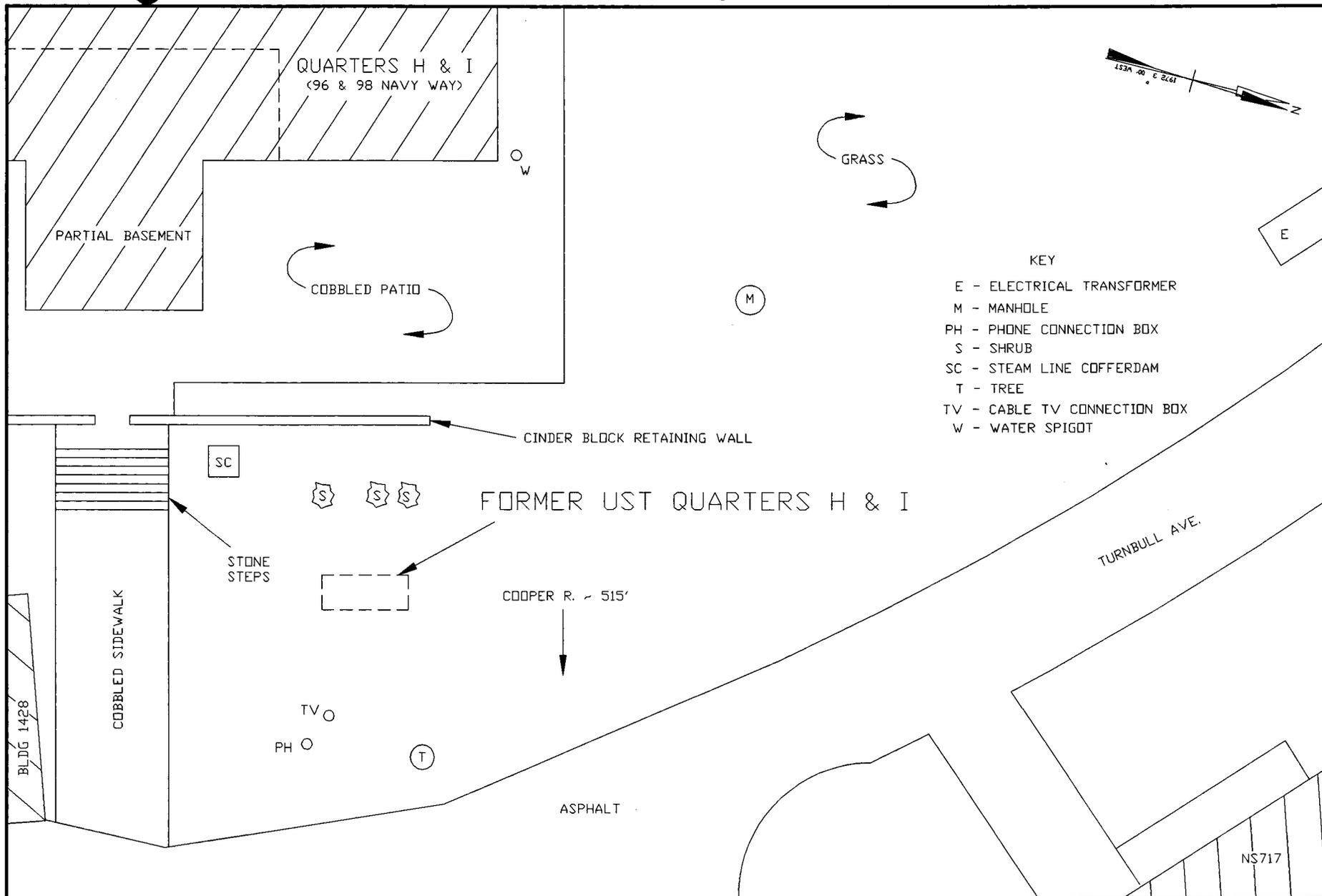
DWG DATE: 8 MAR 97

DWG NAME: QTRS\_H2



GRAPHIC SCALE





Site Map 3 UST QUARTERS H & I Charleston Naval Base Charleston, SC		SPORTENVDETCHASN 1899 North Hobson Avenue North Charleston, SC 29405-2106	
		DWG DATE: 8 MAR 97	DWG NAME: QTRS_H3

## UST Quarters H & I



Photo 1: UST Quarters H & I prior to removal from the excavation.



Photo 2: UST Quarters H & I after removal from excavation.

## UST Quarters H & I



Photo 3: UST Quarters H & I after removal from excavation and prior to transport to cleaning pad.

**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

# Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920  
NAS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTENVDETHASN Lab  
Address: 1899 North Hobson Ave  
N. Charleston SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

## Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 64680  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64680</b>			
Sample Name / Location	96CNS004-1 UST Qtrs H&I-1			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 0830			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/26/96 JM			
Date of Analysis	11/26/96			
Sample Matrix	Soil			
Dilution	X 1			
Compound Name	1- <b>64680</b>	units	Det. Limit	Flags
Benzene	BDL	ug/Kg	1	
Ethylbenzene	BDL	ug/Kg	2	
Naphthalene	BDL	ug/Kg	4	
Toluene	BDL	ug/Kg	2	
m,p-Xylene	BDL	ug/Kg	4	
o-Xylene	2	ug/Kg	2	

### SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	74-121	109
Toluene-d8	81-117	96
Bromofluorobenzene	74-121	96

Explanation of Flags:

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COMMENTS :

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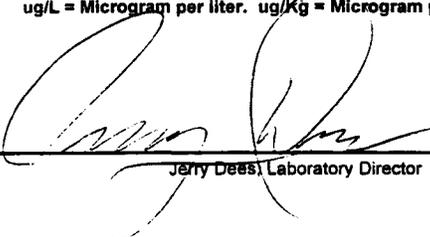
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BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.

Approved by :

  
Jerry Dees, Laboratory Director

Date: 12/5/96

Report Generated

# Navy Public Works Center Environmental Laboratory

3ldg. 3887, Code 920  
NAS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTENVDETHASN Lab  
Address: 1899 North Hobson Ave  
N. Charleston SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

## Analytical Report

### 610 PAH's by Method 8270

Lab Report Number: 64680  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64680</b>				
Sample Name / Location	96CNS004-1 UST Qtrs H&I-1				
Collector's Name	Nesbitt				
Date & Time Collected	11/21/96 @ 0830				
Sample Type (composite or grab)	Grab				
Analyst	M. Chambers				
Date of Extraction / Initials	11/26/96 MC				
Date of Analysis	11/27/96				
Sample Matrix	Soil				
Dilution	X 1				
Compound Name	1-	<b>64680</b>	units	MDL	Flags
Acenaphthene	BDL		ug/Kg	160	
Acenaphthylene	BDL		ug/Kg	190	
Anthracene	BDL		ug/Kg	170	
Benzo(a)anthracene	BDL		ug/Kg	160	
Benzo(a)pyrene	BDL		ug/Kg	180	
Benzo(b)fluoranthene	BDL		ug/Kg	160	
Benzo(g,h,i)perylene	BDL		ug/Kg	180	
Benzo(k)fluoranthene	BDL		ug/Kg	210	
Chrysene	BDL		ug/Kg	190	
benz(a,h)anthracene	BDL		ug/Kg	170	
Fluoranthene	BDL		ug/Kg	180	
Flourene	BDL		ug/Kg	160	
Indeno(1,2,3-cd)pyrene	BDL		ug/Kg	180	
1-Methylnaphthalene *	BDL		ug/Kg	220	
2-Methylnaphthalene	BDL		ug/Kg	200	
Naphthalene	BDL		ug/Kg	160	
Phenanthrene	BDL		ug/Kg	180	
Pyrene	BDL		ug/Kg	200	

### SURROGATE SPIKE RECOVERIES

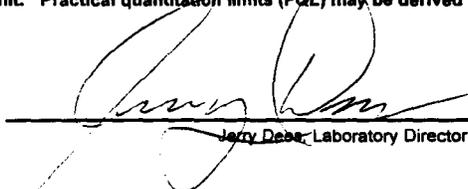
	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	80
2-Fluorobiphenyl	43-116	85
Terphenyl -d14	33-141	104

Explanation of Flags:

COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.  
MDL = Method detection limit. Practical quantitation limits (POL) may be derived by multiplying the MDL by 4.

Approved by :

  
Jerry Deas, Laboratory Director

Date: 12/5/96

Report Generated

End of Report

**Navy Public Works Center  
Environmental Laboratory**

Bldg. 3887, Code 920  
NAS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTENVDETHASN Lab  
Address: 1899 North Hobson Ave  
N. Charleston SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

**Analytical Report**

**Total Volatiles by Method 8260**

Lab Report Number: 64681  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64681</b>			
Sample Name / Location	96CNS004-2 UST Qtrs H&I-2			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 0850			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/26/96 JM			
Date of Analysis	11/26/96			
Sample Matrix	Soil			
Dilution	X 1			
<b>Compound Name</b>	<b>1- 64681</b>	<b>units</b>	<b>Det. Limit</b>	<b>Flags</b>
Benzene	BDL	ug/Kg	1	
Ethylbenzene	BDL	ug/Kg	2	
Naphthalene	BDL	ug/Kg	4	
Toluene	BDL	ug/Kg	2	
m,p-Xylene	BDL	ug/Kg	4	
o-Xylene	BDL	ug/Kg	2	

**SURROGATE SPIKE RECOVERIES**

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	74-121	112
Toluene-d8	81-117	99
Bromoflourobenzene	74-121	99

Explanation of Flags:

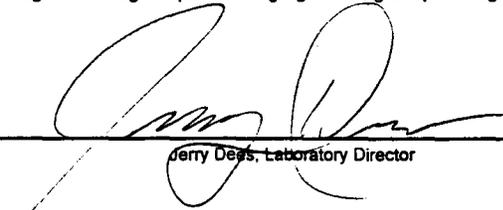
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COMMENTS :

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\_\_\_\_\_  
\_\_\_\_\_

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.

Approved by :

  
\_\_\_\_\_  
Jerry Deas, Laboratory Director

Date: 12/4/96  
Report Generated

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NAS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
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Address: 1899 North Hobson Ave  
N. Charleston SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

## Analytical Report

### 610 PAH's by Method 8270

Lab Report Number: 64681  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64681</b>			
Sample Name / Location	96CNS004-2 UST Qtrs H&I-2			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 0850			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	11/26/96 MC			
Date of Analysis	11/27/96			
Sample Matrix	Soil			
Dilution	X 1			
Compound Name	1- <b>64681</b>	units	MDL	Flags
Acenaphthene	BDL	ug/Kg	160	
Acenaphthylene	BDL	ug/Kg	190	
Anthracene	BDL	ug/Kg	170	
Benzo(a)anthracene	BDL	ug/Kg	160	
Benzo(a)pyrene	BDL	ug/Kg	180	
Benzo(b)fluoranthene	BDL	ug/Kg	160	
Benzo(g,h,i)perylene	BDL	ug/Kg	180	
Benzo(k)fluoranthene	BDL	ug/Kg	210	
Chrysene	BDL	ug/Kg	190	
Dibenz(a,h)anthracene	BDL	ug/Kg	170	
Flouranthene	BDL	ug/Kg	180	
Flourene	BDL	ug/Kg	160	
Indeno(1,2,3-cd)pyrene	BDL	ug/Kg	180	
1-Methylnaphthalene *	BDL	ug/Kg	220	
2-Methylnaphthalene	BDL	ug/Kg	200	
Naphthalene	BDL	ug/Kg	160	
Phenanthrene	BDL	ug/Kg	180	
Pyrene	BDL	ug/Kg	200	

### SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	76
2-Flourobiphenyl	43-116	87
Terphenyl -d14	33-141	111

Explanation of Flags:

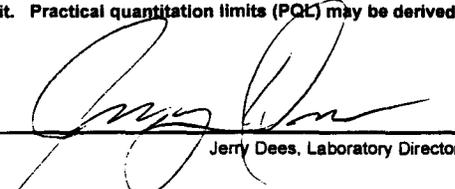
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COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

\_\_\_\_\_

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.  
MDL = Method detection limit. Practical quantitation limits (PQL) may be derived by multiplying the MDL by 4.

Approved by :

  
Jerry Dees, Laboratory Director

Date: 12/4/96

Report Generated

End of Report

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Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

**Analytical Report**

**Total Volatiles by Method 8260**

Lab Report Number: 64682  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64682</b>			
Sample Name / Location	96CNS004-3 UST Qtrs H&I-3			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 0920			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/26/96 JM			
Date of Analysis	11/26/96			
Sample Matrix	Soil			
Dilution	X 1			
<b>Compound Name</b>	<b>1- 64682</b>	<b>units</b>	<b>Det. Limit</b>	<b>Flags</b>
Benzene	BDL	ug/Kg	1	
Ethylbenzene	BDL	ug/Kg	2	
Naphthalene	BDL	ug/Kg	4	
Toluene	BDL	ug/Kg	2	
m,p-Xylene	BDL	ug/Kg	4	
o-Xylene	BDL	ug/Kg	2	

**SURROGATE SPIKE RECOVERIES**

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	74-121	114
Toluene-d8	81-117	108
Bromofluorobenzene	74-121	90

Explanation of Flags:

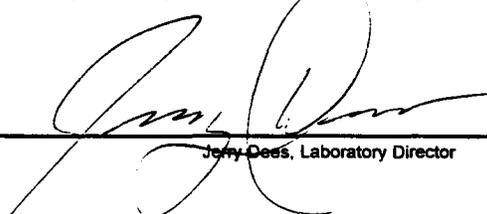
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COMMENTS :

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BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.

Approved by :

  
\_\_\_\_\_  
Jerry Deas, Laboratory Director

Date: 12/4/96

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Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

**Analytical Report**

**610 PAH's by Method 8270**

Lab Report Number: 64682  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64682</b>				
Sample Name / Location	96CNS004-3 UST Qtrs H&I-3				
Collector's Name	Nesbitt				
Date & Time Collected	11/21/96 @ 0920				
Sample Type (composite or grab)	Grab				
Analyst	M. Chambers				
Date of Extraction / Initials	11/26/96 MC				
Date of Analysis	11/27/96				
Sample Matrix	Soil				
Dilution	X 1				
<b>Compound Name</b>	<b>1-</b>	<b>64682</b>	<b>units</b>	<b>MDL</b>	<b>Flags</b>
Acenaphthene	BDL		ug/Kg	160	
Acenaphthylene	BDL		ug/Kg	190	
Anthracene	BDL		ug/Kg	170	
Benzo(a)anthracene	BDL		ug/Kg	160	
Benzo(a)pyrene	BDL		ug/Kg	180	
Benzo(b)flouranthene	BDL		ug/Kg	160	
Benzo(g,h,i)perylene	BDL		ug/Kg	180	
Benzo(k)flouranthene	BDL		ug/Kg	210	
Chrysene	BDL		ug/Kg	190	
Dibenz(a,h)anthracene	BDL		ug/Kg	170	
Flouranthene	BDL		ug/Kg	180	
Flourene	BDL		ug/Kg	160	
Indeno(1,2,3-cd)pyrene	BDL		ug/Kg	180	
1-Methylnaphthalene *	BDL		ug/Kg	220	
2-Methylnaphthalene	BDL		ug/Kg	200	
Naphthalene	BDL		ug/Kg	160	
Phenanthrene	BDL		ug/Kg	180	
Pyrene	BDL		ug/Kg	200	

**SURROGATE SPIKE RECOVERIES**

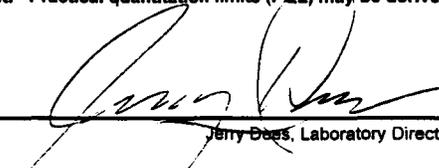
	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	71
2-Flourobiphenyl	43-116	83
Terphenyl -d14	33-141	107

Explanation of Flags:

COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.  
MDL = Method detection limit. Practical quantitation limits (PQL) may be derived by multiplying the MDL by 4.

Approved by :

  
Jerry Does, Laboratory Director

Date: 12/4/96

Report Generated  
End of Report

# Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920  
NAS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTEVDETHASN Lab  
Address: 1899 North Hobson Ave  
N. Charleston SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

## Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 64683  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64683</b>			
Sample Name / Location	96CNS004-4 UST Qtrs H&I-4			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 0941			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/26/96 JM			
Date of Analysis	11/27/96			
Sample Matrix	Soil			
Dilution	X 1			
<b>Compound Name</b>	<b>1- 64683</b>	<b>units</b>	<b>Det. Limit</b>	<b>Flags</b>
Benzene	BDL	ug/Kg	1	
Ethylbenzene	BDL	ug/Kg	2	
Naphthalene	BDL	ug/Kg	4	
Toluene	BDL	ug/Kg	2	
m,p-Xylene	BDL	ug/Kg	4	
o-Xylene	BDL	ug/Kg	2	

### SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	74-121	114
Toluene-d8	81-117	102
Bromoflouorobenzene	74-121	101

Explanation of Flags:

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COMMENTS :

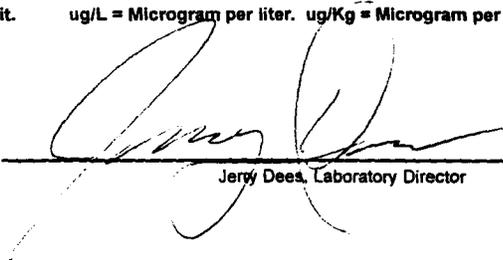
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BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.

Approved by :

  
\_\_\_\_\_  
Jerry Dees, Laboratory Director

Date: 12/4/96  
Report Generated

**Avy Public Works Center  
Environmental Laboratory**

Box 3887, Code 920  
AS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
SN 922-4728/3642

**Client:** SPORTENVDETHASN Lab  
**Address:** 1899 North Hobson Ave  
N. Charleston SC 29405-2106  
**Phone #:** (803) 743-3239 Ext. 26  
**Contact:** Mr. Fred McLean

**Analytical Report**

**610 PAH's by Method 8270**

**Lab Report Number:** 64683  
**Sample Date:** 11/21/96  
**Received Date:** 11/22/96  
**Sample Site:** Charleston Naval Base  
**Job Order No.:** 127 4021

Lab Sample ID#	1- <b>64683</b>
Sample Name / Location	96CNS004-4 UST Qtrs H&I-4
Collector's Name	Nesbitt
Date & Time Collected	11/21/96 @ 0941
Sample Type (composite or grab)	Grab
Analyst	M. Chambers
Date of Extraction / Initials	11/26/96 MC
Date of Analysis	11/27/96
Sample Matrix	Soil
Dilution	X 1

Compound Name	1- 64683	units	MDL	Flags
Acenaphthene	BDL	ug/Kg	160	
Acenaphthylene	BDL	ug/Kg	190	
Anthracene	BDL	ug/Kg	170	
Benzo(a)anthracene	BDL	ug/Kg	160	
Benzo(a)pyrene	BDL	ug/Kg	180	
Benzo(b)fluoranthene	BDL	ug/Kg	160	
Benzo(k)fluoranthene	BDL	ug/Kg	180	
Benzo(e)fluoranthene	BDL	ug/Kg	210	
Chrysene	BDL	ug/Kg	190	
Dibenz(a,h)anthracene	BDL	ug/Kg	170	
Fluoranthene	BDL	ug/Kg	180	
Flourene	BDL	ug/Kg	160	
Indeno(1,2,3-cd)pyrene	BDL	ug/Kg	180	
1-Methylnaphthalene	BDL	ug/Kg	220	
2-Methylnaphthalene	BDL	ug/Kg	200	
Naphthalene	BDL	ug/Kg	160	
Phenanthrene	BDL	ug/Kg	180	
Pyrene	BDL	ug/Kg	200	

**SURROGATE SPIKE RECOVERIES**

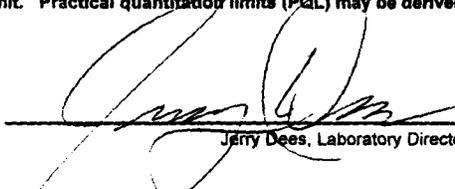
	Acceptance Limits	Percent Recovery
Nitrobenzene-d5	35-114	74
2-Fluorobiphenyl	43-116	82
Terphenyl-d14	33-141	107

Explanation of Flags:

COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.  
MDL = Method detection limit. Practical quantitation limits (PQL) may be derived by multiplying the MDL by 4.

Approved by :

  
Jerry Dees, Laboratory Director

Date: 12/4/96

Report Generated  
End of Report

# Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920  
NAS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTE/DETCHASN Lab  
Address: 1889 North Hobson Ave  
N. Charleston, SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

## Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 64684  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1-	<b>64684</b>		
Sample Name / Location	96CNS004-5 UST Qtrs H & I-5			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 0959			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/26/96 JM			
Date of Analysis	11/27/96			
Sample Matrix	Soil			
Dilution	X 1			
Compound Name	1-	<b>64684</b>	units	Det. Limit Flags
Benzene	BDL		ug/L	1
Ethylbenzene	BDL		ug/L	2
Naphthalene	BDL		ug/L	4
Toluene	BDL		ug/L	2
m,p-Xylene	BDL		ug/L	4
o-Xylene	BDL		ug/L	2

### SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	119
Toluene-d8	86-119	107
Bromofluorobenzene	85-116	89

Explanation of Flags:

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COMMENTS :

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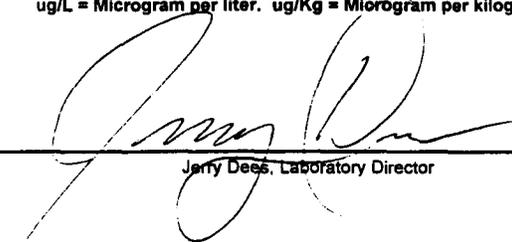
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BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.

Approved by :

  
Jerry Dees, Laboratory Director

Date: 12/5/96

Report Generated

**Navy Public Works Center  
Environmental Laboratory**

Bldg. 3887, Code 920  
NAS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTEVDETCHASN Lab  
Address: 1889 North Hobson Ave  
N. Charleston, SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

**Analytical Report**

**610 PAH's by Method 8270**

Lab Report Number: 64684  
Sample Date: 11/21/96  
Received Date: 35391  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64684</b>			
Sample Name / Location	96CNS004-5 UST Qtrs H & I-5			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 0959			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	11/26/96 MC			
Date of Analysis	11/27/96			
Sample Matrix	Soil			
Dilution	X 1			
Compound Name	1- <b>64684</b>	units	MDL	Flags
Acenaphthene	BDL	ug/Kg	160	
Acenaphthylene	BDL	ug/Kg	190	
Anthracene	BDL	ug/Kg	170	
Benzo(a)anthracene	BDL	ug/Kg	160	
Benzo(a)pyrene	BDL	ug/Kg	180	
Benzo(b)fluoranthene	BDL	ug/Kg	160	
Benzo(g,h,i)perylene	BDL	ug/Kg	180	
Benzo(k)fluoranthene	BDL	ug/Kg	210	
Chrysene	BDL	ug/Kg	190	
Dibenz(a,h)anthracene	BDL	ug/Kg	170	
Flouranthene	BDL	ug/Kg	180	
Flourene	BDL	ug/Kg	160	
Indeno(1,2,3-cd)pyrene	BDL	ug/Kg	180	
1-Methylnaphthalene *	BDL	ug/Kg	220	
2-Methylnaphthalene	BDL	ug/Kg	200	
Naphthalene	BDL	ug/Kg	160	
Phenanthrene	BDL	ug/Kg	180	
Pyrene	BDL	ug/Kg	200	

**SURROGATE SPIKE RECOVERIES**

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	74
2-Flourobiphenyl	43-116	82
Terphenyl -d14	33-141	101

Explanation of Flags:

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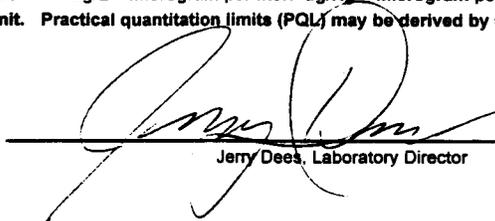
COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

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BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.  
MDL = Method detection limit. Practical quantitation limits (PQL) may be derived by multiplying the MDL by 4.

Approved by :

  
Jerry Dees, Laboratory Director

Date: 12/5/96

Report Generated

End of Report

# Navy Public Works Center Environmental Laboratory

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Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTENVDETHASN Lab  
Address: 1889 North Hobson Ave  
N. Charleston, SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

## Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 64685  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64685</b>			
Sample Name / Location	96CNS004-6 UST Qtrs H & I-6			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 1013			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/26/96 JM			
Date of Analysis	11/27/96			
Sample Matrix	Soil			
Dilution	X 1			
Compound Name	1- <b>64685</b>	units	Det. Limit	Flags
Benzene	BDL	ug/L		1
Ethylbenzene	BDL	ug/L		2
Naphthalene	BDL	ug/L		4
Toluene	BDL	ug/L		2
m,p-Xylene	BDL	ug/L		4
o-Xylene	BDL	ug/L		2

### SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	112
Toluene-d8	86-119	109
Bromoflourobenzene	85-116	94

Explanation of Flags:

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COMMENTS :

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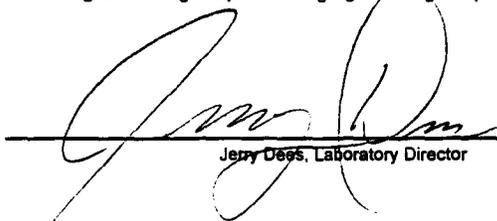
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BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.

Approved by :

  
Jerry Dees, Laboratory Director

Date: 12/5/96

Report Generated

# Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920  
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Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTENVDETHASN Lab  
Address: 1889 North Hobson Ave  
N. Charleston, SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

## Analytical Report

610 PAH's by Method 8270

Lab Report Number: 64685  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64685</b>			
Sample Name / Location	96CNS004-6 UST Qtrs H & I-6			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 1013			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	11/26/96 MC			
Date of Analysis	11/27/96			
Sample Matrix	Soil			
Dilution	X 1			
Compound Name	1- <b>64685</b>	units	MDL	Flags
Acenaphthene	BDL	ug/Kg	160	
Acenaphthylene	BDL	ug/Kg	190	
Anthracene	BDL	ug/Kg	170	
Benzo(a)anthracene	BDL	ug/Kg	160	
Benzo(a)pyrene	BDL	ug/Kg	180	
Benzo(b)fluoranthene	BDL	ug/Kg	160	
Benzo(g,h,i)perylene	BDL	ug/Kg	180	
Benzo(k)fluoranthene	BDL	ug/Kg	210	
Chrysene	BDL	ug/Kg	190	
Dibenz(a,h)anthracene	BDL	ug/Kg	170	
Flouranthene	BDL	ug/Kg	180	
Flourene	BDL	ug/Kg	160	
Indeno(1,2,3-cd)pyrene	BDL	ug/Kg	180	
1-Methylnaphthalene *	BDL	ug/Kg	220	
2-Methylnaphthalene	BDL	ug/Kg	200	
Naphthalene	BDL	ug/Kg	160	
Phenanthrene	BDL	ug/Kg	180	
Pyrene	BDL	ug/Kg	200	

### SURROGATE SPIKE RECOVERIES

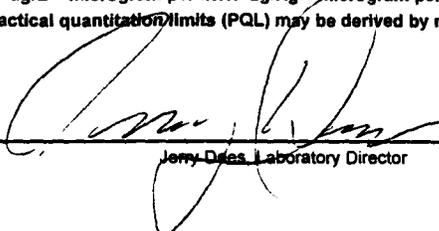
	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	81
2-Fluorobiphenyl	43-116	89 *
Terphenyl -d14	33-141	111

Explanation of Flags:

COMMENTS : Surrogate recovery limits derived from EPA OLM01.0 SOW 3/90.

BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.  
MDL = Method detection limit. Practical quantitation limits (PQL) may be derived by multiplying the MDL by 4.

Approved by :

  
Jerry Dyes, Laboratory Director

Date: 12/5/96

Report Generated  
End of Report

# Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 920  
NAS Pensacola, FL 32508 - 6500  
Phone (904) 452-4728/3642  
DSN 922-4728/3642

Client: SPORTENVDETHASN Lab  
Address: 1889 North Hobson Ave  
N. Charleston, SC 29405-2106  
Phone #: (803) 743-3239 Ext. 26  
Contact: Mr. Fred McLean

## Analytical Report

Total Volatiles by Method 8260

Lab Report Number: 64686  
Sample Date: 11/21/96  
Received Date: 11/22/96  
Sample Site: Charleston Naval Base  
Job Order No.: 127 4021

LAB Sample ID#	1- <b>64686</b>			
Sample Name / Location	96CNS004-7 UST Qtrs H & I-7			
Collector's Name	Nesbitt			
Date & Time Collected	11/21/96 @ 0800			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/26/96 JM			
Date of Analysis	12/2/96			
Sample Matrix	Water			
Dilution	X 1			
Compound Name	1- <b>64686</b>	units	Det. Limit	Flags
Benzene	BDL	ug/L		1
Ethylbenzene	BDL	ug/L		1
Naphthalene	1.26	ug/L		1
Toluene	BDL	ug/L		1
m,p-Xylene	BDL	ug/L		1
o-Xylene	BDL	ug/L		1

### SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	101
Toluene-d8	86-119	101
Bromofluorobenzene	85-116	100

Explanation of Flags:

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COMMENTS :

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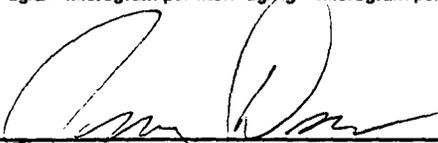
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BDL = Below Detection Limit. ug/L = Microgram per liter. ug/Kg = Microgram per kilogram. \* = FL HRS certification pending.

Approved by :

  
Jerry Dees, Laboratory Director

Date: 12/4/96  
Report Generated

# BATCH QUALITY CONTROL REPORT

**VOLATILES-SOILS**

**BATCH NUMBER : VS022**

**MATRIX:**

WATER

SOIL



METHANOL EXTRACT

TRACTION DATE(s) 11/26/96

ANALYSIS DATE(s): 11/26/96

BLANK ID NO (s) V11427

ANALYST: J. Moore  
 SAMPLE FOR MATRIX SPIKE: 64680  
 LCS SPIKE FILE ID: V11424

**MATRIX SPIKE RESULTS :**

Compound	Spike Added	Sample Concentration	Mtx. Spike Concentration	Mtx.Spike Dup. Concentration	Mtx. Spike % Recovery	Mtx.Sp. Dup. % Recovery	% Rec. Limits	RPD	RPD Limits
	(NG)	(NG)	(NG)	(NG)					
1,1-Dichloroethene	250	0	222	248	89	99	59-172 %	11	22
Trichloroethene	250	0	239	239	96	96	62-137 %	0	24
Benzene	250	0	201	241	80	96	66-142 %	18	21
Toluene	250	0	195	239	78	96	59-139 %	20	21
Chlorobenzene	250	0	177	215	71	86	60-133 %	19	21

\*\*\* = Matrix spike recovery and RPD limits derived from EPA OLM01.0 SOW 3/90

**SURROGATE RECOVERIES — MATRIX SPIKE**

Compound	Surrogate Added		Mtx. Spike Concentration	Mtx.Spike Dup. Concentration	Mtx. Spike % Recovery	Mtx.Sp. Dup. % Recovery	% Rec. Limits
	(NG)		(NG)	(NG)			
1,2-Dichloroethane-d4	250		312	242	125	97	75 - 133%
Toluene-d8	250		265	258	106	103	86 - 119%
Bromofluorobenzene	250		272	242	109	97	85 - 116%

**REAGENT SPIKE RESULTS :**

Compound	Spike Added	Sample Conc.	Rgt Spike Conc.		Rgt. Spike % Recovery		% Rec. Limits
	(NG)	(NG)	(NG)				
1,1-Dichloroethene	250	0	216		86		67-123
Trichloroethene	250	0	197		79		73-135
Benzene	250	0	202		81		69-129
Toluene	250	0	190		76		70-130
Chlorobenzene	250	0	182		73		64-118

**SURROGATE RECOVERIES — REAGENT SPIKE**

Compound	Surrogate Added		Rgt. Spike Concentration		Rgt. Spk. % Recovery		% Rec. Limits
	(NG)		(NG)				
1,2-Dichloroethane-d4	250		272		109		75-120%
Toluene-d8	250		256		102		81-117%
Bromofluorobenzene	250		253		101		74-121%

**BLANK DATA**

Compounds Detected :

Methylene Chloride : 2 ug/kg

**BATCH LIST**

BATCH NUMBER                   **VS021**  
MATRIX                            Soils  
DATE BATCH STARTED            11/26/96

	FILE ID
BLANK	V11427
LCS	V11424
SAMPLE FOR MATRIX SPIKE	64680
MATRIX SPIKE RUN	V11439
MATRIX SPIKE DUPL RUN	V11440

**SAMPLES IN BATCH**

- 1    64680
- 2    64681
- 3    64682
- 5    64683
- 6    64684
- 7    64685
- 8    64642
- 9    64643
- 10   64644

# BATCH QUALITY CONTROL REPORT

**SEMIVOLATILES**

**BATCH NUMBER : 8270S013**

**MATRIX: SOIL**

EXTRACTION DATE(S): 11/26/96

ANALYSIS DATE(S): 11/27/96

LANK ID NO (s): B5934

ANALYST: CHAMBERS

RUNS: B5935; B5936

MATRIX SPIKE SAMPLE ID NO.: 64684

**REAGENT SPIKE RESULTS :**

Compound	Spike Added	Sample Amount	Mtx. Spike Amount	Mtx.Spike Dup Amount	Mtx. Spike % Rec.	Mtx.Spik.D % Rec.	% Rec. Limits	RPD	RPD Limits
Units	ug/Kg	ug/Kg	ug/Kg	ug/Kg					
Phenol	3300	0	2093	2190	63	66	5-112	5	42
2-Chlorophenol	3300	0	2246	2256	67	68	23-134	0	40
1,4-DCB (1)	3300	0	2083	2210	62	66	20-124	6	28
N-Nitroso-di-n (2)	3300	0	1760	1813	53	54	5-230	3	38
1,2,4-Triclbz(3)	3300	0	2246	2346	67	70	44-142	4	28
4-Chloro-3-meth(4)	3300	0	2150	2120	65	64	22-147	1	42
Acenaphthene	3300	0	2200	2290	66	69	47-145	4	31
2,4-Dinitrotoluene	3300	0	2200	2313	66	69	39-139	5	38
4-Nitrophenol	3300	0	1677	1836	50	55	5-132	9	50
Pentachlorophenol	3300	0	2213	1947	66	58	14-176	13	50
Pyrene	3300	0	2706	2730	81	82	52-115	1	31

(1) = 1,4-Dichlorobenzene (2) = N-Nitroso-di-N-Propylamine (3) = 1,2,4-Trichlorobenzene  
 (4) = 4-Chloro-3-Methylphenol

**SURROGATE SPIKE RECOVERIES --- REAGENT SPIKE**

Compound	Surrogate Added (PPB)	Mtx. Spike Concentration (PPB)	Mtx. Spk.Dup. Concentration (PPB)	Mtx Spike % Recovery	Mtx SpkDup % Recovery	% Rec Limits
2-Flourophanol	100	68	72	68	72	25-121
Phenol- d5	100	66	68	66	68	24-113
Nitrobenzene- d5	100	61	64	61	64	23-120
2-Flourobiphenyl	100	68	69	68	69	30-115
2,4,6-Tribromophenol	100	69	68	69	68	19-122
Terphenyl -d14	100	85	88	85	88	18-137

**METHOD BLANK DATA :**

COMPOUND:

(None Detected)

**CHAIN OF CUSTODY/REQUEST FOR ANALYSIS**

**NPWC Environmental Laboratory**

Bldg. 3897, Code 930  
 NAS Pensacola, FL 32508  
 Ph#: (904) 482-4728/8642  
 DSN: 922-4728/8642  
 FAX: (904) 482-2799/8657

**Requester: SPORTENVDETHASN Lab**  
 Address: 1899 North Hobson Avenue  
 N. Charleston, S.C. 29405-2108  
 Phone #: (803) 743-8238 ext. 28  
 Contact: Mr. Fred McLean  
 Job Order #: \_\_\_\_\_

Report Required?  No  CC Report?  No   
 Lab ID Number: \_\_\_\_\_  
 Sample Date: 11/21/96  
 Received Date: 11/22/96  
 Sample Site: CUAS. DANAL BASE  
 Lab Due Date: \_\_\_\_\_

Sample ID #	Lab	01-6-4680	02-6-4681	03-6-4682	04-6-4683	Notes:						
Sample Name		96CNS004-1	96CNS004-2	96CNS004-3	96CNS004-4							
or Location		UST OTRS H+I-1	UST OTRS H+I-2	UST OTRS H+I-3	UST OTRS H+I-4							
Sampled by		NESBITT	NESBITT	NESBITT	NESBITT							
Collection Date	Date	11/21/96	11/21/96	11/21/96	11/21/96							
Collection Time	Time	0830	0850	0920	0941							
Sample Matrix		SOIL	SOIL	SOIL	SOIL							
GROUP PARAMETERS												
by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	MBBq	Containers	Preservative(s)
HW Charact. (complete)	EPA SW 846									6.8	600 mL	See below
Ignitability (Flammable)	SW 846 1010									1	250 mL	# C
Reactivity (Oxides & Solids)	EPA SW-846									4	1L	# C
Corrosivity (pH)	SW 846 8040,8045									0.6	250 mL	# C
Totality (TCLP) complete	EPA SW-846									30	See below	See below
Totality (TCLP) complete	EPA SW-846									30	See below	See below
Totality (TCLP) less Pesticides	EPA SW-846									30	See below	See below
TCLP SW Extractables	SW 846 8270									10	1L	# C
TCLP Acid Extractables	SW 846 8270									8	1L	# C
TCLP SW Extractables	SW 846 8270									10	1L	# C
TCLP Pesticides	SW 846 8280									6.8	1L	# C
TCLP Herbicides	SW 846 8180									6.8	1L	# C
TCLP Volatiles	SW 846 8290									10	40 mL x 4/4	# C
TCLP Metals (S)	EPA SW-846									10	500 mL	# C
PCO1 - PCO8 Solvents	EPA SW-846									20	1L	# C
Total Volatiles	SW 846 8290									7.5	40 mL x 4	HCl to pH=2 # C
BTEX & Naphthalene	SW 846 8290	X	96CNS004-1	X	96CNS004-2	X	96CNS004-3	X	96CNS004-4	8	40 mL x 4	HCl to pH=2 # C
Total SWA Extractables	SW 846 8270									18	1L	# C
PAH's	SW 846 8270	X	96CNS004-1	X	96CNS004-2	X	96CNS004-3	X	96CNS004-4	8	1L	# C
PCB's in Oil	SW 846 8080									3	40 mL	None
PCB's in Water/Sol/Waxes	SW 846 8080									4	1L	None
Total RCRA Metals (S)	EPA SW-846									8	500 mL	HCl to pH=2
Asbestos (Bulk)										0.8	Ziploc	None
TPH (IR)	EPA 418.1									2	1L	HCl to pH=2 # C
Oil & Grease	EPA 418.1									2	1L	HCl to pH=2 # C
Lead in Paint	SW 846 8010									1	Ziploc	None
Total Organic Phosphorus	EPA SW-846									4	250 mL	# C
Other												

Comments: William R. ... 11/21/96 received by: Fred McLean 11/21/96 @ 1:30 P.M.S.  
 Requested by: Fred McLean Received by: [Signature]  
 Date/Time: 11/21/96 @ 1:30 P.M.S. Date/Time: 11/22/96 1:50

**CHAIN OF CUSTODY/REQUEST FOR ANALYSIS**

**NPWC Environmental Laboratory**  
 Bldg. 8887, Code 820  
 NAS Pensacola, FL 32508  
 Ph: (904) 482-4728/8642  
 DSN: 932-4728/2648  
 FAX: (904) 482-2788/2387

**Requestor: SPORTENVDETCHASN Lab**  
 Address: 1899 North Hobson Avenue  
 N. Charleston, S.C. 29405-2108  
 Phone #: (803) 748-3289 ext. 25  
 Contact: Mr. Fred McLean  
 Job Order #:

Report Required  No  CO Report  No   
 Lab ID Number: \_\_\_\_\_  
 Sample Date: 11/21/96  
 Received Date: 11-22-96  
 Sample Site: CUMS, NAVAL BASE  
 Lab Use Date: \_\_\_\_\_

Sample ID #	Lab	11-6-AV84	11-6-4685	11-6-4686	11-	Notes						
Sample Name		96CNS004-5	96CNS004-6	96CNS004-7								
or Location		UST GTR 6	UST GTR 6	UST GTR 6								
Sampled by		NESBITT	NESBITT	NESBITT								
Collection Date	Date	11/21/96	11/21/96	11/21/96								
Collection Date/Time	Time	0953	1013	0800								
Sample Matrix		SOIL	SOIL	WATER								
GROUP PARAMETERS												
By Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	Billing Units	Containers Liquid/Solid	Preservative(s) Used (Liquid)
HW Charac. (complete)	EPA SW 846									25.0'	2 ea below	2 ea below
Ignitability (Flame test)	SW 846 1010									1	250ml/4 ea.	4°C
Reactivity (Cyanide & sulfide)	EPA SW-348									4	1L/4 ea.	4°C
Corrosivity (pH)	SW 846 8040/8048									0.5	250ml/4 ea.	4°C
Toxicity (TCLP) complete	EPA SW-348									20	2 ea below	2 ea below
Toxicity (TCLP) complete	EPA SW-348									20	2 ea below	2 ea below
Toxicity (TCLP) non-halogen	EPA SW-348									20	2 ea below	2 ea below
TCLP EPA Extractables	SW 846 8270									18	1L/2/18 ea.	4°C
TCLP Acid Extractables	SW 846 8270									8	1L/2/8 ea.	4°C
TCLP SW Extractables	SW 846 8270									10	1L/2/10 ea.	4°C
TCLP Pentachloro	SW 846 8280									8.5	1L/2/8 ea.	4°C
TCLP Hexachloro	SW 846 8190									8.5	1L/2/8 ea.	4°C
TCLP Volatiles	SW 846 8280									10	40 ml x 4/40 ea.	4°C
TCLP Metals (8)	EPA SW-348									10	500 ml/4 ea.	4°C
PCB1 - PCB8 Solvents	EPA SW-348									24	1L/2/24 ea.	4°C
Total Volatiles	SW 846 8280									7.5	40 ml/4 ea.	HCl to pH=2/4°C
BTEX & Naphthalene	SW 846 8280		X 96CNS004-5	X 96CNS004-6	X 96CNS004-7					8	40 ml/4 ea.	HCl to pH=2/4°C
Total BNA Extractables	SW 846 8270									18	1L/2/18 ea.	4°C
PAHs	SW 846 8270		X 96CNS004-5	X 96CNS004-6						8	1L/2/8 ea.	4°C
PCB's in Oil	SW 846 8280									5	40 ml/4 ea.	None
PCB's in Water/Water/Wax	SW 846 8280									4	1L/4 ea.	None
Total PCRA Metals (8)	EPA SW-348									8	500 ml/4 ea.	HNO <sub>3</sub> to pH=2
Agitation (BULK)										0.5	2g/ea	None
TPH (10)	EPA 418.1									2	1L/2/2 ea.	HCl to pH=2/4°C
Oil & Grease	EPA 412.1									2	1L/2/2 ea.	HCl to pH=2/4°C
Lead in Paint	SW 846 8210									1	2g/ea	None
Total Organic Halogens	EPA SW-348									4	250ml/4 ea.	4°C
Other:												

Comments: William D. Parker 11/21/96 Received by: Fred McLean Jr  
11/21/96 @ 1130 hrs  
 Released by: Fred McLean Jr  
 Date/Time: 11/21/96 @ 1300 hrs Date/Time: 11/22/96 @ 1050

11/21/96 11:30 AM

**Attachment III**

Certificate of Disposal (tank)

# UST Certificate of Disposal

## CONTRACTOR

Supervisor of Shipbuilding, Conversion and Repair, USN  
Portsmouth, VA  
Environmental Detachment Charleston  
1899 North Hobson Avenue  
North Charleston 29405-2106

Telephone (803) 743-6482

## TANK ID & LOCATION

UST Quarters H & I;  
Charleston Naval Base, Quarters H & I, 96 & 98 Navy Way, N. Charleston, SC

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## DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning  
& Disposal Area  
Charleston Naval Complex

### TYPE OF TANK

Fuel Oil

### SIZE (GAL)

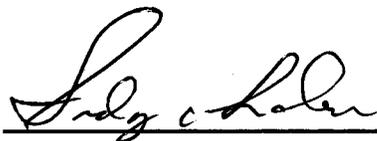
1,000 gal.

## CLEANING/DISPOSAL METHOD

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

## DISPOSAL CERTIFICATION

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



Sidney C. Ladson

102-19-97  
(Date)



2600 Bull Street  
Columbia, SC 29201-1708

Mr. Gabriel L. Magwood  
Southern Division NFEC  
P.O. Box 190010  
2155 Eagle Drive  
North Charleston, South Carolina 29419-9010

Re:       Underground Storage Tank Assessment Report dated April 29, 1997  
          Quarters "H & I" Housing (Site Identification # 00948)  
          Charleston Naval Complex/Charleston Naval Base  
          Charleston, SC  
          Charleston County

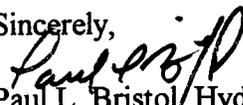
Date:     October 22, 1997

Dear Mr. Magwood:

The author has completed technical review of the referenced document. As submitted, the report provides analytical results of environmental sampling conducted to determine if releases have occurred from operation of the referenced underground storage tank and associated piping system. The results presented appear to indicate that no additional endeavors for remedial actions and/or contaminant characterization are warranted at the referenced site at this time. If in the future contamination is identified which is attributable to this site, additional assessments and/or remedial endeavors may be required, as appropriate.

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

Sincerely,

  
Paul L. Bristol, Hydrogeologist  
Groundwater Quality Section  
Bureau of Water

cc:       Trident District EQC



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

Li 5.12.97  
 Lo

5090  
 Code 1849  
 29 Apr 1997

**RECEIVED**  
 MAY 02 1997  
 Groundwater Assessment  
 and Development Section

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

**UST ASSESSMENT REPORTS FOR CHARLESTON NAVAL COMPLEX,  
 CHARLESTON, SC**

Dear Mr. Bristol:

Enclosed is the Assessment Reports for the closure of storage tanks AST 2524A and AST 2524B, UST H, AST 2556, UST C, UST NH 62, AST NH 62 and UST 38-1 located at the Charleston Naval Complex, Charleston, SC.

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

Sincerely,

*Gabriel L. Magwood*  
 GABRIEL L. MAGWOOD  
 Petroleum/UST

N1462-00946 draft 10.21  
 qtrsc 00947 draft 10.21  
 qtr H/E 00948 draft 10.21  
 Bldg 2556 00949 draft 10.21  
 Bldg 2524 00950 draft 10.22  
 Bldg 80 To Donna Owens 10.22

Final  
 10.22