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CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT FOR TANK NS4 CNC
CHARLESTON SC
09/13/1996
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

#17595

Li 2.19.97

Bidy NS-2

↳ 3.7.97

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pm

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

RECEIVED
FEB 03 1997
Groundwater Assessment
and Development Section

| |
|----------------|
| Date Received |
| State Use Only |

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

I OWNERSHIP OF UST(S)

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

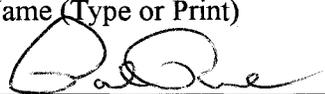
II SITE IDENTIFICATION AND LOCATION

| | | |
|-----------------|--|--------------------|
| Site I.D. #: | Unregulated | # 17595 |
| Facility Name: | Charleston Naval Base Complex, NS4-TNK-1 (AKA NS4) | |
| Street Address: | Sarsi Street | |
| City: | North Charleston, 29405-2413 | County: Charleston |

III CLOSURE INFORMATION

| | |
|----------------------------|-------------------------------|
| Closure Started: 9 July 96 | Closure Completed: 13 Sept 96 |
| Number of USTs Closed: 1 | |
| N/A | SPORTENVDETCNASN |
| Consultant | 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 | | | | | | |
| 25,000 gal | | | | | | |
| 1952 | | | | | | |
| Steel | | | | | | |
| 1992 | | | | | | |
| 15' | | | | | | |
| N | | | | | | |
| N | | | | | | |
| R | | | | | | |
| Y | | | | | | |
| N | | | | | | |

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

UST NS 4 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 shipped out as non-regulated sludge waste, too thick to be pumped.

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

Surface corrosion was found throughout the exterior of the tank.

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 |
|-------------------|--------|--------|--------|--------|--------|--------|
| Steel | | | | | | |
| 36' See Note 1 | | | | | | |
| 1 See Note 1 | | | | | | |
| S | | | | | | |
| N | | | | | | |
| N | | | | | | |
| N | | | | | | |
| 1952 | | | | | | |

Note 1: UST NS 4 provided fuel oil to boiler house NS 2.

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

Minimal surface rust was found on the piping. No corrosion, holes or pitting were found.

The tank piping went from a concrete vault at the top of the tank and ran through a 13.5" pipe under asphalt pavement to another piping vault at building NS2. The piping was cut and capped as indicated on site map 2.

VII. BRIEF SITE DESCRIPTION AND HISTORY

UST NS4 was constructed in 1952 to refuel sea planes. In 1958 usage of the tank was diverted to provide fuel oil to the boilers of NS 2. The tank site is under investigation as Area of Concern (AOC) 675 by the Resource Conservation and Recovery Act (RCRA) Facility Investigation.

VIII. SITE CONDITIONS

Yes No Unk

| | | | |
|--|----|-----|--|
| <p>A. Were any petroleum-stained or contaminated soils found in the UST excavation, soil borings, trenches, or monitoring wells? [*various, see site map 4] 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? If yes, indicate location on site map and describe the odor (strong, mild, etc.) [*strong]</p> | *X | | |
| <p>C. Was water present in the UST excavation, soil borings, or trenches? If yes, how far below land surface (indicate location and depth)? Center of excavation, 13' below GSL</p> | X | | |
| <p>D. Did contaminated soils remain stockpiled on site after closure? If yes, indicate the stockpile location on the site map. Name of DHEC representative authorizing soil removal:</p> | | **X | |
| <p>E. Was a petroleum sheen or free product detected on any excavation or boring waters? [*sheen] If yes, indicate location and thickness on the site map.</p> | *X | | |

** Angular rock was used to fill the area covered by the groundwater. Geofabric was laid over the rock and then all soil from the excavation was 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 NS4 soil and ground water samples were taken. Sampling was performed in accordance with SC DHEC R.61-92 Part 280 and SC DHEC UST Assessment Guidelines.

The samples are identified as follows:

| | Detachment Charleston | | General Engineering Labs |
|---------------------|-----------------------|---|--------------------------|
| Soil Sample | UST4-1 | = | SPORT -0116-1 |
| Soil Sample | UST4-2 | = | SPORT -0116-2 |
| Ground Water Sample | UST4-3 | = | SPORT -0116-3 |
| Soil Sample | UST4-4 | = | SPORT -0116-4 |
| Soil Sample | UST4-5 | = | SPORT -0116-5 |
| Soil Sample | UST4-6 | = | SPORT -0116-6 |
| Soil Sample | UST4-7 | = | SPORT -0116-7 |
| Soil Sample | UST4-8 | = | SPORT -0116-8 |
| Soil Sample | UST4-9 | = | SPORT -0116-9 |

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 just above the ground water level. Ground water samples were taken from beneath the tank at the bottom center of the excavation.

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; font-size: small;">[*Cooper R. 145']</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; font-size: small;">[*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; font-size: small;">[*Sewer, storm drain]</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, 3, and 4
Photographs 1, 2, 3, and 4

Former UST NS 4

Cooper River

TWO AN MARK 47 TORPEX
LOADED DEPTH BOMBS DROPPED
28 JANUARY 1945
(APPROXIMATE LOCATION)

Former NS 200
now known as
CSC Building 2

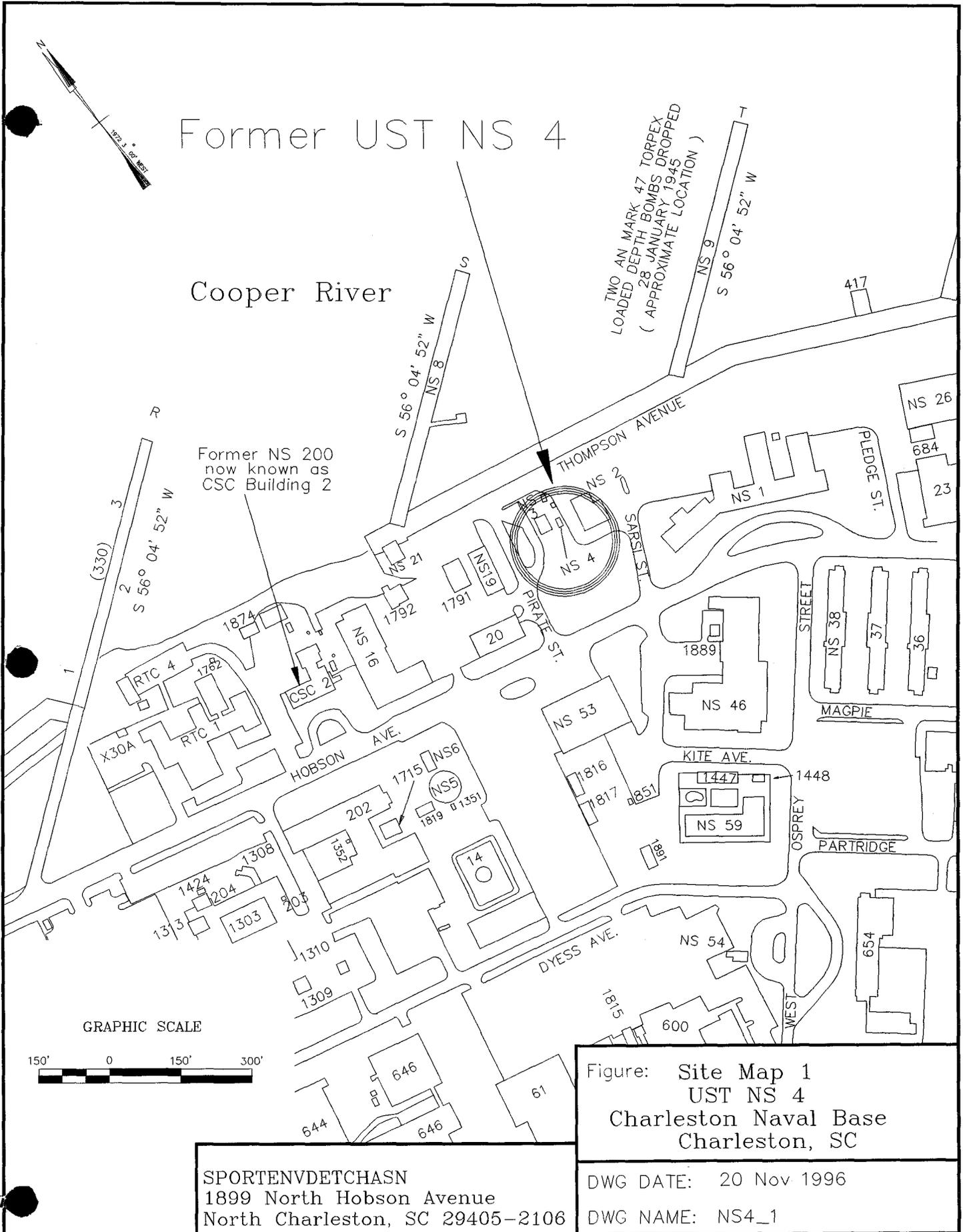
Figure: Site Map 1
UST NS 4
Charleston Naval Base
Charleston, SC

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

DWG DATE: 20 Nov 1996

DWG NAME: NS4_1

GRAPHIC SCALE



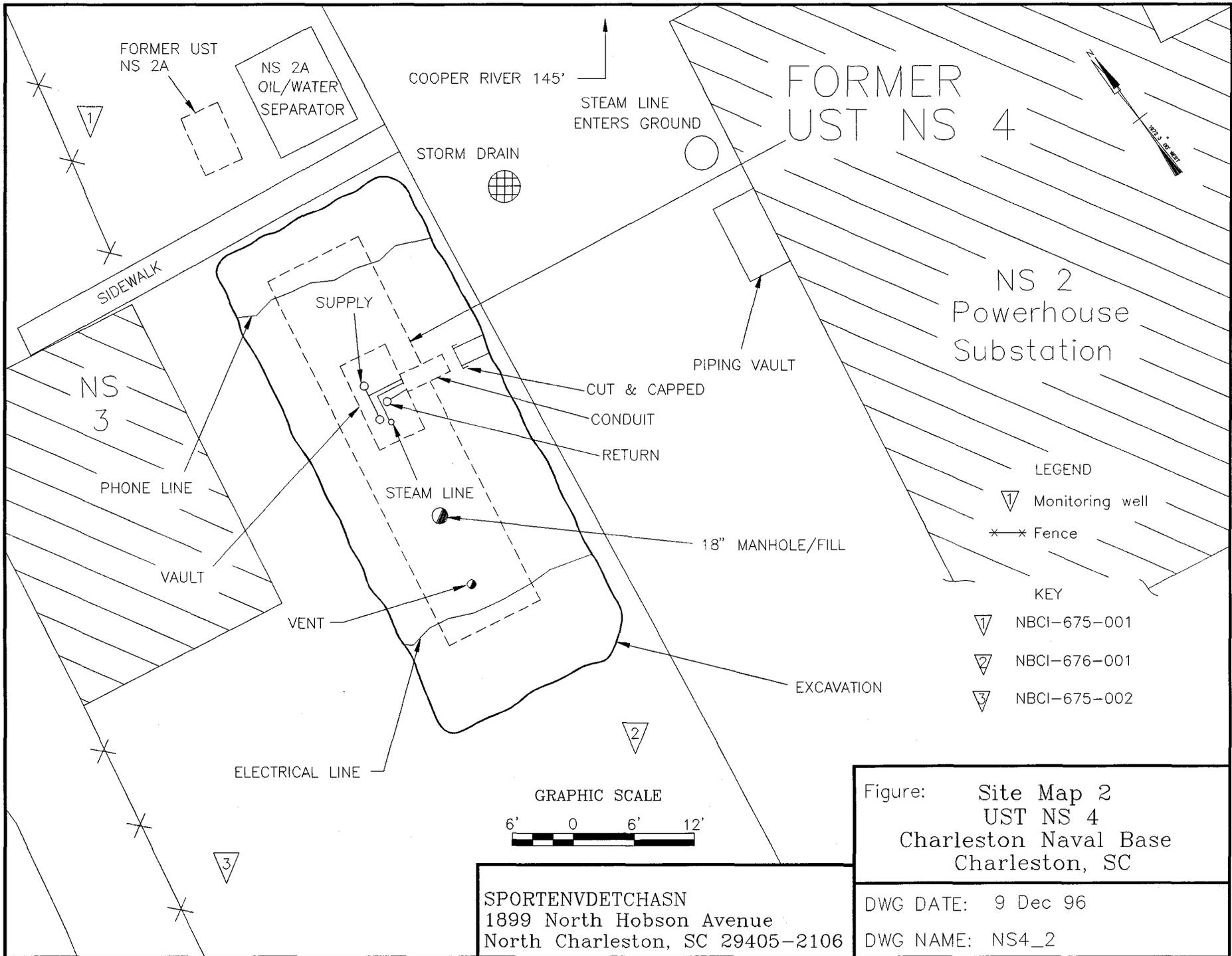
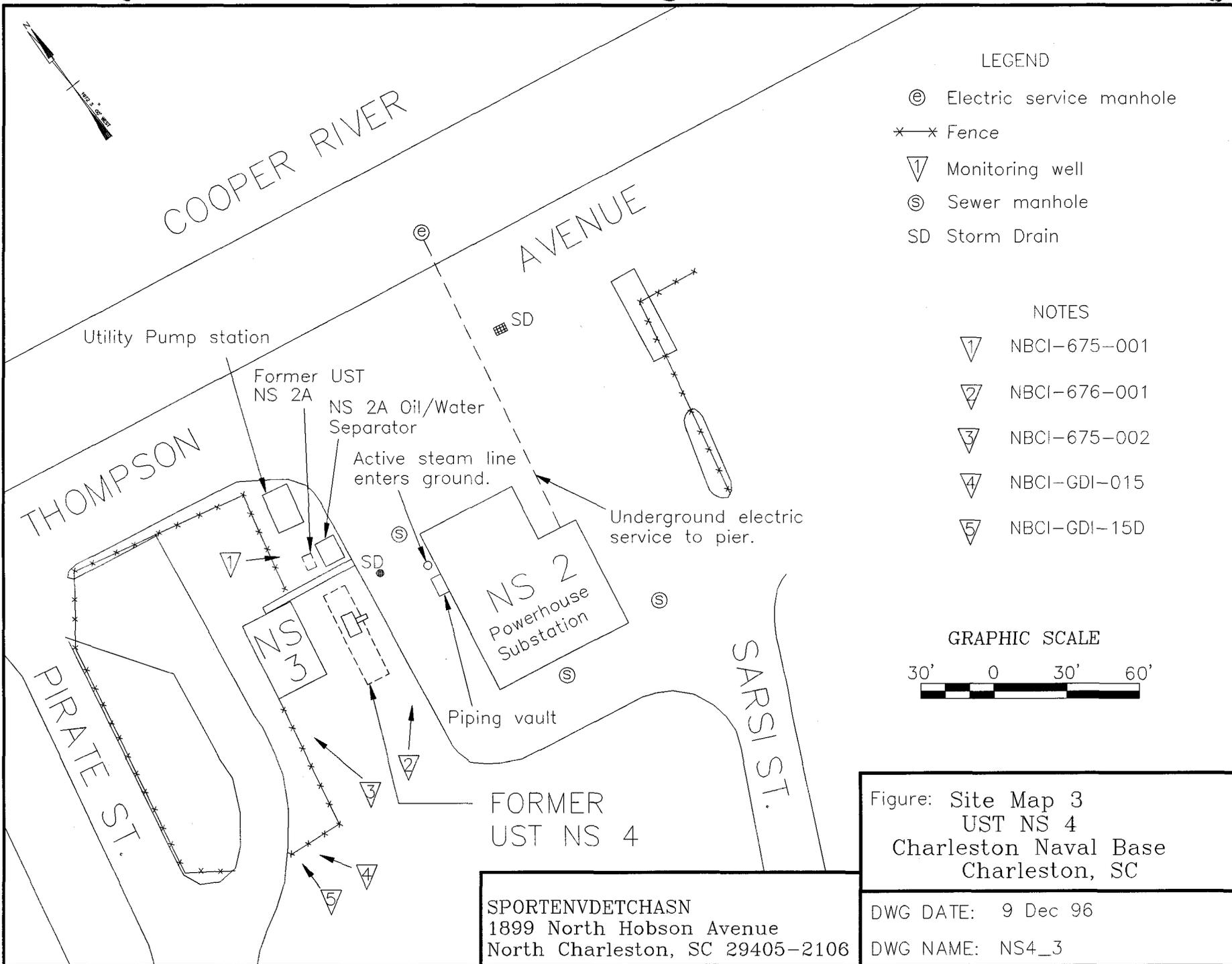


Figure: Site Map 2
 UST NS 4
 Charleston Naval Base
 Charleston, SC

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

DWG DATE: 9 Dec 96
 DWG NAME: NS4_2



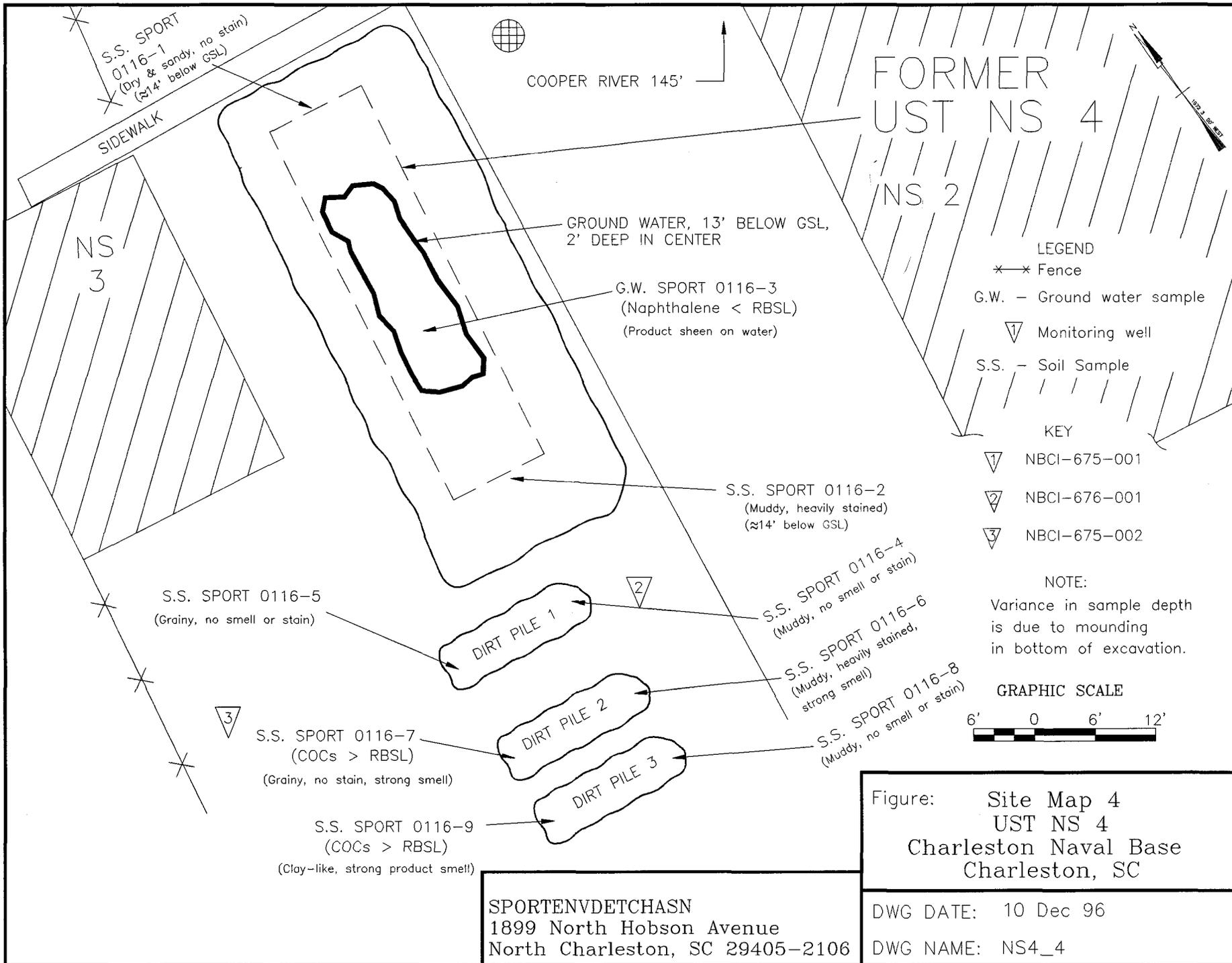


Figure: Site Map 4
 UST NS 4
 Charleston Naval Base
 Charleston, SC

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

DWG DATE: 10 Dec 96
 DWG NAME: NS4_4

UST NS 4



Photo 1: UST NS 4 pipe vault.



Photo 2: UST NS 4 being exposed. Note that the pipe vault has been removed.

UST NS 4



Photo 3: UST NS 4 being raised from the excavation.

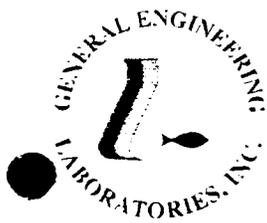


Photo 4: UST NS 4 being lifted clear of the excavation.

ANALYTICAL RESULTS

You must submit the laboratory report and chain-of-custody form for the samples. These samples must be analyzed by a South Carolina certified laboratory.

Certified Analytical Results
Chain-of-Custody



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

CERTIFICATE OF ANALYSIS

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 1 of 3

Sample ID : SPORT0116-1
 Lab ID : 9607498-01
 Matrix : Soil
 Date Collected : 07/25/96
 Date Received : 07/25/96
 Priority : Routine
 Collector : Client

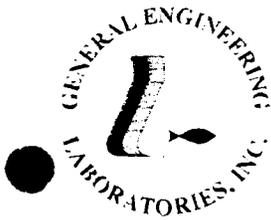
| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst | Date | Time | Batch | M |
|---|-----------|--------|------|------|-------|-----|---------|----------|------|-------|---|
| Volatile Organics | | | | | | | | | | | |
| <i>BTEX - 4 items</i> | | | | | | | | | | | |
| Benzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | JGS | 07/29/96 | 1539 | 87949 | 1 |
| Ethylbenzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Toluene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Xylenes (TOTAL) | U | 0.00 | 1.00 | 4.00 | ug/kg | 1.0 | | | | | |
| Naphthalene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | JCB | 07/31/96 | 1731 | 87865 | 2 |
| Acenaphthylene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Anthracene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(a)anthracene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(a)pyrene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(b)fluoranthene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(g,h)perylene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Chrysene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Fluoranthene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Fluorene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Naphthalene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Phenanthrene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Pyrene | J | 839 | 666 | 1330 | ug/kg | 4.0 | | | | | |

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

DLF 07/26/96 1825 87865 3





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1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 2 of 3

Sample ID : SPORT0116-1

| Surrogate Recovery | Test | Percent% | Acceptable Limits |
|----------------------|-----------|----------|-------------------|
| 2-Fluorobiphenyl | M610 | 84.6 | (30.0 - 115.) |
| Nitrobenzene-d5 | M610 | 59.1 | (23.0 - 120.) |
| p-Terphenyl-d14 | M610 | 114. | (37.3 - 128.) |
| Bromofluorobenzene | BTEX-8260 | 101. | (59.7 - 159.) |
| Dibromofluoromethane | BTEX-8260 | 97.4 | (74.0 - 128.) |
| Toluene-d8 | BTEX-8260 | 98.3 | (53.4 - 163.) |
| Bromofluorobenzene | NAP-8260 | 101. | (59.7 - 159.) |
| Dibromofluoromethane | NAP-8260 | 97.4 | (74.0 - 128.) |
| Toluene-d8 | NAP-8260 | 98.3 | (53.4 - 163.) |

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

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

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

GEL Laboratory Certifications

AL - 41040
CA - 2089

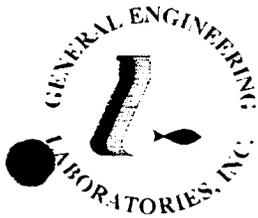
AZ - AZ0514
CT - PH-0169

EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056

AZ - AZ0514
CT - PH-0175





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North Charleston, South Carolina 29405-2106
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cc: NPWC00196

Report Date: August 02, 1996

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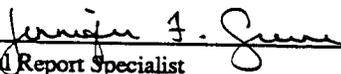
Sample ID : SPORT0116-1

GEL Laboratory Certifications

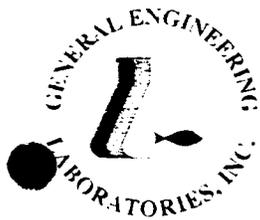
EPI Laboratory Certifications

| | | | |
|----------------|-------------------|-------------------|------------|
| DE - SC012 | FL - E87156/87294 | FL - E87472/87458 | MS - 29417 |
| ME - SC012 | MS - 10120 | NY - 11502 | RI - 138 |
| NC - 233 | NY - 11501 | SC - 10582 | TN - 02934 |
| RI - 135 | SC - 10120 | UT - E-227 | VA - 00111 |
| TN - 02934 | UT - E-251 | WA - C225 | NJ - 79002 |
| VA - 00151 | WA - C223 | PA - 68-485 | WV - 235 |
| WI - 999887790 | WV - 236 | | |

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


Analytical Report Specialist





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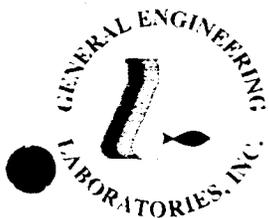
Sample ID : SPORT0116-2
 Lab ID : 9607498-02
 Matrix : Soil
 Date Collected : 07/25/96
 Date Received : 07/25/96
 Priority : Routine
 Collector : Client

| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst | Date | Time | Batch | M |
|---|-----------|--------|------|------|-------|-----|---------|----------|------|-------|---|
| Volatile Organics | | | | | | | | | | | |
| <i>TEX - 4 items</i> | | | | | | | | | | | |
| Benzene | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | JGS | 07/29/96 | 1610 | 87949 | 1 |
| Ethylbenzene | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | | | | | |
| Toluene | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | | | | | |
| Xylenes (TOTAL) | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | | | | | |
| Naphthalene | J | 17.5 | 10.0 | 20.0 | ug/kg | 10. | | | | | |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | JCB | 07/30/96 | 2219 | 87865 | 2 |
| Acenaphthylene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Anthracene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Benzo(a)anthracene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Benzo(a)pyrene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Benzo(b)fluoranthene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Benzo(ghi)perylene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Chrysene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Fluoranthene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Fluorene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Naphthalene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Phenanthrene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |
| Pyrene | U | 0.00 | 3320 | 6640 | ug/kg | 40. | | | | | |

Following prep procedures were performed:
 GC/MS Base/Neutral Compounds

DLF 07/26/96 1825 87865 3





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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 2 of 3

Sample ID : SPORT0116-2

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

Comments:

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

As a result, the detection limits are elevated.

| Surrogate Recovery | Test | Percent% | Acceptable Limits |
|----------------------|-----------|----------|-------------------|
| 2-Fluorobiphenyl | M610 | 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 | 91.9 | (59.7 - 159.) |
| Dibromofluoromethane | BTEX-8260 | 91.8 | (74.0 - 128.) |
| Toluene-d8 | BTEX-8260 | 88.0 | (53.4 - 163.) |
| Bromofluorobenzene | NAP-8260 | 91.9 | (59.7 - 159.) |
| Dibromofluoromethane | NAP-8260 | 91.8 | (74.0 - 128.) |
| Toluene-d8 | NAP-8260 | 88.0 | (53.4 - 163.) |

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

Notes:

The qualifiers in this report are defined as follows:

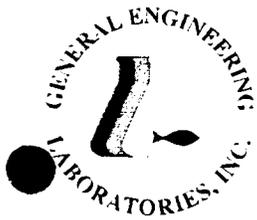
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

Q indicates that a quality control analyte recovery is outside of specified acceptance criteria.





GENERAL ENGINEERING LABORATORIES

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CERTIFICATE OF ANALYSIS

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 3 of 3

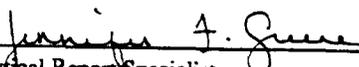
Sample ID : SPORT0116-2

GEL Laboratory Certifications

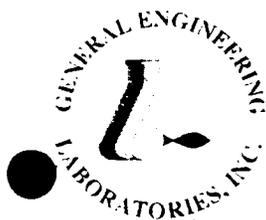
EPI Laboratory Certifications

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

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


Analytical Report Specialist





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 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

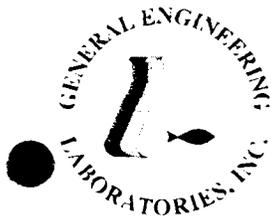
Report Date: August 01, 1996

Page 1 of 4

Sample ID : SPORT0116-3
 Lab ID : 9607498-03
 Matrix : GroundH2O
 Date Collected : 07/25/96
 Date Received : 07/25/96
 Priority : Routine
 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 | 50.0 | 100 | ug/l | 50. | JGS | 07/31/96 | 1128 | 88015 | 1 |
| Ethylbenzene | U | 0.00 | 50.0 | 100 | ug/l | 50. | | | | | |
| Toluene | U | 0.00 | 50.0 | 100 | ug/l | 50. | | | | | |
| Xylenes (TOTAL) | U | 0.00 | 50.0 | 100 | ug/l | 50. | | | | | |
| Methyl Tert Butyl Ether | U | 0.00 | 50.0 | 100 | ug/l | 50. | | | | | |
| Naphthalene | J | 53.0 | 50.0 | 100 | ug/l | 50. | | | | | |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 3200 | 6400 | ug/l | 160 | JCB | 07/29/96 | 1632 | 87863 | 2 |
| Acenaphthylene | U | 0.00 | 3200 | 6400 | ug/l | 160 | | | | | |
| Anthracene | | 8260 | 3200 | 6400 | ug/l | 160 | | | | | |
| Benzo(a)anthracene | | 11100 | 3200 | 6400 | ug/l | 160 | | | | | |
| Benzo(a)pyrene | | 6980 | 3200 | 6400 | ug/l | 160 | | | | | |
| Benzo(b)fluoranthene | | 8580 | 3200 | 6400 | ug/l | 160 | | | | | |
| Benzo(ghi)perylene | U | 0.00 | 3200 | 6400 | ug/l | 160 | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 3200 | 6400 | ug/l | 160 | | | | | |
| Chrysene | | 9090 | 3200 | 6400 | ug/l | 160 | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 3200 | 6400 | ug/l | 160 | | | | | |
| Fluoranthene | | 27300 | 3200 | 6400 | ug/l | 160 | | | | | |
| Fluorene | J | 3580 | 3200 | 6400 | ug/l | 160 | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 3200 | 6400 | ug/l | 160 | | | | | |
| Naphthalene | U | 0.00 | 3200 | 6400 | ug/l | 160 | | | | | |
| Phenanthrene | | 21900 | 3200 | 6400 | ug/l | 160 | | | | | |
| Pyrene | | 24800 | 3200 | 6400 | ug/l | 160 | | | | | |





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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 01, 1996

Page 2 of 4

Sample ID : SPORT0116-3

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

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

TSD 07/26/96 1645 87863 3

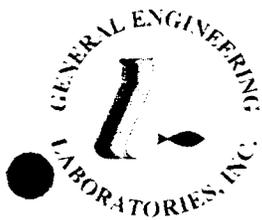
Comments:

A dilution was required for Volatile Organics due to a high concentration of hydrocarbons. As a result, the detection limits are elevated.

| Surrogate Recovery | Test | Percent% | Acceptable Limits |
|----------------------|-----------|----------|-------------------|
| 2-Fluorobiphenyl | M610 | 0.00* | (43.0 - 108.) |
| Nitrobenzene-d5 | M610 | 0.00* | (35.0 - 111.) |
| p-Terphenyl-d14 | M610 | 0.00* | (33.0 - 125.) |
| Bromofluorobenzene | BTEX-8260 | 85.2 | (80.0 - 128.) |
| Dibromofluoromethane | BTEX-8260 | 86.6 | (67.7 - 135.) |
| Toluene-d8 | BTEX-8260 | 82.7 | (76.8 - 122.) |
| Bromofluorobenzene | MTBE-8260 | 85.2 | (80.0 - 128.) |
| Dibromofluoromethane | MTBE-8260 | 86.6 | (67.7 - 135.) |
| Toluene-d8 | MTBE-8260 | 82.7 | (76.8 - 122.) |
| Bromofluorobenzene | NAP-8260 | 85.2 | (80.0 - 128.) |
| Dibromofluoromethane | NAP-8260 | 86.6 | (67.7 - 135.) |
| Toluene-d8 | NAP-8260 | 82.7 | (76.8 - 122.) |

| M = Method | Method-Description |
|------------|--------------------|
| M 1 | EPA 8260 |
| M 2 | EPA 8270 |
| M 3 | EPA 3510 |





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Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 01, 1996

Page 3 of 4

Sample ID : SPORT0116-3

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.

Q indicates that a quality control analyte recovery is outside of specified acceptance criteria.

GEL Laboratory Certifications

EPI Laboratory Certifications

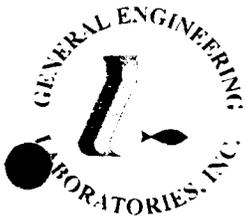
AL - 41040
CA - 2089
DE - SC012
ME - SC012
NC - 233
RI - 135
TN - 02934
VA - 00151
WI - 999887790

AZ - AZ0514
CT - PH-0169
FL - E87156/87294
MS - 10120
NY - 11501
SC - 10120
UT - E-251
WA - C223
WV - 236

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





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North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 01, 1996

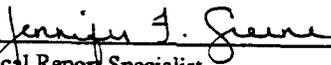
Page 4 of 4

Sample ID : SPORT0116-3

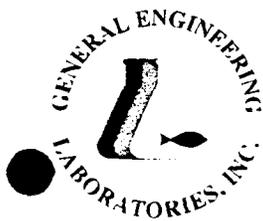
GEL Laboratory Certifications

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.


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Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: August 02, 1996

Page 1 of 3

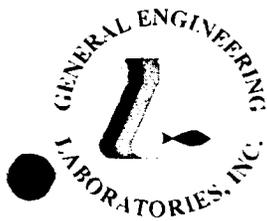
Sample ID : SPORT0116-4
 Lab ID : 9607498-04
 Matrix : Soil
 Date Collected : 07/25/96
 Date Received : 07/25/96
 Priority : Routine
 Collector : Client

| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst | Date | Time | Batch | M |
|---|-----------|--------|------|------|-------|-----|---------|----------|------|-------|---|
| Volatile Organics | | | | | | | | | | | |
| <i>BTEX - 4 items</i> | | | | | | | | | | | |
| Benzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | JGS | 07/29/96 | 1640 | 87949 | 1 |
| Ethylbenzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Toluene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Xylenes (TOTAL) | J | 1.92 | 1.00 | 4.00 | ug/kg | 1.0 | JGS2 | 07/29/96 | 1640 | 87949 | 1 |
| Naphthalene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | JGS | 07/29/96 | 1640 | 87949 | 1 |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | JCB | 07/31/96 | 1803 | 87865 | 2 |
| Acenaphthylene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Anthracene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(a)anthracene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(a)pyrene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(b)fluoranthene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(ghi)perylene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Chrysene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Fluoranthene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Fluorene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Naphthalene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Phenanthrene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Pyrene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |

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

DLF 07/26/96 1825 87865 3





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 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 2 of 3

Sample ID : SPORT0116-4

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

Comments:

A dilution was required for Volatile Organics due to a high concentration of hydrocarbons. As a result, the detection limits are elevated.

| Surrogate Recovery | Test | Percent% | Acceptable Limits |
|----------------------|-----------|----------|-------------------|
| 2-Fluorobiphenyl | M610 | 71.2 | (30.0 - 115.) |
| Nitrobenzene-d5 | M610 | 56.0 | (23.0 - 120.) |
| p-Terphenyl-d14 | M610 | 110. | (37.3 - 128.) |
| Bromofluorobenzene | BTEX-8260 | 94.4 | (59.7 - 159.) |
| Dibromofluoromethane | BTEX-8260 | 88.6 | (74.0 - 128.) |
| Toluene-d8 | BTEX-8260 | 94.0 | (53.4 - 163.) |
| Bromofluorobenzene | NAP-8260 | 94.4 | (59.7 - 159.) |
| Dibromofluoromethane | NAP-8260 | 88.6 | (74.0 - 128.) |
| Toluene-d8 | NAP-8260 | 94.0 | (53.4 - 163.) |

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

Notes:

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ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

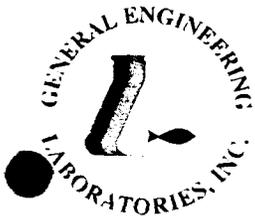
U indicates that the analyte was not detected at a concentration greater than the detection limit.

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

GEL Laboratory Certifications

EPI Laboratory Certifications





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Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

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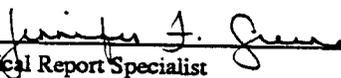
Sample ID : SPORT0116-4

GEL Laboratory Certifications

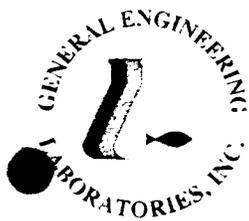
EPI Laboratory Certifications

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

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Analytical Report Specialist





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 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

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Sample ID : SPORT0116-5
 Lab ID : 9607498-05
 Matrix : Soil
 Date Collected : 07/25/96
 Date Received : 07/25/96
 Priority : Routine
 Collector : Client

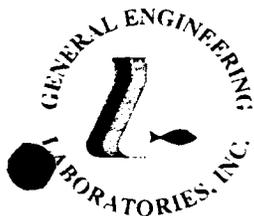
| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst | Date | Time | Batch | M |
|---|-----------|--------|------|------|-------|-----|---------|----------|------|-------|---|
| Volatile Organics | | | | | | | | | | | |
| <i>TEX - 4 items</i> | | | | | | | | | | | |
| Benzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | JGS | 07/29/96 | 1711 | 87949 | 1 |
| Ethylbenzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Toluene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Xylenes (TOTAL) | U | 0.00 | 1.00 | 4.00 | ug/kg | 1.0 | | | | | |
| Naphthalene | U | 0.660 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | JCB | 07/31/96 | 1836 | 87865 | 2 |
| Acenaphthylene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Anthracene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(a)anthracene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(a)pyrene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(b)fluoranthene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(ghi)perylene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Chrysene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Fluoranthene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Fluorene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Naphthalene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Phenanthrene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |
| Pyrene | U | 0.00 | 664 | 1330 | ug/kg | 4.0 | | | | | |

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

DLF 07/26/96 1825 87865 3





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CERTIFICATE OF ANALYSIS

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SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 2 of 3

Sample ID : SPORT0116-5

| Surrogate Recovery | Test | Percent% | Acceptable Limits |
|----------------------|-----------|----------|-------------------|
| 2-Fluorobiphenyl | M610 | 68.8 | (30.0 - 115.) |
| Nitrobenzene-d5 | M610 | 40.8 | (23.0 - 120.) |
| p-Terphenyl-d14 | M610 | 105. | (37.3 - 128.) |
| Bromofluorobenzene | BTEX-8260 | 84.4 | (59.7 - 159.) |
| Dibromofluoromethane | BTEX-8260 | 88.4 | (74.0 - 128.) |
| Toluene-d8 | BTEX-8260 | 91.0 | (53.4 - 163.) |
| Bromofluorobenzene | NAP-8260 | 84.4 | (59.7 - 159.) |
| Dibromofluoromethane | NAP-8260 | 88.4 | (74.0 - 128.) |
| Toluene-d8 | NAP-8260 | 91.0 | (53.4 - 163.) |

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

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

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

GEL Laboratory Certifications

AL - 41040
CA - 2089

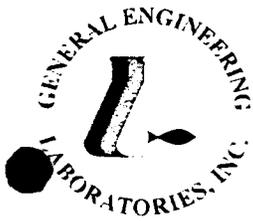
AZ - AZ0514
CT - PH-0169

EPI Laboratory Certifications

AL - 41050
CA - I-1023/2056

AZ - AZ0514
CT - PH-0175





GENERAL ENGINEERING LABORATORIES

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CERTIFICATE OF ANALYSIS

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

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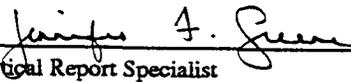
Sample ID : SPORT0116-5

GEL Laboratory Certifications

EPI Laboratory Certifications

| | | | |
|----------------|-------------------|-------------------|------------|
| DE - SC012 | FL - E87156/87294 | FL - E87472/87458 | MS - 29417 |
| ME - SC012 | MS - 10120 | NY - 11502 | RI - 138 |
| NC - 233 | NY - 11501 | SC - 10582 | TN - 02934 |
| RI - 135 | SC - 10120 | UT - E-227 | VA - 00111 |
| TN - 02934 | UT - E-251 | WA - C225 | NJ - 79002 |
| VA - 00151 | WA - C223 | PA - 68-485 | WV - 235 |
| WI - 999887790 | WV - 236 | | |

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


Analytical Report Specialist





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SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 1 of 3

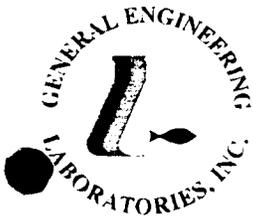
Sample ID : SPORT0116-6
Lab ID : 9607498-06
Matrix : Soil
Date Collected : 07/25/96
Date Received : 07/25/96
Priority : Routine
Collector : Client

| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst | Date | Time | Batch | M |
|---|-----------|--------|------|------|-------|-----|---------|----------|------|-------|---|
| Volatile Organics | | | | | | | | | | | |
| <i>BTEX - 4 items</i> | | | | | | | | | | | |
| Benzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | JGS | 07/30/96 | 1146 | 87949 | 1 |
| Ethylbenzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Toluene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Xylenes (TOTAL) | U | 0.00 | 1.00 | 4.00 | ug/kg | 1.0 | | | | | |
| Naphthalene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | JCB | 07/31/96 | 1908 | 87865 | 2 |
| Acenaphthylene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Anthracene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(a)anthracene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(a)pyrene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(b)fluoranthene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(ghi)perylene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Chrysene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Fluoranthene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Fluorene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Naphthalene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Phenanthrene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |
| Pyrene | U | 0.00 | 666 | 1330 | ug/kg | 4.0 | | | | | |

The following prep procedures were performed:
General Base/Neutral Compounds

DLF 07/26/96 1825 87865 3





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North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 2 of 3

Sample ID : SPORT0116-6

| Surrogate Recovery | Test | Percent% | Acceptable Limits |
|----------------------|-----------|----------|-------------------|
| 2-Fluorobiphenyl | M610 | 63.3 | (30.0 - 115.) |
| Nitrobenzene-d5 | M610 | 50.5 | (23.0 - 120.) |
| p-Terphenyl-d14 | M610 | 86.5 | (37.3 - 128.) |
| Bromofluorobenzene | BTEX-8260 | 118. | (59.7 - 159.) |
| Dibromofluoromethane | BTEX-8260 | 110. | (74.0 - 128.) |
| Toluene-d8 | BTEX-8260 | 109. | (53.4 - 163.) |
| Bromofluorobenzene | NAP-8260 | 118. | (59.7 - 159.) |
| Dibromofluoromethane | NAP-8260 | 110. | (74.0 - 128.) |
| Toluene-d8 | NAP-8260 | 109. | (53.4 - 163.) |

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

Notes:

The qualifiers in this report are defined as follows:

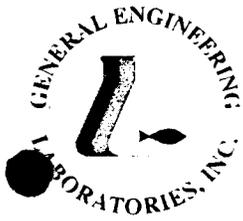
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

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

| GEL Laboratory Certifications | | EPI Laboratory Certifications | |
|-------------------------------|--------------|-------------------------------|--------------|
| AL - 41040 | AZ - AZ0514 | AL - 41050 | AZ - AZ0514 |
| CA - 2089 | CT - PH-0169 | CA - I-1023/2056 | CT - PH-0175 |



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North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

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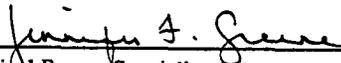
Sample ID : SPORT0116-6

GEL Laboratory Certifications

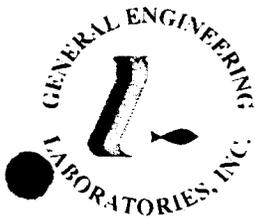
EPI Laboratory Certifications

| | | | |
|----------------|-------------------|-------------------|------------|
| DE - SC012 | FL - E87156/87294 | FL - E87472/87458 | MS - 29417 |
| ME - SC012 | MS - 10120 | NY - 11502 | RI - 138 |
| NC - 233 | NY - 11501 | SC - 10582 | TN - 02934 |
| RI - 135 | SC - 10120 | UT - E-227 | VA - 00111 |
| TN - 02934 | UT - E-251 | WA - C225 | NJ - 79002 |
| VA - 00151 | WA - C223 | PA - 68-485 | WV - 235 |
| WI - 999887790 | WV - 236 | | |

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 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 1 of 3

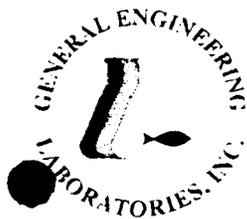
Sample ID : SPORT0116-7
 Lab ID : 9607498-07
 Matrix : Soil
 Date Collected : 07/25/96
 Date Received : 07/25/96
 Priority : Routine
 Collector : Client

| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst | Date | Time | Batch | M |
|---|-----------|--------|------|-------|-------|-----|---------|----------|------|-------|---|
| Volatile Organics | | | | | | | | | | | |
| <i>BTEX - 4 items</i> | | | | | | | | | | | |
| Benzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | JGS | 07/29/96 | 1812 | 87949 | 1 |
| Ethylbenzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Toluene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Xylenes (TOTAL) | U | 0.00 | 1.00 | 4.00 | ug/kg | 1.0 | | | | | |
| Naphthalene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | JCB | 07/31/96 | 1940 | 87865 | 2 |
| Acenaphthylene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Anthracene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Benzo(a)anthracene | J | 11200 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Benzo(a)pyrene | J | 8260 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Benzo(b)fluoranthene | | 15100 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Benzo(ghi)perylene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Chrysene | | 15100 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Fluoranthene | | 22600 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Fluorene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Naphthalene | U | 0.00 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Phenanthrene | | 19200 | 6660 | 13300 | ug/kg | 40. | | | | | |
| Pyrene | | 26900 | 6660 | 13300 | ug/kg | 40. | | | | | |

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

DLF 07/26/96 1825 87865 3





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 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 2 of 3

Sample ID : SPORT0116-7

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

Comments:

Volatile Organics contained matrix interferences.

| Surrogate Recovery | Test | Percent% | Acceptable Limits |
|----------------------|-----------|----------|-------------------|
| 2-Fluorobiphenyl | M610 | 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 | 105. | (59.7 - 159.) |
| Dibromofluoromethane | BTEX-8260 | 94.4 | (74.0 - 128.) |
| Toluene-d8 | BTEX-8260 | 102. | (53.4 - 163.) |
| Bromofluorobenzene | NAP-8260 | 105. | (59.7 - 159.) |
| Dibromofluoromethane | NAP-8260 | 94.4 | (74.0 - 128.) |
| Toluene-d8 | NAP-8260 | 102. | (53.4 - 163.) |

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

Notes:

The qualifiers in this report are defined as follows:

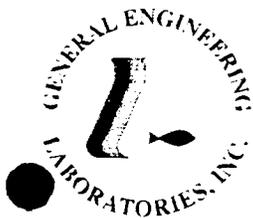
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

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

| | |
|-------------------------------|-------------------------------|
| GEL Laboratory Certifications | EPI Laboratory Certifications |
|-------------------------------|-------------------------------|



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Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 3 of 3

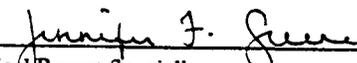
Sample ID : SPORT0116-7

GEL Laboratory Certifications

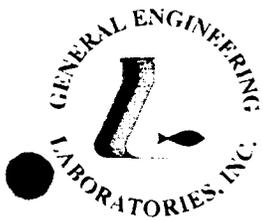
EPI Laboratory Certifications

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

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 SUPSHIP-Portsmouth Detachment-Env.
 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 1 of 3

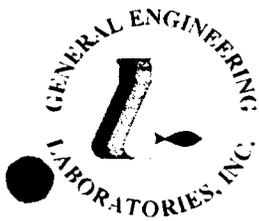
Sample ID : SPORT0116-8
 Lab ID : 9607498-08
 Matrix : Soil
 Date Collected : 07/25/96
 Date Received : 07/25/96
 Priority : Routine
 Collector : Client

| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst | Date | Time | Batch | M |
|---|-----------|--------|------|------|-------|-----|---------|----------|------|-------|---|
| Volatile Organics | | | | | | | | | | | |
| <i>BTEX - 4 items</i> | | | | | | | | | | | |
| Benzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | JGS | 07/30/96 | 1248 | 87949 | 1 |
| Ethylbenzene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Toluene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Xylenes (TOTAL) | U | 0.00 | 1.00 | 4.00 | ug/kg | 1.0 | | | | | |
| Naphthalene | U | 0.00 | 1.00 | 2.00 | ug/kg | 1.0 | | | | | |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | JCB | 07/31/96 | 2012 | 87865 | 2 |
| Acenaphthylene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Anthracene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Benzo(a)anthracene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Benzo(a)pyrene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Benzo(b)fluoranthene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Benzo(ghi)perylene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Chrysene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Fluoranthene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Fluorene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Naphthalene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Phenanthrene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |
| Pyrene | U | 0.00 | 656 | 1310 | ug/kg | 4.0 | | | | | |

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

DLF 07/26/96 1825 87865 3





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SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

Page 2 of 3

Sample ID : SPORT0116-8

| Surrogate Recovery | Test | Percent% | Acceptable Limits |
|----------------------|-----------|----------|-------------------|
| 2-Fluorobiphenyl | M610 | 72.8 | (30.0 - 115.) |
| Nitrobenzene-d5 | M610 | 60.0 | (23.0 - 120.) |
| p-Terphenyl-d14 | M610 | 111. | (37.3 - 128.) |
| Bromofluorobenzene | BTEX-8260 | 119. | (59.7 - 159.) |
| Dibromofluoromethane | BTEX-8260 | 112. | (74.0 - 128.) |
| Toluene-d8 | BTEX-8260 | 113. | (53.4 - 163.) |
| Bromofluorobenzene | NAP-8260 | 119. | (59.7 - 159.) |
| Dibromofluoromethane | NAP-8260 | 112. | (74.0 - 128.) |
| Toluene-d8 | NAP-8260 | 113. | (53.4 - 163.) |

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

Notes:

The qualifiers in this report are defined as follows:

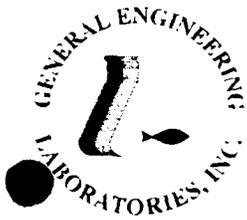
ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

U indicates that the analyte was not detected at a concentration greater than the detection limit.

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

| GEL Laboratory Certifications | | EPI Laboratory Certifications | |
|-------------------------------|--------------|-------------------------------|--------------|
| AL - 41040 | AZ - AZ0514 | AL - 41050 | AZ - AZ0514 |
| CA - 2089 | CT - PH-0169 | CA - I-1023/2056 | CT - PH-0175 |



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SUPSHIP-Portsmouth Detachment-Env.
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North Charleston, South Carolina 29405-2106

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00196

Report Date: August 02, 1996

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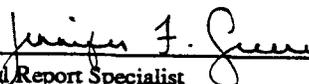
Sample ID : SPORT0116-8

GEL Laboratory Certifications

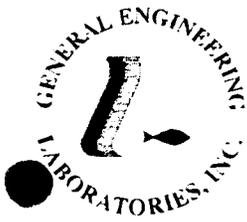
EPI Laboratory Certifications

| | | | |
|----------------|-------------------|-------------------|------------|
| DE - SC012 | FL - E87156/87294 | FL - E87472/87458 | MS - 29417 |
| ME - SC012 | MS - 10120 | NY - 11502 | RI - 138 |
| NC - 233 | NY - 11501 | SC - 10582 | TN - 02934 |
| RI - 135 | SC - 10120 | UT - E-227 | VA - 00111 |
| TN - 02934 | UT - E-251 | WA - C225 | NJ - 79002 |
| VA - 00151 | WA - C223 | PA - 68-485 | WV - 235 |
| WI - 999887790 | WV - 236 | | |

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


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: August 02, 1996

Page 1 of 3

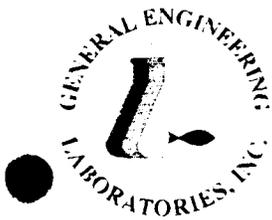
Sample ID : SPORT0116-9
 Lab ID : 9607498-09
 Matrix : Soil
 Date Collected : 07/25/96
 Date Received : 07/25/96
 Priority : Routine
 Collector : Client

| Parameter | Qualifier | Result | DL | RL | Units | DF | Analyst | Date | Time | Batch | M |
|---|-----------|--------|------|------|-------|-----|---------|----------|------|-------|---|
| Volatile Organics | | | | | | | | | | | |
| <i>BTEX - 4 items</i> | | | | | | | | | | | |
| Benzene | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | JGS | 07/29/96 | 1913 | 87949 | 1 |
| Ethylbenzene | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | | | | | |
| Toluene | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | | | | | |
| Xylenes (TOTAL) | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | | | | | |
| Naphthalene | U | 0.00 | 10.0 | 20.0 | ug/kg | 10. | | | | | |
| Extractable Organics | | | | | | | | | | | |
| <i>Polynuclear Aromatic Hydrocarbons - 16 items</i> | | | | | | | | | | | |
| Acenaphthene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | JCB | 07/31/96 | 2044 | 87865 | 2 |
| Acenaphthylene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Anthracene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Benzo(a)anthracene | J | 2570 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Benzo(a)pyrene | J | 2010 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Benzo(b)fluoranthene | J | 3190 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Benzo(ghi)perylene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Benzo(k)fluoranthene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Chrysene | | 3650 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Dibenzo(a,h)anthracene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Fluoranthene | | 6090 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Fluorene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Indeno(1,2,3-c,d)pyrene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Naphthalene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Phenanthrene | U | 0.00 | 1650 | 3290 | ug/kg | 10. | | | | | |
| Pyrene | | 7630 | 1650 | 3290 | ug/kg | 10. | | | | | |

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

DLF 07/26/96 1825 87865 3





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 1899 North Hobson Ave.
 North Charleston, South Carolina 29405-2106

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Report Date: August 02, 1996

Page 2 of 3

Sample ID : SPORT0116-9

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

Comments:

A dilution was required for Volatile Organics due to a high concentration of hydrocarbons. 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 | 104. | (37.3 - 128.) |
| Bromofluorobenzene | BTEX-8260 | 98.2 | (59.7 - 159.) |
| Dibromofluoromethane | BTEX-8260 | 93.2 | (74.0 - 128.) |
| Toluene-d8 | BTEX-8260 | 92.9 | (53.4 - 163.) |
| Bromofluorobenzene | NAP-8260 | 98.2 | (59.7 - 159.) |
| Dibromofluoromethane | NAP-8260 | 93.2 | (74.0 - 128.) |
| Toluene-d8 | NAP-8260 | 92.9 | (53.4 - 163.) |

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

Notes:

The qualifiers in this report are defined as follows:

ND indicates that the analyte was not detected at a concentration greater than the detection limit.

J indicates presence of analyte at a concentration less than the reporting limit (RL) and greater than the detection limit (DL).

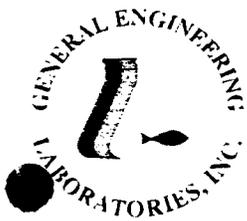
U indicates that the analyte was not detected at a concentration greater than the detection limit.

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

GEL Laboratory Certifications

EPI Laboratory Certifications





GENERAL ENGINEERING LABORATORIES

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CERTIFICATE OF ANALYSIS

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SUPSHIP-Portsmouth Detachment-Env.
1899 North Hobson Ave.
North Charleston, South Carolina 29405-2106

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Project Description: SUPSHIP-Portsmouth Detachment

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Report Date: August 02, 1996

Page 3 of 3

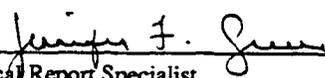
Sample ID : SPORT0116-9

GEL Laboratory Certifications

EPI Laboratory Certifications

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

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


Analytical Report Specialist



NEWCO 00196

WETS

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

CHAIN OF CUSTODY RECORD

Page 1 of 1 9607498

| Client Name/Facility Name | | 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 | | | |
|---------------------------|--------------|--|------------------|---------|-----|-----------------------------|-----------------|-------------------------------|------------------|-----------|-----------|--------------|-------------------|-----------------|--------------------------|---------|--|-------------------------|-----|----------------------|
| SPORTENYDETHASN | | # OF CONTAINERS | pH, conductivity | TOC/DOC | TOX | Chloride, Fluoride, Sulfide | Nitrate/Nitrite | VOC - Specify Method Required | METALS - specify | Pesticide | Herbicide | Total Phosol | Acid Extractables | RN Extractables | PTEA/THP/PAH KOB/MTBE | Cyanide | Cellulose - specify type | STEK P/US K/PT/THP/C | PAH | Remarks |
| Collected by/Company | SAMPLE ID | | | | | | | | | | | | | | | | | | | |
| SPORTENYDETHASN | | | | | | | | | | | | | | | | | | | | |
| 01 | SPORT0116-1 | 7/25/96 | 1115 | X | X | Z | | | | | | | | | | | | X | X | UST-4-1 SOIL |
| 02 | SPORT0116-2 | 7/25/96 | 1125 | X | X | Z | | | | | | | | | | | | X | X | UST-4-2 SOIL |
| 03 | SPORT0116-3 | 7/25/96 | 1135 | X | X | Z | | | | | | | | X | | | | X | X | UST-4-3 GW |
| 04 | SPORT0116-4 | 7/25/96 | 1145 | X | X | Z | | | | | | | | | | | | X | X | UST-4-4 SOIL |
| 05 | SPORT0116-5 | 7/25/96 | 1155 | X | X | Z | | | | | | | | | | | | X | X | UST-4-5 SOIL |
| 06 | SPORT0116-6 | 7/25/96 | 1205 | X | X | Z | | | | | | | | | | | | X | X | UST-4-6 SOIL |
| 07 | SPORT0116-7 | 7/25/96 | 1215 | X | X | Z | | | | | | | | | | | | X | X | UST-4-7 SOIL |
| 08 | SPORT0116-8 | 7/25/96 | 1225 | X | X | Z | | | | | | | | | | | | X | X | UST-4-8 SOIL |
| 09 | SPORT0116-9 | 7/25/96 | 1235 | X | X | Z | | | | | | | | | | | | X | X | UST-4-9 SOIL |
| 10 | SPORT0116-10 | 7/25/96 | 1110 | X | X | 3 | | | | | | | | X | | | | X | | UST-4 VOA TRIP BLANK |

| | | | | | | | |
|-------------------------------------|---------------|------------|-------------------------------|-----------------------------------|---------------|------------|---------------------------------|
| Relinquished by: <i>[Signature]</i> | Date: 7/25/96 | Time: 1240 | Received by: W. R. Hiers, Jr. | Relinquished by: W. R. Hiers, Jr. | Date: 7/25/96 | Time: 1422 | Received by: <i>[Signature]</i> |
| Relinquished by: KENN BLARNEY | Date: 7-25-96 | Time: 1600 | Received by job by: R. L. ... | Date: 7-25-96 | Time: 1600 | Remarks: | |

White = sample collector Yellow = file Pink = with report

Attachment III

Certificate of Disposal (tank)

UST Certificate of Disposal

CONTRACTOR

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

Telephone (803) 743-6482

TANK ID & LOCATION

UST NS4-TNK-1, Bldg NS 4, Charleston Naval Base, N. Charleston, SC

DISPOSAL LOCATION

Bldg. 1601 Tank Cleaning
& Disposal Area
Charleston Naval Complex

TYPE OF TANK

SIZE (GAL)

Fuel oil

25,000 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 1/11/20/96
SIDNEY LADSON (Name) (Date)



Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201-1708

Commissioner: Douglas E. B...

Board: John H. Burriss, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary

Promoting Health, Protecting the Environment

Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

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 (received) February 3, 1997
Complex NS4-TNK-1 (DHEC Site Identification # 17595)
Charleston Naval Complex/Charleston Naval Base (CNB)
Charleston, SC
Charleston County

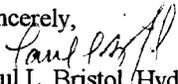
Date: March 6, 1997

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/or associated piping system. The results presented indicate elevated levels of polynuclear aromatic hydrocarbons (PAH) were detected in soils grab samples obtained from excavated soils (stockpile) and groundwater samples obtained from the tank pit. These results appear to necessitate additional endeavors for remedial actions and contamination characterization (assessment activities, including groundwater investigations), as appropriate. It is recognized that additional site assessment activities are to be conducted under the RCRA Facility Investigation activities associated with AOC 675.

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

Sincerely,


Paul L. Bristol, Hydrogeologist
Groundwater Assessment and Development 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 2.19.97
Lo 3.11.97
fem

5090
Code 1849
31 Jan 1997

RECEIVED

FEB 03 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

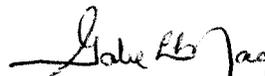
**UST ASSESSMENT REPORT FOR: UST 240, UST NH 1137-1 and NH 1137-2, NS
4-TNK -1, UST 1708 and NH 46 CHARLESTON NAVAL COMPLEX,
CHARLESTON, SC**

Dear Mr. Bristol:

Enclosed are the Assessment Reports for the closure of underground storage tanks 240,
NH 1137-1 and 2, NS 4-tnk-1, 1708 and NH 46 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

UST 240 - 2.5.97 BUSTW
NH 1137 - 17754
AST 1708 - 15405 (General)
NS 4 - 17595 (Bldg NS 2)
NH 46 - 17755

Encl:
(1) UST Assessment Report