

N61165.AR.005024
CNC CHARLESTON
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORTS FOR BUILDINGS NH-
23, NH-42, NH-61, NH-67, NH-68, NH- 1152, NH-1153, NH-1158, NH-1168, NH-1243,
AND NS-647 CNC CHARLESTON SC
10/02/1998
ENVIRONMENTAL DETACHMENT CHARLESTON



DEPARTMENT OF THE NAVY
SUPERVISOR OF SHIPBUILDING, CONVERSION AND REPAIR, USN
PORTSMOUTH, VIRGINIA, ENVIRONMENTAL DETACHMENT CHARLESTON
1899 NORTH HOBSON AVENUE, BUILDING 30
NORTH CHARLESTON, SOUTH CAROLINA 29405-2106

IN REPLY REFER TO:

Ser 847
OCT 03 1998

MEMORANDUM

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

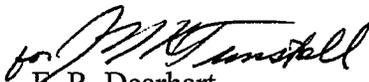
To: Southern Division Naval Facilities Engineering Command
(Code 1849 – Magwood)

SUBJ: UST ASSESSMENT REPORTS FOR PROJECT NUMBER C98020

Encl: (1) UST Assessment Reports
(2) Site Maps

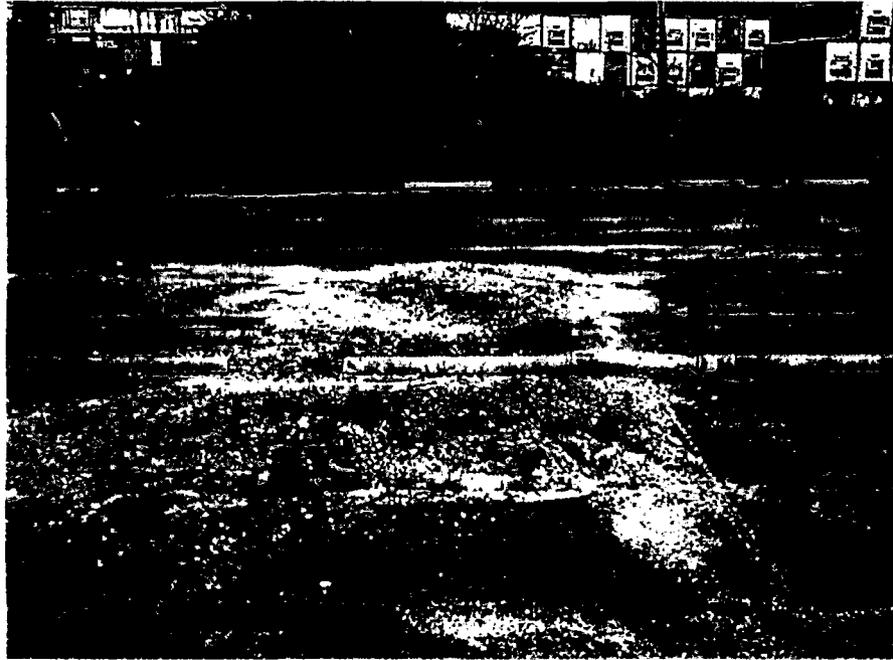
1. The Environmental Detachment Charleston was authorized to locate and remove underground storage tanks at several locations throughout the Naval Base complex. The suspected tank sites were laid-out, dug-up, searches performed and no tank(s) found at buildings/former buildings NH-23, NH-42, NH-61, NH-67, NH-68, NH-1152, NH-1153, NH-1158, NH-1168, NH-1243, and NS-647. This document deals specifically with locations where extensive searches for USTs did not result in closure of a tank.

2. Enclosure (1) contains UST Assessment Reports for underground storage tank searches completed at the subject buildings (or locations of former buildings) that resulted in no tanks being found. The USTs were unregulated storage tank units, which supplied fuel oil or gasoline to the applicable buildings. The enclosed Assessment Reports document actions taken to locate suspected underground storage tanks and serves as SPORTENVDETCNASN's work completion report for all work associated with the subject buildings. Enclosure (2) "Site Maps" provides site locations, for easy reference and orientation, where tank searches were performed.


E. R. Dearhart

UST NH-23

1. Using Charleston Naval Shipyard drawings and photographs, the site of former building NH-23 was located in what is currently a parking lot on the west corner of the intersection of Avenue D and Turnbull Avenue. A Site Map (enclosure (2)) for UST NH-23 is included with this report.



2. Two possible locations for UST NH-23 under the asphalt parking lot were laid out using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on surveys previously performed using a high-resolution, time-domain Geonics EM-61 ferrous/non-ferrous metal detector. Survey of the entire parking lot area revealed no other indications of an underground storage tank.

3. Both possible tank locations were excavated on 13 August 1998. Upon removal of asphalt material, two concrete slabs were discovered, slab one was fourteen feet wide by twenty-four feet long by eight inches thick; slab 2 was eight feet wide by twelve long by eight inches thick. Per Building 23 construction plans, the concrete slabs were probably foundations from the former boiler room.

4. The concrete slabs were removed to search for UST NH-23:

- a) Removal of slab 1 revealed the former boiler room floor drain and 4-inch cast iron drain piping.
- b) Excavation to four feet below grade and mechanical probing an additional four feet revealed no UST.

UST ASSESSMENT REPORT

- c) Use of the Magna-Trak 100 revealed no tank or buried tank foundation upon removal of slab 1.
 - d) Removal of slab 2 and excavating to four feet below grade, mechanical probing to a total depth of eight feet below grade and searching with the Magna-Trak 100 revealed no UST below slab 2.
5. The concrete slabs were removed and processed as construction debris. The excavations were filled to grade and paved.
6. Using the locations of the slabs and the original boiler room floor drain, the parking lot was again searched using the dimensions from building plans and plan location of UST NH-23. The subject tank UST NH-23 is not existing/buried under the current parking lot or grass area North of the lot.
7. Neither petroleum products, stained soil nor aromatic odors were encountered during the excavations or mechanical probing. Soil samples were not taken.

UST ASSESSMENT REPORT

UST NH-42

1. Using Charleston Naval Shipyard drawings and photographs, the location of former building NH-42 was located in what is currently a parking lot on the East side of Avenue H located at building NH-54. A Site Map (enclosure (2)) for UST NH-42 is included with this report.



2. One possible location for UST NH-42 on the west edge of the asphalt parking lot was laid out using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on previous surveys using a high resolution, time-domain Geonics EM-61 ferrous/non-ferrous metal detector to locate the building site. Survey of the entire parking lot area revealed no indications of an underground storage tank.
3. The possible tank location was excavated on 13 August 1998. Upon removal of soil, one section building foundation, several sections of tank fill pipe and fuel supply piping were discovered at approximately three feet below grade and were processed as construction debris.
4. Excavation to four feet below grade and mechanical probing an additional four feet revealed no UST. Use of the Magna-Trak 100 also revealed no tank, buried tank foundation or other metal objects. Apparently tank UST-42 had been removed previously without written documentation. Petroleum products, odors or stained soil were not encountered. Soil samples were not taken.
5. The excavation was filled to grade using clean fill and existing dirt then plugged with grass.

UST ASSESSMENT REPORT

UST NH-61

1. Charleston Naval Base drawing NH-61-46 dated 8/22/46, NH-70-11 and the current location of building NH-61 were used to locate the site of UST NH-61-1 and -2 under the current parking lot at the East end of NH-61 adjacent to the boiler room. A Site Map for UST NH-61 is included as enclosure (2).



2. Two possible locations for UST NH-61-1 and 61-2 were laid out using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on surveys previously performed using a high-resolution time-domain Geonics EM-61 ferrous/non-ferrous metal detector. Survey of the entire parking lot area revealed no other indications of an underground storage tank.

3. Both possible tank locations were excavated on 09 September 1998:

- a. Upon removal of asphalt and rock fill material, at the location of NH-61-2, a fuel oil odor and a 3 inch IPS steel vent pipe were encountered at 3 feet below grade. At four feet below grade the tank fill pipe and copper supply/return piping were found. Also in the same excavation the tank level indicator tubing was found.
- b. Upon removal of the steel piping, a UST could not be found. Use of the Magna-Trak 100 did not indicate that any other ferrous steel items were present in the excavation. Soil

UST ASSESSMENT REPORT

samples were not taken since the fuel oil odor was very slight following removal of the pipes and tubing associated with the former tank. UST NH-61-2 was not found and was apparently previously removed without written documentation.

- c. The UST NH-61-2 excavation was filled to grade and paved with asphalt.
- d. An excavation for UST NH-61-1 was made adjacent to the boiler room in the grass area



adjacent to the northeast corner. Approximately 2 feet below grade the tank's steel fuel oil supply/return pipes and the tank level indicator tubes were found. Upon removal of this debris, use of the Magna-Trak 100 did not provide additional indications of an underground storage tank. A UST was not found, apparently UST NH61-1 had been previously removed without written documentation. Petroleum products, stained soil or odors were not encountered. Soil samples were not taken.

- e. The NH-61-1 excavation was filled to grade and plugged with the existing grass.

UST ASSESSMENT REPORT

UST NH-67

1. Building NH-67 was the former Naval Hospital Incinerator located at the East End of Avenue H. The area is currently marked as a Helicopter Pad. Charleston Naval Shipyard drawings NH67-2, NH67-11 and photographs from the Plan vault were used to locate the site of NH-67 North of the former Helo Pad at the East end of Avenue H.



2. Only one possible location for UST NH-67 adjacent to the asphalt Helo Pad was laid out using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on previous surveys performed using a high resolution time-domain Geonics EM-61 ferrous/non-ferrous metal detector. Survey of the entire lot and grass area revealed no additional indications of an underground storage tank.

3. The area determined to be the site for UST NH-67 was excavated on 9 September 1998 to a depth of 5 feet below grade. No tank was removed, however several large sections of 12 inch IPS steel pipe were recovered.

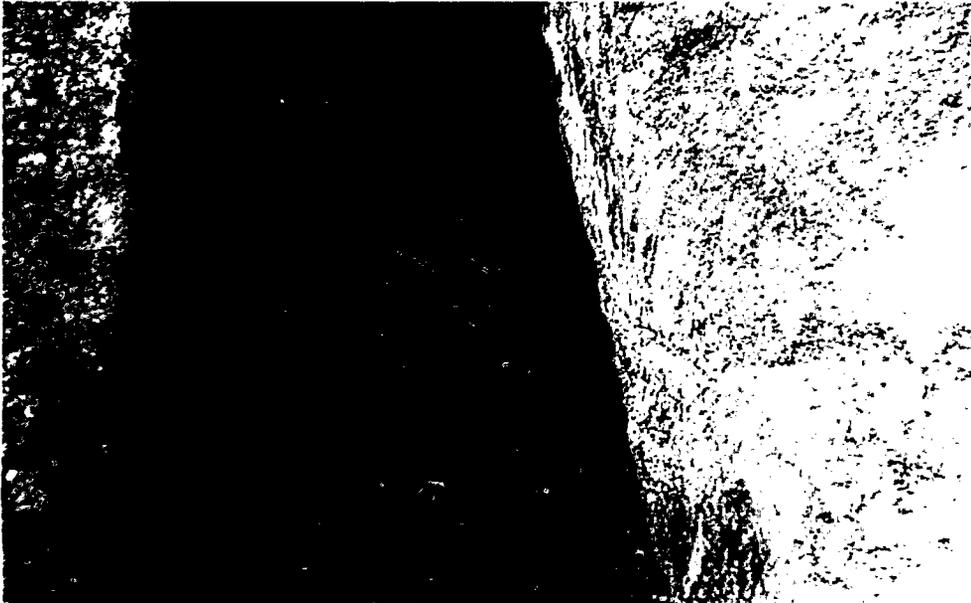
4. Following removal of the steel debris, additional indications of an underground storage tank could not be found using the Magna-Trak. Fuel Oil odors, stained soil or product were not encountered. Soil samples were not taken.

5. The excavation was filled to grade and contoured to match existing surface conditions.

UST ASSESSMENT REPORT

UST NH-68

1. Charleston Naval Shipyard drawings and the current location of building NH-68 were used to locate the site of UST NH-68 under the parking lot at the East end of building NH-68 adjacent to the boiler room. A Site Map for UST NH-68 is included as enclosure (2).

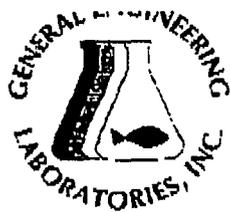


2. Only one location for UST NH-68 under the asphalt parking lot on the East End of building NH-68 was laid out using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on previous searches using a high resolution time-domain Geonics EM-61 ferrous/non-ferrous metal detector. Survey of the entire parking lot area revealed no other indications of an underground storage tank. It should be noted that use of UST NH-68 was curtailed in 1960's and AST NH-68 was installed adjacent to the South side of the boiler room.

3. Removal of the asphalt and excavation of soil in the area suspected to contain UST NH-68 revealed a 2-inch IPS steel pipe passing over the location where the UST location. Additional excavation below the pipe revealed no UST, however damp soil with a strong fuel oil odor, a UST foundation and steel tank straps were found at a depth of six feet below grade. Apparently the UST was removed without retention of written documentation.

- a) The soil was fine to medium moist clay, dark brown to charcoal gray in color, having a strong odor of fuel oil. Ground water was not encountered.
- b) Soil sample SPORT0772-2 was taken in the area adjacent to the UST foundation, approximately six feet below grade. A laboratory soil analysis report is included with this report; 71.8 ppm Naphthalene and 120 ppm Xylenes (Total) were found.

4. The excavation was filled to grade, using the existing soil removed during search for the UST, and paved with asphalt.



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: August 20, 1998

Page 1 of 2

Sample ID : SPORT0772-1
 Lab ID : 9808515-01
 Matrix : Soil
 Date Collected : 08/14/98
 Date Received : 08/14/98
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX + NAPTH. - 5 items</i>											
Benzene	U	ND	34.5	276	ug/kg	50.	TCL	08/17/98	1500	128880	1
Ethylbenzene	U	ND	31.7	276	ug/kg	50.					
Naphthalene	J	71.8	58.0	276	ug/kg	50.					
Toluene	U	ND	30.4	276	ug/kg	50.					
Xylenes (TOTAL)	J	120	85.6	828	ug/kg	50.					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	ND	86.6	333	ug/kg	1.0	RLC	08/17/98	1355	128739	2
Acenaphthylene	U	ND	93.2	333	ug/kg	1.0					
Anthracene	U	ND	63.3	333	ug/kg	1.0					
Benzo(a)anthracene	U	ND	59.9	333	ug/kg	1.0					
Benzo(a)pyrene	U	ND	56.6	333	ug/kg	1.0					
Benzo(b)fluoranthene	U	ND	103	333	ug/kg	1.0					
Benzo(ghi)perylene	U	ND	59.9	333	ug/kg	1.0					
Benzo(k)fluoranthene	U	ND	86.6	333	ug/kg	1.0					
Chrysene	U	ND	46.6	333	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	ND	56.6	333	ug/kg	1.0					
Fluoranthene	U	ND	79.9	333	ug/kg	1.0					
Fluorene	J	270	79.9	333	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	ND	140	333	ug/kg	1.0					
Naphthalene	U	ND	76.6	333	ug/kg	1.0					
Phenanthrene	J	180	76.6	333	ug/kg	1.0					
Pyrene	U	ND	63.3	333	ug/kg	1.0					

The following prep procedures were performed:
 GC/MS Volatiles (8260 High Level)

TCL 08/16/98 0631 128880 3

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

(803) 556-8171 • Fax (803) 766-1178



Printed on recycled paper.



9808515-01



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: August 20, 1998

Page 2 of 2

Sample ID : SPORT0772-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
GC/MS Base/Neutral Compounds							MAL	08/15/98	1550	128739	4

Surrogate Recovery	Test	Percent %	Acceptable Limits
2-Fluorobiphenyl	M610	62.1	(30.0 - 115.)
Nitrobenzene-d5	M610	55.5	(23.0 - 120.)
p-Terphenyl-d14	M610	74.2	(37.3 - 128.)
Bromofluorobenzene	BTEX+NAP-8260B	89.0	(53.5 - 154.)
Dibromofluoromethane	BTEX+NAP-8260B	82.7	(63.4 - 136.)
Toluene-d8	BTEX+NAP-8260B	78.3	(72.1 - 137.)

M = Method	Method-Description
M 1	SW846 8260B
M 2	EPA 8270
M 3	EPA 5035
M 4	EPA 3550

Notes:

The qualifiers in this report are defined as follows:

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

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

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

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

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

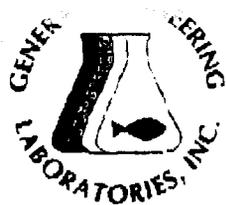
Karen Blakeney
 Reviewed By

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

(803) 556-8171 • Fax (803) 766-1178

9608515-01





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow

Laboratory Certifications

STATE	GEL	EPI
FL	EB7156/87294	EB7472/R7458
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers
 Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: August 20, 1998

Page 1 of 2

Sample ID : SPORT0772-2 Trip Blank
 Lab ID : 9808515-02
 Matrix : Soil
 Date Collected : 08/14/98
 Date Received : 08/14/98
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX + NAPTH. - 5 items</i>											
Benzene	U	ND	0.241	2.00	ug/kg	1.0	TCL	08/17/98	1534	128880	1
Ethylbenzene	U	ND	0.222	2.00	ug/kg	1.0					
Naphthalene	J	1.27	0.405	2.00	ug/kg	1.0					
Toluene	J	1.42	0.212	2.00	ug/kg	1.0					
Xylenes (TOTAL)	J	1.89	0.598	6.00	ug/kg	1.0					

The following prep procedures were performed:
 GC/MS Volatiles (8260 High Level)

TCL 08/16/98 0633 128880 2

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX+NAP-8260B	88.7	(53.5 - 154.)
Dibromofluoromethane	BTEX+NAP-8260B	89.0	(63.4 - 136.)
Toluene-d8	BTEX+NAP-8260B	82.6	(72.1 - 137.)

M = Method	Method-Description
M 1	SW846 8260B
M 2	EPA 5035

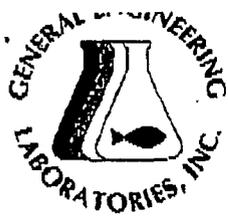
P O Box 30712 • Charleston, SC 29417 • 2040 Savage Road • 29414

(803) 556-8171 • Fax (803) 766-1178

Printed on recycled paper.



9808515-02



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

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

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: August 20, 1998

Page 2 of 2

Sample ID : SPORT0772-2

M = Method	Method-Description
------------	--------------------

Notes:

The qualifiers in this report are defined as follows:

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

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

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

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

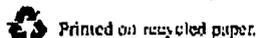
This data report has been prepared and reviewed in accordance with General Engineering Laboratories standard operating procedures. Please direct any questions to your Project Manager, Karen Blakeney at (803) 769-7386.

Karen Blakeney
 Reviewed By

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

(803) 556-8171 • Fax (803) 766-1178

9808515-02



Printed on recycled paper.

CHAIN OF CUSTODY RECORD

Page 1 of 1

Client Name/Facility Name <i>SPORTENV DET CHASN</i>				SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods																	Remarks			
Collected by/Company <i>SPORTENV DET CHASN</i>				# OF CONTAINERS	pH, conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCB's	Cyanide	Coliform - specify type	GTEX+MAP		PAH		
SAMPLE ID	DATE	TIME	WELL																		SOIL		COMP	GRAB
SPORT 077-21	7/27/98	1030																						
<i>SPORT 077-21</i>	<i>8-14-98</i>	<i>1030</i>																						<i>soil around NH-#68</i>
<i>SPORT 077-21</i>	<i>8-14-98</i>	<i>1028</i>																						<i>Trip blank</i>
Relinquished by: <i>MOB</i>				Date: <i>8-14-98</i>	Time: <i>1200</i>	Received by: <i>Warran Washington</i>				Relinquished by: <i>Warran Washington</i>				Date: <i>8/14/98</i>	Time: <i>1354</i>	Received by: <i>Stephanie Beckler</i>								
Relinquished by:				Date:	Time:	Received by lab by:				Date:	Time:	Remarks:												

White = sample collector Yellow = file Pink = with report

UST ASSESSMENT REPORT

UST NH-1152

1. Charleston Naval Shipyard drawing PW-H1152-7, NH-1243-1, photographs, existing buildings NH-46 and NH-54 were used to locate the former site of building NH-1152 and UST NH-1152.

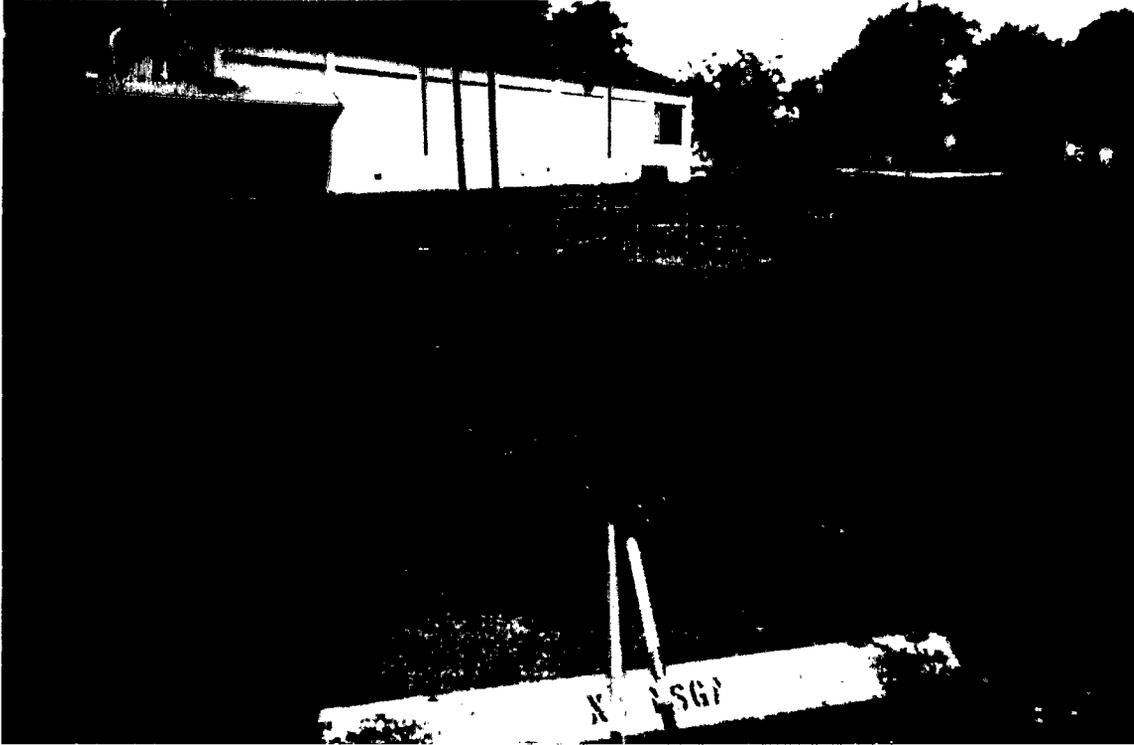


2. The site of former building NH-1152 was searched using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on previous searches performed using a high-resolution time-domain Geonics EM-61 ferrous/non-ferrous metal detector. One anomaly was located in the general area where UST-NH-1152 was installed in the early 1940's. A site map for UST NH-1152 is included with this report as enclosure (2).

3. The site was excavated on 9-2-98 and a reinforced concrete pier (4' x 4' x 8' deep) was found at four feet below grade. The pier was probably base for a large radio antenna that was removed concurrently with demolition of building NH-1152. No UST was found at the site of former building NH-1152, the tank was probably removed during building demolition with retention of written documentation. There were no indications of fuel oil contamination, odors or stained soil. Soil samples were not taken.

UST ASSESSMENT REPORT

4. Additional searches of the general area, using the Magna-Trak 100, revealed no additional indications of an underground storage tank.



5. The excavation was filled to grade and plugged with grass.

UST ASSESSMENT REPORT

UST NH-1153

1. Charleston Naval Shipyard drawing PW-H1152-7, NH-1243-1, photographs, existing buildings NH-46 and NH-54 were used to locate the former site of NH-1153 and UST NH-1153.



2. The site of former building NH-1153 was searched using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on previous searches using a high-resolution time-domain Geonics EM-61 ferrous/non-ferrous metal detector. One anomaly was located in the general area where UST-NH-1153 was originally installed in the early 1940's. A site map for UST NH-1153 is included with this report as enclosure (2).

3. The site was excavated on 9-2-98. A reinforced concrete and red brick foundation was found at two feet below grade. Additional excavation unearthed a deteriorated section tank fill pipe and other remnants of rusted carbon steel were found. No UST or other indications of a former UST were located at this site. Soil samples were not taken. The UST was probably removed during building NH-1153 demolition without retention of written documentation.

4. Additional searches using the Magna-Trak 100 revealed no additional indications of an underground storage tank.

5. The excavation was filled to grade and paved with asphalt.

UST ASSESSMENT REPORT

UST NH-1158

1. Charleston Naval Shipyard drawing PW-H1158-4, photographs and the current location of buildings NH-53 and NH-46 were used to locate the site of UST NH-1158 adjacent to the current parking lot North of NH-53. A Site Map for UST NH-1158 is included with this report as enclosure (2).



2. Only one location for UST NH-1158 adjacent to the asphalt parking lot of NH53 was laid out using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on previous searches using a high-resolution time-domain Geonics EM-61 ferrous/non-ferrous metal detector. Survey of the entire parking lot area revealed no other indications of an underground storage tank.

3. Removal of topsoil and excavation of subsoil in the area suspected to contain UST NH-1158 revealed an 8-inch IPS steel sewer pipe, several assorted sections of corroded steel pipe and structural steel. Additional excavation and search with the Magna-Trak 100 revealed no indications of an underground storage tank.

UST ASSESSMENT REPORT

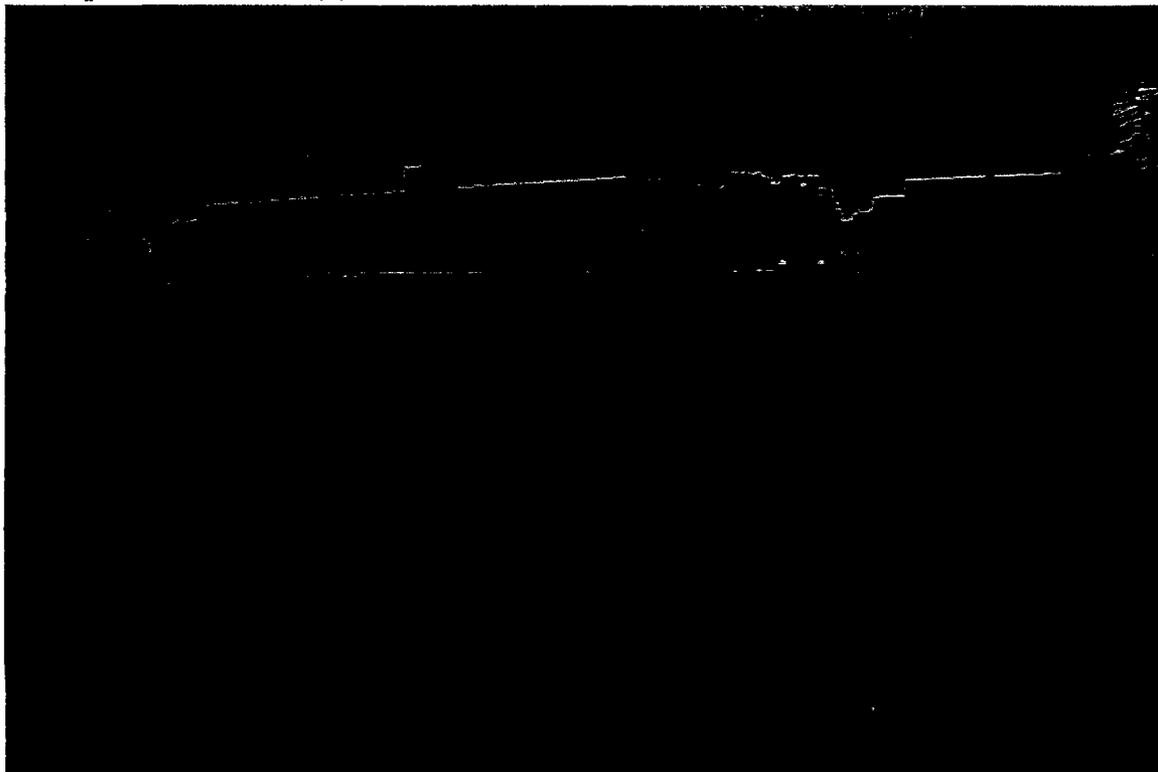
4. The soil was fine to medium moist clay, light brown in color, having some sand content. Ground water was not encountered. Fuel oil odor, stained soils or other indications of fuel oil contamination were not found. Soil samples were not taken.

5. The excavation was filled to grade with clean fill. The existing topsoil and grass was spread to remove a depression that was existing prior to start of work.

UST ASSESSMENT REPORT

UST NH-1168

1. Charleston Naval Shipyard drawing PW-H1168-15, photographs, the current location of buildings NH-53 and NH-62 were used to locate the site of UST NH-1168 in the current asphalt paved lot (Helo pad) North of building NH-62. A Site Map for UST NH-1158 is included with this report as enclosure (2).



2. Only one location for UST NH-1168 in the asphalt Helo pad was laid out using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on previous searches using a high resolution time-domain Geonics EM-61 ferrous/non-ferrous metal detector. Survey of the entire paved lot revealed no other indications of an underground storage tank.

3. Removal of asphalt and excavation of subsoil in the area suspected to contain UST NH-1168 revealed the UST's fuel oil supply and return piping, building NH-1168 foundations and several assorted sections of steel pipe and scrap steel. Additional excavation revealed no UST. The UST was probably removed during building NH-1168 demolition without retention of written documentation.

4. The soil was fine to medium moist clay, dark brown to charcoal gray in color, having some sand content. A very slight odor of fuel oil was noted. Ground water was not encountered. Soil samples were not taken

5. The excavation was filled to grade, using existing and additional clean fill. The graded area was paved with asphalt.

UST ASSESSMENT REPORT

UST NH-1243

1. Charleston Naval Shipyard drawing PW-H1152-7, NH-1243-1, photographs, existing buildings NH-46 and NH-54 were used to locate the site of former building NH-1243 and UST NH-1243.



2. The site of former building NH-1243 was searched using an electronic ferrous metal indicator – Chicago Steel Tape, Magna-Trak 100 based on previous searches using a high-resolution time-domain Geonics EM-61 ferrous/non-ferrous metal detector. One large anomaly was located in the general area where UST-NH-1243 was originally installed in the 1940's. A site map for UST NH-1243 is included with this report as enclosure (2).

3. The site was excavated on 9-2-98. Two steel pipes and a former building foundation were unearthed at two feet below grade. No UST or other indications of a former UST were located at this site. UST NH-1243 was probably removed during demolition of building NH-1243 without retention of written documentation. Soil samples were not taken.

4. Additional searches using the Magna-Trak 100 revealed no additional indications of an underground storage tank.

5. The excavation was filled to grade and plugged with grass.

UST NS-647

1. Charleston Naval Shipyard drawing NS647-62 and the current location of building NS-647 were used to locate the site of UST NS-647 adjacent to the current back alley door North of NS-647. The UST formerly supplied gasoline to an emergency generator that was removed prior to closure of the Base. A Site Map for UST NS-647 is included with this report as enclosure (2).

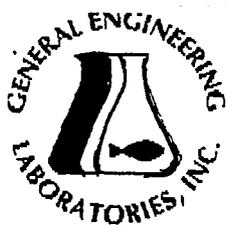


2. The probable location for UST NS-647 was laid out adjacent to the asphalt paving and under the edge of the alley door sidewalk. A high voltage electrical cable vault bound the probable location of UST NS-647 on the East Side and an 8-inch water main on the West Side. Existence of the high voltage electrical system and reinforcing steel in the concrete rendered magnetic locating devices useless. The UST fill pipe was penetrating the concrete pad adjacent to the building and was blocked or plugged about five feet into the pipe. A tank vent pipe was not existing, however the former location of the vent pipe is visible on the brick wall of building NS-647. Also a former Shipyard Public Works department employee verified that this location was correct for UST NS-647, the former Emergency Generator fuel supply tank.

3. Removal of asphalt and excavation of subsoil along the concrete in the area suspected to contain UST NS-647 revealed moist stained soil and gasoline odors at 2 feet below grade and 2 feet horizontally under the concrete, where the UST was thought to exist. Additional searching with a 4-foot long probe (vertically and horizontally in the excavation) revealed no UST or other large structure. The fill pipe terminal end could not be found since it was entrained in the thick concrete pad as verified by removal of soil from under the pad. The gas storage tank was apparently removed at an unknown date with out retention of written documentation.

UST ASSESSMENT REPORT

- a. The soil was medium grain, moist clay, and light to dark gray in color, having some sand and organic content. Ground water was not encountered. Strong petroleum odors were noticed.
 - b. A soil sample was taken at 3 feet below grade and 2 feet horizontally under the concrete. Analysis of the soil sample SPORT0780-1 revealed moderate VOC contamination.
4. The excavation was filled to grade using the existing fill and paved with asphalt. The tank vent pipe was cut off at the concrete pad level and filled/covered with cement.



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	BR7156/R7294	E67472/B7458
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: September 02, 1998

Page 1 of 3

Sample ID : SPORT0780-1
 Lab ID : 9808830-01
 Matrix : Soil
 Date Collected : 08/24/98
 Date Received : 08/24/98
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX + NAPTH. - 5 items</i>											
Benzene		32.1	0.471	1.00	ug/kg	1.0	JEB	08/30/98	1448	129984	1
Ethylbenzene		20.7	0.283	1.00	ug/kg	1.0					
Naphthalene	U	ND	0.565	1.00	ug/kg	1.0					
Toluene		7.61	0.848	1.00	ug/kg	1.0					
Xylenes (TOTAL)		26.9	0.659	2.00	ug/kg	1.0					
Extractable Organics											
<i>Polynuclear Aromatic Hydrocarbons - 16 items</i>											
Acenaphthene	U	ND	158	330	ug/kg	1.0	RLC	08/28/98	1733	129634	2
Acenaphthylene	U	ND	145	330	ug/kg	1.0					
Anthracene	U	ND	85.8	330	ug/kg	1.0					
Benzo(a)anthracene	U	ND	66.0	330	ug/kg	1.0					
Benzo(a)pyrene	U	ND	72.6	330	ug/kg	1.0					
Benzo(b)fluoranthene	J	260	142	330	ug/kg	1.0					
Benzo(ghi)perylene	U	ND	79.2	330	ug/kg	1.0					
Benzo(k)fluoranthene	U	ND	132	330	ug/kg	1.0					
Chrysene	J	170	52.8	330	ug/kg	1.0					
Dibenzo(a,h)anthracene	U	ND	82.5	330	ug/kg	1.0					
Fluoranthene	J	319	66.0	330	ug/kg	1.0					
Fluorene	U	ND	112	330	ug/kg	1.0					
Indeno(1,2,3-c,d)pyrene	U	ND	79.2	330	ug/kg	1.0					
Naphthalene	U	ND	155	330	ug/kg	1.0					
Phenanthrene	U	ND	59.4	330	ug/kg	1.0					
Pyrene	J	279	72.6	330	ug/kg	1.0					

The following prep procedures were performed:
 GC/MS Volatiles (8260 High Level)

JEB 08/30/98 0900 129984 3

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

(843) 556-8171 • Fax (843) 766-1178



Printed on recycled paper.



9808830-10



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E8715G/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: September 02, 1998

Page 2 of 3

Sample ID : SPORT0780-1

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
GC/MS Base/Neutral Compounds							RDH	08/26/98	2015	129634	4

Comments:

Data reported in mass/mass units is reported 'as received'.

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610	77.1	(30.0 - 115.)
Nitrobenzene-d5	M610	89.4	(23.0 - 120.)
p-Terphenyl-d14	M610	81.0	(37.3 - 128.)
Bromofluorobenzene	BTEX+NAP-8260B	73.6	(53.5 - 154.)
Dibromofluoromethane	BTEX+NAP-8260B	84.2	(63.4 - 136.)
Toluene-d8	BTEX+NAP-8260B	103.	(72.1 - 137.)

M = Method	Method-Description
M 1	SW846 8260B
M 2	EPA 8270
M 3	EPA 5035
M 4	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.

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

(843) 556-8171 • Fax (843) 766-1178

9808830-01





GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	QEL	EPI
FL	E87156/87294	E87472/87459
NC	233	
SC	10120	10582
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: September 02, 1998

Page 3 of 3

Sample ID : SPORT0780-1

M = Method

Method-Description

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

Karen Blakeney

 Reviewed By

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

(843) 556-8171 • Fax (843) 766-1178

9808830-01

Printed on recycled paper.



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GEL	EPI
FL	E87156/67294	E87472/87458
NC	333	
SC	10120	10562
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: September 02, 1998

Page 1 of 2

Sample ID : SPORT0780-2
 Lab ID : 9808830-02
 Matrix : Soil
 Date Collected : 08/24/98
 Date Received : 08/24/98
 Priority : Routine
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M
Volatile Organics											
<i>BTEX + NAPTH. - 5 items</i>											
Benzene	U	ND	0.450	1.00	ug/kg	1.0	JEB	08/30/98	1415	129984	1
Ethylbenzene	U	ND	0.270	1.00	ug/kg	1.0					
Naphthalene	U	ND	0.539	1.00	ug/kg	1.0					
Toluene	U	ND	0.809	1.00	ug/kg	1.0					
Xylenes (TOTAL)	U	ND	0.629	2.00	ug/kg	1.0					

The following prep procedures were performed:

GC/MS Volatiles (8260 High Level)

JEB 08/30/98 0900 129984 2

Comments:

Data reported in mass/mass units is reported 'as received'.

Surrogate Recovery	Test	Percent%	Acceptable Limits
Bromofluorobenzene	BTEX+NAP-8260B	84.5	(53.5 - 154.)
Dibromofluoromethane	BTEX+NAP-8260B	82.5	(63.4 - 136.)
Toluene-d8	BTEX+NAP-8260B	97.6	(72.1 - 137.)

M = Method	Method-Description
M 1	SW846 8260B
M 2	EPA 5035

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

(843) 556-8171 • Fax (843) 766-1178



9808830-02



Printed on recycled paper.



GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

Laboratory Certifications

STATE	GISL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	105H2
TN	02934	02934

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

Contact: Mr. Bill Hiers

Project Description: SUPSHIP-Portsmouth Detachment

cc: NPWC00197

Report Date: September 02, 1998

Page 2 of 2

Sample ID : SPORT0780-2

M = Method	Method-Description
------------	--------------------

Notes:

The qualifiers in this report are defined as follows:

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

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

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

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

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

Karen Blakeney

 Reviewed By

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

(843) 556-8171 • Fax (843) 766-1178

9808830-02



CHAIN OF CUSTODY RECORD

Page 1 of 1

Client Name/Facility Name			# OF CONTAINERS			SAMPLE ANALYSIS REQUIRED (x) - use remarks area to specify specific compounds or methods																Remarks
Collected by/Company						pH, conductivity	TOC/DOC	TOX	Chloride, Fluoride, Sulfide	Nitrite/Nitrate	VOC - Specify Method required	METALS - specify	Pesticide	Herbicide	Total Phenol	Acid Extractables	B/N Extractables	PCB's	Cyanide	Coliform - specify type		
SAMPLE ID	DATE	TIME	WELL	SOIL	COMP	GRAB																
SPORTENV DETCHASX																						
SPORT 0780-1																						
SPORT 0780-1	8/24/98	1100				X														X	X	Bldg 647 Gas
SPORT 0780-2	8/24/98	1100				X														X	X	Trip Blank
Relinquished by:	Date:	Time:	Received by:			Date:	Time:	Received by:			Date:	Time:	Received by:									
<i>nober</i>	8/24/98	1300	<i>Unrian Washington</i>			8/24/98	1550	<i>Unrian Washington</i>			8/24/98	1550	<i>Bob Koehler</i>									
Relinquished by:	Date:	Time:	Received by lab by:			Date:	Time:	Remarks:														

White = sample collector Yellow = file Pink = with report

ENCLOSURE 2

SITE MAPS

SITE OF UST 647
EXPLORATORY DIG & PROBING.
NO TANK WAS FOUND.

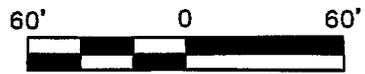
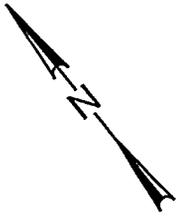
646

649

645

647

BAINBRIDGE AVE



GRAPHIC SCALE

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

Site Map UST 647
Exploratory Dig
Charleston Naval Base
Charleston, SC

DWG DATE: 30 SEPT 98 | DWG NAME: INV_5

