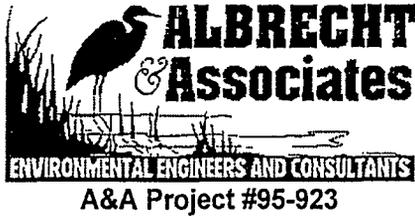


N61165.AR.005022  
CNC CHARLESTON  
5090.3a

UNDERGROUND STORAGE TANK (UST) ASSESSMENT REPORT FOR BUILDING 1174  
CNC CHARLESTON SC  
01/02/1996  
ALBRECHT & ASSOCIATES



**UNDERGROUND STORAGE TANK  
ASSESSMENT REPORT**  
Building 1174  
Charleston Naval Shipyard  
Navy RAC Project 22567-100-SC-0395

Submitted to:

**BECHTEL ENVIRONMENTAL, INC.**  
151 LAFAYETTE DRIVE  
Oak Ridge, TN 37831  
(615) 220-2534

Prepared for:

**FENN-VAC, INC.**  
P.O. Box 62679  
North Charleston, SC 29419-2676  
(803) 552-8306

Prepared By:  
Eric L. White, E.I.T.  
Project Manager

Reviewed By:  
John H. Albrecht, P.E.  
President

January 2, 1996

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

Date Received
State Use Only

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

**I. OWNERSHIP OF UST(S)**

Charleston Naval Shipyard		
Owner Name (Corporation, Individual, Public Agency, Other)		
1351 First Street		
Mailing Address		
Charleston	SC	29408-2020
City	State	Zip Code
803	743-5519	Code 106.24-CNSY
Area Code	Telephone Number	Contact Person

**II. SITE IDENTIFICATION AND LOCATION**

Not Regulated - Heating Oil	
Site I.D. #	
Building 1174 - Charleston Naval Shipyard	
Facility Name or Company Site Identifier	
1255 River Road	
Street Address or State Road (as applicable)	
Charleston	Charleston
City	County

**III. CLOSURE INFORMATION**

08-21-95	08-21-95	01
Closure Started	Closure Completed	Number of USTs Closed
Bechtel Environmental, Inc.	Fenn-Vac, Inc.	
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 to 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.	
Eric L. White	
Name (type or print)	
Signature	

## V. UST INFORMATION

	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5	Tank 6
A. Product.....	No. 2 Fuel Oil					
B. Capacity (gallons).....	1000					
C. Age.....	≈48 years					
D. Construction Material.....	Steel					
E. Month/Year of Last Use.....	Unknown					
F. Depth (ft.) to Base of Tank.....	≈6'					
G. Spill Prevention Equipment Y/N.....	No					
H. Overfill Prevention Equipment Y/N.....	No					
I. Method of Closure Removed/Filled.....	Removal					
J. Visible Corrosion or Pitting Y/N.....	No					
K. Visible Holes Y/N.....	No					

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

Processed through Fenn-Vac, Inc.. See Attachment II - Disposal Manifests.

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

Liquid wastes from tanks and piping pumped by Navy and disposed of by standard base procedures.

Rinsate water was removed by Fenn-Vac and treated by Water Recovery Systems. See Attachment II.

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

None observed.

## VI. PIPING INFORMATION

- A. Construction Material.....
- B. Distance from UST to ~~Dispenser~~ Boiler.....
- 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
Wrought Iron						
≈25'						
01						
S						
No						
No						
No						
≈48 years						

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

Exposed piping appeared in good condition. Piping was drained back into tank prior to cutting. Ends of piping capped during closure.

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## VII. BRIEF SITE DESCRIPTION AND HISTORY

Building 1174 is located at the Charleston Naval Shipyard. The removed 1000 gallon UST was used to supply fuel oil to a boiler inside Building 1174.

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## 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?  <b>All soils in excavation appeared contaminated.</b>                      If yes, indicate depth and location on the site map.</p>	<b>X</b>		
<p>B. Were any petroleum odors detected in the excavation, soil borings, trenches, or monitoring wells?  <b>Mild odor detected in entire excavation.</b>                      If yes, indicate location on site map and describe the odor (strong, mild, etc.)</p>	<b>X</b>		
<p>C. Was water present in the UST excavation, soil borings, or trenches?                       If yes, how far below land surface (indicate location and depth)?                       _____</p>		<b>X</b>	
<p>D. Did contaminated soils remain stockpiled on site after closure?  <b>Soil returned to excavation.</b>                      If yes, indicated the stockpile location on the site map.                       Name of DHEC representative authorizing soil removal:                       _____</p>		<b>X</b>	
<p>E. Was a petroleum sheen or free product detected on any excavation or boring waters?                       If yes, indicated location and thickness                       _____</p>		<b>X</b>	



## X. SAMPLING METHODOLOGY

Provide a detailed description of the methods used to collect and store (preserve) the samples. Please use the space provided below.

STAINLESS STEEL SAMPLING EQUIPMENT USED TO COLLECT SAMPLES. ALL SAMPLING EQUIPMENT WAS DECONTAMINATED PRIOR TO AND IN BETWEEN EACH COLLECTION BY AN ALCONOX DETERGENT WASH, DOUBLE RINSE WITH TAP WATER, ISOPROPANOL RINSE AND ORGANIC-FREE WATER RINSE.

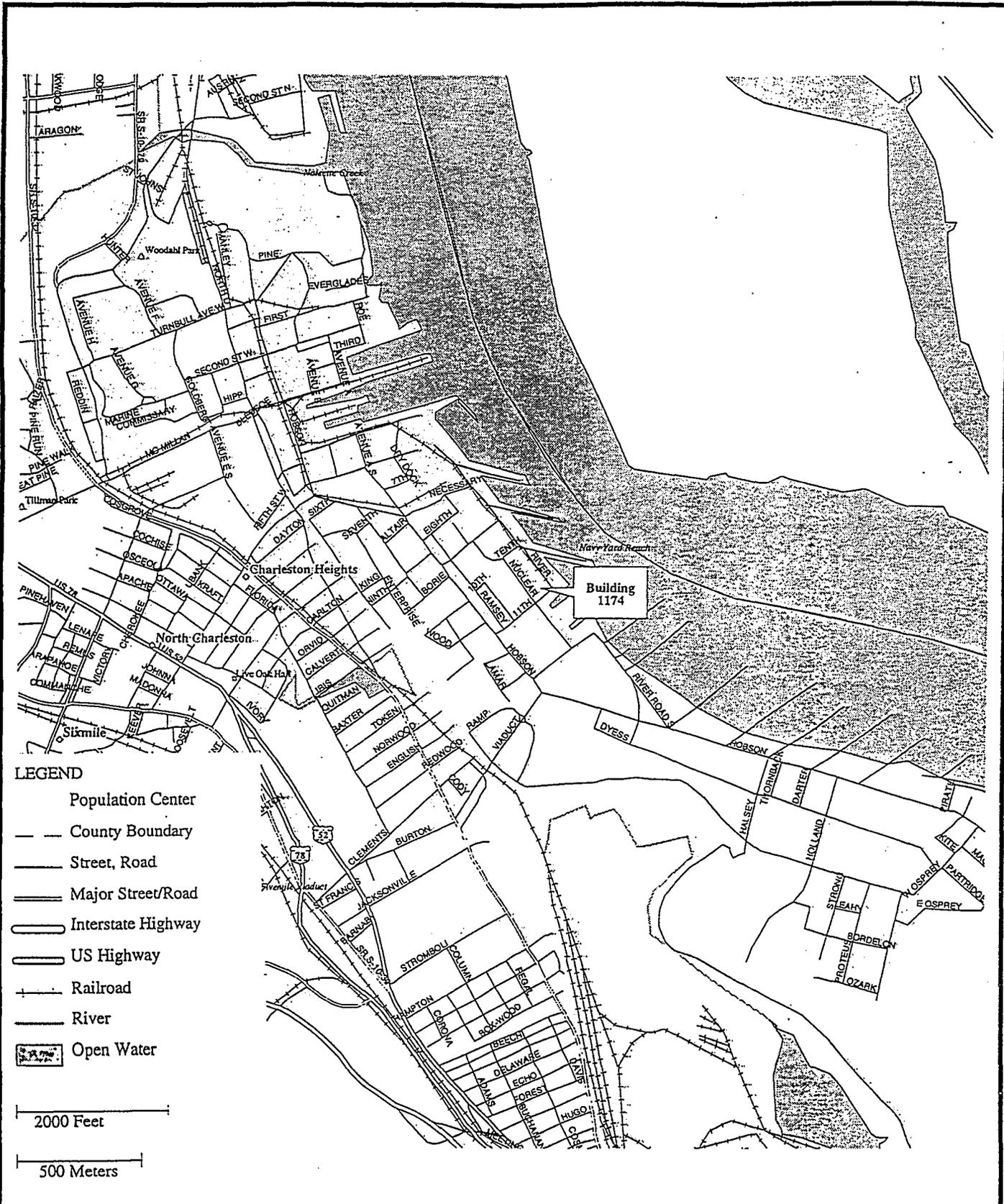
ALL SAMPLES WERE PACKAGED IN LABORATORY SUPPLIED CONTAINERS AND IMMEDIATELY PLACED ON ICE. SAMPLES WERE THEN DELIVERED UNDER PROPER CHAIN OF CUSTODY TO GENERAL ENGINEERING LABORATORIES IN CHARLESTON, SOUTH CAROLINA.

## XI. RECEPTORS

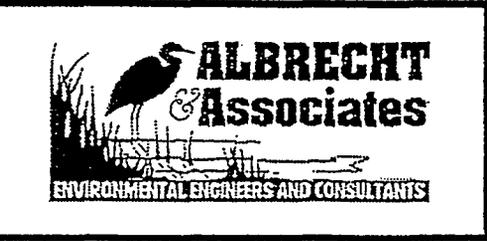
	Yes	No
<p>A. Are there any lakes, ponds, streams, or wetlands located within 1000 feet of the UST system?</p> <p><b>Cooper River approximately 1000 feet to the east.</b></p> <p>If yes, indicated type of receptor, distance, and direction on site map.</p>	<b>X</b>	
<p>B. Are there any public, private, or irrigation water supply wells within 1000 feet of the UST system?</p> <p>If yes, indicate type of well, distance, and direction on site map.</p>		<b>X</b>
<p>C. Are there any underground structures (e.g., basements) located within 100 feet of the UST system?</p> <p>If yes, indicate the type of structure, distance, and direction on site map.</p>		<b>X</b>
<p>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? <b>Electrical line runs over former UST location</b></p> <p>If yes, indicate the type of utility, distance, and direction on the site map.</p>	<b>X</b>	
<p>E. Has contaminated soil been identified at a depth less than 3 feet below land surface in an area that is not capped by asphalt or concrete?</p> <p>If yes, indicate the area of contaminated soil on the site map.</p>		<b>X</b>

**ATTACHMENT I**

**FIGURES**

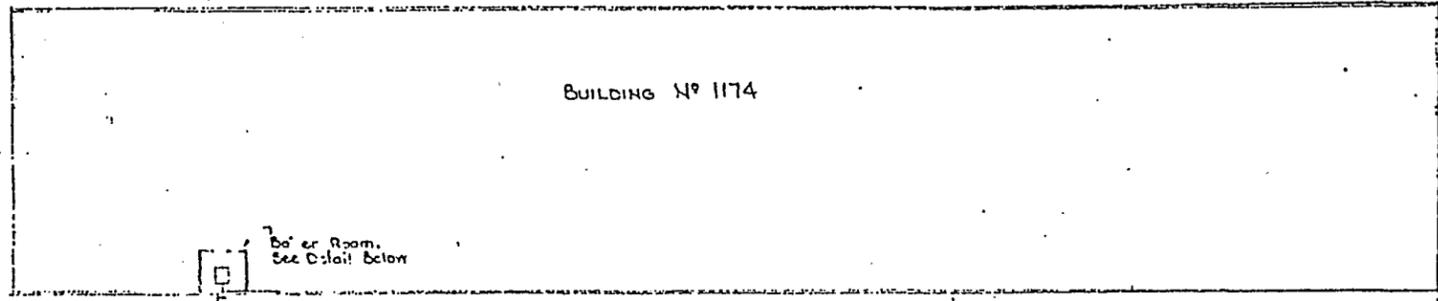


DESIGNED BY : ELW  
 DRAWN BY : DeLorme  
 APPROVED BY : JHA  
 DATE : 12/95  
 A&A JOB# : 95-959  
 FIGURE : 1 of 2  
 SCALE : 1:21,875 (at center)

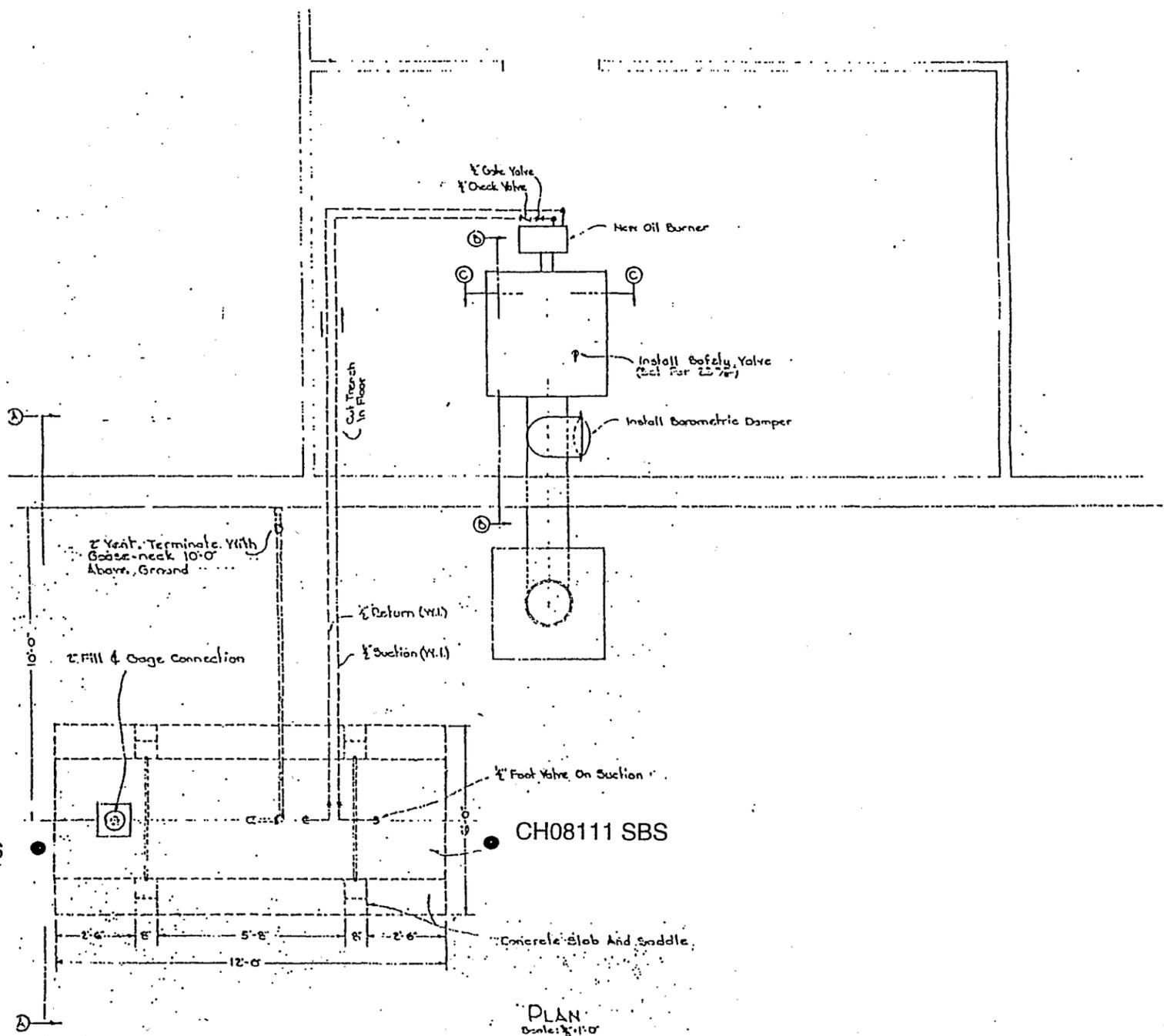


**SITE LOCATION MAP**  
 Building 1174  
 Charleston Naval Shipyard  
 Charleston, SC

Note: Drawing obtained from US Naval Shipyard Building No. 1174 - Boiler Conversion from Coal Fired to Oil Fired dated Nov. 4 1947.



LOCATION PLAN  
Scale: 1" = 40'-0"



DESIGNED BY : ELW  
 DRAWN BY : ADH  
 APPROVED BY : JHA  
 DATE : 12/95  
 A&A JOB# : 95-959  
 FIGURE : 1 of 2  
 SCALE : as shown



**SITE PLAN**  
 Building 1174  
 Charleston Naval  
 Shipyard

**ATTACHMENT II**  
**DISPOSAL MANIFESTS**

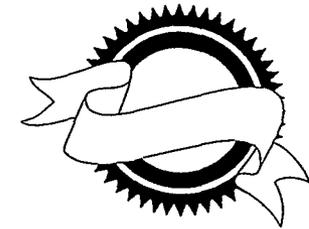
**FENNELL CONTAINER CO., INC.**

TOTAL WASTE MANAGEMENT SERVICES

P. O. Box 62679

North Charleston, SC 29419-2679

(803) 552-4751 - Fax (803) 760-0448



*This Certificate Is Hereby Issued To:*

Navy-RAC 22567 Charleston Naval Shipyard

to document that Tank 1174-02 (0054) Carbon Steel Fuel Oil 42" dia x 10' belonging to said certificate holder were received and processed through

FENNELL CONTAINER CO., INC. TRANSFER &  
PROCESSING FACILITY - PERMIT #182441-2001  
141 FENNELL RD.  
N. CHARLESTON, SC 29418

Destruction was completed in compliance with all applicable rules and regulations set forth by state and federal authorities and the facility permit.

08-31-95

Date

Signature

Title

22567-100-SC-0395

Project No.

**ATTACHMENT III**  
**LABORATORY RESULTS &**  
**CHAIN OF CUSTODY**

## General Engineering Laboratories, Inc.

### Certificate of Analysis (C of A)

Certificates of Analysis (C of A's) are presented in this section. The results and data qualifiers reflected on these documents are the same as those found on CLP Form I's (presented in the Forms section).

The Certificate of Analysis contains the following headings:

Sample ID:	Sample description taken from chain of custody
Lab ID:	This is the laboratory identification number
Matrix:	Sample matrix
Date Collected:	Date of sample collection
Date Received:	Date of sample receipt by the laboratory
Priority:	Internal status of sample turnaround
Collector:	Who collected the sample

The detail on the Certificate includes the following:

Parameter:	Analyte or characteristic tested for in the sample
Qualifier:	Qualifier used for data interpretation
Result:	Final result of each parameter
DL:	Detection limit
RL:	Reporting limit
Units:	Units of final result
DF:	Dilution factor
Analyst:	Initials of analyst who performed the test
Date:	Date of analysis
Time:	Time of analysis
Batch:	Analytical batch in which the sample was analyzed
M:	Analytical method used for the analysis of the sample--identified at the end of the report
C:	Container number--identified at the end of the report

General Engineering Laboratories, Inc.  
 Qualifier Definitions for Bechtel Level C and D

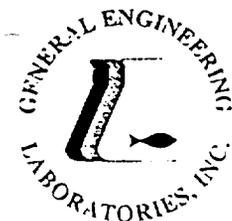
Section	Explanation	Location
Inorganics		
*	Duplicate analysis is not within control limit	C of A, Form 1, and EDD
+	Correlation Coefficient for the MSA is < 0.995	C of A, Form 2, EDD
B	Reported value is >DL and <RL	C of A, Form 1, and EDD
M	Duplicate Injection precision not met	C of A, EDD
S	Reported Method was determined by MSA	C of A, EDD
U	Parameter analyzed but <DL	C of A, Form 1 and EDD
W	Post-Dig spike for GFAA out of control limit (85% - 115%) and sample absorb is <50% spike absb	C of A, EDD, Form V part 2
**	Control Sample outside of acceptance limit	QC Summary Report

BOLD = Manual Insertion under the "Q" Column in LIMS batch data screen . Go to the line item, tab over to the "Q". Inert the qualifier where the < was. Multiple qualifiers can be placed into the column

General Engineering Laboratories, Inc.  
 Qualifier Definitions for Bechtel Level C and D

Organics		
A	TIC is suspected Aldol Condensation Product	C of A, Form 1, and EDD
C	PEST/PCB ID has been confirmed by GC/MS	C of A, Form 1, and EDD
D	Value derived by dilution	C of A and EDD
E	Out of Calibration Range	C of A, Form 1, and EDD
J	Value is non-zero detect and <RL	C of A, Form 1, and EDD
N	Presumptive evidence to make a tentative identification of the analyte	C of A, Form 1, and EDD
NJ	Analyte has been tentatively identified and the associated numerical value is estimated	C of A, Form 1, and EDD
P	PEST/PCB target analyte with > 25% diff	C of A and EDD, Form 10
U	Compound analyzed but not detected	C of A, Form 1, and EDD
X	Other Flag	C of A, Form 1, and EDD
B	Compound was also detected in the method blank	C of A, Form 1, and EDD
**	Control Sample outside of acceptance limit	QC Summary Report

BOLD = Manual Insertion under the "Q" Column in LIMS batch data screen . Go to the line item, tab over to the "Q". Inert the qualifier where the < was. Multiple qualifiers can be placed into the column



# 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	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

TANK # 10 GROUP Z BLDG 17  
SOUTHEND OF TANK

Client: Bechtel  
PO Box 350  
Oak Ridge, Tennessee 37831-0350  
Contact: Ms. Lori Keller  
Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

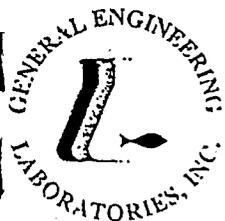
Page 1 of 3

Sample ID : CH08111 SBS  
Lab ID : 9508429-01  
Matrix : Soil  
Date Collected : 08/21/95  
Date Received : 08/21/95  
Priority : Routine  
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M	C
<b>Volatile Organics</b>												
<i>BTEX and Naphthalene - 6 items</i>												
Benzene	U	14	3	14	ug/kg	1.0	TLD	08/31/95	0157	71967	1	1
Ethylbenzene	U	14	3	14	ug/kg	1.0						
Naphthalene	U	14	3	14	ug/kg	1.0						
Toluene	J	1	3	14	ug/kg	1.0						
meta- and para-Xylenes	U	14	3	14	ug/kg	1.0						
ortho-Xylene	U	14	3	14	ug/kg	1.0						
<b>Organic Prep</b>												
Evaporative Loss @ 105 C		27	1	1	wt%	1.0	SRP	08/31/95	1550	71934	2	2
<b>Extractable Organics</b>												
<i>Polynuclear Aromatic Hydrocarbons - 18 items</i>												
1-Methylnaphthalene	XU	450	450	450	ug/kg	1.0	WAM	09/06/95	0038	72069	3	2
2-Methylnaphthalene	XU	450	220	450	ug/kg	1.0						
Acenaphthene	XU	450	220	450	ug/kg	1.0						
Acenaphthylene	XU	450	220	450	ug/kg	1.0						
Anthracene	XU	450	220	450	ug/kg	1.0						
Benzo(a)anthracene	XU	450	220	450	ug/kg	1.0						
Benzo(a)pyrene	XU	450	220	450	ug/kg	1.0						
Benzo(b)fluoranthene	XU	450	220	450	ug/kg	1.0						
Benzo(ghi)perylene	XU	450	220	450	ug/kg	1.0						
Benzo(k)fluoranthene	XU	450	220	450	ug/kg	1.0						
Chrysene	XU	450	220	450	ug/kg	1.0						
Dibenzo(a,h)anthracene	XU	450	220	450	ug/kg	1.0						
Fluoranthene	X	1500	220	450	ug/kg	1.0						
Fluorene	XU	450	220	450	ug/kg	1.0						
Indeno(1,2,3-c,d)pyrene	XU	450	220	450	ug/kg	1.0						
Naphthalene	XU	450	220	450	ug/kg	1.0						
Phenanthrene	X	780	220	450	ug/kg	1.0						

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# 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	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

Client: Bechtel  
 PO Box 350  
 Oak Ridge, Tennessee 37831-0350

Contact: Ms. Lori Keller

Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 2 of 3

Sample ID : CH08111 SBS

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M	C
Pyrene	X	480	220	450	ug/kg	1.0						

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

DDT 09/01/95 2300 72069 3

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610-BECH	110.	(36.0 - 114.)
Nitrobenzene-d5	M610-BECH	118.	(23.0 - 120.)
p-Terphenyl-d14	M610-BECH	90.4	(51.8 - 135.)
Bromofluorobenzene	BTEX/NAP-8260	117.	(80.0 - 120.)
Dibromofluoromethane	BTEX/NAP-8260	105.	(80.0 - 120.)
Toluene-d8	BTEX/NAP-8260	112.	(80.0 - 120.)

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

C = Container	Lab. Container ID	Reference ID
C 1	9508429-01.02	CH0811101
C 2	9508429-01.01	CH0811102



# 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	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

Client: Bechtel  
 PO Box 350  
 Oak Ridge, Tennessee 37831-0350

Contact: Ms. Lori Keller

Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 3 of 3

Sample ID : CH08111 SBS

C = Container	Lab. Container ID	Reference ID
---------------	-------------------	--------------

### Notes:

The qualifiers in this report are defined as follows:

J indicates presence of analyte between DL (Detect Limit) and RL (Report Limit)

U indicates presence of analyte < DL (Detect Limit)

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

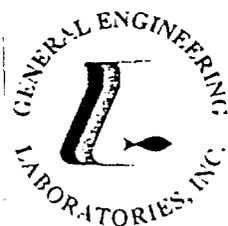
This data report has been prepared and reviewed

in accordance with General Engineering Laboratories

standard operating procedures. Please direct

any questions to your Project Manager, Valerie Davis at (803) 769-7391.

Analytical Report Specialist



# 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	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

TANK # 10, Group X, BLDG 174

Client: Bechtel  
 PO Box 350  
 Oak Ridge, Tennessee 37831-0350

Contact: Ms. Lori Keller

Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 1 of 3

Sample ID : 9508429-01 DL1 CH08111 SBS  
 Lab ID : 9508429-04  
 Matrix : Soil  
 Date Collected : 08/21/95  
 Date Received : 08/21/95  
 Priority : Routine  
 Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M	C
<b>Volatile Organics</b>												
<i>BTEX and Naphthalene - 6 items</i>												
Benzene	U	68	14	68	ug/kg	5.0	DLS	09/06/95	2215	71967	1	1
Ethylbenzene	U	68	14	68	ug/kg	5.0						
Naphthalene	U	68	14	68	ug/kg	5.0						
Toluene	U	68	14	68	ug/kg	5.0						
meta- and para-Xylenes	U	68	14	68	ug/kg	5.0						
ortho-Xylene	U	68	14	68	ug/kg	5.0						
<b>Organic Prep</b>												
Evaporative Loss @ 105 C		27	1	1	wt%	1.0	SRP	08/31/95	1550	71934	2	N
<b>Extractable Organics</b>												
<i>Polynuclear Aromatic Hydrocarbons - 18 items</i>												
1-Methylnaphthalene	U	2200	2200	2200	ug/kg	5.0	WAM	09/05/95	2256	72069	3	N
2-Methylnaphthalene	U	2200	1200	2200	ug/kg	5.0						
Acenaphthene	U	2200	1200	2200	ug/kg	5.0						
Acenaphthylene	U	2200	1200	2200	ug/kg	5.0						
Anthracene	U	2200	1200	2200	ug/kg	5.0						
Benzo(a)anthracene	U	2200	1200	2200	ug/kg	5.0						
Benzo(a)pyrene	U	2200	1200	2200	ug/kg	5.0						
Benzo(b)fluoranthene	DJ	550	1200	2200	ug/kg	5.0						
Benzo(ghi)perylene	U	2200	1200	2200	ug/kg	5.0						
Benzo(k)fluoranthene	U	2200	1200	2200	ug/kg	5.0						
Chrysene	U	2200	1200	2200	ug/kg	5.0						
Dibenzo(a,h)anthracene	U	2200	1200	2200	ug/kg	5.0						
Fluoranthene	JD	1200	1200	2200	ug/kg	5.0						
Fluorene	U	2200	1200	2200	ug/kg	5.0						
Indeno(1,2,3-c,d)pyrene	U	2200	1200	2200	ug/kg	5.0						
Naphthalene	U	2200	1200	2200	ug/kg	5.0						
Phenanthrene	JD	650	1200	2200	ug/kg	5.0						

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# 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	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

Client: Bechtel  
 PO Box 350  
 Oak Ridge, Tennessee 37831-0350

Contact: Ms. Lori Keller

Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 2 of 3

Sample ID : 9508429-01 DL1 CH08111 SBS

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M	C
Pyrene	JD	620	1200	2200	ug/kg	5.0						

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

DDT 09/01/95 2300 72069 3

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610-BECH	130.*	(36.0 - 114.)
Nitrobenzene-d5	M610-BECH	121.*	(23.0 - 120.)
p-Terphenyl-d14	M610-BECH	129.	(51.8 - 135.)
Bromofluorobenzene	BTEX/NAP-8260	106.	(80.0 - 120.)
Dibromofluoromethane	BTEX/NAP-8260	102.	(80.0 - 120.)
Toluene-d8	BTEX/NAP-8260	101.	(80.0 - 120.)

M = Method Method-Description

M 1	EPA 8260
M 2	EPA 3550
M 3	EPA 8270

C = Container Lab. Container ID Reference ID

C 1	9508429-04.02	CH0811101
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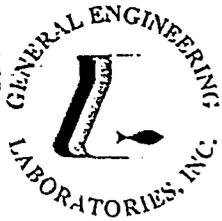
### Notes:

The qualifiers in this report are defined as follows:

F indicates presence of analyte between DL (Detect Limit) and RL (Report Limit)

U indicates presence of analyte < DL (Detect Limit)

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# 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	
VA	00151	
WI	99983779	

## CERTIFICATE OF ANALYSIS

Client: Bechtel  
PO Box 350  
Oak Ridge, Tennessee 37831-0350  
Contact: Ms. Lori Keller  
Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 3 of 3

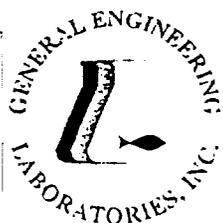
Sample ID : 9508429-01 DL1 CH08111 SBS

C = Container	Lab. Container ID	Reference ID
---------------	-------------------	--------------

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

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, Valerie Davis at (803) 769-7391.

  
Analytical Report Specialist



# GENERAL ENGINEERING LABORATORIES

Meeting today's needs with a vision for tomorrow.

### Laboratory Certifications

STATE	GEL	EPI
FL	E37156/87294	E37472/87458
NC	233	
SC	10120	10582
TN	02934	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

TANK # 10 GROUP II BLDG 174  
- NORTH END OF TANK

Client: Bechtel  
PO Box 350  
Oak Ridge, Tennessee 37831-0350  
Contact: Ms. Lori Keller  
Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

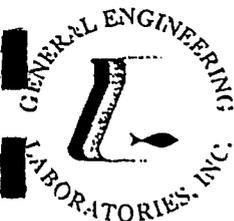
Page 1 of 3

Sample ID : CH08112 SBS  
Lab ID : 9508429-02  
Matrix : Soil  
Date Collected : 08/21/95  
Date Received : 08/21/95  
Priority : Routine  
Collector : Client

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M	C
<b>Volatile Organics</b>												
<i>BTEX and Naphthalene - 6 items</i>												
Benzene	U	14	3	14	ug/kg	1.0	TLD	08/31/95	0227	71967	1	1
Ethylbenzene	U	14	3	14	ug/kg	1.0						
Naphthalene	U	14	3	14	ug/kg	1.0						
Toluene	J	2	3	14	ug/kg	1.0						
meta- and para-Xylenes	J	0.9	3	14	ug/kg	1.0						
ortho-Xylene	U	14	3	14	ug/kg	1.0						
<b>Organic Prep</b>												
Evaporative Loss @ 105 C		27	1	1	wt%	1.0	SRP	08/31/95	1550	71934	2	2
<b>Extractable Organics</b>												
<i>Polynuclear Aromatic Hydrocarbons - 18 items</i>												
1-Methylnaphthalene	XU	460	460	460	ug/kg	1.0	WAM	09/06/95	0112	72069	3	2
2-Methylnaphthalene	XU	460	230	460	ug/kg	1.0						
Acenaphthene	XU	460	230	460	ug/kg	1.0						
Acenaphthylene	XU	460	230	460	ug/kg	1.0						
Anthracene	XU	460	230	460	ug/kg	1.0						
Benzo(a)anthracene	XU	460	230	460	ug/kg	1.0						
Benzo(a)pyrene	XU	460	230	460	ug/kg	1.0						
Benzo(b)fluoranthene	XJ	200	230	460	ug/kg	1.0						
Benzo(ghi)perylene	XU	460	230	460	ug/kg	1.0						
Benzo(k)fluoranthene	XU	460	230	460	ug/kg	1.0						
Chrysene	XU	460	230	460	ug/kg	1.0						
Dibenzo(a,h)anthracene	XU	460	230	460	ug/kg	1.0						
Fluoranthene	X	2800	230	460	ug/kg	1.0						
Fluorene	XU	460	230	460	ug/kg	1.0						
Indeno(1,2,3-c,d)pyrene	XU	460	230	460	ug/kg	1.0						
Naphthalene	XU	460	230	460	ug/kg	1.0						
Phenanthrene	XU	460	230	460	ug/kg	1.0						

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# GENERAL ENGINEERING LABORATORIES

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### Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

Client: Bechtel  
 PO Box 350  
 Oak Ridge, Tennessee 37831-0350

Contact: Ms. Lori Keller

Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 2 of 3

Sample ID : CH08112 SBS

Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M	C
Pyrene	XJ	390	230	460	ug/kg	1.0						

The following prep procedures were performed:

GC/MS Base/Neutral Compounds

DDT 09/01/95 2300 72069 3

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610-BECH	112.	(36.0 - 114.)
Nitrobenzene-d5	M610-BECH	181.*	(23.0 - 120.)
p-Terphenyl-d14	M610-BECH	70.0	(51.8 - 135.)
Bromofluorobenzene	BTEX/NAP-8260	111.	(80.0 - 120.)
Dibromofluoromethane	BTEX/NAP-8260	101.	(80.0 - 120.)
Toluene-d8	BTEX/NAP-8260	107.	(80.0 - 120.)

M = Method Method-Description

M 1	EPA 8260
M 2	EPA 3550
M 3	EPA 8270

C = Container Lab. Container ID Reference ID

C 1	9508429-02.01	CH0811202
C 2	9508429-02.02	CH0811201



# 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	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

Client: Bechtel  
PO Box 350  
Oak Ridge, Tennessee 37831-0350  
Contact: Ms. Lori Keller  
Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 3 of 3

Sample ID : CH08112 SBS

C = Container      Lab. Container ID      Reference ID

### Notes:

The qualifiers in this report are defined as follows:

J indicates presence of analyte between DL (Detect Limit) and RL (Report Limit)

U indicates presence of analyte < DL (Detect Limit)

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

This data report has been prepared and reviewed

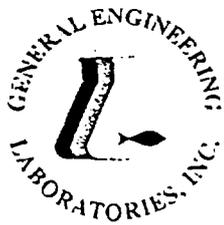
in accordance with General Engineering Laboratories

standard operating procedures. Please direct

any questions to your Project Manager, Valerie Davis at (803) 769-7391.

Analytical Report Specialist





# GENERAL ENGINEERING LABORATORIES

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#10

### Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

TANK # 10, Group V, BLDG 1174

Client: Bechtel  
 PO Box 350  
 Oak Ridge, Tennessee 37831-0350

Contact: Ms. Lori Keller

Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 1 of 2

Sample ID : 9508429-02 DL1 CH08112 SBS  
 Lab ID : 9508429-05  
 Matrix : Soil  
 Date Collected : 08/21/95  
 Date Received : 08/21/95  
 Priority : Routine  
 Collector : Client

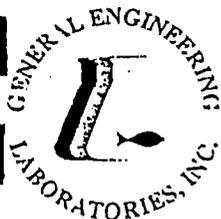
Parameter	Qualifier	Result	DL	RL	Units	DF	Analyst	Date	Time	Batch	M	C
<b>Organic Prep</b>												
Evaporative Loss @ 105 C		27	1	1	wt%	1.0	SRP	08/31/95	1550	71934	1	N
<b>Extractable Organics</b>												
<i>Polynuclear Aromatic Hydrocarbons - 18 items</i>												
1-Methylnaphthalene	U	18000	18000	18000	ug/kg	40	WAM	09/05/95	2148	72069	2	N
2-Methylnaphthalene	U	18000	9200	18000	ug/kg	40						
Acenaphthene	U	18000	9200	18000	ug/kg	40						
Acenaphthylene	U	18000	9200	18000	ug/kg	40						
Anthracene	U	18000	9200	18000	ug/kg	40						
Benzo(a)anthracene	U	18000	9200	18000	ug/kg	40						
Benzo(a)pyrene	U	18000	9200	18000	ug/kg	40						
Benzo(b)fluoranthene	U	18000	9200	18000	ug/kg	40						
Benzo(ghi)perylene	U	18000	9200	18000	ug/kg	40						
Benzo(k)fluoranthene	U	18000	9200	18000	ug/kg	40						
Chrysene	U	18000	9200	18000	ug/kg	40						
Dibenzo(a,h)anthracene	U	18000	9200	18000	ug/kg	40						
Fluoranthene	U	18000	9200	18000	ug/kg	40						
Fluorene	U	18000	9200	18000	ug/kg	40						
Indeno(1,2,3-c,d)pyrene	U	18000	9200	18000	ug/kg	40						
Naphthalene	U	18000	9200	18000	ug/kg	40						
Phenanthrene	U	18000	9200	18000	ug/kg	40						
Pyrene	U	18000	9200	18000	ug/kg	40						

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

DDT 09/01/95 2300 72069 2

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# GENERAL ENGINEERING LABORATORIES

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### Laboratory Certifications

STATE	GEL	EPI
FL	E87156/87294	E87472/87458
NC	233	
SC	10120	10582
TN	02934	
VA	00151	
WI	99988779	

## CERTIFICATE OF ANALYSIS

Client: Bechtel  
 PO Box 350  
 Oak Ridge, Tennessee 37831-0350

Contact: Ms. Lori Keller

Project Description: Charleston/CH

cc: BECH00594

Report Date: October 05, 1995

Page 2 of 2

Sample ID : 9508429-02 DL1 CH08112 SBS

Surrogate Recovery	Test	Percent%	Acceptable Limits
2-Fluorobiphenyl	M610-BECH	152.*	(36.0 - 114.)
Nitrobenzene-d5	M610-BECH	104.	(23.0 - 120.)
p-Terphenyl-d14	M610-BECH	168.*	(51.8 - 135.)

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

### Notes:

The qualifiers in this report are defined as follows:

J indicates presence of analyte between DL (Detect Limit) and RL (Report Limit)

U indicates presence of analyte < DL (Detect Limit)

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

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, Valerie Davis at (803) 769-7391.

  
 Analytical Report Specialist

CHAIN OF CUSTODY RECORD

17435



Facility Name: CHARLESTON NAVAL SHIPYARD  
 Site Name: BUILDING 1174  
 Delivery Order No.: #12  
 Cooler/Crate No.: DZ  
 Sampling Event: UST REMOVAL

SEIR No.: CH-004  
 COC Number: CH00064  
 Lab: GENERAL ENGINEERING LABORATORY  
 Field Logbook No.: CH-EA-002  
 Logbook Pg. No.: JB-39

Sampled by: JOE DUNCAN JWDuncan  
 Print Sign Print Sign

Legend		SAMPLE TYPE		MATRIX				QC LEVELS	
PSB	Preservative Blank	BLS	Blind Spike	AIR	Air	SBS	Subsurface Soil (>6")	PBS	Post Burn Soil
FDP	Field Duplicate	BLB	Blind Blank	FLO	Flora	SED	Sediment	PTW	Potable Water
ENV	Environmental	PTS	Point Source	FAU	Fauna	SFS	Surface Soil (0-6")	SEP	Seeps
FDB	Field Blank	FRP	Field Replicate	GWT	Groundwater	SPW	Surface Water	SOL	Solid
GEO	Geotechnical Sample	RSB	Rinsate Blank	LCH	Leachate	SLG	Sludge	WWT	Waste Water
MXD	Matrix Spike Duplicate	SPL	Spill	OIL	Oil	SLW	Solid Waste	SST	Surface Water
MXS	Matrix Spike	TPB	Trip Blank	DIW	Deionized Water	OFW	Organic Free Water		Storm Event
				DFW	Deionized Organic Free Water				

QC LEVELS:  
 C Sample results and QC reported  
 D Sample results, QC and raw data reported  
 E Sample results, blanks, and calibration reported  
 S Screening level analysis; sample results and as reported

Station ID	BEI Sample ID	Sample Type	Matrix Code	Collection Date/Time	Container ID	Preservative	Pay Item	Parameter	Priority	QC Cor
GNS-1174-10	CH08111	ENV	SBS	21 AUG 95 / 1112	-01	4°C	6.54	B260 BTEX NAPHTHALENE	14 DAY	C
					-02	4°C	7.14	PAH		
GNS-1174-10	CH08112	ENV	SBS	21 AUG 95 / 1119	-01	4°C	6.54	B260 BTEX NAPHTHALENE	14 DAY	C
					-02	4°C	7.14	PAH		
-	CH08113	TPB	DFW	21 AUG 95 1140	-01, -02, -03	HCl, 4°C	1.55	B260 BTEX NAPHTHALENE	14 DAY	C

RELINQUISHED BY	RECEIVED BY	DATE	TIME	REASON FOR TRANSFER	COMMENTS/INSTRUCTIONS
<u>JWDuncan</u>	<u>Paige Morrison</u>	<u>21 AUG 95</u>	<u>1732</u>	<u>LABORATORY ANALYSIS</u>	<u>RWD BTEX/NAPHTHALENE BY MET 8260.</u> <u>GEL PREPARED TRIP BLANK 8/9/95 @ 0830 HRS</u>

CONTAMINATION	YES
Radiological	
Chemical	X

Shipper: BEI  
 Ship to: GEL  
 Airbill No. -NA Traffic Report No. -NA

This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., UN2910.

**ATTACHMENT IV**  
**WASTEWATER MANIFESTS**



No. W96007

**MANIFEST - NON-HAZARDOUS WASTEWATER**

1. Generator's EPA ID# (if applicable) N/A Waste ID Number

2. Generator's Name and Mailing Address: CHARLESTON NOVAL SHIPYARD Phone ( 803 ) 743-5579  
N. CHARLESTON SC 29408

3. Agent of Generator and Mailing Address: FENN-VAC, INC Phone ( 803 ) 552-8306  
P.O. Box 62679  
N. CHAR, SC 29419

4. Transporter Company Name: FENN-VAC, INC Phone ( 803 ) 552-8306  
 Truck & Trailer License Number:

5. Transporter U.S. EPA ID#: SC0980837504

6. Designated Facility Name and Site Address:  
Water Recovery Systems, LLC, PO Box 70791, 1500 Greenleaf Street  
Charleston, SC 29415  
(803) 566-7067  
(803) 566-7066 - FAX

7. Designated Facility U.S. EPA ID#:

8. U.S. DOT Description (including proper shipping name, hazard class, generator name, address & contact)	9. Container		10. Total Quantity	11. Unit
	No.	Type		
a. <u>Non Regulated Wastewaters</u>	<u>01</u>	<u>T</u>	<u>600 gal</u>	<u>Gallons</u>
b.			<u>729 gal.</u>	
c.				
d.				

12. Generator's Certification: I hereby declare that the contents of this consignment are not hazardous by definition or listing and are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and the laws of the State of South Carolina. I further certify that the contents of this consignment are as represented by the description contained on the Waste Profile Form previously submitted to and approved by the Designated Facility.

Printed/Typed Name Kevin T. Long Signature [Signature] Month Day Year 12/18/95

13. Transporter Acknowledgement of Receipt of Materials  
 Printed/Typed Name James O'Davis Signature [Signature] Month Day Year 02/14/96

14. Discrepancy Indication Space

Facility Owner or Operator: Certification of Receipt of Materials  
 Printed/Typed Name [Signature] Signature [Signature] Month Day Year 1/4/96



Mailing Address  
 PO Box 70971  
 Charleston, SC 29415  
 (803) 566-7067

Shipping Address  
 1500 Greenleaf Street  
 Charleston, SC 29405  
 FAX (803) 566-7066

Waste Approval  
 Code Number

CNS 2

**NON-HAZARDOUS WASTE PROFILE FORM**

**CUSTOMER INFORMATION**

Generator Name: CHARLESTON NAVAL SHIPYARD  
 Address: N CHARLESTON SC 29408  
 Phone: (803) 743-5517 Contact Title: Kevin T. Long  
 Total estimated gallons: 500-600 Type and Number of containers: VACUUM TANKER

**WASTE DESCRIPTION**

Flash Point: N/A Single Phased: YES Phenolics (ppm): --- Physical State: Liquid  
 pH: 7.3 Odor: None % Free Liquids: 95-100% % Solids: 0-5%  
 Reactive Sulfides (ppm): 0 Cyanides (ppm): 0 Color: Clear to Brown  
 Process of Waste Generation: Removal of UST

**HAZARDOUS CHARACTERISTICS:**

	Total (ppm) pp b	TCLP (ppm) as requested		Total (ppm)	TCLP (ppm)
Arsenic	<u>162</u>		PCB	<u>&lt;0.10</u>	<u>XXXXX</u>
Barium	<u>2950</u>		TPH	<u>130</u>	<u>XXXXX</u>
Cadmium	<u>21.5</u>		BTEX	<u>205 PPB</u>	<u>XXXXX</u>
Chromium	<u>119</u>		Benzene	<u>0.005</u>	
Lead	<u>390</u>		TOX	<u>302 PPB</u>	<u>XXXXX</u>
Mercury	<u>0.10</u>				
Selenium	<u>2.6</u>				
Silver	<u>12.6</u>				
Chromium +6	<u>4.6 mg/l</u>				

By signing this application form I certify that:

- 1.) I am the generator of the waste described on this form.
- 2.) This waste is not a regulated hazardous waste as defined by the EPA or by applicable ordinances of SC.
- 3.) This form and its attachments contain true and accurate descriptions of the waste.
- 4.) Any laboratory data used to support the validity of the data shown on this form has been obtained from the analysis of a volumetrically representative sample, obtained and analyzed according to 40 CFR 261, EPA Document SW-846, Test Methods for Evaluating Solid Waste, of exactly the same waste that I will deliver to Water Recovery Systems for treatment.
- 5.) I certify that the laboratory results listing lab name, report date, and sample ID# are attached as support to the data certified on this application.

Certified Signature: [Signature] Date: 12/18/95

Print Name, Title & Employer: Kevin T. Long, ENVENG. CNST