

N61331.AR.001887  
NSA PANAMA CITY  
5090.3a

CLOSURE ASSESSMENT REPORT FOR UNDERGROUND STORAGE TANK AT BUILDING  
98 NSA PANAMA CITY FL  
12/1/1997  
NAVY PUBLIC WORKS CENTER

**CLOSURE ASSESSMENT REPORT**  
**UNDERGROUND STORAGE TANK**  
**BUILDING 98**

**NAVAL SURFACE WARFARE CENTER**  
**COASTAL SYSTEMS STATION**  
**PANAMA CITY, FLORIDA**

**Unit Identification Code: N61331**

**Prepared by:**

**Navy Public Works Center**  
**Environmental Department**  
**310 John Tower Road**  
**Pensacola, Florida, 32508**

**Prepared for:**

**Commanding Officer, Coastal Systems Station**  
**Dahlgren Division, Naval Surface Warfare Center**  
**6703 West Highway 98**  
**Panama City, Florida 32407-7001**

**Mr Mike Clayton, Code CP2S, Environmental Engineer**

**December 1997**

TABLE OF CONTENTS

Closure Assessment Report  
Underground Storage Tank, Building 98  
Naval Surface Warfare Center  
Coastal Systems Station  
Panama City, Florida

<u>Chapter</u>	<u>Title</u>	<u>Page No.</u>
1.0	Facility .....	1
2.0	Operator .....	1
3.0	Site Location .....	1
4.0	Date of Closure .....	1
5.0	Project Description .....	1
6.0	Tank Contents .....	1
7.0	Tank Condition .....	2
8.0	Excavation Area .....	2
9.0	Soil Screening .....	2
10.0	Groundwater Analysis .....	2
11.0	Findings and Conclusions .....	3
12.0	Recommendations .....	3
13.0	Closure Assessment .....	3
14.0	Project Manager .....	3
15.0	Project Number .....	3
16.0	Report Date .....	3

FIGURES

- Figure 1: Vicinity Map  
Figure 2: Site Map

ATTACHMENTS

- Attachment A: Photographs  
Attachment B: Disposal Document - Scrap Metal  
Attachment C: Application for Closure of Pollutant Storage Tank System  
Attachment D: Underground Storage Tank Installation and Removal Form  
Attachment E: Closure Assessment Form, Soil & Groundwater Analyses  
Attachment F: Decontamination Certification  
Attachment G: Petroleum or Petroleum Product Contamination Report Form

## GLOSSARY

AST	Aboveground Storage Tank
CSS	Coastal Systems Station, Panama City, Florida
DRMO	US Navy, Defense Reutilization and Marketing Organization
EPA	Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
OVA	Organic Vapor Analyzer
PWC	US Navy, Public Works Center, Pensacola, Florida
UST	Underground Storage Tank

**CLOSURE ASSESSMENT REPORT**  
**UNDERGROUND STORAGE TANK**  
**BUILDING 98**

**1.0 Facility**

Building 98, Naval Surface Warfare Center  
Coastal Systems Station  
Panama City, Bay County, Florida

**2.0 Operator**

Commanding Officer, Coastal Systems Station  
Dahlgren Division, Naval Surface Warfare Center  
6703 West Highway 98, Code CP2S  
Panama City, Florida 32407-7001

**3.0 Site Location**

The Coastal Systems Station is located along St Andrew Bay in Panama City, Florida (Figure 1).

**4.0 Date of Closure**

8 August 1997

**5.0 Project Description**

The US Navy Public Works Center (PWC), Pensacola, Florida was tasked by the Coastal Systems Station (CSS), Panama City to close a 560 gallon underground storage tank (UST) system located on the west side of Building 98, CSS Panama City (Figure 2). The UST was removed, cleaned and rendered unuseable by PWC. Photographs of the removal are provided as Attachment A. The UST was properly disposed by the US Navy, Defense Reutilization and Marketing Organization (DRMO), Pensacola, Florida (Attachment B).

The Application for Closure of Pollutant Storage Tank System, Underground Storage Tank Installation and Removal Form, Closure Assessment Form, and Decontamination Certification are provided in Attachments C, D, E, and F respectively.

**6.0 Tank Contents**

The UST was used to store diesel for on-site heating. The contents were emptied by CSS prior to commencement of work.

The rinsate from the UST cleaning operations was disposed at the Fire Training Facility, Building 439, CSS, Panama City. The petroleum constituents were separated from the water and incinerated.

## **7.0 Tank Condition**

The UST was cylindrically shaped and constructed of steel. The top of the UST had been flattened prior to removal and there was a hole on the top surface of the UST.

## **8.0 Excavation Area**

The excavation was made approximately eight (8) feet wide, ten (10) feet long and five (5) feet deep. The excavation was filled with clean fill, compacted to grade, and paved with concrete.

Contaminated soil was encountered during the excavation process (Attachment G). Approximately 2 cubic yards of contaminated soil was removed. The contaminated soil was removed horizontally until the hydrocarbon levels in the surrounding soil were less than 50 parts per million (ppm). The contaminated soil was removed vertically until groundwater was encountered. The contaminated soil was stockpiled and is planned to be properly disposed by Southern Waste Systems, Inc (SWS) within six months.

## **9.0 Soil Screening**

Six (6) soil borings were installed around the UST using a manually operated hollow stem auger. The soil samples were collected and screened for organic vapor concentrations using the headspace screening technique. The soil samples were extracted at the limits of the excavation and underneath the middle of the UST. The soil boring locations and screening results are provided in Attachment E.

The soil screening was conducted in accordance with the headspace screening criteria in Chapter 62-770 FAC and PWC's Comprehensive Quality Assurance Plan using an organic vapor analyzer (OVA). The OVA was manufactured by Thermo Environmental Instruments, Inc (Model 680 HVM) and equipped with a flame ionization detector (FID).

## **10.0 Groundwater Analysis**

A temporary groundwater monitoring well was installed on 5 November 1997 by GFA International, Inc (GFA), Sarasota, Florida. The well was constructed with a 2" diameter by 13 foot long, Schedule 40 polyvinyl chloride (PVC) riser. The riser was equipped with a ten foot long by 0.010 inch slotted screen. The well consisted of a coarse silica sand filter and a bentonite seal. The top of the well was encased with concrete and equipped with a lock and a steel cover. The well location, well construction diagram, and groundwater laboratory analyses are provided in Attachment E.

The well was sampled by PWC on 13 November 1997. These samples were transported to the PWC Laboratory in Pensacola, Florida and analyzed for volatile content in accordance with Environmental Protection Agency (EPA) Method 8260, for poly aromatic hydrocarbons (PAH's) in accordance with EPA Method 8270, for ethylene dibromide content in accordance with EPA Method 504, for lead content in accordance with EPA Method 239.2, and for total petroleum hydrocarbon content in accordance with the State of Florida, Petroleum Range Organics (FL-PRO) method.

### **11.0 Findings and Conclusions**

The site is contaminated. The contaminated soil above the groundwater level was removed but the groundwater analysis yielded high levels of petroleum contamination.

### **12.0 Recommendations**

A Contamination Assessment Report (CAR) should be prepared for this site.

### **13.0 Closure Assessment**

Performed by the US Navy, Public Works Center (PWC) Pensacola, Florida.

### **14.0 Project Manager**

Paul R. Semmes, P.E.

### **15.0 Project Number**

1396004

### **16.0 Report Date**

5 December 1997

The engineering evaluations and professional opinions rendered in this Closure Assessment Report that describes the work associated with the storage tank removal at the Coastal Systems Station, Panama City, Florida were conducted or developed in accordance with the commonly accepted procedures consistent with applicable standards of practice. If conditions are determined to exist differently than those described, the undersigned professional engineer should be notified to evaluate the effects of any additional information on the design described in this report.

PAUL RAPHAEL SEMMES  
REGISTERED PROFESSIONAL ENGINEER  
Paul R. Semmes, P.E.  
Professional Engineer (#44137)  
5 December 1997

# FIGURES

**FIGURE 1**  
**Vicinity Map**

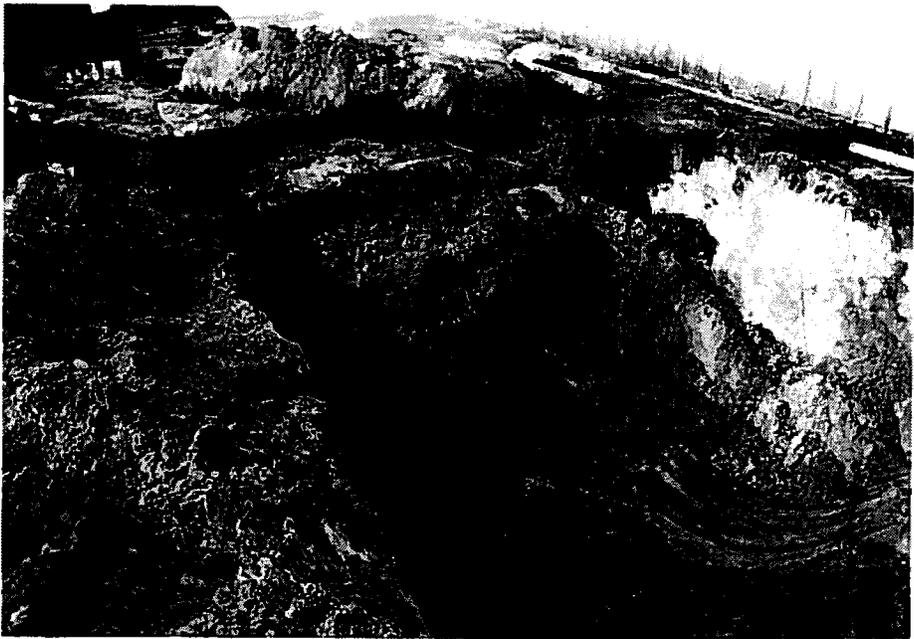
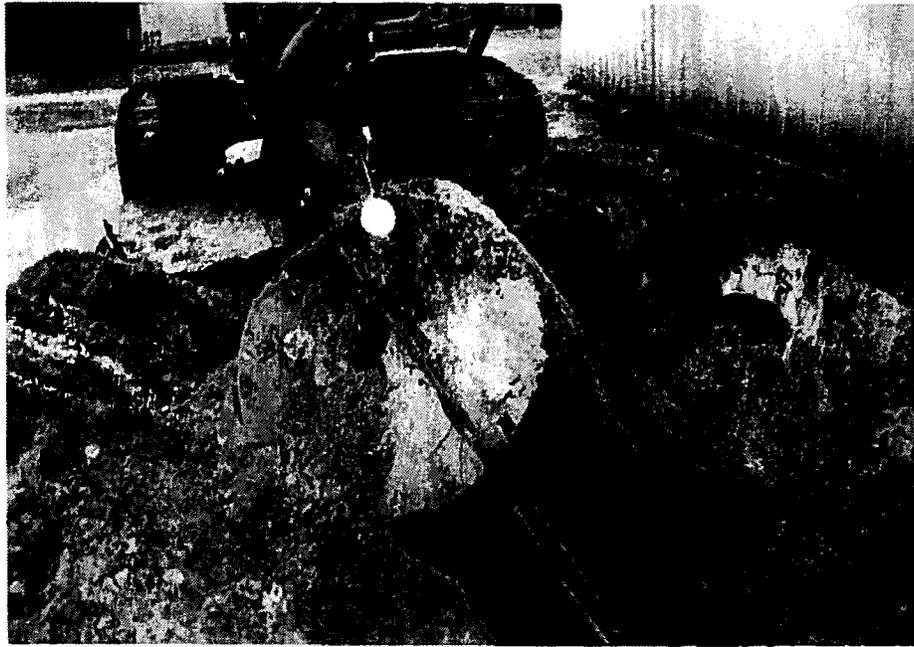


**FIGURE 2**  
**Site Map**



## **ATTACHMENTS**

**ATTACHMENT A**  
**Photographs**



**ATTACHMENT B**  
**Disposal Document**  
**Scrap Metal**

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
FROM	FSC	STOCK NUMBER	NIIN	ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER	REQUISITIONER	DATE	SERIAL	SUPPLEMENTARY ADDRESS	FUND	DISTRIBUTION	PROJECT	MAT COND	QUANTITY	RECD DEL DATE	PRICE	UNIT PRICE	DOLLARS	CTS.																																																										
FROM	NAVY PWC	FL 9170024567	452-2170	SHIP TO	DRMO	FL 9170024567	452-4334	MARK FOR	SCRAP	PROJECT	TOTAL PRICE	DOLLARS	CTS.																																																																		
HOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE	DOCUMENT DATE	MAT COND	QUANTITY	RECEIVED BY AND DATE	INSPECTED BY AND DATE																																																																			
G	H	I	J	K	L	M	N	O	P	Q	R	S																																																																			
ITEM DATA (ITEM ORIGINALLY REQUESTED)	FREIGHT CLASSIFICATION NOMENCLATURE	ITEM NOMENCLATURE	TYPE OF CONTAINERS	TOTAL WEIGHT	TOTAL CUBE	RECEIVED BY AND DATE	INSPECTED BY AND DATE																																																																								
	NAVAL SYSTEMS CMD	USED TANKS - PANAMA CITY, FLORIDA	5 TANKS	4060	4220	Bacon 8/28/97																																																																									
SELECTED BY AND DATE	TYPE OF CONTAINERS	TOTAL WEIGHT	TOTAL CUBE	RECEIVED BY AND DATE	INSPECTED BY AND DATE																																																																										
PACKED BY AND DATE	NO. OF CONTAINERS	TOTAL CUBE	WAREHOUSED BY AND DATE	WAREHOUSE LOCATION																																																																											
MARKS:	BB	CC	DD	EE																																																																											
DESTINATION ADDRESS	DATE SHIPPED	GG																																																																													
TRANSPORTATION CHARGEABLE TO	LOADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	RECEIVER'S DOCUMENT NUMBER																																																																													
FORM 134B-1	MAR 74	EDITION OF JAN 64 MAY BE USED UNTIL EXHAUSTED	DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT																																																																												

2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
FROM	FSC	STOCK NUMBER	NIIN	ADD	UNIT OF ISSUE	QUANTITY	DOCUMENT NUMBER	REQUISITIONER	DATE	SERIAL	SUPPLEMENTARY ADDRESS	FUND	DISTRIBUTION	PROJECT	MAT COND	QUANTITY	RECD DEL DATE	PRICE	UNIT PRICE	DOLLARS	CTS.																																																										
FROM	NAVY PWC	FL 9170024567	452-2170	SHIP TO	DRMO	FL 9170024567	452-4334	MARK FOR	SCRAP	PROJECT	TOTAL PRICE	DOLLARS	CTS.																																																																		
HOUSE LOCATION	TYPE OF CARGO	UNIT PACK	UNIT WEIGHT	UNIT CUBE	U F C	N M F C	FREIGHT RATE	DOCUMENT DATE	MAT COND	QUANTITY	RECEIVED BY AND DATE	INSPECTED BY AND DATE																																																																			
G	H	I	J	K	L	M	N	O	P	Q	R	S																																																																			
ITEM DATA (ITEM ORIGINALLY REQUESTED)	FREIGHT CLASSIFICATION NOMENCLATURE	ITEM NOMENCLATURE	TYPE OF CONTAINERS	TOTAL WEIGHT	TOTAL CUBE	RECEIVED BY AND DATE	INSPECTED BY AND DATE																																																																								
	NAVAL SYSTEMS CMD	USED TANKS - PANAMA CITY, FLORIDA	1 TANK	4220	4220	Bacon 8/28/97																																																																									
SELECTED BY AND DATE	TYPE OF CONTAINERS	TOTAL WEIGHT	TOTAL CUBE	RECEIVED BY AND DATE	INSPECTED BY AND DATE																																																																										
PACKED BY AND DATE	NO. OF CONTAINERS	TOTAL CUBE	WAREHOUSED BY AND DATE	WAREHOUSE LOCATION																																																																											
MARKS:	BB	CC	DD	EE																																																																											
DESTINATION ADDRESS	DATE SHIPPED	GG																																																																													
TRANSPORTATION CHARGEABLE TO	LOADING, AWB, OR RECEIVER'S SIGNATURE (AND DATE)	RECEIVER'S DOCUMENT NUMBER																																																																													
FORM 134B-1	MAR 74	EDITION OF JAN 64 MAY BE USED UNTIL EXHAUSTED	DOD SINGLE LINE ITEM RELEASE/RECEIPT DOCUMENT																																																																												

2

**ATTACHMENT C**  
**Application for Closure of**  
**Pollutant Storage Tank System**

**Indicate the laboratory that will conduct groundwater analysis.**

Contracted Laboratory U.S. Navy - PWC Phone (850) 452-3180

Contact Mr. Joe Moore FDEP QA/QC 920121G

**Indicate firm(s) transporting and disposing of contaminated soils.**

Firm Transporting Soils Southern Waste Systems, Inc.

Contact Ms. Candace Esparza Phone (850)234-8428

Firm Remediating/Disposing Soils Southern Waste Systems, Inc.

Contact Ms. Candace Esparza Phone (850) 234-8428

Disposal/Remediation Method Landfill

**Indicate the firm(s) that will transport and ultimately dispose of residual product and sludge from the tanks.**

Firm Transporting Residual Product and Sludge Southern Waste Systems, Inc.

(850) 234-8428

Contact Ms. Candace Esparza Phone (850) 234-8428

Firm Receiving/Disposal Residual Product and Sludge Southern Waste Systems, Inc.

(850) 234-8428

Contact Ms. Candace Esparza Phone (850) 234-8428

**Indicate the firm and names of personnel that will conduct field sampling.**

Contracted Firm U.S. Navy - Public Works Center (PWC)

Contact Mr. Paul Semmes, P.E. Phone (850) 452-4315

Person (s) Sampling Mr. Paul Semmes, P.E.

Equipment used for soil screening (Specific Make and Model) Organic Vapor Analyzer

(OVA) Thermo Environmental (680 HVM) equipped w/Flame Ionization Detector (FID).

**ATTACHMENT D**  
**Underground Storage Tank**  
**Installation and Removal Form**



# Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form #	17-761.800(5)
Form Title	Underground Storage Tank Installation & Removal Form for Certified Contractors
Effective Date	December 10, 1990
DER Application No.	(Filed in by DER)

## Underground Storage Tank Installation and Removal Form For Certified Contractors

Pollutant Storage System Specialty Contractors as defined in Section 489.113, Florida Statutes (Certified contractors as defined in Section 17-761.200, Florida Administrative Code) shall use this form to certify that the installation, replacement or removal of the storage tank system(s) located at the address listed below was performed in accordance with Department Reference Standards.

### General Facility Information

- DER Facility Identification No.: N/A
- Facility Name: NSWC Coastal Systems Station Telephone: (850) 235-5859
- Street Address (physical location): Building 98
- Owner Name: CO, Coastal Systems Station Telephone: (850) 235-5859
- Owner Address: 6703 West Highway 98, Panama City, Florida 32407-7001
- Number of Tanks: a. Installed at this time None b. Removed at this time One
- Tank(s) Manufactured by: Unknown
- Date Work Initiated: 8/8/97 9. Date Work Completed: 8/8/97

### Underground Pollutant Tank Installation Checklist

Please certify the completion of the following installation requirements by placing an (X) in the appropriate box.

- The tanks and piping are corrosion resistant and approved for use by State and Federal Laws.
- Excavation, backfill and compaction completed in accordance with NFPA (National Fire Protection Association) 30(87), API (American Petroleum Institute) 1615, PEI (Petroleum Equipment Institute) RP100-87 and the manufacturers' specifications.
- Tanks and piping pretested and installed in accordance with NFPA 30(87), API 1615, PEI/RP100(87) and the manufacturers' specifications.
- Steel tanks and piping are cathodically protected in accordance with NFPA 30(87), API 1632, UL (Underwriters Laboratory) 1746, STI (Steel Tank Institute) R892-89 and the manufacturer's specifications.
- Tanks and piping tested for tightness after installation in accordance with NFPA 30(87) and PEI/RP100-87.
- Monitoring well(s) or other leak detection devices installed and tested in accordance with Section 17-761.640, Florida Administrative Code (F.A.C.)
- Spill and overflow protection devices installed in accordance with Section 17-761.500, F.A.C.
- Secondary containment installed for tanks and piping as applicable in accordance with Section 17-761.500, F.A.C.

**Please Note:** The numbers following the abbreviations (e.g. API 1615) are publication or specification numbers issued by these institutions.

### Underground Pollutant Tank Removal Checklist

- Closure assessment performed in accordance with Section 17-761.800, F.A.C.
- Underground tank removed and disposed of as specified in API 1604 in accordance with Section 17-761.800, F.A.C.

**ATTACHMENT E**  
**Closure Assessment Form**  
**Soil & Groundwater Analyses**



Florida Department of Environmental Protection

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

DEP Form # 62-761.800(3)
Form Title Closure Assessment Form
Effective Date December 16, 1999
DEP Application No. (Filled in by DEP)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage tank closure assessment was performed in accordance with Rule 62-761.800(3) or 62-762.800(3), Florida Administrative Code.

Please Print or Type
Complete All Applicable Blanks

- 1. Date 12/5/97
2. DEP Facility ID Number: N/A
3. County Bay
4. Facility Name: NSWC Coastal Systems Station
5. Facility Owner: Commanding Officer, Coastal Systems Station
6. Facility Address: Building 98
7. Mailing Address: 6703 West Highway 98, Panama City, Florida 32407-7001
8. Telephone Number: (850) 235-5859
9. Facility Operator: Mike Clayton
10. Are the Storage Tank(s): (Circle one or both) A. Aboveground or B. Underground
11. Type of Product(s) Stored: Diesel
12. Were the Tank(s): (Circle one) A. Replaced B. Removed C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks closed: One
14. Age of Tanks: 45

Facility Assessment Information

- Yes No Not Applicable
1. Was a Discharge Reporting Form submitted to the Department?
If yes, When: Where:
2. Is the depth to ground water less than 20 feet?
3. Are monitoring wells present around the storage system?
If yes, please specify Vapor Monitoring Water Monitoring
4. Is there free product present in the monitoring wells or within the excavation?
5. Were the petroleum hydrocarbon vapor levels in the soil greater than 500 parts per million for gasoline?
Specify sample type: Vapor Monitoring wells Soil sample(s)
6. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene?
Specify sample type: Vapor Monitoring wells Soil sample(s)
7. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels?
(See target levels on reverse side of this form and supply laboratory data sheet(s).)
8. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
9. Are any potable wells located within 1/4 of a mile radius of the facility?
10. Is there a surface water body within 1/4 mile radius of the site? If yes, indicate distance: 1000'
11. A detailed drawing or sketch of the facility that includes the storage system location, monitoring wells, buildings, storm drains, sample locations, and dispenser locations must accompany this form.
12. If a facility has a pollutant storage tank system that has both gasoline and kerosene/diesel stored on site, both EPA method 602 and EPA method 610 must be performed on the ground water samples.



**Summary of OVA Readings**  
**Closure Assessment Report**  
**Underground Storage Tank, Building 98**  
**Naval Surface Warfare Center**  
**Coastal Systems Station**  
**Panama City, Florida**

Hand Auger Sample No.	Depth (Feet)	Unfiltered (ppm)	Filtered (ppm)	Total Hydrocarbon Readings (ppm)
SS-1	5	7	5	2
SS-2	5	<1	<1	0
SS-3	5	79	42	37
SS-4	5	60	15	45
SS-5	6	17	4	13
SS-6	6	4	2	2

*Readings for unfiltered samples are total hydrocarbon readings including methane; readings for filtered samples are methane only.*

*Notes: ppm = parts per million.*

# Navy Public Works Center Environmental Laboratory

Bldg. 3887, Code 440  
NAS Pensacola, FL 32508  
Phone (850) 452-3180/3642  
DSN 922-3180/3642  
FAX (850) 452-2799/2387

Client: NPWC Engineering  
Address: Bldg.458, Code 400  
NAS Pensacola, FL 32508  
Phone #: (850) 452-4315  
Contact: Paul Semmes

## Analytical Report

601/602 Volatiles by Method 8260

Lab Report Number: 74947  
Sample Date: 11/13/97  
Received Date: 11/13/97  
Sample Site: Panama City  
Job Order No.: 139 6004

LAB Sample ID#	1- <b>74947</b>			
Sample Name / Location	NAVCSS MW # 98			
Collector's Name	P. Keane			
Date & Time Collected	11/13/97 @ 1340			
Sample Type (composite or grab)	Grab			
Analyt	M. Chambers			
Date of Extraction / Initials	11/14/97 MC			
Date of Analysis	11/14/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 74947	units	Det. Limit	Flags
Benzene	17	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	17	ug/L	1	
Chlorobenzene	BDL	ug/L	1	
Chloroethane	BDL	ug/L	1	
2-Chloroethylvinyl ether	BDL	ug/L	1	
Chloroform	BDL	ug/L	1	
Chloromethane	BDL	ug/L	1	
Dibromochloromethane	BDL	ug/L	1	
1,2-Dichlorobenzene	BDL	ug/L	1	
1,3-Dichlorobenzene	BDL	ug/L	1	
1,4-Dichlorobenzene	BDL	ug/L	1	
Dichlorodifluoromethane	BDL	ug/L	1	
1,1-Dichloroethane	630	ug/L	10	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethene	91	ug/L	1	
trans-1,2-Dichloroethene	BDL	ug/L	1	
1,2-Dichloropropane	BDL	ug/L	1	
cis-1,3-Dichloropropene	BDL	ug/L	1	
trans-1,3-Dichloropropene	BDL	ug/L	1	
Ethylbenzene	90	ug/L	1	
Methylene Chloride	BDL	ug/L	1	
Methyl-tert-butyl ether (MTBE) *	BDL	ug/L	1	
1,1,2,2-Tetrachloroethane	BDL	ug/L	1	
Tetrachloroethene	BDL	ug/L	1	
Toluene	510	ug/L	10	
1,1,1-Trichloroethane	130	ug/L	1	
1,1,2-Trichloroethane	3	ug/L	1	
Trichloroethene	2	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	280	ug/L	1	

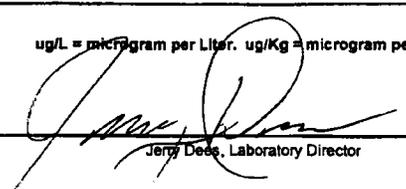
### SURROGATE SPIKE RECOVERIES

	Acceptance	Percent Recovery
	Limits	
1,2-Dichloroethane-d4	75-133	121
Toluene-d8	85-119	104
Bromofluorobenzene	85-116	107

COMMENTS :

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. \* = FL HRS certification pending.

Approved by :

  
Jerry Dees, Laboratory Director

Date: 12/2/97

Report Generated

End of Report

**Navy Public Works Center  
Environmental Laboratory**

Bldg. 3887, Code 440  
NAS Pensacola, FL 32508  
Phone (850) 452-3180/3642  
DSN 922-3180/3642  
FAX (850) 452-2799/2387

Client: NPWC Engineering  
Address: Bldg.458, Code 400  
NAS Pensacola, Fl 32508  
Phone #: (850) 452-4315  
Contact: Paul Semmes

**Analytical Report**

**610 PAH's by Method 8270**

Lab Report Number: 74947  
Sample Date: 11/13/97  
Received Date: 11/13/97  
Sample Site: Panama City  
Job Order No.: 139 6004

LAB Sample ID#	1- <b>74947</b>			
Sample Name / Location	NAVCSS MW # 98			
Collector's Name	P. Keane			
Date & Time Collected	11/13/97 @ 1340			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of Extraction / Initials	11/17/97 JJ			
Date of Analysis	11/21/97			
Sample Matrix	GW			
Dilution	X 1			
<b>Compound Name</b>	<b>1- 74947</b>	<b>units</b>	<b>Det. Limit</b>	<b>Flags</b>
Acenaphthene	3	ug/L	2	
Acenaphthylene	BDL	ug/L	2	
Anthracene	BDL	ug/L	2	
Benzo(a)anthracene	BDL	ug/L	2	
Benzo(a)pyrene	BDL	ug/L	2	
Benzo(b)fluoranthene	BDL	ug/L	2	
Benzo(g,h,i)perylene	BDL	ug/L	2	
Benzo(k)fluoranthene	BDL	ug/L	3	
Chrysene	BDL	ug/L	2	
Dibenz(a,h)anthracene	BDL	ug/L	2	
Fluoranthene	BDL	ug/L	2	
Fluorene	8	ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL	ug/L	2	
1-Methylnaphthalene *	37	ug/L	2	
2-Methylnaphthalene	47	ug/L	3	
Naphthalene	48	ug/L	2	
Phenanthrene	3	ug/L	2	
Pyrene	BDL	ug/L	2	

**SURROGATE SPIKE RECOVERIES**

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	87
2-Fluorobiphenyl	43-116	91
Terphenyl -d14	33-141	70

COMMENTS :

---

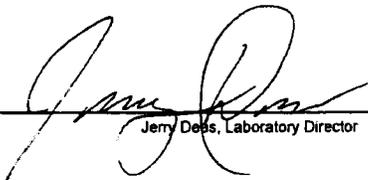


---



---

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram. \* = FL HRS certification pending.

Approved by:   
Jerry Deets, Laboratory Director

Date: 12/2/97  
Report Generated

**Navy Public Works Center  
Environmental Laboratory**

Bldg. 3887, Code 440  
NAS Pensacola, FL 32508  
Phone (850) 452-3180/3642  
DSN 922-3180/3642  
FAX (850) 452-2799/2387

Client: NPWC Engineering  
Address: Bldg.458, Code 400  
NAS Pensacola, Fl 32508  
Phone #: (850) 452-4315  
Contact: Paul Semmes

**Analytical Report**

**Ethylene Dibromide by Method 504**

Lab Report Number: 74947  
Sample Date: 11/13/97  
Received Date: 11/13/97  
Sample Site: Panama City  
Job Order No.: 139 6004

LAB Sample ID#	1- <b>74947</b>			
Sample Name / Location	NAVCSS MW# 98			
Collector's Name	BH/PK			
Date & Time Collected	11/13/97 @ 1340			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / In/Outs	11/20/97 MC			
Date of Analysis	11/21/97			
Sample Matrix	GW			
Dilution	X 5			
<b>Compound Name</b>	<b>1- 74947</b>	<b>units</b>	<b>Det. Limit</b>	<b>Flags</b>
Ethylene Dibromide	2.3	ug/L	0.1	

**SURROGATE SPIKE RECOVERIES**

	Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene	54-140	90

COMMENTS :

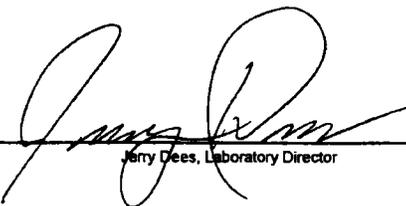
\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

BDL = Below Detection Limit. ug/L = microgram per Liter. ug/Kg = microgram per Kilogram.

Approved by :

  
Jerry Dees, Laboratory Director

Date:

12/2/97  
Report Generated

**Navy Public Works Center  
Environmental Laboratory**

Bldg. 3887, Code 440  
NAS Pensacola, FL 32508  
Phone (850) 452-3180/3642  
DSN 922-3180/3642  
FAX (850) 452-2799/2387

**Client:** NPWC Engineering  
**Address:** Bldg. 458, Code 400  
NAS Pensacola, FL 32508  
**Phone #:** (850) 452-4315  
**Contact:** Paul Semmes

**Analytical Report**

**Petroleum Range Organics by FLPRO**

**Lab Report Number:** 74947  
**Sample Date:** 11/13/97  
**Received Date:** 11/13/97  
**Sample Site:** Panama City  
**Job Order No.:** 139 6004

LAB Sample ID#	1- <b>74947</b>			
Sample Name / Location	NAVCSS MW # 98			
Collector's Name	BHPK			
Date & Time Collected	11/13/97 @ 1340			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	11/17/97 JJ			
Date of Analysis	11/25/97			
Sample Matrix	GW			
Dilution	x 5			
<b>Parameter</b>	<b>1- 74947</b>	<b>units</b>	<b>Det. Limit</b>	<b>Flags</b>
Petroleum Range Organics by FLPRO	7.8	mg/L	1.25	

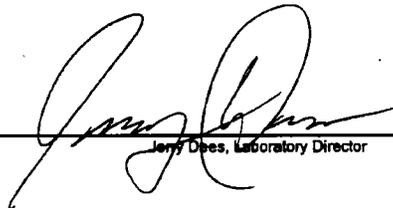
**SURROGATE SPIKE RECOVERIES**

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	74
Nonatriacontane (C-39)	42-193 *	78

COMMENTS : \* = Suggested surrogate recovery limits listed in the method. In-house laboratory limits are in the process of being determined.

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

Approved by :



Jerry Dees, Laboratory Director

Date: 12/2/97

**Navy Public Works Center  
Environmental Laboratory**

Bldg. 3887, Code 440  
NAS Pensacola, FL 32508  
Phone (850) 452-3180/3642  
DSN 922-3180/3642  
FAX (850) 452-2799/2387

Client: NPWC Engineering  
Address: Bldg.458, Code 400  
NAS Pensacola, FI 32508  
Phone #: (850) 452-4315  
Contact: Paul Semmes

**Analytical Report**

**Total Lead by Method 239.2**

Lab Report Number: 74947  
Sample Date: 11/13/97  
Received Date: 11/13/97  
Sample Site: Panama City  
Job Order No.: 139 6004

LAB Sample ID#	1- <b>74947</b>			
Sample Name / Location	NAVCSS MW# 98			
Collector's Name	P. Keane			
Date & Time Collected	11/13/97 @ 1340			
Sample Type (composite or grab)	Grab			
Analyst	B. Nelson			
Date of Analysis	11/17/97			
Sample Matrix	GW			
Dilution	X 1			
Element Name	1- <b>74947</b>	units	Det. Limit	Flags
Lead	BDL	mg/L	0.003	

COMMENTS :

---



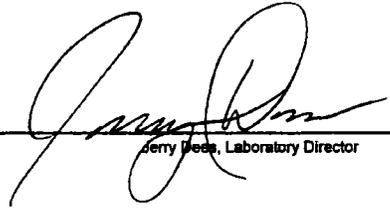
---



---

BDL = Below Detection Limit. mg/L = milligram per Liter. mg/Kg = milligram per Kilogram.

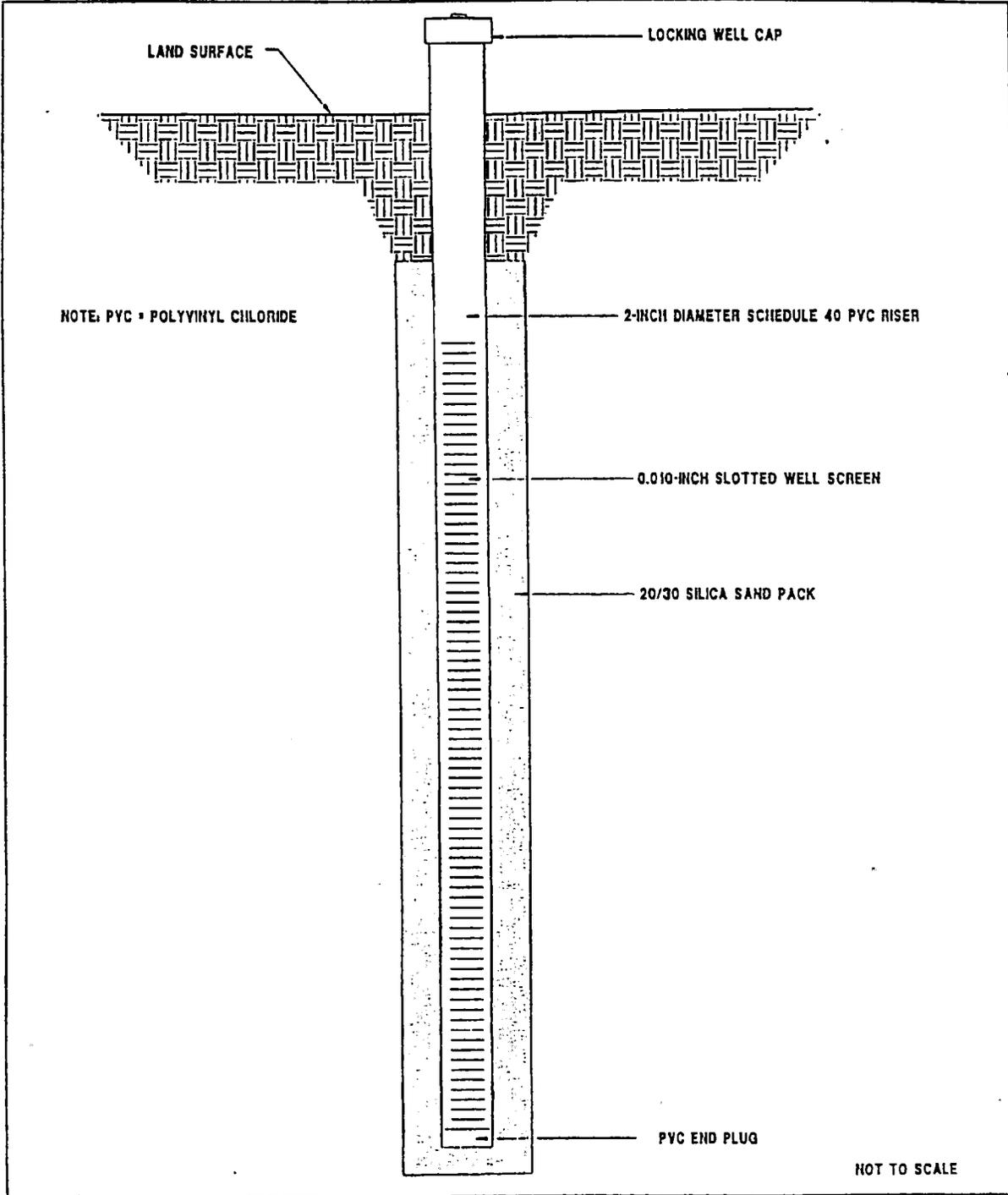
Approved by :



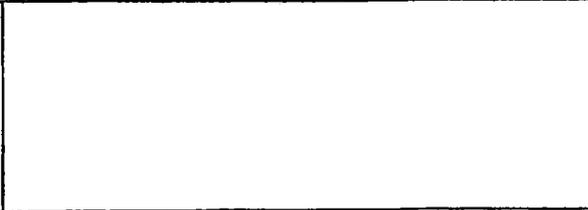
Jerry Dees, Laboratory Director

Date: 12/2/97

Report Generated



TYPICAL TEMPORARY MONITORING WELL  
INSTALLATION DETAIL



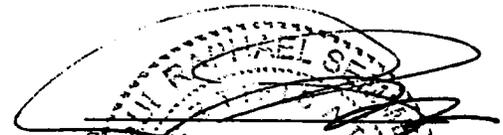
**ATTACHMENT F**  
**Decontamination Certification**

# CERTIFICATE OF DECONTAMINATION

It is hereby certified that the following Storage Tanks located at the Naval Surface Warfare Center, Coastal Systems Station, Panama City, Florida have been decontaminated by the Navy Public Works Center (PWC), Pensacola, Florida:

Bldg 92	Bldg 110	Bldg 300	Bldg 371
Bldg 94	Bldg 129	Bldg 321	
Bldg 98	Bldg 146	Bldg 363	

The Storage Tanks listed above have been triple rinsed and cleaned in accordance with 40 CFR 261.7(b)(3)(i) and have been rendered unusable.

  
Signature  
Paul R Semmes, PE  
Environmental Engineer  
Title  
REGISTERED ENGINEER \*  
FLORIDA  
12/5/97  
Date

**ATTACHMENT G**  
**Petroleum or Petroleum Product**  
**Contamination Report**



Florida Department of Environmental Regulation  
Twin Towers Office Bldg. • 2400 Blair Stone Road • Tallahassee, Florida 32399-2400

Form with fields for Name, Address, and Phone Number, partially obscured.

### Petroleum or Petroleum Product Contamination Report Form

DER Facility ID: 038518667

Facility Name: NSWC Coastal Systems Station

Facility Address: 6703 West Hwy 98

Panama City, FL 32407-7001

County: Bay

Other Names for this Site: Building #98 (Property Disposal Office) Heating Oil Tank (550 GL) installed 1952.

Contact Person's Name: Mike Clayton

Contact Person's Phone No.: (850) 235-5859

Contact Person's Address: Coastal Systems Station, Code CP2SMC  
6703 West Hwy 98, Panama City, FL 32407-7001

Date of Discovery: August 8, 1997

Type of Product Discharged: Heating Oil (Diesel)

Estimated Amount of Product Lost: Unknown

How did Discharge occur? (Tank leak, Pipe leak, Truck Accident, Explosion, etc.) Overfill and holes in tank.

What has been done to prevent a further Discharge? Tank has been removed along with contaminated soil down to the groundwater. Ground water analysis will dictate further Contamination Assessment requirements.

To the best of my knowledge, all information on this form is true, accurate, and complete.

*[Signature]*  
Signature of Owner, Authorized Representative, Operator

U.S. Navy  
Print Name of Owner or Operator  
Date 8/26/97

Submit this form to the appropriate district office at the address below

KEEP A COPY OF THIS FORM FOR YOUR RECORDS.

Regional Office  
1000 Government Center  
Panama City, Florida 32407

Regional Office  
2400 Blair Stone Road  
Tallahassee, Florida 32399

Regional Office  
1000 Government Center  
Panama City, Florida 32407

Regional Office  
1000 Government Center  
Panama City, Florida 32407

Regional Office  
1000 Government Center  
Panama City, Florida 32407

Regional Office  
1000 Government Center  
Panama City, Florida 32407