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NSA PANAMA CITY
5090.3a

CLOSURE ASSESSMENT REPORT FOR UNDERGROUND STORAGE TANK 172 NSA
PANAMA CITY FL
12/1/1997
NAVY PUBLIC WORKS CENTER

CLOSURE ASSESSMENT REPORT
UNDERGROUND STORAGE TANK
TANK 172

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

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Naval Surface Warfare Center
Coastal Systems Station
Panama City, Florida

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GLOSSARY

AST	Aboveground Storage Tank
CSS	Coastal Systems Station, Panama City, Florida
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
TANK 172

1.0 Facility

Facility 146, 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

11 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 2000 gallon underground storage tank (UST) system along the west dock, Facility 146, CSS Panama City (Figure 2). The UST was removed, cleaned and rendered unuseable by PWC. Photographs of the removal are provided in Attachment A. The UST was properly disposed by Southern Waste Systems, Inc, (SWS), Panama City, Florida (Attachment B).

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

6.0 Tank Contents

The UST was used to store gasoline for water vessel operation. 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 seperated from the water and incinerated.

7.0 Tank Condition

The UST was cylindrically shaped and constructed of fiberglass. The UST was in good condition at the time of removal.

8.0 Excavation Area

The excavation was made approximately eight (8) feet wide, twelve (12) feet long and five (5) feet deep. The excavation was filled with clean fill, compacted to grade, and paved with concrete.

9.0 Soil Screening

Four (4) 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 each corner of the excavation. The soil samples were extracted above the groundwater level which was approximately five feet below grade. The soil boring locations and results are provided in Attachment F.

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, 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 F.

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

There was no petroleum contamination detected above the state target levels for storage tank closures.

12.0 Recommendations

This site is recommended for No Further Action.

13.0 Closure Assessment

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

14.0 Project Manager

Paul R. Semmes, P.E.

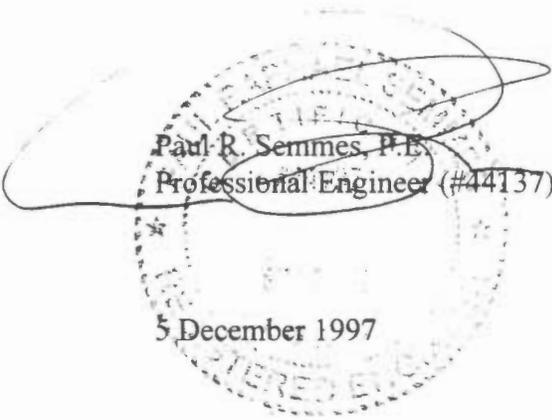
15.0 Project Number

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.

A circular professional engineer seal for the State of Florida. The seal contains the text "STATE OF FLORIDA" at the top, "PROFESSIONAL ENGINEER" at the bottom, and "REGISTERED" at the very bottom. The seal is partially obscured by a signature and the text below it.

Paul R. Semmes, P.E.
Professional Engineer (#44137)

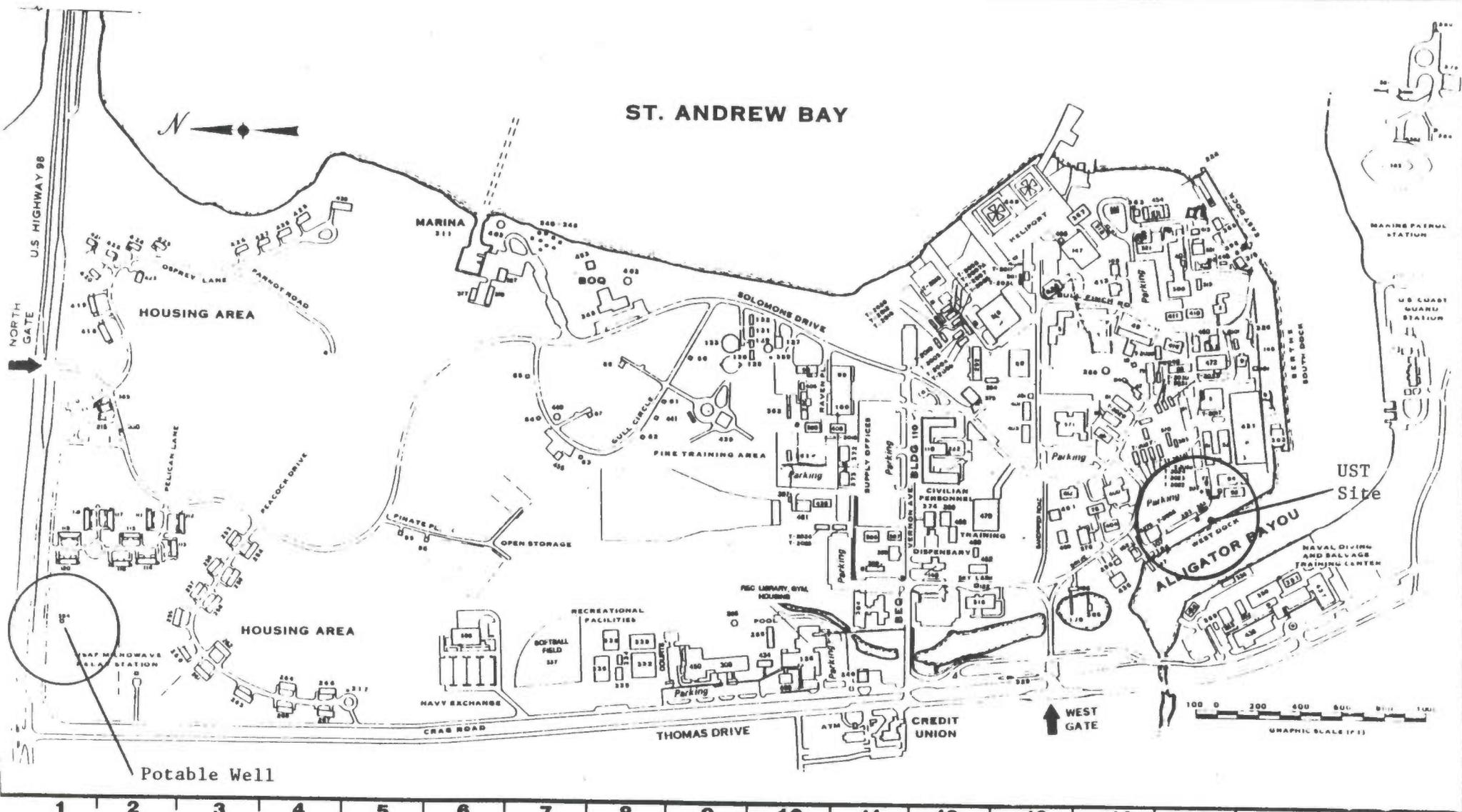
5 December 1997

FIGURES

FIGURE 1
Vicinity Map

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

ST. ANDREW BAY



Potable Well

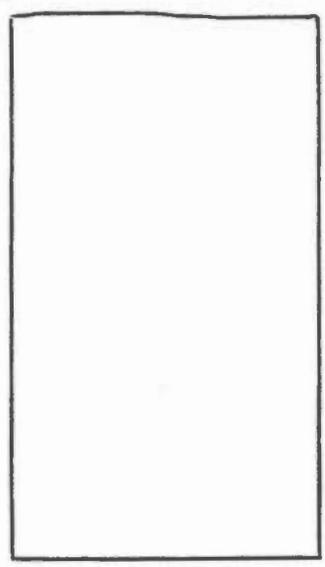
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

FIGURE 2
Site Map

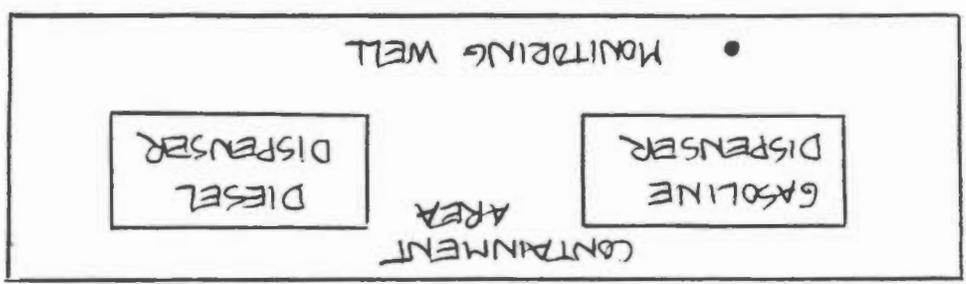
PROJECT NUMBER		DATE	
PROJECT NAME		DRAWN BY	
CLIENT		SCALE	
SHEET NO.		SHEET TOTAL	
DATE		PROJECT LOCATION	
DRAWN BY		CHECKED BY	
DATE		PROJECT NO.	
PROJECT NAME		PROJECT LOCATION	
PROJECT NO.		PROJECT LOCATION	



• SS-4 • SS-3



• SS-2 • SS-1



ATTACHMENTS

ATTACHMENT A
Photographs



ATTACHMENT B
Disposal Document - UST



800-852-8878

December 5, 1997

C.O. - Code 423.3
Paul Semmes
310 John Tower Road
Pensacola, Florida 32508

Dear Paul:

Enclosed are the copies of the disposal ticket for the fiberglass tanks from OWS 363, 371, and 146. Also enclosed are copies of disposal of the liquid for 363 OWS.

These documents certify that all waste was disposed of properly and in a timely fashion. The original manifest have been sent to Coastal System Stations.

If I can be of further assistance please feel free to contact me at 850-234-8428.

Sincerely,

Candace M. Esparza
Southern Waste Service

Panama City

Ft. Myers

Pensacola

Ft. Lauderdale

Tampa Bay

Montgomery

Savannah

STEELFIELD LANDFILL
 P O BOX 1230
 PANAMA CITY, FL 32402

001013
 SOUTHERN WASTE SERVICES
 HARRY MARSH
 1619 HOYLAN ROAD
 PANAMA CITY BEACH FL 32407

SITE	TICKET	GRID
02	102123	
WEIGHMASTER		
BRANNING		
DATE IN		TIME IN
09/19/97		10:40
DATE OUT		TIME OUT
09/19/97		11:03

VEHICLE	ROLL OFF

REFERENCE	ORIGIN
	FCB

Scale Gross Weight 43200 LB Inbound - Cash ticket
 Scale 1 Tare Weight 33680 LB
 Net Weight 9520 LB

QTY.	DESCRIPTION	AMOUNT
4.75	C CGD UNSIZED/NER-TN @ \$ 25.00 per TON	119.00
FILE		

OK # 7600

VEH & CAN 6002-1
 DRIVER DON

Operating hours...7:00 AM to 4:00 PM Monday through Saturday
 *** This is to certify that this load does not contain any hazardous materials, medical waste, fluorescent light tubes, motor oils, car batteries or liquids of any type.

SIGNATURE X *[Signature]*

NET AMOUNT	119.00
TENDERED	119.00
CHANGE	0.00

CR# 7600

ATTACHMENT C
Storage Tank Registration Form



Florida Department of Environmental Regulation

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

DER Form # 17-781.800(2)
 Form Title Storage Tank Registration Form
 Effective Date December 31, 1990
 DER Application No. _____
 Filed in by DER

Storage Tank Registration Form

Please Print or Type - Review Instructions Before Completing Form

1. DER Facility ID Number: 038518667 2. Facility Type: (F) FEDERAL
 3. New Registration New Owner Data Facility Revision Tank(s) Revision
 4. County and Code of tank(s) location: BAY / 03

5. Facility Name: NSWC Coastal Systems Station
 Tank(s) Address: 6703 West Hwy 98
 City/State/Zip: Panama City, FL 32407-7001
 Contact Person: Mike Clayton, Code CP2S Telephone: (850) 235-5859
 6. Financial Responsibility Type: C

7a. Tank(s) Owner: U.S. Navy (NSWC Coastal Systems Station)
 Owner Mailing Address: 6703 West Hwy 98
 City/State/Zip: Panama City, FL 32407-7001
 Contact Person: Mike Clayton, Code CP2S Telephone: (850) 235-5859

7b. New Owner Signature/Change Date: N/A / ___/___/___

8. Location (optional) Latitude: ___° ___' ___" Longitude: ___° ___' ___" Section ___ Township ___ Range ___

Complete One Line For Each Tank At This Facility (Use Codes - See Instructions)

Complete 9 - 16 for tanks in use; 9 - 19 for tanks out of use

9	10	11	12	13	14	15	16	17	18	19
G110AB	500	H	xx/82	U	CM	B	X	B	0	8/97
G129	550	H	xx/79	U	CMN	B	X	B	0	8/97
G322	1175	H	xx/75	U	CMN	B	D	B	0	8/97
363	6000	L	xx/81	U	EM	B	B	B	0	8/97
172	2000	B	xx/80	U	EMN	DI	DM	B	0	8/97

20. Naval Public Works Center, Pensacola, FL DPR# _____
 Certified Contractor Department of Professional Regulation License Number

*For new tank installation or tank removal

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

J. M. CROSS, DIRECTOR, SAFETY & ENV.
 Print name & title of owner or authorized person

Rid [Signature] for J.M. Cross
 Signature

22 Aug 97
 Date ENCL

ATTACHMENT D
Application for Closure of
Pollutant Storage Tank System

APPLICATION FOR CLOSURE OF POLLUTANT STORAGE TANK SYSTEM

Provide the facility information requested below.

FDEP Facility # 03/8518667 Facility Name NSWC - CSS

Facility Location Building 146 (TANK #172)

Property Owner Commanding Officer, Coastal Systems Station (Code P25)

Property Owner Address 6703 West Highway, 98 Panama City, Florida 32407-7001

Phone (850) 235-5859

Method of Tank Closure Removal

Pollutant Storage Systems Specialty Contractor (PSSSC) who will be on site supervising closure activities. Attach copy of PSSSC license.

Individual Licensed as PSSSC N/A PSSSC # N/A

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

Address 310 John Tower Road, Pensacola, FL 32508

Indicate the firm (s) that will degas, remove, and transport the tank(s), and the method of degassification.

Degassification Method Air Eduction (API 1604-4.2.5)

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

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

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

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

Firm Receiving Tanks for Ultimate Disposal U.S. Navy - DRMO

Contact Mr. Gayle Brown Phone (850) 452-3459

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 E
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.: 03/8518667
- Facility Name: NSWC Coastal Systems Station Telephone: (235) 5859
- Street Address (physical location): Building 146 (TANK #172)
- 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: 8/11/97 9. Date Work Completed: 8/11/97

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 F
Closure Assessment Form
Soil & Groundwater Analyses



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 system 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: 03/8518667 3. County Bay
- 4. Facility Name: NSWC Coastal Systems Station
- 5. Facility Owner: Commanding Officer, Coastal Systems Station
- 6. Facility Address: Building 146 (TANK #172)
- 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: Gasoline
- 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: 17

Facility Assessment Information

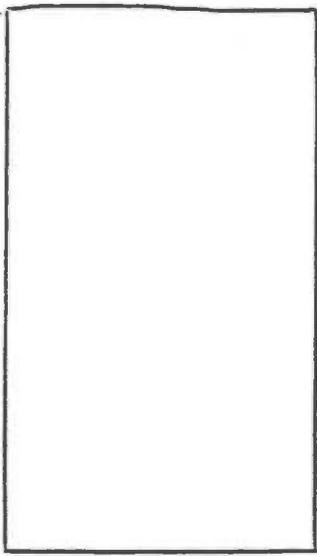
- | Yes | No | Not Applicable | |
|-------------------------------------|-------------------------------------|-------------------------------------|--|
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 1. Was a Discharge Reporting Form submitted to the Department?
If yes, When: _____ Where: _____ |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 2. Is the depth to ground water less than 20 feet? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 3. Are monitoring wells present around the storage system?
If yes, please specify <input type="checkbox"/> Vapor Monitoring <input checked="" type="checkbox"/> Water Monitoring |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 4. Is there free product present in the monitoring wells or within the excavation? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 5. Were the petroleum hydrocarbon vapor levels in the soil greater than 500 parts per million for gasoline?
Specify sample type: <input type="checkbox"/> Vapor Monitoring wells <input checked="" type="checkbox"/> Soil sample(s) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 6. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene?
Specify sample type: <input type="checkbox"/> Vapor Monitoring wells <input type="checkbox"/> Soil sample(s) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 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).) |
| <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | 8. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release? |
| <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | 9. Are any potable wells located within 1/4 of a mile radius of the facility? |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 10. Is there a surface water body within 1/4 mile radius of the site? If yes, indicate distance: <u>10'</u> |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 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. |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | 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. |

NAVAL AIR STATION		DATE	
PROJECT NO.		DRAWING NO.	
SCALE		SHEET NO.	
DESIGNED BY		CHECKED BY	
DRAWN BY		APPROVED BY	
DATE		DATE	



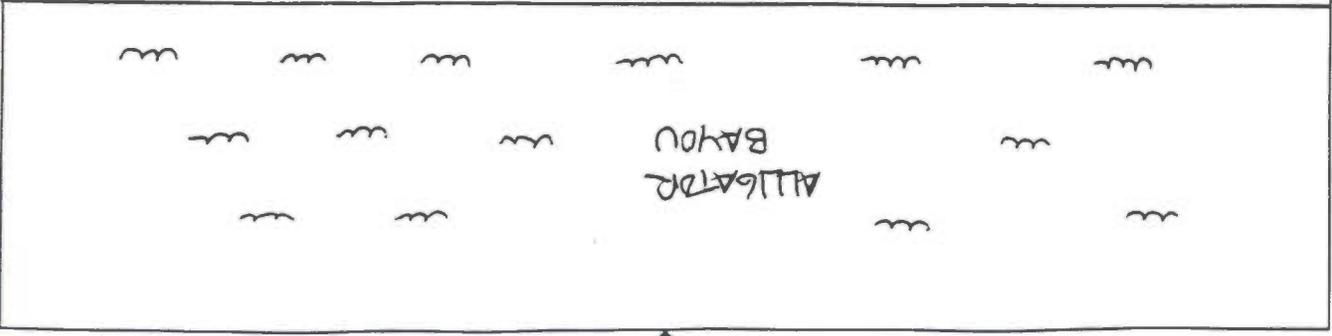
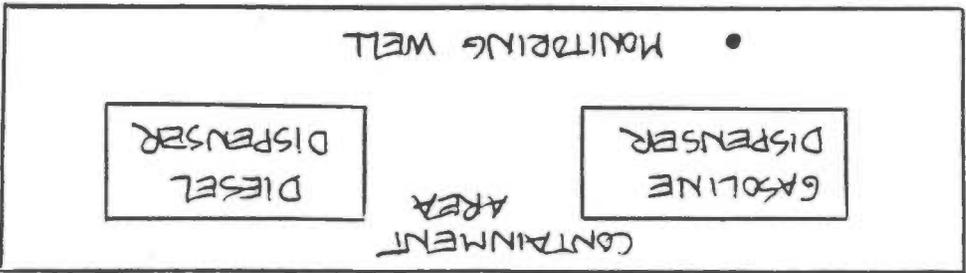
SS-4

SS-3



SS-2

SS-1



Summary of OVA Readings

Closure Assessment Report Underground Storage Tank, Tank 172 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	3	<1	3
SS-2	5	5	1	4
SS-3	5	68	63	5
SS-4	5	<1	<1	0

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: 74942
Sample Date: 11/13/97
Received Date: 11/13/97
Sample Site: Panama City
Job Order No.: 139 6004

LAB Sample ID#	1- 74942			
Sample Name / Location	NAVCSS MW # 172			
Collector's Name	P. Keane			
Date & Time Collected	11/13/97 @ 0920			
Sample Type (composite or grab)	Grab			
Analyst	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- 74942	units	Det. Limit	Flags
Benzene	BDL	ug/L	1	
Bromodichloromethane	BDL	ug/L	1	
Bromoform	BDL	ug/L	2	
Bromomethane	BDL	ug/L	3	
Carbon Tetrachloride	BDL	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	BDL	ug/L	1	
1,2-Dichloroethane	BDL	ug/L	1	
1,1-Dichloroethane	BDL	ug/L	1	
trans-1,2-Dichloroethane	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	BDL	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	
Tetrachloroethane	BDL	ug/L	1	
Toluene	BDL	ug/L	1	
1,1,1-Trichloroethane	BDL	ug/L	1	
1,1,2-Trichloroethane	BDL	ug/L	1	
Trichloroethane	BDL	ug/L	1	
Trichlorofluoromethane	BDL	ug/L	1	
Vinyl Chloride	BDL	ug/L	1	
Xylenes (Total)	BDL	ug/L	1	

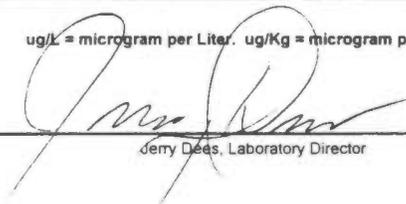
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
1,2-Dichloroethane-d4	75-133	121
Toluene-d8	86-119	101
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 Deas, 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

610 PAH's by Method 8270

Lab Report Number: 74942
Sample Date: 11/13/97
Received Date: 11/13/97
Sample Site: Panama City
Job Order No.: 139 6004

LAB Sample ID#	1- 74942				
Sample Name / Location	NAVCSS MW # 172				
Collector's Name	P. Keane				
Date & Time Collected	11/13/97 @ 0920				
Sample Type (composite or grab)	Grab				
Analyst	J. Moore				
Date of Extraction / Initials	11/17/97 JJ				
Date of Analysis	11/20/97				
Sample Matrix	GW				
Dilution	X 1				
Compound Name	1-	74942	units	Det. Limit	Flags
Acenaphthene	BDL		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	BDL		ug/L	2	
Indeno(1,2,3-cd)pyrene	BDL		ug/L	2	
1-Methylnaphthalene *	BDL		ug/L	2	
2-Methylnaphthalene	BDL		ug/L	3	
Naphthalene	BDL		ug/L	2	
Phenanthrene	BDL		ug/L	2	
Pyrene	BDL		ug/L	2	

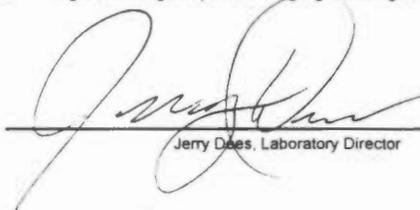
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
Nitrobenzene- d5	35-114	87
2-Fluorobiphenyl	43-116	96
Terphenyl -d14	33-141	86

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

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**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: 74942
 Sample Date: 11/13/97
 Received Date: 11/13/97
 Sample Site: Panama City
 Job Order No.: 139 6004

LAB Sample ID#	1- 74942			
Sample Name / Location	NAVCSS MW # 172			
Collector's Name	BH/PK			
Date & Time Collected	11/13/97 @ 0920			
Sample Type (composite or grab)	Grab			
Analyst	M. Chambers			
Date of Extraction / Initials	11/20/97 MC			
Date of Analysis	11/20/97			
Sample Matrix	GW			
Dilution	X 1			
Compound Name	1- 74942	units	Det. Limit	Flags
Ethylene Dibromide	BDL	ug/L	0.02	

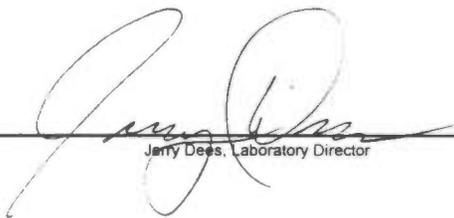
SURROGATE SPIKE RECOVERIES

Acceptance Limits	Percent Recovery
Tetra-Chloro-m-Xylene 54-140	94

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
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Navy Public Works Center

Analytical Report

Environmental Laboratory

Petroleum Range Organics by FLPRO

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 NAS Pensacola, FL 32508
 Phone #: (850) 452-4315
 Contact: Paul Semmes

Lab Report Number: 74942
 Sample Date: 11/13/97
 Received Date: 11/13/97
 Sample Site: Panama City
 Job Order No.: 139 6004

LAB Sample ID#	1- 74942			
Sample Name / Location	NAVCSS MW # 172			
Collector's Name	BH/PK			
Date & Time Collected	11/13/97 @ 0920			
Sample Type (composite or grab)	Grab			
Analyst	J. Moore			
Date of extraction / Initials	11/17/97 JJ			
Date of Analysis	11/24/97			
Sample Matrix	GW			
Dilution	x 1			
Parameter	1- 74942	units	Det. Limit	Flags
Petroleum Range Organics by FLPRO	BDL	mg/L	0.25	

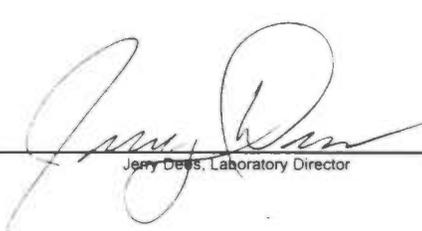
SURROGATE SPIKE RECOVERIES

	Acceptance Limits	Percent Recovery
ortho-Terphenyl	82-142 *	72
Nonatriacontane (C-39)	42-193 *	74

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

Analytical Report

Total Lead by Method 239.2

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 NAS Pensacola, FI 32508
 Phone #: (850) 452-4315
 Contact: Paul Semmes

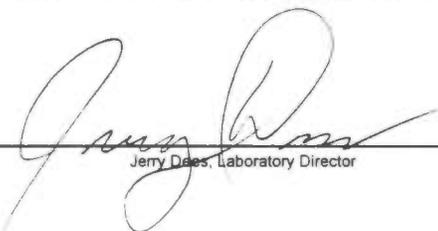
Lab Report Number: 74942
 Sample Date: 11/13/97
 Received Date: 11/13/97
 Sample Site: Panama City
 Job Order No.: 139 6004

LAB Sample ID#	1- 74942			
Sample Name / Location	NAVCSS MW # 172			
Collector's Name	P. Keane			
Date & Time Collected	11/13/97 @ 0920			
Sample Type (composite or grab)	Grab			
Analyst	B. Nelson			
Date of Analysis	11/17/97			
Sample Matrix	GW			
Dilution	X 1			
Element Name	1- 74942	units	Det. Limit	Flags
Lead	0.015	mg/L	0.003	

COMMENTS :

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

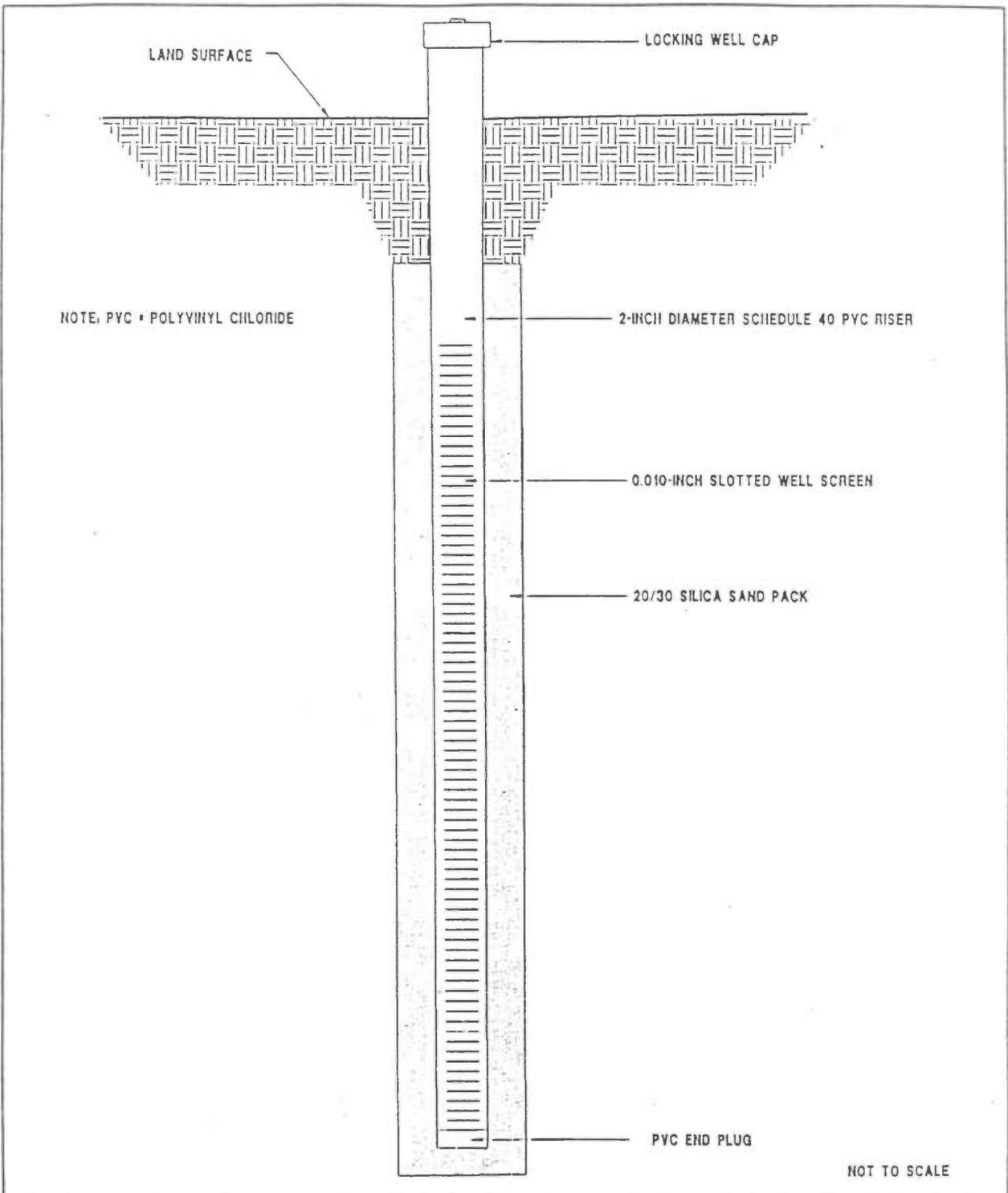
Approved by :



Jerry Dues, Laboratory Director

Date: 12/2/97

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TYPICAL TEMPORARY MONITORING WELL
INSTALLATION DETAIL

ATTACHMENT G
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 (TANK #52)	Bldg 129	Bldg 321 (TANK #J22)	
Bldg 98	Bldg 146 (TANK #172)	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
12/5/97
Date

(Note: A circular professional seal for Paul R Semmes, PE, Registered Professional Engineer, Florida, is partially obscured by the signature and the date.)