N60200.AR.003156
NAS CECIL FIELD, FL
5090.3a

UNDERGROUND STORAGE TANK CLOSURE REPORT FOR BUILDING 858 NAS CECIL FIELD FL

12/1/2001

CH2MHILL CONSTRUCTORS INC

Underground Storage Tank Closure Report
Building 858

NAS Cecil Field
Jacksonville, Florida

Contract No. N62467-98-D-0995
Contract Task Order No. 0029

Revision No. 00

Submitted to:

U.S. Naval Facilities
Engineering Command
Southern Division

Prepared by:

CH2MHILL
Constructors, Inc.

115 Perimeter Center Place, N.E.
Suite 700
Atlanta, GA 30346

December 2001

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Underground Storage Tank Closure Report
Building 858

Contract No. N62467-98-D-0995
Contract Task Order No. 0029

NAS Cecil Field
Jacksonville, Florida

Submitted to:

U.S. Naval Facilities
Engineering Command
Southern Division

Prepared by:

CH2MHILL
Constructors, Inc.

December 2001

Prepared/Approved By:

Samuel M. Ross, Project Manager — Date

Approved By:

R. Scott Newman, Program Manager — Date

Client Acceptance:

U.S. Navy Responsible Authority — Date

Certification of Technical Data Conformity (December 2001)

The contractor, CH2M HILL Constructors, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0029 is complete and accurate and complies with all requirements of this contract.

Date:_____

Name and Title of Certifying Official:

_____

Samuel M. Ross
Project Manager

Certification of Completion

CH2M HILL Constructors, Inc., attests that, to the best of its knowledge and belief, the closure of the 2,000-gallon underground storage tank located at Building 858, delivered under Contract No. N62467-98-D-0995, Naval Air Station Cecil Field, Jacksonville, Florida, Contract Task Order (CTO) No. 0029, has been completed, inspected, and tested, and is in compliance with the contract.

_____ _____

Project QC Manager Date

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Acronyms

bls	below land surface
CCI	CH2M HILL Constructors Inc.
CTO	Contract Task Order
EPA	U.S. Environmental Protection Agency
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FID	flame ionization detector
FL-PRO	Florida Petroleum Residual Organic
GCTLs	Groundwater Cleanup Target Levels
HLA	Harding Lawson Associates
KAG	Kerosene Analytical Group
NADSC	Natural Attenuation Default Source Concentrations (per FAC Chapter 62-770 and 62-777)
NAS	Naval Air Station
NAVFAC	Naval Facilities Engineering Command
OVA	Organic Vapor Analyzer
PAHs	Polynuclear Aromatic Hydrocarbons
PCB	polychlorinated biphenyl
ppm	parts per million
SCTLs	Soil Cleanup Target Levels
TCL	target compound list
TPH	total petroleum hydrocarbon
TRPH	total recoverable petroleum hydrocarbons
UST	underground storage tank
VOC	volatile organic compound

1.0 Introduction

CH2M HILL Constructors, Inc. (CCI) was contracted by the Southern Division Naval Facilities Engineering Command (NAVFAC) to perform an underground storage tank (UST) closure assessment at Building 858 at Former Naval Air Station (NAS) Cecil Field in Jacksonville, Florida. The closure assessment was conducted in accordance with the Florida Department of Environmental Protection (FDEP) Petroleum Storage Tank Chapter 62-761, Florida Administrative Code (FAC) and the FDEP Pollutant Storage Tank Closure Assessment Requirements.

A Work Plan Addendum was not prepared for the scope of work based upon Technical Direction from the Naval Facilities Engineering Command, Southern Division. This work was authorized under Response Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0029.

1.1 Site Background

Building 858 was used to house the aircraft training simulators at NAS Cecil Field. No information could be obtained from previous (U.S. Navy) or current property owners (Jacksonville Port Authority) concerning historical usage of the UST. It is assumed that the UST at Building 858 was used to store home heating fuel, (exempt from Florida Pollutant Storage Tank Regulations) and was consequently never registered. The tank was located below the air conditioning plant along the south side of the building.

1.2 Project Objectives

The primary objective of this project was to close the UST located at Building 858 in accordance with the Chapter 62-761 FAC and the FDEP guidance document " Storage Tank System Closure Assessment Requirements." The FDEP allows the use of organic vapor analyzer (OVA) headspace analysis as a screening tool in evaluating whether soil samples exceed the FDEP Soil Cleanup Target Levels (SCTLs). In this procedure, two clean 16-ounce, wide mouth glass jars are half-filled with the soil sample to be tested, each jar is then sealed with aluminum foil, and allowed to equilibrate at ambient temperatures for a period of 5 to 10 minutes. The organic vapor concentration in the headspace of each jar is then analyzed using the OVA/flame ionization detector (FID). One jar was analyzed with a carbon filter and the other jar without a carbon filter in order to detect and correct for the presence of naturally occurring organic vapors (i.e., methane). The corrected reading is reported in parts per million (ppm), and represents the concentration of organic vapor from the soil sample resulting from the presence of volatile petroleum hydrocarbon compounds in the sample. Soil exhibiting a volatile organic compound (VOC) concentration of greater than 10 ppm was considered to be contaminated and was expected to contain constituents exceeding the SCTLs.

Soils borings were advanced around the tank and samples were screened every 1 foot until the water table was reached. A confirmatory sample was taken at the location that yielded

the highest OVA reading and analyzed for the Kerosene Analytical Group (KAG). The KAG analyses for soils includes VOCs by Environmental Protection Agency (EPA) Method 8260B, polynuclear aromatic hydrocarbons (PAHs) by EPA Method 8270C, and total recoverable petroleum hydrocarbons (TRPH) by the Florida Petroleum Residual Organic (FL-PRO) method. A confirmatory water sample was also obtained and analyzed for the KAG.

2.0 Closure Activities

Assessment, closure, and disposal activities are described below. Project photographs are provided in Appendix A.

2.1 Closure Assessment Activities

A closure assessment was conducted at Building 858 on August 16, 2001. Soil borings were advanced around the tank and soil samples were screened using an OVA equipped with an FID in accordance with the procedures outlined in Chapter 62-770.200(8) FAC. Soil samples were collected and screened at 1-foot intervals until the water table was reached (approximately 5.5 feet below land surface [bls]). Confirmatory soil and water samples were collected for laboratory analysis at Soil Boring 2, which exhibited the highest OVA concentration during the closure assessment. The results of the soil and water confirmation samples indicated no petroleum concentrations above FDEP SCTLs or Groundwater Cleanup Target Levels (GCTLs). The temporary well and soil boring locations are shown on Figure 2-1. The results of the headspace, confirmatory soil, and confirmatory groundwater analyses are listed in Tables 2-1, 2-2, and 2-3, respectively. Analytical laboratory reports for confirmatory soil and groundwater analyses are provided in Appendices B and C, respectively.

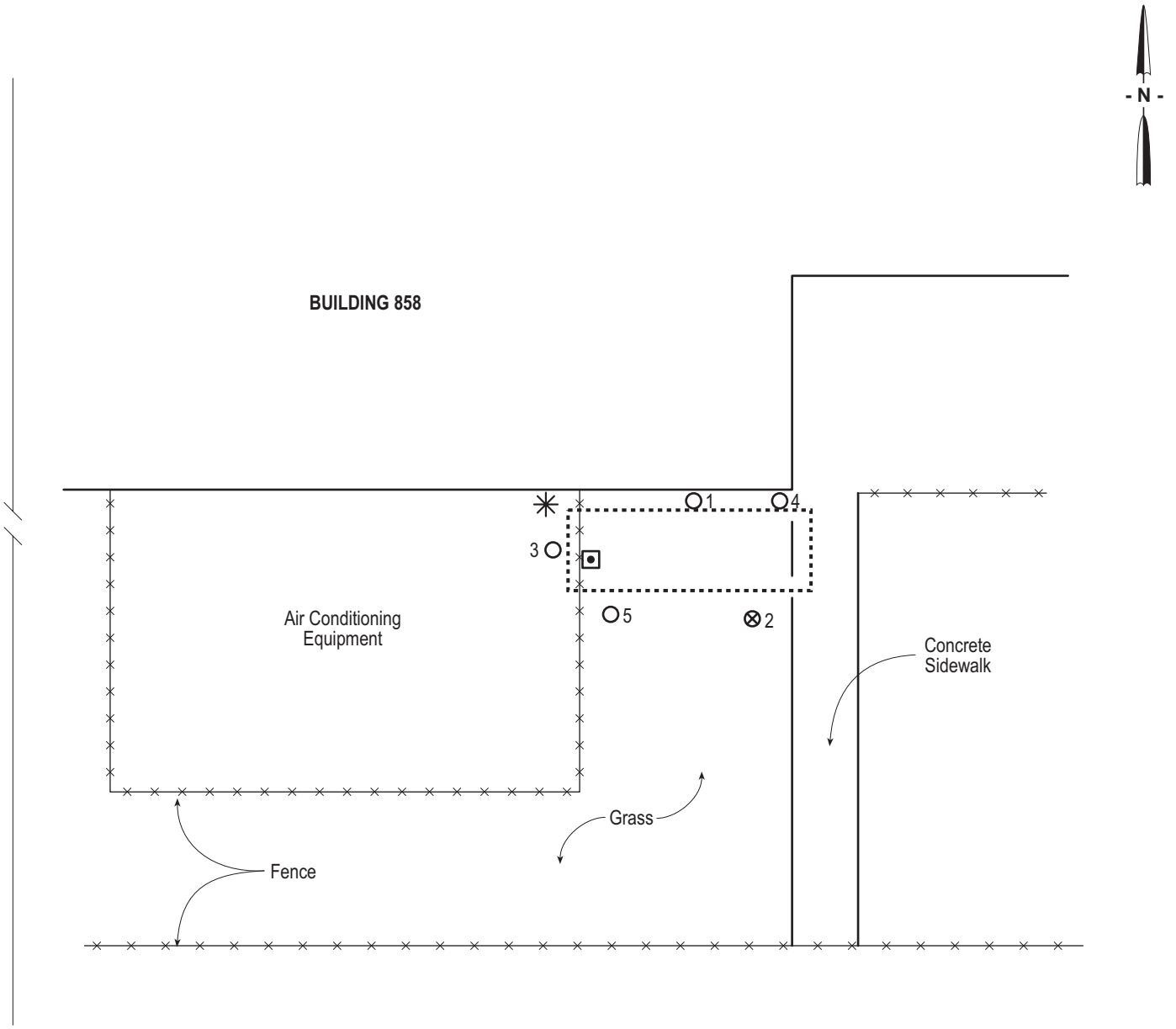
2.2 Tank Closure Activities

Because the tank was located below the air conditioning equipment and along south side of the building, it was determined that the tank would be closed in place. Prior to the removal of the residual liquids in the tank, a waste characterization sample was collected using a Teflon bailer. Sample containers provided by the designated laboratory (GPL Laboratories) were appropriately labeled, preserved, sealed in zip-lock type bags, placed on wet ice, and delivered, under standard chain of custody procedures, to an approved laboratory for analysis, as follows: target compound list (TCL) volatiles, TCL semi-volatiles, TCL pesticides, TCL herbicides, TCL metals, total petroleum hydrocarbon (TPH), polychlorinated biphenyls (PCB), ignitability, corrosivity, and reactivity.

On October 2, 2001, the UST at Building 858 was emptied, cleaned using the triple rinse method, and closed in place by filling the tank with an inert material (Perma-Fill System – FDEP Approval Number EQ-022) in accordance with Chapter 62-761 FAC and the FDEP Storage Tank System Closure Assessment Requirements (April 1998). The Waste profile and results of the waste characterization are provided in Appendix D, and the required FDEP forms documenting the UST closure are provided in Appendix E.

2.3 Waste Disposal

Prior to the tank being closed in place, approximately 1,000 gallons of residual liquid and wash water was removed from the tank with a vacuum truck, transported by an approved



Scale in Feet

0 10

LEGEND:

- Location of Soil Boring
- Location of Temporary Well and Confirmation Sample
- Tank Fill
- Tank Vent

Figure 2-1
Soil Boring Locations
Building 858
NAS Cecil Field, Jacksonville, Florida

CH2MHILL

A102001004ATL - Cecil 105.fh8

waste hauler (Environmental Remediation Services), and disposed of at an approved disposal facility (Industrial Water Service). A manifest showing the disposal of 2,280 gallons of liquid disposed (1,000 gallons from Building 858, and 1280 gallons from other locations around NAS Cecil Field) is provided in Appendix F and the Certificate of Disposal showing the proper disposal of the liquid is presented in Appendix G.

TABLE 2-1
Summary of Headspace Screening Results

Sample Location (see Figure 2-1)	Depth (feet bls)	FID Unfiltered (ppm)	FID with Filter (ppm)	FID Net (ppm)
SB1	1	ND	NR	ND
SB1	2	1	NR	1
SB1	3	2	NR	2
SB1	4	1	NR	1
SB1	5	10	2	8
SB1	6	9	NR	9
SB2	1	0.5	NR	0.5
SB2	2	0.5	NR	0.5
SB2	3	1	NR	1
SB2	4	400	389	11
SB2	5	23	12	11
SB2	6	17	12	5
SB3	1	2	NR	2
SB3	2	3	1	2
SB3	3	2	NR	2
SB3	4	11	6	5
SB3	5	2	NR	2
SB3	6	5	NR	5
SB4	1	1	NR	1
SB4	2	1	NR	1
SB4	3	1	NR	1
SB4	4	3	NR	3
SB5	1	2	NR	2
SB5	2	1	NR	1
SB5	3	8	6	2
SB5	4	5	NR	5
SB5	5	2	NR	2
SB5	6	3	NR	3

FID – flame ionization detector
ppm – parts per million
bls – below land surface
NR – no reading
ND – non detect

TABLE 2-2
Summary of KAG Analyses for Soil (mg/kg)

Sample Location	Depth	Sample ID	Date	TRPH	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) Anthracene	Benzo (a) Pyrene	Benzo (b) Fluoranthene	Benzo (ghi) Perylene	Benzo (k) Fluoranthene	Chrysene	Dibenzo (ah) Anthracene	Fluoranthene	Fluorene	Indeno (123cd) Pyrene	Phenanthrene	Pyrene	Naphthalene	1- Methylnaphthalene	2- Methylnaphthalene	Chloromethane	Methylene Chloride	Benzene	Ethylbenzene	Toluene	Xylenes	MTBE
BLDG 858 SB2	4.5'	029-858-S-0816	08/16/2001	16.0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.003	0.004	ND	ND	ND	ND	ND
*FDEP Soil Cleanup Target Levels (Leachability)				340	2.1	27	2500	3.2	8.0	10.0	32000	25	77	30	1200	160	28	250	880	1.7	2.2	6.1	0.01	0.02	0.007	0.01	0.02	0.02	0.2
*FDEP Soil Cleanup Target Levels (Direct Exposure Residential)				340	1900	1100	18000	1.4	0.1	1.4	2300	15	140	0.1	2900	2200	1.5	2000	2200	40	68	80	1.7	16	1.1	1.7	16	16	3200

Notes: ND = Not Detected
*Soil Cleanup Target Levels as specified in Chapter 62-777, FAC
*Please see Appendix E for detection limits.
Mg/kg – milligrams per kilogram
KAG – Kerosene Analytical Group

TABLE 2-3
Summary of KAG Analyses for Groundwater (µg/L)

Sample Location	Sample ID	Date	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) Anthracene	Benzo (a) Pyrene	Benzo (b) Fluoranthene	Benzo (ghi) Perylene	Benzo (k) Fluoranthene	Chrysene	Dibenzo (ah) Anthracene	Fluoranthene	Fluorene	Indeno (123cd) Pyrene	Phenanthrene	Pyrenean	Naphthalene	1- Methylnaphthalene	2- Methylnaphthalene	Benzene	Ethylbenzene	Xylenes	Toluene
Bldg 858	029-858-W-0821	8/21/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.08
Groundwater Criteria			20	210	2100	0.2	0.2	0.2	210	0.5	4.8	0.2	280	280	0.2	210	210	20	20	20	1	30	20	40
Natural Attenuation Default Source			200	2100	21,000	20	20	20	2100	50	480	20	2800	2800	20	2100	2100	200	200	200	100	300	200	400

Notes: ND = Not Detected NA = Not Analyzed NL = Not Listed
1) As specified in Chapter 62-777 FAC
Please see Appendix F for detection limits.
Items in Bold exceed Groundwater Cleanup Target Levels
µg/L – micrograms per liter

3.0 Conclusions

The UST at Building 858 was properly closed in accordance with the Chapter 62-761 FAC. Prior to the closure, a total of five soil borings were advanced around the UST. Soil samples were collected from each boring for OVA analysis at 1-foot intervals until the water table was encountered. The confirmatory soil sample collected at the location that yielded the highest OVA reading was below SCTLs for all KAG parameters, confirming that no soil contamination was present. The groundwater sample collected for KAG analyses from a temporary monitoring well installed in the location that yielded the highest OVA reading exhibited no KAG constituents above the GCTLs per Chapter 62-777 FAC.

No Further Action Status, per Chapter 62-770.680 FAC, is recommended for this site because the following criteria have been met:

- Based on visual inspection, free product is not present at the site.
- The results of the confirmatory soil samples collected from the excavation indicated no contaminant concentrations above the SCTL.
- Contaminated groundwater is not present at the site, based on analytical results from a confirmatory groundwater sample collected.

4.0 References

CH2M HILL Constructors, Inc. November 1998. Base-wide Work Plan revision Number 1. NAS Cecil Field Jacksonville, Florida. Prepared for Southern Division Naval Facilities Engineering Command.

Florida Department of Environmental Protection. August 1999. Contaminant Target Levels Rule, Soil, Groundwater and Surface Water Target Cleanup Levels, Chapter 62-777, Florida Administrative Code.

Florida Department of Environmental Protection. July 1998. Chapter 62-761, Pollutant Storage Tank System.

Florida Department of Environmental Protection. April 1998. Closure Assessment Requirements, Guidance Documents.

Appendix A

Photographs

1. Building 858 tank, looking West.

2. Building 858 tank, looking North.

Appendix B

Analytical Laboratory Reports for Confirmatory Soil Samples

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
154282-21

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	154282	GPL Laboratories, LLLP Laura Petrick	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER: 3273	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
CTO 029 Confirmation Samples	0029		Jeff Wilmoth / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: 301-926-6802 Fax: 301-840-1209		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	VOL 8260B/5035	PAH 8270C/6010	TRPH FL-PRO									SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	029-858-S-0816	Confirmation Sample	S	08/16/01	11:35	III C	14	X	X	X									Grab	Tank Closure	
2	Trip Blank	Trip Blank	W					X													
3	Temp Blank	Temp Blank	W																		
4																					
5																					
6																					
7																					
8																					
9																					
10																					

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Dave Keul / Paul Malewicki J.A. Jones Environmental Services		

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
P. Malewicki	8/16/01		Federal Express 828532163321	8/16/01	
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
				8/17	13:25

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report); [ ] Copy 1 - Project File; [2] Copy 2 - PMO

Form CC1001, Rev 02/00

000017

108127

GPL LABORATORIES, LLLP

Summary of Analytical Results

Client ID 029-858-S-0816
GPL ID: 108127-001-04-1/1
Matrix: Soil
Date Collected: Aug-16-2001
Date Received: Aug-17-2001

Prep Method: SW3550
Prep Date: 08/21/01
Prep Time: 10:18

Analytical Method: SW8270CPAH
Date Analyzed: Sep-07-2001
Time Analyzed 23:26

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1-Methylnaphthalene	BQL	27.4	ug/kg	U	1
Benzo(a)pyrene	BQL	30.7	ug/kg	U	1
2-Methylnaphthalene	BQL	35.1	ug/kg	U	1
Benzo(a)anthracene	BQL	35.1	ug/kg	U	1
Acenaphthene	BQL	45	ug/kg	U	1
Phenanthrene	BQL	45	ug/kg	U	1
Chrysene	BQL	47.2	ug/kg	U	1
Naphthalene	BQL	48.3	ug/kg	U	1
Anthracene	BQL	53.7	ug/kg	U	1
Fluorene	BQL	55.9	ug/kg	U	1
Indeno(1,2,3-c,d)Pyrene	BQL	57	ug/kg	U	1
Benzo(k)fluoranthene	BQL	59.2	ug/kg	U	1
Dibenz(a,h)Anthracene	BQL	61.4	ug/kg	U	1
Pyrene	BQL	74.6	ug/kg	U	1
Benzo(b)fluoranthene	BQL	76.8	ug/kg	U	1
Benzo(g,h,i)perylene	BQL	76.8	ug/kg	U	1
Fluoranthene	BQL	80.1	ug/kg	U	1
Acenaphthylene	BQL	121	ug/kg	U	1

GPL LABORATORIES, LLLP

Summary of Analytical Results

Client ID 029-858-S-0816
GPL ID: 108127-001-01-1/3
Matrix: Soil
Date Collected: 08/16/01
Date Received: 08/17/01

Prep Method: SW5035
Prep Date: 08/21/01
Prep Time: 06:58
Prep Batch 13582

Analytical Method: SW8260B_TCL
Date Analyzed: 08/21/01
Time Analyzed 13:16
Analysis Batch 11148

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1,1,1-Trichloroethane	BQL	5.48	ug/kg	U	1
1,1,2,2-Tetrachloroethane	BQL	5.48	ug/kg	U	1
1,1,2-Trichloroethane	BQL	5.48	ug/kg	U	1
1,1-Dichloroethane	BQL	5.48	ug/kg	U	1
1,1-Dichloroethene	BQL	5.48	ug/kg	U	1
1,2-Dichloroethane	BQL	5.48	ug/kg	U	1
1,2-Dichloropropane	BQL	5.48	ug/kg	U	1
2-Butanone	BQL	11	ug/kg	U	1
2-Hexanone	BQL	11	ug/kg	U	1
4-Methyl-2-Pentanone	BQL	11	ug/kg	U	1
Acetone	BQL	11	ug/kg	U	1
Benzene	BQL	5.48	ug/kg	U	1
Bromodichloromethane	BQL	5.48	ug/kg	U	1
Bromoform	BQL	5.48	ug/kg	U	1
Bromomethane	BQL	11	ug/kg	U	1
Carbon Disulfide	BQL	5.48	ug/kg	U	1
Carbon Tetrachloride	BQL	5.48	ug/kg	U	1
Chlorobenzene	BQL	5.48	ug/kg	U	1
Chloroethane	BQL	11	ug/kg	U	1
Chloroform	BQL	5.48	ug/kg	U	1
Chloromethane	2.78	11	ug/kg	J	1
Dibromochloromethane	BQL	5.48	ug/kg	U	1
Ethylbenzene	BQL	5.48	ug/kg	U	1
MTBE	BQL	5.48	ug/kg	U	1
Methylene Chloride	3.99	11	ug/kg	JB	1
Styrene	BQL	5.48	ug/kg	U	1
Tetrachloroethene	BQL	5.48	ug/kg	U	1
Toluene	BQL	5.48	ug/kg	U	1
Trichloroethene	BQL	5.48	ug/kg	U	1
Vinyl Chloride	BQL	11	ug/kg	U	1
cis-1,2-Dichloroethene	BQL	5.48	ug/kg	U	1
cis-1,3-Dichloropropene	BQL	5.48	ug/kg	U	1
m,p-Xylenes	BQL	5.48	ug/kg	U	1
o-Xylene	BQL	5.48	ug/kg	U	1
trans-1,2-dichloroethene	BQL	5.48	ug/kg	U	1
trans-1,3-dichloropropene	BQL	5.48	ug/kg	U	1

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30071, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: **AC18997** **Accura Project #:** **28658**

Client: **GPL Laboratories, LLLP** Date Sampled: 8/16/01

Client Contact: **LAURA PETRIK** Date Received: 8/21/01

Client Project Number: 108127 Date Reported: 9/6/01

Client Project Name: CH2MHILL - CECIL FIELD CTO-0029 Sample Matrix: SOIL

Client Sample ID: **029-858-S-0816**

ANALYSIS: **Petroleum Range Organics (PRO)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/29/01 Result Units: mg/Kg

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	16		30

ANALYSIS: **X PRO Sample Surrogates (Soil)** Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/29/01 Result Units: %

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
C(39) (Range 60-118)	58	Z	
o-Terphenyl (Range 62-109)	79		

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30071, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: AC18999 **Accura Project #:** 28658

Client: GPL Laboratories, LLLP Date Sampled: 8/21/01

Client Contact: LAURA PETRIK Date Received: 8/21/01

Client Project Number: 108127 Date Reported: 9/6/01

Client Project Name: CH2MHILL - CECIL FIELD CTO-0029 Sample Matrix: SOIL

Client Sample ID: METHOD BLANK-1

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/28/01 Result Units: mg/Kg

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	<RL		30

ANALYSIS: X PRO QC Surrogates (Soil) Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/27/01 Date Analyzed: 8/28/01 Result Units: %

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
C(39) (Range 60-118)	7	Z	
o-Terphenyl (Range 62-109)	72		

ACCURA ANALYTICAL LABORATORY
6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

Case Narrative

AAL Project #: 28658

Client Project: CH2MHILL – Cecil Field CTO-0029 / 108127

CTO Manager: Laura Petrik

The following items were noted concerning this project:

1. The following samples were received at Accura Analytical Laboratory on 8/21/01 at 1020:

Client Sample ID	Laboratory Sample ID
029-858-S-0816	AC18997
029-VB2-W-0816	AC18998

2. The sample cooler temperature was noted to be 2°C upon receipt at the laboratory.

3. The soil sample results are reported on a wet weight basis.

4. The samples were preserved upon receipt for the FLA-PRO analysis.

5. The following surrogates were outside the method specified limits, as indicated by the "Z" qualifier:

FLA-PRO	
C(39) -	029-858-S-0816 029-VB2-W-0816 Method Blank (Soil) Method Blank (Water) Laboratory Control Sample (Water) Matrix Spike (Soil) Laboratory Control Sample (Soil) Matrix Spike Duplicate (Soil)
o-Terphenyl -	029-VB2-W-0816 Laboratory Control Sample (Water) Laboratory Control Sample Duplicate (Water)

The recoveries were within in-house limits established in the laboratory; therefore the data was accepted.

4. Batch QC for the Water FLA-PRO analysis consists of a laboratory control sample and a laboratory control sample duplicate due to limited sample volume. Note that the laboratory control sample and laboratory control sample duplicate recoveries are reported as matrix spike/matrix spike duplicate recoveries on the QC spreadsheet.

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A2LA Accredited-ID: 120261 •Certificate #-1365.1•Exp 7/31/02 Effective 8/14/00•Scope: Testing Technologies
Potable & Non-potable Water-Solid/Hazardous Waste

ACCURA ANALYTICAL LABORATORY
6017 Financial Drive, Norcross, Georgia, 30071, Phone (770) 449-8800

Case Narrative

5. The laboratory control sample and laboratory control sample duplicate recoveries were outside the project specified limits for the following analysis:

   FLA-PRO

   The recoveries were within in-house limits established at the laboratory; therefore the data was accepted.

Approved for Quality Assurance Release By:

Camden Robinson
Quality Assurance Officer

9/12/01
Date

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GPL LABORATORIES, LLLP

Summary of Analytical Results

Client ID TRIP BLANK
GPL ID: 108127-002-01-1/2
Matrix: Water
Date Collected: 08/16/01
Date Received: 08/17/01

Prep Method: SW5030B
Prep Date: 08/21/01
Prep Time: 06:58
Prep Batch 13582

Analytical Method: SW8260B_TCL
Date Analyzed: 08/21/01
Time Analyzed 12:06
Analysis Batch 11148

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1,1,1-Trichloroethane	BQL	5	ug/L	U	1
1,1,2,2-Tetrachloroethane	BQL	5	ug/L	U	1
1,1,2-Trichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethene	BQL	5	ug/L	U	1
1,2-Dichloroethane	BQL	5	ug/L	U	1
1,2-Dichloropropane	BQL	5	ug/L	U	1
2-Butanone	BQL	10	ug/L	U	1
2-Hexanone	BQL	10	ug/L	U	1
4-Methyl-2-Pentanone	BQL	10	ug/L	U	1
Acetone	BQL	10	ug/L	U	1
Benzene	BQL	5	ug/L	U	1
Bromodichloromethane	BQL	5	ug/L	U	1
Bromoform	BQL	5	ug/L	U	1
Bromomethane	BQL	10	ug/L	U	1
Carbon Disulfide	BQL	5	ug/L	U	1
Carbon Tetrachloride	BQL	5	ug/L	U	1
Chlorobenzene	BQL	5	ug/L	U	1
Chloroethane	BQL	10	ug/L	U	1
Chloroform	BQL	5	ug/L	U	1
Chloromethane	BQL	10	ug/L	U	1
Dibromochloromethane	BQL	5	ug/L	U	1
Ethylbenzene	BQL	5	ug/L	U	1
MTBE	BQL	5	ug/L	U	1
Methylene Chloride	16.2	10	ug/L	B	1
Styrene	BQL	5	ug/L	U	1
Tetrachloroethene	2.42	5	ug/L	J	1
Toluene	BQL	5	ug/L	U	1
Trichloroethene	BQL	5	ug/L	U	1
Vinyl Chloride	BQL	10	ug/L	U	1
cis-1,2-Dichloroethene	BQL	5	ug/L	U	1
cis-1,3-Dichloropropene	BQL	5	ug/L	U	1
m,p-Xylenes	BQL	5	ug/L	U	1
o-Xylene	BQL	5	ug/L	U	1
trans-1,2-dichloroethene	BQL	5	ug/L	U	1
trans-1,3-dichloropropene	BQL	5	ug/L	U	1

Appendix C

Analytical Laboratory Reports for Confirmatory Groundwater Sample

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
154282-24

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	154282	GPL Laboratories, LLLP Laura Petrik	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER: 3273	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
CTO 029 Confirmation Samples	0029		Jeff Wilmoth / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: 301-926-6802 Fax: 301-840-1209		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	VOL 8260B/5035	PAH 8270C/6010	TRPH FL-PRO									SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	029-858-W-0821	Water Sample	W	08/21/01	1045 AM	III C	14	X	X	X									Grab	Tank Closure	
2	Trip Blank	Blank	W	—	—	—	—	X	—	—											
3	Temp Blank	Blank	W	—	—	—	—	—	—	—											
4																					
5																					
6																					
7																					
8																					
9																					
10																					

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Dave Keul / Paul Malewicki J.A. Jones Environmental Services		

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
P. Malewicki Paul Malewicki	8/21/01		Federal Express 828532163343	8/21/01	
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
			[illegible]	8/22	09:25

Distribution: [ ] **Original** - Laboratory (To be returned with Analytical Report); [ ] **Copy 1** - Project File; [ ] **Copy 2** - PMO

Form CO100!, Rev 02/00

00011

6

128146

GPL LABORATORIES, LLLP

Summary of Analytical Results

Client ID 029-858-W-0821
GPL ID: 108146-001-01-1/3
Matrix: Water
Date Collected: Aug-21-2001
Date Received: Aug-22-2001

Prep Method: SW5030B
Prep Date: 08/27/01
Prep Time: 06:14

Analytical Method: SW8260_BTEX
Date Analyzed: Aug-27-2001
Time Analyzed 15:12

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Benzene	BQL	0.79	ug/L	U	1
Toluene	1.08	0.86	ug/L		1
o-Xylene	BQL	0.94	ug/L	U	1
Ethylbenzene	BQL	1.05	ug/L	U	1
MTBE	BQL	1.78	ug/L	U	1
m,p-Xylenes	BQL	2.19	ug/L	U	1

4R

GPL LABORATORIES, LLLP

Summary of Analytical Results

Client ID TRIP BLANK
GPL ID: 108146-002-01-1/3
Matrix: Water
Date Collected: Aug-21-2001
Date Received: Aug-22-2001

Prep Method: SW5030B
Prep Date: 08/27/01
Prep Time: 06:14

Analytical Method: SW8260_BTEX
Date Analyzed: Aug-27-2001
Time Analyzed 14:38

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Benzene	BQL	0.79	ug/L	U	1
Toluene	4.05	0.86	ug/L		1
o-Xylene	BQL	0.94	ug/L	U	1
Ethylbenzene	BQL	1.05	ug/L	U	1
MTBE	BQL	1.78	ug/L	U	1
m,p-Xylenes	BQL	2.19	ug/L	U	1

5R

Summary of Analytical Results

Client ID 029-858-W-0821
GPL ID: 108146-001-04-1/1
Matrix: Water
Date Collected: 08/21/01
Date Received: 08/22/01

Prep Method: SW3520C-LL
Prep Date: 08/24/01
Prep Time: 12:00
Prep Batch 13654

Analytical Method: SW8270-LL
Date Analyzed: 09/04/01
Time Analyzed 22:00
Analysis Batch 11411

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1-Methylnaphthalene	BQL	0.105	ug/L	U	1
2-Methylnaphthalene	BQL	0.105	ug/L	U	1
Acenaphthene	BQL	0.105	ug/L	U	1
Acenaphthylene	BQL	0.105	ug/L	U	1
Anthracene	BQL	0.105	ug/L	U	1
Benzo(a)anthracene	BQL	0.105	ug/L	U	1
Benzo(a)pyrene	BQL	0.105	ug/L	U	1
Benzo(b)fluoranthene	BQL	0.105	ug/L	U	1
Benzo(g,h,i)perylene	BQL	0.105	ug/L	U	1
Benzo(k)fluoranthene	BQL	0.105	ug/L	U	1
Chrysene	BQL	0.105	ug/L	U	1
Dibenz(a,h)Anthracene	BQL	0.105	ug/L	U	1
Fluoranthene	BQL	0.105	ug/L	U	1
Fluorene	BQL	0.105	ug/L	U	1
Indeno(1,2,3-c,d)Pyrene	BQL	0.105	ug/L	U	1
Naphthalene	BQL	0.105	ug/L	U	1
Phenanthrene	BQL	0.105	ug/L	U	1
Pyrene	BQL	0.105	ug/L	U	1

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30071, Phone (770)449-8800, FAX (770)449-5477

FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: AC19185 **Accura Project #:** 28679

Client: GPL Laboratories, LLLP Date Sampled: 8/21/01

Client Contact: LAURA PETRIK Date Received: 8/24/01

Client Project Number: 108146 Date Reported: 9/6/01

Client Project Name: CH2MHILL - CECIL FIELD CTO-0029 Sample Matrix: WATER

Client Sample ID: 029-858-W-0821

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/28/01 Date Analyzed: 8/31/01 Result Units: mg/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	<RL		1.0

ANALYSIS: X PRO Sample Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/28/01 Date Analyzed: 8/31/01 Result Units: %

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
C(39) (Range 42-193)	24	Z	
o-Terphenyl (Range 82-142)	17	Z	

ACCURA ANALYTICAL LABORATORY, INC.

6017 Financial Drive, Norcross, Georgia 30071, Phone (770)449-8800, FAX (770)449-5477
FL Certification # E87429 NC Certification # 483 SC Certification # 98015 USACE-MRD Approved

LABORATORY REPORT

Accura Sample ID #: AC19186 **Accura Project #:** 28679

Client: GPL Laboratories, LLLP Date Sampled: 8/24/01

Client Contact: LAURA PETRIK Date Received: 8/24/01

Client Project Number: 108146 Date Reported: 9/6/01

Client Project Name: CH2MHILL - CECIL FIELD CTO-0029 Sample Matrix: WATER

Client Sample ID: METHOD BLANK

ANALYSIS: Petroleum Range Organics (PRO) Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/28/01 Date Analyzed: 8/31/01 Result Units: mg/L

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
Petroleum Range Organics (PRO)	<RL		1.0

ANALYSIS: X PRO QC Surrogates (Water) Method Ref: FL-PRO

Date Ext/Dig/Prep: 8/28/01 Date Analyzed: 8/31/01 Result Units %

Analyte Name	Analytical Results	Qualifier	Reported Detection Limits
C(39) (Range 42-193)	2	Z	
o-Terphenyl (Range 82-142)	72	Z	

Appendix D

Waste Profile and Analytical Laboratory Report for Waste Characterization

Material Profile Form

Mailing Address:
P.O. Box 43369
Jacksonville, FL 32203

Sample Shipping Address:
1705 Danese Street
Jacksonville, FL 32206

(800) 447-3592
(904) 354-0372
Lab Fax (904) 353-4033

CUSTOMER INFORMATION

1. Customer Name JAES / CCI
2. Customer Address 6219 Authority ROAD
   City JACKSONVILLE State FLORIDA Zip 32221
3. Billing Address (If other than above) _____
   City _____ State _____ Zip _____
4. Technical Contact PAUL MALEWICKI Phone (904) 772-4812

GENERATOR INFORMATION

1. Generator Name US NAVY SIC code _____
2. Name of Material or Waste Petroleum Contact Water
3. Estimated Volume 1000 4. Unit(s) GAL 5. Per Time 1 One time only X
6. Process Generating Waste or Material (Give a detailed description of the process that generates the waste or material. Include all constituents, all steps in process, approximate age, and suspected or known contaminants).

WATER left in UST.

CH2M Hill Constructors, Inc.
115 Perimeter Center Place, Suite 700
Atlanta, GA 30346-1278
Tel No (770) 604-9182 ; Fax No (770) 604-9282

CHAIN-OF-CUSTODY RECORD

COC NUMBER
154282-20

PROJECT NAME:	PROJECT NUMBER:	LAB NAME AND CONTACT:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 1 (Name and Company)	RECIPIENT 1 (Address, Tel No. , and Fax No.):
N.A.S. Cecil Field 103rd Street	154282	GPL Laboratories, LLLP	Jennifer Zimmerman / J.A Jones Env. Services	6219 Authority Ave. Jacksonville, FL 32222 (904) 7774812,FAX: (904) 7774262
PROJECT PHASE/SITE/TASK:	CTO OR DO NUMBER:	LAB PO NUMBER:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 2 (Name and Company)	RECIPIENT 2 (Address, Tel No. , and Fax No.):
CTO 029 Waste Charterization	0029		Jeff Wilmoth / CH2M Hill Constuctors, Inc.	115 Perimeter Center Place, N.E. Suite 700 Atlanta, GA 30346 (770)604-9182 Ext.561
PROJECT CONTACT:	PROJECT TEL NO AND FAX NO:	LAB TEL NO AND FAX NO:	FAX AND MAIL REPORTS/EDD TO:: RECIPIENT 3 (Name and Company)	RECIPIENT 3 (Address, Tel No. , and Fax No.):
Bill Canelos	Ph:(904)777-4812 Fax:(904) 777-4262	Ph: 770-449-8800 Fax: 770-449-5477		

ANALYSES REQUIRED (Include Method Numbers)

ITEM	SAMPLE IDENTIFIER	SAMPLE DESCRIPTION/LOCATION	MATRIX (see codes on back)	DATE COLLECTED	TIME COLLECTED	DATA PKG LEVEL (see codes on back)	TAT (calendar days)	TCLP Vol SW-846 1311/8260B	TCP SV SW-846 1311/8270C	TCP Pes SW-846 1311/8081A	TCP Herb SW-846 1311/8151	TCP Metal 1311/6010B,7470A	Tal Met SW 846 6010A/7471	TPH FL PRO	PCB SW 846 8082	Ignitability 1030	Corrosivity 9045A	Reactivity Chap 7.3	SAMPLE TYPE (see codes on back)	COMMENTS/ SCREENING READINGS	LAB ID
1	029-103-S-0809	Waste Characterization	S	08/09/01	1:30	III B	14	X	X	X	X	X		X	X	X	X	X	Composit		
2	029-858-W-0809	Waste Characterization	W	08/09/01	3:00	III B	14	X	X	X	X		X	X	X	X	X	X	Grab		
3	029-TB1-0809	Trip Blank	W	**		III B	14	X													
4		Temp Blank	W																		
5								X	X	X	X		X		X	X	X	X			
6																					
7																					
8																					
9																					
10																					

SAMPLER(S) AND COMPANY: (please print)	COURIER AND SHIPPING NUMBER:	SAMPLES TEMPERATURE AND CONDITION UPON RECEIPT:
Dave Keul / Paul Malewicki J.A. Jones Environmental Services	8-13-01 verified with Paul Malewicki that water samples require TCL (total) analyses not TCLP	ABotik

RELINQUISHED BY	DATE	TIME	RECEIVED BY	DATE	TIME
Printed Name and Signature:			Printed Name and Signature:		
P. Malewicki [signature]	8/9/01	1548	Federal Express 828532163310	8/9/01	
Printed Name and Signature:			Printed Name and Signature:		
Printed Name and Signature:			Printed Name and Signature:		
			[signature]	[signature]	

Distribution: [ ] Original - Laboratory (To be returned with Analytical Report), [ ] Copy 1 - Project File, [✓] Copy 2 - PMO

Form CCI 1.F.1 02/00

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153080

Summary of Analytical Results

Client ID 029-858-W-0809
GPL ID: 108080-002-01-1/3
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: SW5030B
Prep Date: 08/16/01
Prep Time: 09:52
Prep Batch 13439

Analytical Method: SW8260B_TCL
Date Analyzed: 08/16/01
Time Analyzed 14:30
Analysis Batch 11005

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1,1,1-Trichloroethane	BQL	5	ug/L	U	1
1,1,2,2-Tetrachloroethane	BQL	5	ug/L	U	1
1,1,2-Trichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethane	BQL	5	ug/L	U	1
1,1-Dichloroethene	BQL	5	ug/L	U	1
1,2-Dichloroethane	BQL	5	ug/L	U	1
1,2-Dichloropropane	BQL	5	ug/L	U	1
2-Butanone	BQL	10	ug/L	U	1
2-Hexanone	BQL	10	ug/L	U	1
4-Methyl-2-Pentanone	BQL	10	ug/L	U	1
Acetone	9.30	10	ug/L	J	1
Benzene	BQL	5	ug/L	U	1
Bromodichloromethane	BQL	5	ug/L	U	1
Bromoform	BQL	5	ug/L	U	1
Bromomethane	BQL	10	ug/L	U	1
Carbon Disulfide	BQL	5	ug/L	U	1
Carbon Tetrachloride	BQL	5	ug/L	U	1
Chlorobenzene	BQL	5	ug/L	U	1
Chloroethane	BQL	10	ug/L	U	1
Chloroform	BQL	5	ug/L	U	1
Chloromethane	BQL	10	ug/L	U	1
Dibromochloromethane	BQL	5	ug/L	U	1
Ethylbenzene	BQL	5	ug/L	U	1
Methylene Chloride	5.39	10	ug/L	JB	1
Styrene	BQL	5	ug/L	U	1
Tetrachloroethene	1.11	5	ug/L	J	1
Toluene	1.07	5	ug/L	J	1
Trichloroethene	BQL	5	ug/L	U	1
Vinyl Chloride	BQL	10	ug/L	U	1
cis-1,2-Dichloroethene	BQL	5	ug/L	U	1
cis-1,3-Dichloropropene	BQL	5	ug/L	U	1
m,p-Xylenes	BQL	5	ug/L	U	1
o-Xylene	BQL	5	ug/L	U	1
trans-1,2-dichloroethene	BQL	5	ug/L	U	1
trans-1,3-dichloropropene	BQL	5	ug/L	U	1

Oct 29 01 10:07a ENVIRONMENTAL REMEDIATION 904 741-3013 p.3

Summary of Analytical Results

Client ID 029-858-W-0809DL
GPL ID: 108080-002-04-1/2
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: SW3520C
Prep Date: 08/15/01
Prep Time: 01:33
Prep Batch 13447

Analytical Method: SW8270CTCL
Date Analyzed: 08/21/01
Time Analyzed 15:41
Analysis Batch 11247

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
1,2,4-Trichlorobenzene	BQL	100	ug/L	U	10
1,2-Dichlorobenzene	BQL	100	ug/L	U	10
1,3-Dichlorobenzene	BQL	100	ug/L	U	10
1,4-Dichlorobenzene	BQL	100	ug/L	U	10
2,2-Oxybis(1-Chloropropane)	BQL	100	ug/L	U	10
2,4,5-Trichlorophenol	BQL	100	ug/L	U	10
2,4,6-Trichlorophenol	BQL	100	ug/L	U	10
2,4-Dichlorophenol	BQL	100	ug/L	U	10
2,4-Dimethylphenol	BQL	100	ug/L	U	10
2,4-Dinitrophenol	BQL	200	ug/L	U	10
2,4-Dinitrotoluene	BQL	100	ug/L	U	10
2,6-Dinitrotoluene	BQL	100	ug/L	U	10
2-Chloronaphthalene	BQL	100	ug/L	U	10
2-Chlorophenol	BQL	100	ug/L	U	10
2-Methylnaphthalene	BQL	100	ug/L	U	10
2-Nitroaniline	BQL	100	ug/L	U	10
2-Nitrophenol	BQL	100	ug/L	U	10
2-methylphenol	BQL	100	ug/L	U	10
3,3-Dichlorobenzidine	BQL	200	ug/L	U	10
3-Nitroaniline	BQL	100	ug/L	U	10
4,6-dinitro-2-methyl phenol	BQL	200	ug/L	U	10
4-Bromophenyl-phenylether	BQL	100	ug/L	U	10
4-Chloroaniline	BQL	100	ug/L	U	10
4-Chlorophenyl Phenyl Ether	BQL	100	ug/L	U	10
4-Nitroaniline	BQL	100	ug/L	U	10
4-Nitrophenol	BQL	200	ug/L	U	10
4-chloro-3-methylphenol	BQL	100	ug/L	U	10
4-methylphenol	BQL	100	ug/L	U	10
Acenaphthene	BQL	100	ug/L	U	10
Acenaphthylene	BQL	100	ug/L	U	10
Anthracene	BQL	100	ug/L	U	10
Benzo(a)anthracene	BQL	100	ug/L	U	10
Benzo(a)pyrene	BQL	100	ug/L	U	10
Benzo(b)fluoranthene	BQL	100	ug/L	U	10
Benzo(g,h,i)perylene	BQL	100	ug/L	U	10
Benzo(k)fluoranthene	BQL	100	ug/L	U	10
Benzyl Butyl Phthalate	BQL	100	ug/L	U	10
Carbazole	BQL	100	ug/L	U	10
Chrysene	BQL	100	ug/L	U	10

Oct 29 01 10:07a ENVIRONMENTAL REMEDIATION 904 741-3013 p.4

Summary of Analytical Results

Client ID 029-858-W-0809DL
GPL ID: 108080-002-04-1/2
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: SW3520C
Prep Date: 08/15/01
Prep Time: 01:33
Prep Batch 13447

Analytical Method: SW8270CTCL
Date Analyzed: 08/21/01
Time Analyzed 15:41
Analysis Batch 11247

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Dibenz(a,h)Anthracene	BQL	100	ug/L	U	10
Dibenzofuran	BQL	100	ug/L	U	10
Diethyl Phthalate	BQL	100	ug/L	U	10
Dimethyl Phthalate	BQL	100	ug/L	U	10
Fluoranthene	BQL	100	ug/L	U	10
Fluorene	BQL	100	ug/L	U	10
Hexachlorobenzene	BQL	100	ug/L	U	10
Hexachlorobutadiene	BQL	100	ug/L	U	10
Hexachlorocyclopentadiene	BQL	100	ug/L	U	10
Hexachloroethane	BQL	100	ug/L	U	10
Indeno(1,2,3-c,d)Pyrene	BQL	100	ug/L	U	10
Isophorone	BQL	100	ug/L	U	10
Naphthalene	BQL	100	ug/L	U	10
Nitrobenzene	BQL	100	ug/L	U	10
Pentachlorophenol	BQL	200	ug/L	U	10
Phenanthrene	BQL	100	ug/L	U	10
Phenol	BQL	100	ug/L	U	10
Pyrene	BQL	100	ug/L	U	10
bis(2-chloroethoxy) methane	BQL	100	ug/L	U	10
bis(2-chloroethyl) ether	BQL	100	ug/L	U	10
bis(2-ethylhexyl) phthalate	325	100	ug/L		10
di-n-Butyl Phthalate	BQL	100	ug/L	U	10
di-n-Octyl Phthalate	BQL	100	ug/L	U	10
n-Nitrosodi-n-Propylamine	BQL	100	ug/L	U	10
n-Nitrosodiphenylamine	BQL	100	ug/L	U	10

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Summary of Analytical Results

Client ID 029-858-W-0809
GPL ID: 108080-002-06-1/2
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: SW3520C
Prep Date: 08/15/01
Prep Time: 12:00
Prep Batch 13423

Analytical Method: SW8081A
Date Analyzed: 08/16/01
Time Analyzed 18:49
Analysis Batch 11228

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
4,4-DDD	BQL	0.053	ug/L	U	1
4,4-DDE	BQL	0.053	ug/L	U	1
4,4-DDT	BQL	0.053	ug/L	U	1
Aldrin	BQL	0.053	ug/L	U	1
Alpha-BHC	BQL	0.053	ug/L	U	1
Alpha-Chlordane	BQL	0.053	ug/L	U	1
Beta-BHC	BQL	0.053	ug/L	U	1
Chlordane	BQL	1.05	ug/L	U	1
Delta-BHC	BQL	0.053	ug/L	U	1
Dieldrin	BQL	0.053	ug/L	U	1
Endosulfan I	BQL	0.053	ug/L	U	1
Endosulfan II	BQL	0.053	ug/L	U	1
Endosulfan Sulfate	BQL	0.053	ug/L	U	1
Endrin	BQL	0.053	ug/L	U	1
Endrin Aldehyde	BQL	0.053	ug/L	U	1
Endrin Ketone	BQL	0.053	ug/L	U	1
Gamma-BHC (Lindane)	BQL	0.053	ug/L	U	1
Gamma-Chlordane	BQL	0.053	ug/L	U	1
Heptachlor	BQL	0.053	ug/L	U	1
Heptachlor Epoxide	BQL	0.053	ug/L	U	1
Methoxychlor	BQL	0.053	ug/L	U	1
Toxaphene	BQL	1.05	ug/L	U	1

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Summary of Analytical Results

Client ID 029-858-W-0809
GPL ID: 108080-002-08-1/1
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: EXT_SW8151
Prep Date: 08/16/01
Prep Time: 12:00
Prep Batch 13433

Analytical Method: SW8151A
Date Analyzed: 08/23/01
Time Analyzed 23:53
Analysis Batch 11215

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
2,4,5-T	BQL	1.05	ug/L	U	1
2,4,5-TP (Silvex)	BQL	1.05	ug/L	U	1
2,4-D	BQL	1.05	ug/L	U	1
2,4-DB	BQL	1.05	ug/L	U	1
Dalapon	BQL	1.05	ug/L	U	1
Dicamba	BQL	1.05	ug/L	U	1
Dichloroprop	BQL	1.05	ug/L	U	1
Dinoseb	BQL	1.05	ug/L	U	1
MCPA	BQL	105	ug/L	U	1
MCPP	102	105	ug/L	J	1

Summary of Analytical Results

Client ID 029-858-W-0809
GPL ID: 108080-002-09-1/1
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: SW3010A
Prep Date: 08/15/01
Prep Time: 06:42
Prep Batch 13464

Analytical Method: SW6010B
Date Analyzed: 08/17/01
Time Analyzed 21:17
Analysis Batch 11038

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Aluminum	125	200	ug/L	B	1
Antimony	BQL	20	ug/L	U	1
Arsenic	BQL	20	ug/L	U	1
Barium	64.4	5	ug/L		1
Beryllium	BQL	2	ug/L	U	1
Cadmium	1.65	3	ug/L	B	1
Calcium	19400	1000	ug/L		1
Chromium	BQL	5	ug/L	U	1
Cobalt	BQL	5	ug/L	U	1
Copper	79.1	10	ug/L		1
Iron	7530	150	ug/L		1
Lead	53.0	10	ug/L		1
Magnesium	11000	250	ug/L		1
Manganese	36.9	5	ug/L		1
Nickel	BQL	10	ug/L	U	1
Potassium	1800	250	ug/L		1
Selenium	BQL	20	ug/L	U	1
Silver	BQL	3	ug/L	U	1
Sodium	6560	2500	ug/L		1
Thallium	BQL	30	ug/L	UN	1
Vanadium	BQL	10	ug/L	U	1
Zinc	2240	20	ug/L		1

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Summary of Analytical Results

Client ID 029-858-W-0809
GPL ID: 108080-002-09-1/1
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: SW7470A_DIG
Prep Date: 08/17/01
Prep Time: 04:00
Prep Batch 13455

Analytical Method: SW7470A
Date Analyzed: 08/18/01
Time Analyzed 14:34
Analysis Batch 11162

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Mercury	BQL	0.2	ug/L	U	1

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Summary of Analytical Results

Client ID 029-858-W-0809
GPL ID: 108080-002-12-1/1
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method: SW3520C
Prep Date: 08/15/01
Prep Time: 12:00
Prep Batch 13424

Analytical Method: SW8082
Date Analyzed: 08/16/01
Time Analyzed 18:29
Analysis Batch 11060

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
PCB-1016	BQL	1.05	ug/L	U	1
PCB-1221	BQL	1.05	ug/L	U	1
PCB-1232	BQL	1.05	ug/L	U	1
PCB-1242	BQL	1.05	ug/L	U	1
PCB-1248	BQL	1.05	ug/L	U	1
PCB-1254	BQL	1.05	ug/L	U	1
PCB-1260	BQL	2.11	ug/L	U	1

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Summary of Analytical Results

Client ID 029-858-W-0809
GPL ID: 108080-002-13-1/1
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method:
Prep Date:
Prep Time:
Prep Batch

Analytical Method: SW1010
Date Analyzed: 08/15/01
Time Analyzed 08:00
Analysis Batch 10974

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Flash Point	BQL	100	DC	U	1

8

Summary of Analytical Results

Client ID 029-858-W-0809	Prep Method:	Analytical Method: SW9034R
GPL ID: 108080-002-13-1/1	Prep Date:	Date Analyzed: 08/15/01
Matrix: Water	Prep Time:	Time Analyzed 16:10
Date Collected: 08/09/01	Prep Batch 0	Analysis Batch 11242
Date Received: 08/10/01		

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Sulfide, Reactive	BQL	10	mg/L	U	1

Summary of Analytical Results

Client ID 029-858-W-0809
GPL ID: 108080-002-14-1/1
Matrix: Water
Date Collected: 08/09/01
Date Received: 08/10/01

Prep Method:
Prep Date:
Prep Time:
Prep Batch

Analytical Method: SW9040
Date Analyzed: 08/09/01
Time Analyzed 12:15
Analysis Batch 11252

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
pH	7.12	0	pH		1

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Summary of Analytical Results

Client ID 029-858-W-0809	**Prep Method:**	**Analytical Method: SW9014R**
GPL ID: 108080-002-13-1/1	**Prep Date:**	**Date Analyzed: 08/17/01**
Matrix: Water	**Prep Time:**	**Time Analyzed 07:00**
Date Collected: 08/09/01	**Prep Batch 0**	**Analysis Batch 11243**
Date Received: 08/10/01		

Parameter	Result	Rep Limit	Units	Qualifier	D.F.
Cyanide, Reactive	BQL	0.025	mg/L	U	1

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Appendix E

FDEP Forms

Department of Environmental Protection

1 Towers Office Building ♦ 2600 Blair Stone Road ♦ Tallahassee, Florida 32399-2400

DEP Form 62-761.900(8)
Form Title: Limited Closure Summary Report
Effective Date: 7/13/98

Limited Closure Summary Report

This form is required for facilities that have sites with documented contamination requiring a site assessment in accordance with Chapter 62-770, F.A.C. This includes those facilities that are eligible for the Early Detection Incentive Program (EDI), the Florida Petroleum Liability and Restoration Insurance Program (FPLRIP), and the Petroleum Cleanup Participation Program (PCPP), pursuant to Sections 376.3071 and 376.3072, F.S. Documentation of procedures followed, and results obtained during closure shall be reported in this form, along with any attachments. This form shall be submitted to the County within 60 days of completion of the closure in accordance with Section A of the "Storage Tank System Closure Assessment Requirements."

Complete All Applicable Blanks. Please Print or Type

General Information

Date 10/31/01	FDEP Facility ID Number 16850729	County Duval
Facility Name Building 858 Former NAS Cecil Field	Facility Telephone #: (904) 777-4812	
Facility Address: 6200 New World Av, Former NAS Cecil Field		
Owner or Operator Name: U.S. Navy	Owner/Operator phone #: (904) 778-5620	
Mailing Address: 6219 Authority RD., Jacksonville, Fl. 32215		

Storage Tank System Closure Information

1. Were the storage tanks(s): (Check one or both)

• Aboveground	✔ Underground

2. General System Information

Types of Products Stored: Home Heating Fuel	Number of Tanks Closed 1	Age(s) of Tanks

3. Was the Limited Closure Summary Report Performed as a Result of: (check one or more)

• Tank Systems Removal?	• Spill Containment Installation?	• Change in Storage to a Non-Regulated Substance?
✔ Tank Systems Closed in Place?	• Dispenser Liners Installation?	• Release Prevention Barrier Installation?
• Piping Sump Installation?	• Secondary Containment Installation?	• Other? (please explain)

4. Please Check Yes or No to the following:

a. Was there previously reported contamination discovered on site? If yes, was	• Yes	✔ No
1. A Discharge Report Form submitted to the County?	• Yes	✔ No
2. An investigation performed in accordance with Rule 62-761.820, F.A.C.?	• Yes	✔ No
b. Is the depth to groundwater less than 20 feet?	✔ Yes	• No
c. Are there monitoring wells on site? If yes, were they	• Yes	✔ No
1. Groundwater monitoring wells?	• Yes	✔ No
2. Vapor monitoring wells?	• Yes	✔ No
3. Used for closure assessment sampling?	• Yes	✔ No
4. Properly closed?	• Yes	✔ No
5. Retained for site assessment purposes?	• Yes	✔ No
d. If tanks were replaced, were contaminated soils returned to the tank excavation?	• Yes	✔ No

Signature of owner or operator	Paul Malewicki	PAUL MALEWICKI
	Signature of person performing Limited Closure Assessment	Name of person performing Limited Closure Assessment

(date) _____ (date) 8 Nov 2001 Affiliation JASES

Printed on recycled paper.

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

DEP Form # 62-761.900(5)	
Form Title: UST Contractor Form	
Effective Date: July 13, 1998	

Underground Storage System Installation and Removal Form for Certified Contractors

Pollutant Storage Systems Contractor as defined in Section 489.113, Florida Statutes (certified contractors as defined in Section 62-761.200, Florida Administrative Code) shall use this form to certify that the installation, replacement or removal of the underground storage tank system(s) located at the address listed below was performed in accordance with Department Reference Standards. This includes system components such as dispenser liners, piping sumps, and overfill protection devices.

General Facility Information

Facility Name: Building 858	DEP Facility Identification No. : 16850729
Street Address (physical location): 6200 New World Av.	
County: Duval	Telephone #: (904) 777-4812
Owner Name: U.S. Navy	Telephone #: (904) 778-5620
Owner Address: 6219 Authority Rd., Jacksonville, Fl. 32215 - (Former NAS Cecil Field)	

Storage Tank System Information

Number of Tanks Installed: N/A	Number of Tanks Removed: 1 - Closed in Place
Date Work Initiated: 8/17/01	Date Work Completed: 10/2/01
Tank(s) Manufactured by: unknown	
Description of work Completed: Made soil borings around tank and screened soil with OVA every 1 foot bls. Took soil & groundwater confirmation samples for laboratory analysis. Cleaned out tank and filled with an inert material (Perma-Fill System EQ-022).	

Certification

I hereby certify and attest that I am familiar with the facility that is registered with the Florida Department of Environmental Protection; that to the best of my knowledge and belief, the storage tank system installation, replacement or removal at this facility was conducted in accordance with Chapter 489, Florida Statutes, Section 376.303, Florida Statutes, and Chapter 62-761, Florida Administrative Code, and its adopted reference standards and documents for underground storage tank systems.

FRANKLIN SNELSON JA JONES ENVIRONMENTAL SERVICES (Type or Print) Certified Pollutant Tank Contractor Name	PC-C056846 PSSC Number Pollutant Storage Systems Contractor License Number
Certified Tank Contractor Signature	8 NOV 2001 Date
Paul Malesiet Field Supervisor Name	8 NOV 2001 Date

The owner or operator of the facility must register the tanks with the Department upon completion of the installation. The installer must submit this form to the County no more than 30 days after the completion of installation, replacement, or removal of a storage tank

Appendix F

Copy of Liquid Disposal Manifest

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 01265

2. Page 1 of 1

3. Generator's Name and Mailing Address
U.S. Navy / CH2M Hill
6219 Authority Ave. Jacksonville, FL 32221

NAS Cecil Field

4. Generator's Phone (904) 778-5620 Contact: Dave Kruzicki

5. Transporter 1 Company Name: Environmental Remediation Svc.
6. US EPA ID Number: FLR000456786
A. Transporter's Phone: 904-791-9992

7. Transporter 2 Company Name
8. US EPA ID Number
B. Transporter's Phone

9. Designated Facility Name and Site Address
Industrial Water Services
1640 Talleyrand Ave
Jacksonville, FL 32206
10. US EPA ID Number: FLD981928484
C. Facility's Phone: 904-354-0372

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. Non Hazardous PCW	001	TT	02280	G
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
This PCW does not contain levels of Hazardous Constituents above those found in the PCW
Bldg 858 = 1,000 gals, DT-1 = 170 gals, Bldg 9 = 60 gals
SFF = 110 gals, 103rd St = 500 gals, Bldg 46 = 440 gals

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: DAVID J. KRUZICKI
Signature: [signature]
Month 10 Day 02 Year 01

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Marcus Crews
Signature: [signature]
Month 10 Day 02 Year 01

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Jeff Bush
Signature: [signature]
Month 10 Day 2 Year 01

GENERATOR — TRANSPORTER — FACILITY

ORIGINAL - RETURN TO GENERATOR

Appendix G

Certificate of Disposal

INDUSTRIAL WATER SERVICES

Industrial Water Services
1980 Avenue "A"
Mobile, Alabama 36615

Facility:
1980 Avenue "A"
Mobile, Alabama 36615
(334) 694-7500
FAX: (334) 694-7508

Corporate Office:
1-800-447-3592
FAX (904) 350-1313

Customer Service:
1-800-4-IWS-HAUL
800-449-7428

Industrial Water Services, Inc.
P.O. Box 43369
Jacksonville, Florida 32203

Facility:
1705 Danese Street
Jacksonville, Florida 32206
(904) 354-0372
FAX: (904) 354-7612

CERTIFICATE OF COMPLIANCE AND DISPOSAL

This certifies that on the 2nd of October, 2001; 2280 gallons of non-hazardous petroleum contact water from U.S. Navy , NAS Cecil Field, Jacksonville, Florida: as described on non-hazardous manifest number 01365 was disposed of in compliance with all applicable state, federal and local regulations under Industrial User Permit Number ISN019.

Facility Name: Industrial Water Services, Inc.

Facility Address: 1640 Talleyrand Avenue
Jacksonville, FL

Facility EPA ID #: FLD 981 928 484

Certified By: Leslie Detlefsen

Signature Leslie Detlefsen

Date: October 25, 2001