Preliminary Site Characterization Report Addendum - Site 7
Naval Air Station *Pensacola*
December *17, 1997*

Introduction

This addendum has been prepared to document additional sampling conducted at Site 7 NAS Pensacola subsequent to submittal date fur the Preliminary Site Characterization Report (PSCR) of January 17, 1997. Specifically, additional soil sampling was conducted to delineate the extent of arsenic in soil above the NASP Reference Concentration (RC). This sampling was precipitated by the documented presence of arsenic slightly above the RC, and the presence of residential units proximal to the site. The information obtained from this additional sampling will be used tu design and execute a removal of the arsenic-contaminated soil. A report detailing the removal action and confirmatory sampling results will be submitted subsequent to the action as another addendum to the PSCR.

Description of Additional Soil Sampling

Arsenic was detected above the NASP RC of 1.56 mg/kg in surface soil at one boring location (07GS04 - please refer to the PSCR for this location). As this location was immediately proximal to the NASP mobile home area, it was determined that additional sampling was necessary to document the lateral persistence of this exceedance, and, if necessary, to remove the contaminated soil from the area. As a result, six additional samples were collected adjacent to location 07GS04. Figure **A-1** shows the location of theses additional sample points. Samples were collected from land surface to a depth of one-foot below land surface. Lithology of the unconsolidated material did nut differ from that encountered elsewhere on Site 7 (e.g. soil comprised of quartz sand and decaying plant matter). Except for the presence of partially covered lumber debris, no notable features with regard to the subsurface were present.

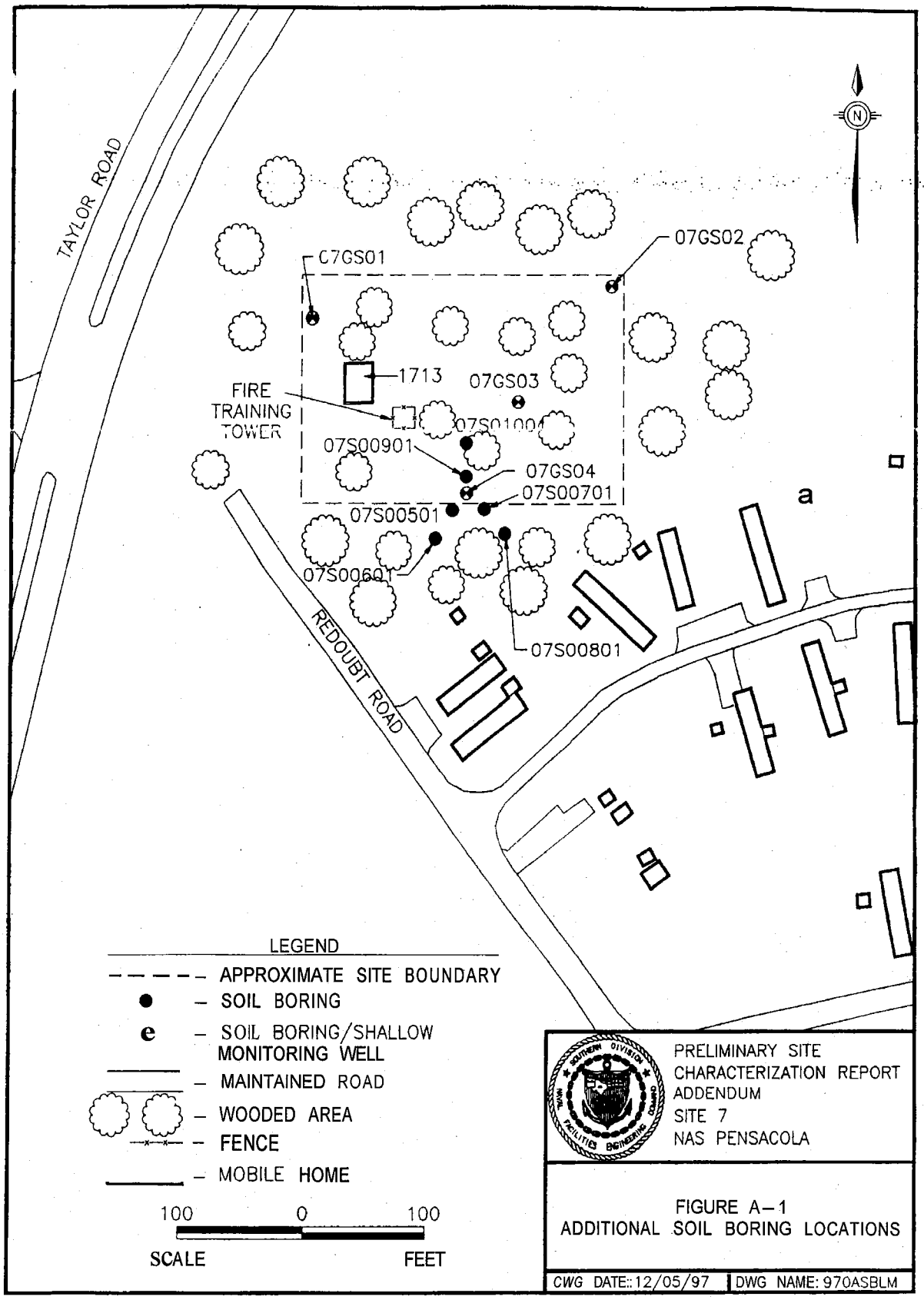
Typical NASP soil sampling procedures were used to collect these additional samples. Stainless steel hand augers were used as the sample collection devices; they were decontaminated prior to use and between each location using the procedures described in the CSAP. The soil media was homogenized prior to sample volume collection in a stainless steel bowl, and sample labeling and packaging was executed in accordance with CSAP procedures. Once packaged, the samples were transported to the NASP Public Works Center laboratory for analysis for arsenic. Attachment **A** contains the Chain of Custody Record for the samples.

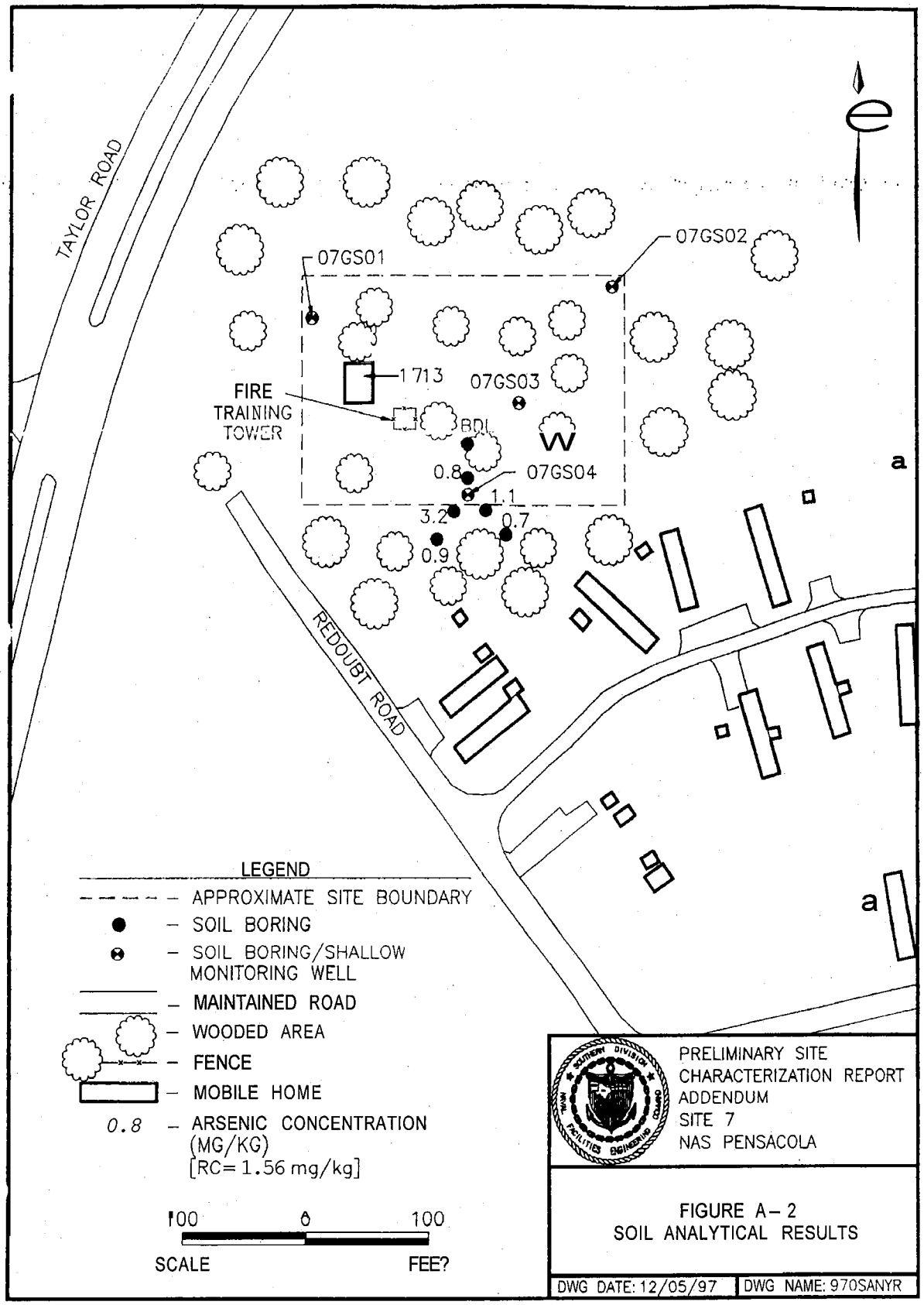
Results of Additional Soil Sampling

Arsenic in the additional soil samples ranged from non-detect to 3.2 mg/kg. Attachment B contains the laboratory report for the samples, and Figure A-2 graphically presents the reported values. The NASP RC was exceeded in only one sample, 07S00501, which is located approximately ten-feet in a southeasterly direction from the original exceedance location.

Conclusions

As a result of additional soil sampling. the lateral extent of arsenic at levels above the NASP RC of 1.56 mg/kg have been delineated. The apparent source of the elevated arsenic remains unknown, and its relation to past site activities is conjectural. Pending successful completion of a removal action to remove this small area of surface soil, no further action at this site is warranted.


TAYLOR ROAD
REDOUBT ROAD
07GS01
07GS02
1713
07GS03
FIRE
TRAINING
TOWER
07S01001
07S00901
07GS04
07S00701
07S00501
07S00601
07S00801
a
LEGEND
APPROXIMATE SITE BOUNDARY
SOIL BORING
SOIL BORING/SHALLOW MONITORING WELL
MAINTAINED ROAD
WOODED AREA
FENCE
MOBILE HOME
100
0
100
SCALE
FEET
PRELIMINARY SITE
CHARACTERIZATION REPORT
ADDENDUM
SITE 7
NAS PENSACOLA
FIGURE A-1
ADDITIONAL SOIL BORING LOCATIONS
CWG DATE: 12/05/97
DWG NAME: 970ASBLM


TAYLOR ROAD
REDOUBT ROAD
07GS01
07GS02
07GS03
07GS04
1713
FIRE
TRAINING
TOWER
BDL
0.8
1.1
3.2
0.7
0.9
W
a
a
LEGEND
APPROXIMATE SITE BOUNDARY
SOIL BORING
SOIL BORING/SHALLOW MONITORING WELL
MAINTAINED ROAD
WOODED AREA
FENCE
MOBILE HOME
0.8 – ARSENIC CONCENTRATION (MG/KG) [RC= 1.56 mg/kg]
100 0 100
SCALE FEE?
PRELIMINARY SITE CHARACTERIZATION REPORT ADDENDUM
SITE 7
NAS PENSACOLA
FIGURE A-2
SOIL ANALYTICAL RESULTS
DWG DATE: 12/05/97
DWG NAME: 970SANYR

ATTACHMENT A

CHAIN OF CUSTODY RECORD

HAZARDOUS WASTE CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

.PWC Environmental Laboratory
Bldg. 3667, Code 920
NAS Pensacola, Fl. 32508
Ph#: (904) 452-4726/3642
DSN: 922-4726/3642
FAX: (904) 452-2799/2387

Requester: Ron Joyner
Address: NAS Environmental
Phone #: 452-3800
Contact:
Job Order #: 1605014

Report Required? (Yes) No DEP? Yes No
Lab ID Number:
Sample Date: 8/1/97
Received Date: 8-1-97
Sample Site: Site 7
Lab Due Date:

Sample ID #	Lab	#1- 7-3431	#2-7-3432	#3-7-3433	#4- 7-3434
Sample Name	----------	07500501	07500601	07500701	07500801
or Location	----------				
Sampled by	----------	BCaldwell	—	—	—
Collection	Date	8/1/97	—	—	—
Date/Time	Time	10:35Am	—	—	—
Sample Matrix	----------	Soil	—	—	—

Notes:

GROUP PARAMETERS by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	FY97 Units	Containers Required (L/S)	Preservative(s) Used (Liquids)
HW Charact. (complete)	EPA SW 846									56	See below	See below
Ignitability (Flashpoint)	SW 846 1010									2	250ml/4 oz.	4° C
Reactivity (Cyanide & Sulfide)	EPA SW-846									4	1L/4 oz.	4° C
Corrosivity (pH)	SW 846 9040/9045									0.5	250ml/4 oz.	4° C
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
TCLP Non Volatile Extraction	SW 846 1311									4	40 mlx3/4 oz.	4° C
TCLP Volatile ZHE Extraction	SW 846 1311									4	1Lx4/32 oz.	HCl to pH<2/4° C
TCLP BNA Extractables	SW 846 8270									16	1Lx3/4 oz.	4° C
TCLP Acid Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
TCLP B/N Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
TCLP Pesticides	SW 846 8080									9	1Lx3/4 oz.	4° C
TCLP Herbicides	SW 846 8150									9	1Lx3/4 oz.	4° C
TCLP Volatiles	SW 846 8260									8	40 ml x 3/4 oz.	HCl to pH<2/4° C
TCLP Metals (8)	EPA SW-846									6.5	500 ml/4 oz.	HNO_3 to pH<2
Multiphasic Samples	EPA SW-846									+50%	See above	See above
Complete Priority Pollutants	EPA SW-846									40	See below	See below
PP Acid Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
PP B/N Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
PP Pesticide/PCB's	SW 846 8080									9	1Lx3/4 oz.	4° C
PP Volatiles	SW 846 8260									8	40 ml x 3/4 oz.	HCl to pH<2/4° C
PP Metals (13)	EPA SW-846									9	500 ml/4 oz.	HNO_3 to pH<2
PP Cyanide/Phenol	EPA SW-846									4	1L Plastic/1L Glass	NaOH/H_2SO_4
Toxicity (TCLP) less Pest/Herb	EPA SW-846									36	See below	See below
F001 - F005 Solvents	EPA SW-846									24	1Lx3&40mlx4/16 oz.	4° C
Kerosene Anal. Group (FL-PRO)	SW-846/FL DEP									24	Multiple	As Required
FL-PRO	FL DEP									5	1Lx3/16 oz.	H_2SO_4 to pH<2/4°C
Total Volatiles	SW 846 8260									8	40 mlx3/4 oz.	HCl to pH<2/4° C
Total BNA Extractables	SW 846 8270									16	1Lx2/16 oz.	4° C
Total RCRA Metals (8)	EPA SW-846									6.5	500 ml/4 oz.	HNO_3 to pH<2
Single Metals (Arsenic)	EPA SW-846	X		X		X		X		1	500 ml/4 oz.	HNO_3 to pH<2
PCB's in Oil	SW 846 8080									3	40 ml/4 oz.	None
PCB's in Water/Soil/Wipes	SW 846 8080									4	1L/4 oz.	None
Other:												

Comments:

Relinquished by: [signature]
Date/Time: 8/1/97 10:00

Received by: B. Hawkins
Date/Time: 8/1/97 1400

4 Dr JA/Jones chemical series Lab 1 rev 10/2/96

HAZARDOUS WASTE CHAIN OF CUSTODY/REQUEST FOR ANALYSIS

NPWC Environmental Laboratory
Bldg. 3887, Code 920
NAS Pensacola, Fl. 32508
Ph#: (904) 452-4728/3642
DSN: 922-4728/3642
FAX: (904) 452-2799/2387

Requester: Ron Joyner
Address: NAS Environmental
Phone #: 452-3900
Contact:
Job Order #: 1605014

Report Required? Yes No DEP? No
Lab ID Number:
Sample Date: 8/1/97
Received Date: 8/1/97
Sample Site: Site 7
Lab O m Date:

Sample ID #	Lab	#1- 7-3435	#2- 7-3436	#3-	#4-	Notes:
Sample Name or Location		07S00901	07S01001			
Sampled by		B Caldwell	—			
Collection Date/Time	Date	8/1/97	—			
	Time	10:35 Am	—			
Sample Matrix		Soil	—			

GROUP PARAMETERS by Method Name	METHOD #	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	X	Bottle ID #'s	FY97 Units	Containers Required (L/S)	Preservative(s) Used (Liquids)
HW Charact. (complete)	EPA SW 846									56	See below	See below
Ignitability (Flashpoint)	SW 846 1010									2	250ml/4 oz.	[illegible]
Reactivity (Cyanide & Sulfide)	EPA SW-846									4	[illegible] oz.	4° C
Corrosivity (pH)	SW 846 9040/9045									0.5	250ml [illegible]	4° C
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
Toxicity (TCLP) complete	EPA SW-846									50	See below	See below
TCLP Non Volatile Extraction	SW 846 1311									4	40 mlx3/4 oz.	4° C
TCLP Volatile ZHE Extraction	SW 846 1311									4	1Lx4/32 oz.	HCl to pH<2/4° C
TCLP BNA Extractables	SW 846 8270									16	1Lx3/4 oz.	4° C
TCLP Acid Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
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TCLP Volatiles	SW 846 8260									8	40 ml x 3/4 oz.	HCl to pH<2/4° C
TCLP Metals (8)	EPA SW-846									6.5	500 ml/4 oz.	HNO, to pH<2
Multiphasic Samples	EPA SW-846									+50%	See above	See above
Complete Priority Pollutants	EPA SW-846									40	See below	See below
PP Acid Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
PP B/N Extractables	SW 846 8270									9	1Lx3/4 oz.	4° C
PP Pesticide/PCB's	SW 846 8080									9	1Lx3/4 oz.	4° C
PP Volatiles	SW 846 8260									8	40 ml x 3/4 oz.	HCl to pH<2/4° C
PP Metals (13)	EPA SW-846									9	500 ml/4 oz.	HNO, to pH<2
PP Cyanide/Phenol	EPA SW-846									4	1L Plastic/1L Glass	NaOH/H_2SO_4
Toxicity (TCLP) less Pest/Herb	EPA SW-846									36	See below	See below
F001 - F005 Solvents	EPA SW-846									24	1Lx3&40mlx4/16 oz.	4° C
Karo[illegible] Anal. Group (FL-PRO)	SW-846/FL DEP									24	Multiple	As Required
FL-PRO	FL DEP									5	1Lx3/16 oz.	H_2SO_4 to pH<2/4°C
Total Volatiles	SW 846 8260									8	40 mlx3/4 oz.	HCl to pH<2/4° C
Total BNA Extractables	SW 846 8270									16	1Lx2/16 oz.	4° C
Total RCRA Metals (8)	EPA SW-846									6.5	500 ml/4 oz.	HNO, to pH<2
Single Metals (Arsenic)	EPA SW-846	X		X						1	500 ml/4 oz.	HNO, to pH<2
PCB's in Oil	SW 846 8080									3	40 ml/4 oz.	None
PCB's in Water/Soil/Wipes	SW 846 8080									4	1L/4 oz.	None
Other:												

Comments:

Relinquished by: [signature]
Date/Time: 8/1/97 14:00

Received by: B. Hagendorfer
Date/Time: 8-1-97 14:00

[illegible] rev 10/2/96

ATTACHMENT B

SAMPLE ANALYTICAL RESULTS

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 440
NAS Pensacola, FL 32508-5303
Phone (850) 452-3180/3642
DSN 922-3180/3642

Laboratory Report

Total Metals

Requester: NA Environmental
Address: Bldg. 624
NAS Pensacola, FL 32508
Phone #: 452-3900
Contact: Ron Joyner

Lab ID Number: 9 08035 A
Sample Date: 1 Aug 97
Received Date: 1 Aug 97
Sample Site: NASP Site 7
Job Order #: 160 5014

Sample ID#	Lab	1- 73431	2- 73432	3- 73433	4- 73434	Analyst(s):
Sample Name	Requester	07S00501	07S00601	07S00701	07S00801	Brian Nelson
Collector Name		B. Caldwell	B. Caldwell	B. Caldwell	B. Caldwell	
Date/Time Collected (Military)	Comp start					
	Comp stop					
	Grab	1 Aug 97 @ 1035	1 Aug 97 @ 1035	1 Aug 97 @ 1035	1 Aug 97 @ 1035	Date(s) of analysis: 6 Aug 97
Sample Type	Comp/Grab	Grab	Grab	Grab	Grab	
Sample Matrix		Soil	Soil	Soil	Soil	

PARAMETER Metals:	METHOD #	ID# 1- 73431	units	Det. Limit	ID# 2- 73432	units	Det. Limit	ID# 3- 73433	units	Det. Limit	ID# 4- 73434	units	Det. Limit	Preservative(s)
Arsenic(As)	EPA 7060A	X 3.2	mg/kg	0.5	X 0.9	mg/kg	0.5	X 1.1	mg/kg	0.5	X 0.7	mg/kg	0.5	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter. BDL=Below Detection Limit.

PWC 5090/14

Approved by: Jerry Goss, Laboratory Director

Date/Time: 06-Aug-97 13:34
End of Report

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To BRIAN	From RON
Co.	Co.
Dept.	Phone #
Fax #	Fax #

Navy Public Works Center
Environmental Laboratory
Bldg. 3887, Code 440
NAS Pensacola, FC 32508-5303
Phone (850) 452-3160/3642
DSN 922-3160/3642

Laboratory Report
Total Metals

Requester: NAS Environmental
Address: Bldg. 624
NAS Pensacola, FL 32508
Phone #: 452-3900
Contact: Ron Joyner

Lab ID Number: 9708035 B
Sample Date: 1 Aug 97
Received Date: 1 Aug 97
Sample Site: NASP Site 7
Job Order #: 160 5014

Sample ID#	Lab	1- 73435	2- 73436	3-	4-	Analyst(s):
Sample Name	Requester	07S00901	07901001			Brian Nelson
Collector Name		8.Caldwell	8. Caldwell			
Date/Time Collected (Military)	Comp start					
	Comp stop					Date(s) of analysis:
	Grab	1 Aug 97 @ 1035	1 Aug 97 @ 1035			6 Aug 97
Sample Type	Comp/Grab	Grab	Grab			
Sample Matrix		Soil	Soil			

PARAMETER Metals:	METHOD #	ID# 1- 73435	units	Det. Limit	ID# 2- 73436	units	Det. Limit	ID# 3-	units	Det. Limit	ID# 4-	units	Det. Limit	Preservative(s)
Arsenic(As)	EPA 7060A	X 0.8	mg/kg	0.5	X BDL	mg/kg	0.5		mg/kg	0.5		mg/kg	0.5	None

Comments: mg/kg=milligrams per kilogram. mg/l=milligrams per liter. BDL=Below Detection Limit.

Approved by: Jerry Deed, Laboratory Director

Date/Time: 06-Aug-97 13:36
End of Report

PWC 5090/14