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DECISION DOCUMENT LETTER REPORT FOR INSTALLATION RESTORATION SITE 2
TRANSFORMER OIL DISPOSAL AREA AND INSTALLATION RESTORATION SITE 6
DREDGERS KEY REFUSE DISPOSAL AREA NAS KEY WEST FL
12/1/1997
BROWN AND ROOT ENVIRONMENTAL

DECISION DOCUMENT LETTER REPORT

FOR

**INSTALLATION RESTORATION SITE 2:
TRANSFORMER OIL DISPOSAL AREA
AND
INSTALLATION RESTORATION SITE 6:
DREDGERS KEY REFUSE DISPOSAL AREA**

**NAVAL AIR STATION KEY WEST
KEY WEST, FLORIDA**



Southern Division

Naval Facilities Engineering Command

Contract No. N62467-94-D-0888

Contract Task Order 0032

DECEMBER 1997

AIK-97-0176

DECISION DOCUMENT LETTER REPORT

FOR

**INSTALLATION RESTORATION SITE 2:
TRANSFORMER OIL DISPOSAL AREA
AND
INSTALLATION RESTORATION SITE 6:
DREDGERS KEY REFUSE DISPOSAL AREA**

**NAVAL AIR STATION (NAS)
KEY WEST, FLORIDA**

**COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

**Submitted to:
Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29406**

**Submitted by:
Brown & Root Environmental
661 Anderson Drive
Foster Drive VII
Pittsburgh, Pennsylvania 15220**

**CONTRACT NUMBER N62467-D-0888
CONTRACT TASK ORDER 0025**

Q A Record

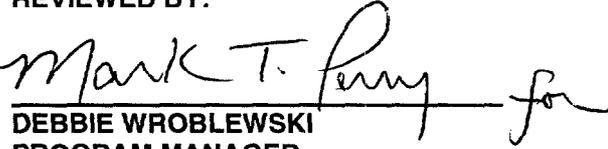
DECEMBER 1997

PREPARED BY:



**CHUCK BRYAN
TASK ORDER MANAGER
BROWN & ROOT ENVIRONMENTAL
AIKEN, SOUTH CAROLINA**

REVIEWED BY:



**DEBBIE WROBLEWSKI
PROGRAM MANAGER
BROWN & ROOT ENVIRONMENTAL
PITTSBURGH, PENNSYLVANIA**

1.0 SITE DESCRIPTION AND BACKGROUND

1.1 Installation Restoration Site 2: Transformer Oil Disposal Area

Site 2 is the gravel parking area surrounding Building 795, which is the Defense Property Disposal Office (DPDO). It covers an area of approximately 0.5 acre. During the time period from the mid-1950s to approximately 1970, off-line transformers were sent to the Key West Naval Station DPDO at Truman Annex for ultimate disposal. Reportedly, transforms were lifted by a forklift truck and punctured near the bottom to allow the dielectric fluid to drain. The truck drove back and forth over the gravel parking area surrounding Building 795, spreading the oil to control dust and weeds. During this time, polychlorinated biphenyl (PCB) oil was in common use. It is probable that some of the dielectric fluid drained on the parking lot contained PCBs. PCBs could still remain at this site due to the fact that PCBs are relatively insoluble in water and migrate slowly through the soil. This area is subject to vehicle and pedestrian traffic (Envirodyne Engineers, 1985).

Since this site had the potential for PCB contamination and may represent a hazard to human health or a potential impact to the environment, a Confirmation Study was recommend in the initial assessment study of the NAS (Envirodyne Engineers, 1985).

1.2 Installation Restoration Site 6: Dredgers Key Refuse Disposal Area

Dredgers Key is located on a man-made island just north of Key West. The site covers an area of approximately 250 acres. Dredgers Key, formed from dredge material during construction of the Seaplane Base, was used from the early 1940s until 1952 as an open disposal and burying ground for wastes generated at the Naval Station. Approximately 1,000 to 2,000 tons of waste from the Naval Station were disposed at this site annually. Typically, wastes disposed at this site consisted of bulky refuse items. Prior to 1952, Naval Station garbage was disposed or by barging to open ocean disposal areas. The City of Key West was also using the site to dispose of some refuse. Wastes were burned at the site for volume reduction (Envirodyne Engineers, 1985).

Due to the non-hazardous nature of the wastes reportedly disposed here, this site is judged not to pose a potential threat to human health or the environmental, and a Confirmation Study was not recommend in the initial assessment study of the NAS (Envirodyne Engineers, 1985).

2.0 RESULTS OF PREVIOUS INVESTIGATIONS

2.1 Installation Restoration Site 2: Transformer Oil Disposal Area

The following information is taken directly from the Verification Study Response (Geraghty & Miller, 1987)

The Transformer Oil Disposal Area (see Figure 5 and Table 3 following from Geraghty & Miller, 1987) is located at the gravel parking area adjacent to the Defense Property Disposal Office (DPDO), Building 795. From the mid-1950s until approximately 1970, off-line transformers

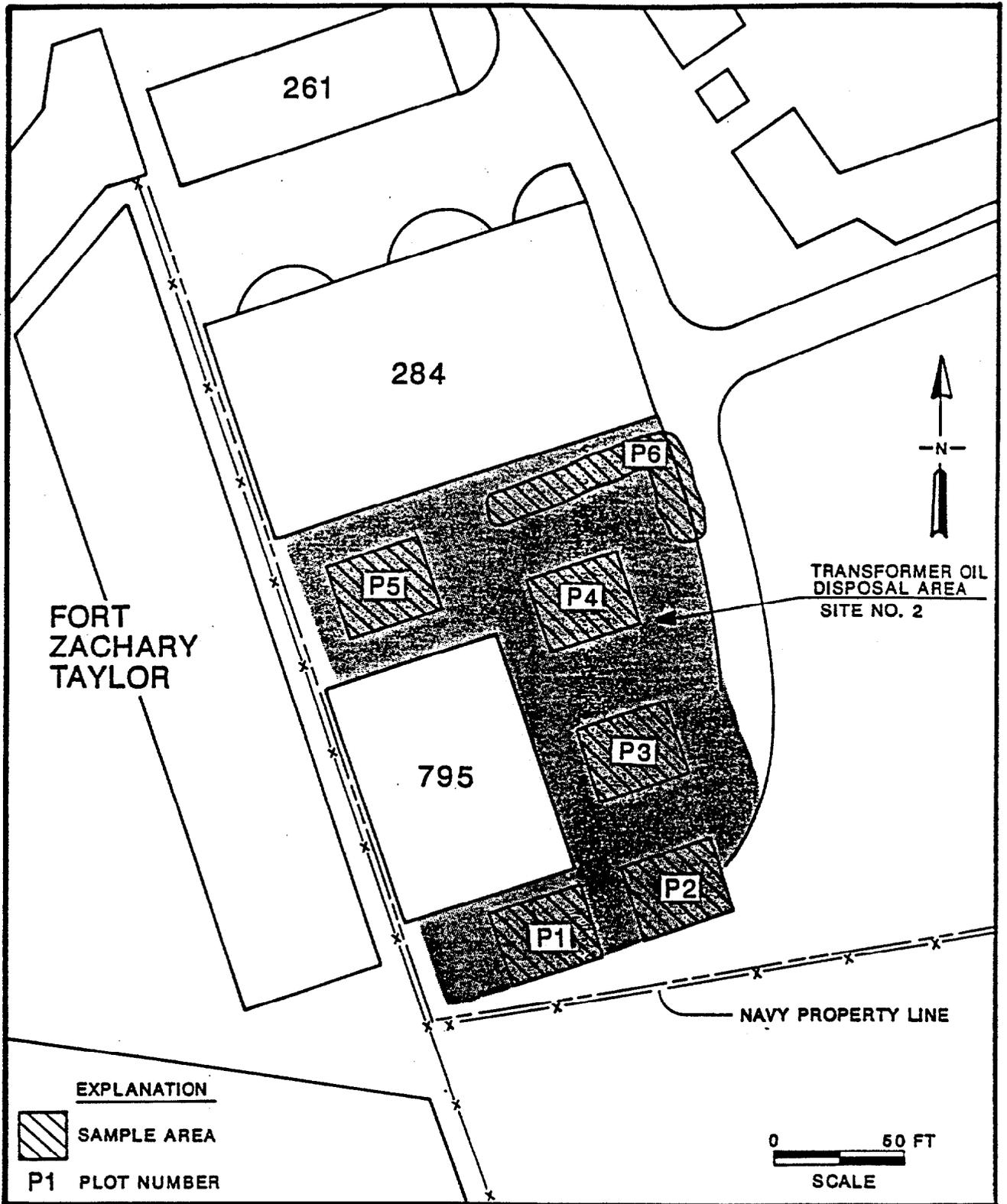


Figure 5. Site Plan Showing Soil Sampling Plots at the Transformer Oil Disposal Area (Site No. 2)

Table 3. Summary of Concentrations of Total PCBs in Composite Soil Samples from Site 2

(Concentrations in ppm)

Depth (ft)	P-1	P-2	Plots		P-5	P-6
			P-3	P-4		
0-1	1.8	4.2	3.0	0.308	2.00	1.5
1-2	BDL ^{1/}	BDL	BDL	BDL	BDL	BDL
2-3	BDL	BDL	BDL	BDL	0.07	BDL

1/ BDL means below the laboratory detection limit.

dielectric fluid to drain. The oil was then spread over the gravel parking area to control dust and weeds.

Findings

This site was divided into six plots (Figure 5). Eighteen composite soil samples (three from each plot) were collected in the manner described in the Sampling and Analysis section of this report. The laboratory analyses indicate that all soil samples collected from the upper 1 foot of the parking lot contained concentrations of various types of PCBs ranging from 0.3 to 4.2 parts per million (ppm). Additionally, one composite soil sample from the 2-ft to 3 ft depth interval at plot 5 contained 0.07 ppm of PCBs (see Table 3 from Geraghty & Miller, 1987)

Recommendations

Based on the low concentrations of PCBs in the soil samples, the site does not appear to be a threat to human health or the environment and no additional work is recommended (Geraghty & Miller, 1987).

2.2 Installation Restoration Site 6: Dredgers Key Refuse Disposal Area

In the fall of 1995, Brown & Root Environmental performed sampling and analysis at several U.S. Navy facilities in support of the relative risk ranking of IR sites for the Naval Facilities Engineering Command Southern Division (Brown & Root Environmental, 1986). As a part of this work, supplemental sampling was performed by Brown & Root Environmental at NAS Key West from December 12 through December 14, 1995. A total of 5 samples were collected from IR Site 6, including three soil samples, one trip blank and one rinsate blank. Table 2-1 summarizes the rationale for sample collection. All samples were collected with disposable trowels, and samples were shipped to Inchscape Laboratory for analysis. The attached field annotated figure of Dredgers Key shows the location of the three soil samples evenly spaced to cover the probable IR 6 area of approximately 1000 feet by 2000 feet at the southern end of the Key. Also attached as table 3-3 (Brown & Root Environmental, 1986) is a listing of all of the positive detections from the IR 6 Site samples.

TABLE 2-1

SAMPLE IDENTIFICATION AND ANALYSIS
KEY WEST NAVAL AIR STATION (NAS), FLORIDA
IR SITE 6

Site	Sample Identification	Rationale for Sampling	REQUIRED ANALYSIS			
			TAL Metals & Cyanide	TCL Pest/PCBs	TCL Volatile	TCL Semivolatile
Site 00006	KW-006-01(21)	(1)	X	X	X	X
	KW-006-02(20)	(2)	X	X	X	X
	KW-006-03(19)	(3)	X	X	X	X

GULF OF MEXICO

OLD FOUNDATION

450'

TREE GULF OF LINE

130'

ABANDONED & BARRICADED ROAD (HIKING TRAIL)

MANGROVE KW-06-03(19)

TRAILOR/ RV CAMP GROUND

COMMUNITY CENTER

NAVY EXCHANGE/ COMMISSARY

MONROE COUNTY BOARD

N-06-02(20)

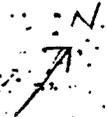
225'

MANGROVE

100'

KW-06-01(21)

SANDY ACCESS ROAD



KEY WEST, FL
NAVAL AIR STATION
DREDGER KEY

SITE 00006
SAMPLE I.D. KW-006-01 (21)
-02 (20)
-03 (19)

03/18/96

TABLE 3-3
RELATIVE RISK SITE EVALUATION - ANALYTICAL RESULTS
KEY WEST NAS - SOILS - POSITIVE DETECTIONS ONLY

Page 1

SAMPLE NUMBER:	KW-006-01(21)	KW-006-02(20)	KW-006-03(19)	KW-UST11-01(17)	KW-UST11-02(18)				
SAMPLE LOCATION:	KW-006-01	KW-006-02	KW-006-03	KW-UST11-01	KW-UST11-02				
LABORATORY:	INCHVT	INCHVT	INCHVT	INCHVT	INCHVT				
DEPTH OF SAMPLE (Feet):	0-1	0-1	0-1	0-1	0-1				
SAMPLE TYPE:	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL				
	RESULT	UNITS	RESULT	UNITS	RESULT	UNITS	RESULT	UNITS	
INORGANICS									
Aluminum	474	mg/kg	377	mg/kg	3330	mg/kg			
Arsenic	0.76 B	mg/kg			3.3	mg/kg			
Barium	8.4 B	mg/kg	4.7 B	mg/kg	13.8 B	mg/kg			
Beryllium	0.072 B	mg/kg	0.033 B	mg/kg	0.19 B	mg/kg			
Cadmium	0.16 B	mg/kg	0.081 B	mg/kg	0.11 B	mg/kg			
Calcium	349000	mg/kg	369000	mg/kg	426000	mg/kg			
Chromium	4.3	mg/kg	2.6	mg/kg	7.8	mg/kg			
Cobalt					0.37 B	mg/kg			
Copper	7.2	mg/kg	1.2 B	mg/kg	2.4 B	mg/kg			
Iron	650	mg/kg	202	mg/kg	1260	mg/kg			
Lead	29.4	mg/kg	1.3	mg/kg	12	mg/kg			
Magnesium	3020	mg/kg	1690	mg/kg	3510	mg/kg			
Manganese	8.1 E	mg/kg	3.2 E	mg/kg	8.2 E	mg/kg			
Nickel	1.4 B	mg/kg	0.53 B	mg/kg	3 B	mg/kg			
Potassium	392 B	mg/kg	434 B	mg/kg	1160 B	mg/kg			
Selenium	0.32 B	mg/kg							
Sodium	4410	mg/kg	6010	mg/kg	9970	mg/kg			
Vanadium	3.3 B	mg/kg	2 B	mg/kg	7.3 B	mg/kg			
Zinc	29.5	mg/kg	8.7	mg/kg	10.5	mg/kg			
SEMIVOLATILES									
Anthracene	25 J	ug/kg							
Benzo(a)anthracene	66 J	ug/kg							
Benzo(a)pyrene	62 J	ug/kg							
Benzo(b)fluoranthene	100 YJ	ug/kg							
Benzo(g,h,i)perylene	45 J	ug/kg							
Bis(2-ethylhexyl)phthalate	750 B	ug/kg	47 JB	ug/kg	25 JB	ug/kg	690 B	ug/kg	200 JB
Chrysene	76 J	ug/kg							37 J
Di-n-butylphthalate									33 JB
Dibenz(a,h)anthracene	27 J	ug/kg							
Dimethylphthalate	60 J	ug/kg							
Fluoranthene	160 J	ug/kg							42 J
Indeno(1,2,3-cd)pyrene	45 J	ug/kg							
Phenanthrene	140 J	ug/kg							20 J
Pyrene	140 J	ug/kg							40 J
VOLATILES									
2-butanone					12 J	ug/kg	3 J	ug/kg	
2-hexanone					3 J	ug/kg			

3-15

CTO 0009

Rev. 0
03/18/96

03/18/96

TABLE 3-3
RELATIVE RISK SITE EVALUATION - ANALYTICAL RESULTS
KEY WEST NAS - SOILS - POSITIVE DETECTIONS ONLY

Page 2

SAMPLE NUMBER:	KW-006-01(21)	KW-006-02(20)	KW-006-03(19)	KW-UST11-01(17)	KW-UST11-02(18)				
SAMPLE LOCATION:	KW-006-01	KW-006-02	KW-006-03	KW-UST11-01	KW-UST11-02				
LABORATORY:	INCHVT	INCHVT	INCHVT	INCHVT	INCHVT				
DEPTH OF SAMPLE (Feet):	0-1	0-1	0-1	0-1	0-1				
SAMPLE TYPE:	NORMAL	NORMAL	NORMAL	NORMAL	NORMAL				
	RESULT	UNITS	RESULT	UNITS	RESULT	UNITS	RESULT	UNITS	
VOLATILES									
Acetone				34 B	ug/kg	21 B	ug/kg	6 JB	ug/kg
Carbon tetrachloride						3 J	ug/kg		
PESTICIDES / PCB'S									
Endrin ketone	10 P	ug/kg							

3.0 CONCLUSIONS

3.1 Installation Restoration Site 2: Transformer Oil Disposal Area

Based on the data presented for Site IR 2, only very low levels of PCBs were detected near or beneath the applicable screening action level of 576 ug/kg (Florida Department of Environmental Protection General Worker Soil Cleanup Goals for Aroclor 1260). Since the sampling in 1986, these low levels of PCBs are believed to have further been environmentally degraded and lowered due to natural attenuation and biological reduction.

Therefore, no additional investigation is warranted and it is recommended that no further action is the appropriate alternative for site IR 2.

3.2 Installation Restoration Site 6: Dredgers Key Refuse Disposal Area

Throughout the process of implementing the Installation Restoration Program for NAS Key West during the time since the identification of IR Site 6 (Envirodyne Engineers, 1985), additional information concerning the history of the site has been searched for. No additional significant information has been found. Most significantly, over the more than 40 years since the use of Dredgers Key as a waste handling area, almost the entire Key has been built upon including substantial trenching for utilities and foundations. During the course of this construction no waste materials have ever been encountered. The only undisturbed area of the Key is along the southern shore where a mangrove and beach area exists. This area was the subject of the recent sampling that was performed by Brown & Root Environmental in 1985. During this sampling, a careful field walk of the area at the southern end of Dredgers Key was conducted. No visible evidence of waste residue or waste disposal was found. The area is presently a beach and mangrove community with small ponded areas and abundant vegetation and wildlife. The surface soil samples taken in 1985 showed no significant levels of contaminants. The conclusion is that there is no current evidence of waste residue or waste disposal at Site IR 6.

Therefore, no additional investigation is warranted and it is recommended that no further action is the appropriate alternative for site IR 6.

REFERENCES

Brown & Root Environmental, 1995, *Technical Memorandum For Support Of The Relative Risk Evaluation At Various Activities*, prepared for Southern Division Naval Facilities Engineering Command, Charleston, South Carolina.

Envirodyne Engineers, 1985, *Initial Assessment Study of Naval Air Station Key West, Florida*, prepared for Naval Energy and Environmental Support Activity, St. Louis, Missouri.

Geraghty & Miller, 1987, *Verification Study of Potential Ground-Water Pollution at the Naval Air Station Key West, Florida*, prepared for Naval Facilities Engineering Command, Southern Division, Tampa, Florida.

Robin Orlandi
Community RAB Member

Comment Responses
Dated: November 1996

Comment 1:

Insufficient information has been provided concerning this site. Under "Findings," a reference is made to "the Sampling and Analysis section of this report." This is not included in the working draft we received. I assume that it is part of the 1987 Geraghty and Miller report. Is a copy of the 1987 report available for review by RAB members?

Response: The NFA document letter is not a stand-alone document. Additional information on IR-2 is available in the "Verification Study of Potential Ground-Water Pollution at the Naval Air Station Key West, Florida" prepared by Geraghty & Miller, 1987. This report is part of the administrative record and should be available to the public at the Monroe County library.

Comment 2:

What kind of soil contaminant testing was performed? Were direct soil as well as lechate tests performed? Why were composite samples used instead of individual sample testing as has been performed at other IR sites?

Response: The types of sampling performed at IR-2 are documented in the 1987 Geraghty & Miller Report.

Comment 3

There are conflicts between the data provided and the conclusions drawn in the working draft: Table 3 reports concentrations of total PCBs in soil samples to a depth of 1 ft. from all six plots ranging from .308 to 4.2 parts per million or mg/kg. In section 3.0, "Conclusions," the draft states "only very low levels of PCBs were detected near or beneath the applicable screening action level of 576 ug/kg (Florida Dept. of Environmental Protection General Worker Soil Cleanup Goals for Aroclor 1260)". But ug/kg is equal to parts per billion. If the levels of PCBs measured at a depth of 1 foot at IR-2 are converted to parts per billion, the range becomes 308 to 4200 ppb. All but one sample exceeds (by as much as 7x) the FDEP general worker soil cleanup goals. Residential Remediation Goals from table 2-3 of the *Draft Supplemental RCRA Facility Investigation/Remedial Investigation* are even lower at 83 ppb. Are the soil contamination measurements in table 3 correctly stated as parts per million? If so, how can this site be characterized as requiring "No Further Action?"

Response: The "Conclusions" section will be modified to state that 17 of 18 samples were below the FDEP screening action level of 3.5 mg/kg. It will also recommend that any additional

investigations be performed at IR-2 as part of the site inspection for BRAC Site No. GRYZNC. Thus, no further action is required for IR-2 because it will be incorporated into the BRAC SI.

Comment 4:

Also in Section 3.0, "Conclusions," the Working Draft Decision Document Letter Report states "Since the sampling in 1986, these low levels of PCBs are believed to have further been environmentally degraded and lowered due to natural attenuation and biological reduction." Was the soil evaluated, as it was at SWMU 1, for its total organic carbon and ability to attenuate contaminants? It is my understanding that while PCBs break down through photodegradation, they are relatively stable in under ground soils. If the ppm contaminant measurements in the Working Draft Document are correct and the 1986 PCB levels actually exceeded the FDEP cleanup goals, it would seem appropriate to re-test the soil at the site before finalizing a "No Further Action" Decision. If additional testing has been done, what document contains the results?

Response: The sentence will be deleted and the "Conclusions" section will be modified as described in Response 3.

Comment 5:

Is IR-2 included among the Navy properties to be excessed under BRAC?

Response: Yes. See Response 3.



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

January 28, 1997

Mr. Dudley Patrick, Code 1858
Naval Facilities Engineering Command
2155 Eagle Drive
P.O. Box 19010
North Charleston, SC 29419-9010

RE: No Further Investigation Decision Document for
Installation Restoration Sites 2 (Transformer Oil
Disposal Area) and 6 (Dredgers Key Refuse Disposal
Area). Naval Air Station Key West, Florida

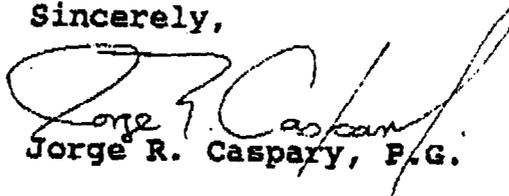
Dear Mr. Patrick:

I have reviewed the above referenced document dated
January 8, 1997 (received January 10, 1997) and concur with the
No Further Investigation proposal.

The determination to confer this site a No Further
Investigation is consistent with the Comprehensive Environmental
Response, Compensation, and Liability Act (CERCLA) as amended by
the Superfund Amendments and Reauthorization Act (SARA) and the
National Contingency Plan (40 CFR 300).

If I can be of any further assistance in this matter, please
contact me at 904/488-3935.

Sincerely,


Jorge R. Caspary, P.G.

cc: Martha Berry, EPA
Ron Demes, NAS Key West
Charles M. Bryan, Brown & Root

TJB

JJC

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ESN

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FEB 25 1997

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Mr. Dudley Patrick
Code 1852
Southern Division
Naval Facilities Engineering Command
2155 Eagle Dr.
Charleston, S.C. 29418

SUBJ: Naval Air Station (NAS) Key West, Florida
EPA ID# FL6 170 022 952
IR Sites 2 & 6

Dear Mr. Patrick:

EPA has reviewed the following document:

- o **Draft Decision Document Letter Report for Installation Restoration (IR) Sites 2 and IR 6 - NAS Key West**, Brown & Root Environmental, Inc.,
January 8, 1997

and has no comment. EPA concurs with the recommendation of No Further Investigation for both sites presented in this report. If you have any questions, please contact me at 404/562-8533.

Sincerely,

Martha Berry
Remedial Project Manager
Federal Facilities Branch

cc: Jorge Caspary, FDEP
Ron Demes, NAS Key West
Charles Bryan, Brown & Root