MARINE ORGANISM COLLECTION LETTER REPORT FOR BOCA CHICA KEY, FLEMING KEY, TRUMAN ANNEX AND BIG COPPITT KEY NAS KEY WEST FL

10/25/1996

BROWN AND ROOT ENVIRONMENTAL

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AIK-OES-96-6077
October 25, 1996

Mr. Steve Adams
Florida Department of Environmental Protection
3900 Commonwealth Boulevard
Tallahassee, FL 32399

REFERENCE: NAS Key West Project HK 7046 (CTO 007)

SUBJECT: Marine Organism Collection Report

Dear Steve:

The following end of project report is submitted in accordance with Chapter 62R-1, F.A.C., and is a summary of the activities conducted under the terms and conditions of FDEP Special Permit # 96S-250, issued to me on August 1, 1996.

Marine organisms were collected during August 24 through October 3, 1996, at ten locations on and near Naval Air Station Key West, FL. These locations consisted of six sites where contamination of aquatic resources is being investigated, as well as four background (i.e., reference) sites. The six potentially contaminated sites included two inland lagoons on Boca Chica Key, two shoreline sites on Fleming Key, one shoreline site at Truman Annex on Key West, and one inland borrow pit on Big Coppitt Key. The background sites consisted of an inland lagoon near the eastern end of Key West, the shoreline of Dredgers Key (also known as Sigsbee Park), the shoreline of Wisteria Island, and an area of open water near Bluefish Channel (approximately 4 miles north of Key West).

Specimens consisted of fish and crabs at the inland sites, while crabs, lobsters, conchs, snails, and turtle grass were collected at the shoreline sites. The number of samples collected and associated measurements are provided for each species in Table 1. Individual minnow-sized fish (sheepshead minnows, killifish, sailfin mollies, and crested gobies) were not enumerated. Instead, minnows were pooled by species to create composite samples of 30-50 grams (g) each. Table 1 provides the number of composite minnow samples rather than the number of individual specimens. For all other species collected, the number of samples is synonymous with the number of individual specimens.

Two tarpon were collected from a borrow pit on Big Coppitt Key using gill nets at a depth of 0 to 10 feet. All other fish were collected using minnow traps at depths of 0 to 4 feet. Crabs were collected in wire mesh traps and by hand in water 5 to 12 feet deep. Florida spiny lobsters were collected by hand and in standard lobster traps in water 5 to 12 feet deep. Conchs and true tulip snails were collected by hand in water 5 to 10 feet deep.

Twenty-six samples of turtle grass (*Thalassia testudinum*) shoots were collected by hand in water three to five feet deep. Each sample consisted of approximately 100 g of vegetation. Please note that the permit application did not request the collection of this species.

All specimens were frozen and shipped to Savannah Laboratories and Environmental Services, Inc., in Savannah, Georgia, for laboratory analyses of contaminants potentially present in the specimens. The analytical data are needed to conduct ecological risk assessments at sites where terrestrial and aquatic resources may be at risk due to contamination from past military-related activities. The results of the risk assessments will be used to determine remediation goals at Naval Air Station Key West.

Thank you for your assistance in obtaining the FDEP permit. If you have any questions, please do not hesitate to call me at 803-649-7963.

Sincerely,

Michael L. Whitten

Michael L. Whitten
Senior Scientist

Enclosure

cc w/enclosure:
K. Donnelly, B&RE-Pittsburgh
K. Walter, B&RE-Aiken
D. Patrick, NAVFACENGCOM
P. Williams, NAS Key West
File 7046 (CTO 007)

Table 1. Fish, Mollusks, and Crustaceans Collected During August 24-October 3, 1996, at and near Naval Air Station Key West, Monroe County, Florida.

SPECIES	NUMBER OF SAMPLES	LENGTH[1] (mm)	WEIGHT[2] (g)
FISH			
Tarpon (*Megalops atlanticus*)	2	496 526	946 828
Sheepshead minnow (*Cyprinodon variegatus*)	36	22-57	1367
Gold-spotted killifish (*Floridicthys carpio*)	9	26-64	384
Killifish (*Fundulus spp*)	24	32-116	1072
Sailfin molly (*Poecilia latipinna*)	17	24-54	573
Crested goby (*Lophogobius cyprinoides*)	18	26-77	634
MOLLUSKS			
Milk conch (*Strombus costatus*)	18	139-198	10954
Hawkwing conch (*Strombus raninus*)	1	90	114
Florida horse conch (*Pleuroploca gigantea*)	2	285-373	3090
True tulip (*Fasciolaria tulipa*)	8	94-182	1685
Caribbean vase (*Vasum muricatum*)	25	57-99	3340
CRUSTACEANS			
Spiny lobster (*Panulirus argus*)	49	100-270	12179
Blue crab (*Callinectes sapidus*)	15	145-169	3079
Stone crab (*Menippe mercenaria*)	13	77-114	4657
Spiny spider crab (*Mithrax spinosissimus*)	10	58-116	2927
Mud crab (*Panopeus herbstii*)	16	14-32	98
Giant hermit crab (*Petrochirus diogenes*)	3	116-180	335

[1] Body length was measured for fish, mollusks, lobsters and hermit crabs; carapace width was measured for all other crabs. Measurements given above indicate the range of the smallest to the largest specimen.

[2] Aggregate weight.