

**E N T R I X****MEMORANDUM**

**TO:** Dennis Saito  
Tesoro Hawaii Corp.

**DATE:** October 16, 1998

**FROM:** Joan Duffield *JD/mc*  
ENTRIX, Inc.

**SUBJECT:** *Survey Results of Red-footed boobies (Sula sula) at Mokapu Point on the Marine Corps Base Hawaii, Kaneohe Bay, Oahu*

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Based on the occurrence of oiled birds recorded at Kilauea Point on September 29 and 30, 1998, concerns were raised that there were also oiled boobies in the Mokapu colony at Marine Corps Base Hawaii in Kaneohe Bay on Oahu. To address this potential issue, a nocturnal survey of red-footed boobies was conducted on October 6, 1998 at Mokapu Point as part of assessment activities for the SPM Hose Tesoro Spill.

The colony at Mokapu Point was surveyed from approximately 1900 to 2100 by four biologists, including Joan Duffield (ENTRIX), Kevin Foster (U.S. Fish and Wildlife Service), Gordon Olayvar (Marine Corps Base Hawaii) and Lance Tamino (local biologist). The booby colony, consisting of mostly red-footed boobies, was quite large (5,000+ boobies). The survey efforts focused on examining adult red-footed boobies, as oil could easily be detected on their white plumage. Subadult red-footed boobies were only counted if the presence or absence of oil could easily be observed. The boobies were examined with spot lights at a fairly close distance, ranging from 5 to 20 feet.

A total of 1326 red-footed were examined, of which 9 individuals had spots of oil on their plumage. The extent of oiling ranged from less than 1% coverage on six birds, 1-3% coverage on two individuals, and approximately 5% coverage on one bird. In summary, less than 1% of the observed birds had some degree of oiling.

The individual that had oil on 5% of its body appeared to be in a weakened state, as it was observed shaking. There were seven spots of oil on the throat and breast area, each about the size of a dime. The undertail coverts and tail feathers were splashed with oil over an area about five inches long by one inch wide. The nape and neck areas were thickly coated with oil, covering about 80% of this area. Based on the apparent condition of this individual, this bird was captured for rehabilitation. The bird was kept at the home of Kevin Foster following the survey. It was then transported to the newly established rehabilitation center at Kauai Lagoons on the morning of October 7<sup>th</sup>.