

ENIWETOK MARINE BIOLOGICAL LABORATORY

June 23, 1956

RG

SUBJECT: Marine Survey of Eniwetok-Bikini Area

TO: Commander
Task Group 7.3APFL
BOXOceanic Surveys, 1956
WALTON, Ship's Redwing

Personnel of this Laboratory completed on June 21 a ten-day marine survey set up under Program 35 of Task Group 7.1 to obtain preliminary data on levels of radiation in waters of the Eniwetok-Bikini area.

The survey was conducted aboard the USS WALTON (DE 361), which had been placed at the disposal of our group and equipped with special gear for taking water and plankton samples. During the cruise that began on June 11 the WALTON covered some 3,300 miles over fifty-three collection stations in more than 37,000 square miles of ocean area.

A letter report being forwarded by Captain Arthur Emerson of the WALTON will supply detailed information on (a) the installation of special equipment and laboratory facilities aboard ship, (b) the projected cruise pattern of the mission, (c) the operation of the vessel on the collection schedule, and (d) the track actually made good by the WALTON as the survey developed. From the standpoint of this Laboratory, however, the following comments seem pertinent at this time:

1. Except for necessary deviations in the cruise pattern occasioned by other scheduled events, the collections of samples were made almost exactly as planned. The original plan called for visits to fifty stations between 153-59.4 and 166 E, but in the shifts of station schedules late in the cruise one station to the northeast was dropped and four stations were added at latitude 10-15 N, south of the main survey area. Thus the survey actually covered fifty-three stations from a line 250 miles west of Eniwetok to a line just east of Bikini.
2. Collections of plankton were made at an average depth of 200 meters with a net lowered on 300 meters of steel cable. Water samples were taken at the surface at each station and at depths of 25, 50, 75 and 100 meters.
3. Preliminary studies of samples were possible in the shipboard facilities and the rough patterns of activity could be established as the survey proceeded. Much more detailed analyses already have been started, however, and will be continued as rapidly as possible in this Laboratory and in facilities of the Applied Fisheries Laboratory of the University of Washington.

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4. Difficulties experienced by the shipboard probe metering device were unfortunate but not critical. The survey provided good testing experience for an ingenious new tool, and it seems quite probable that the probe, when its reliability has been improved, will supply valuable constant-reading data in subsequent surveys.
5. Despite the fact that the WALTON, as a naval vessel on temporary duty, could be subjected to only limited modification for scientific work, the accommodations and installations were completely adequate for the special mission to which she was assigned. Laboratory work was conducted belowdecks in compartments where noise and heat offered some handicaps, but these natural difficulties were more than offset by the uniformly high degree of interest, helpfulness, and courtesy of members of the ship's company, who did everything possible to make working conditions as efficient and comfortable as the situation permitted.

Full reports of the scientific aspects of the survey will be prepared when the data have been assembled. The present survey is to be followed by a second and probably more extensive survey in September, and experience gained aboard the WALTON will be extremely valuable in the preparation of plans for the later operation.

It should be said with all possible emphasis that Captain Emerson and the officers and men of the WALTON contributed immeasurably to the success of the survey and that their interest in the project produced a supporting teamwork that was by far the most notable aspect of the cruise. The experience gained by Captain Emerson and his staff certainly will be useful in future operations and it is to be hoped that the services of these men can be further employed in projects of this nature.

Lauren R. Donaldson
 Lauren R. Donaldson
 Director
 Program 35, TG 7.1

Allyn H. Seymour
 Leader
 Marine Survey Program

cc: USS WALTON (DE 361)
 Division of Biology and Medicine, AEC
 Commander, Task Group 7.1

APPLIED FISHERIES LABORATORY
UNIVERSITY OF WASHINGTON

2 EXS. WATER SAMPLE BOTTLES
1 EX. SCIENTIFIC SPECIMENS
1 DRUM PRESERVED FISH

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DEPARTED ON USNS BROSTROM

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APPROX. 11 DAYS IN TRANSIT
TO NSC OAKLAND