

*Pacific*

BMB:WRS

May 16, 1956

Dr. Lauren R. Donaldson, Director  
Applied Fisheries Laboratory  
University of Washington  
Seattle 5, Washington

Dear Doctor Donaldson:

The Division of Biology and Medicine has a requirement for conducting a radiobiological survey of Rongelap and Ailinginae atolls. The primary purpose of the survey is to evaluate the residual radioactivity in the foods of the Rongelap and their environments. We would like to have your organization make this important survey immediately after the present test series.

Duplicate samples of some of the material collected at the two atolls should be sent to Dr. John Harley, Health and Safety Laboratory, New York Operations Office. It is imperative that we have the analytical results as soon as possible.

Arrangements are being made to obtain either surface or air transportation to move your group and equipment from Eniwetok to the atolls. MATS orders will be issued by the Eniwetok Field Office to fly your personnel from either Travis Air Force base or Hickam Field to Eniwetok.

I am enclosing a list of representative samples in which we have the greatest interest, and also several suggestions from the staff.

We realize your four assignments during and immediately following the test series will tax the energies of your organization, so we appreciate your willingness to conduct this additional survey for the Commission. If we can be of help in any way, do not hesitate to contact the Division staff.

Sincerely yours,

cc: Gen. Mgr. AEG  
Hon. D. H. Mucker, Jr. Terr.  
CNO - Washington  
JTF-7, APO 437, S.F.  
Gen. Starbird, DMA  
K. England, HCO  
P. Spain - ACO  
M. Eisenbud, NYCO

C. L. Dunham, M. D.  
Director  
Division of Biology and Medicine

Encl.  
List of samples

J. Harley, NYCO  
W. D. Claus  
H. A. Stamwood

Dr. Lauren R. Donaldson - 2.

May 16, 1956

Radiological Sampling Program - to be collected at Rongelap (Kabelle, Labereli, Rongelap Islands) and Ailinginae Atolls.

If possible, the same kind (species) of specimens as taken on the November 1955 survey and reported in UNFL-43 should be collected.

1. Soil samples

To be collected over a known area of surface. Recommend a template of one foot or longer on a side be placed on the ground. The total activity per square foot of earth surface can thus be determined as long as the depth of the sample is such that it is equal to or exceeds any percolation of radioactive nucleotides. It is recommended that the sample be divided into two depths - the first to a depth of 3 to 4 inches, and the second to 6 or 8 inches. Attention should be paid to the micro-relief of the terrain. The samples should be collected at the same stations or locations as those taken on the October-November 1955 (UNFL-43) survey.

2. Water

Both fresh cistern and sea.

3. Plankton

4. Edible Plants

A relatively large sampling of coconuts, plus the other important food plants.

5. Invertebrates

Sea cucumber, giant clam, coconut crab, rock crab, and spiny lobster.

6. Fish (omnivorous and carnivorous)

Muscle, liver, and bone.

7. Birds

Muscle, bone, liver, and eggs.

The Sr-90 data should be reported in units of disintegrations per minute per gram wet weight of items 4, 5, and 6.

It would be helpful in correlating these data with other information to have a calcium analysis made of the same samples and reported in units of activity of Sr-90 per gram of calcium - Sunshine Units.

Dr. Lauren R. Donaldson - 3.

May 16, 1956

The external gamma dose rates should be taken in the same manner as reported in UWFL-43.

It would be helpful if on each and every data sheet were included the dates of collection and of analysis. Also, when plotting on log-log paper, it would be advantageous to use cycles on the two coordinates that were of equal physical length, and thus facilitate a quick estimation of decay curves.