

Interdepartmental letterhead

Mail Station L-232

March 12, 1973

Ext: 8721

411587

MEMORANDUM

TO: W. E. Nervik, Division Leader, Radiochemistry

FROM: R. W. Hoff, Radiochemistry Division

SUBJECT: Eniwetok sample analytical program. Progress Report No. 3.
Status as of 9 March 1973.

This progress report summarizes the laboratory analytical effort being carried on at LLL by members of the Radiochemistry Division, Bio-medical Division, and Hazards Control Department, at the University of Washington (Dr. Allyn Seymour, Dr. Victor Nelson), at McClellan Laboratory (Col. R. McBryde, Maj. W. Myers), at LFE Environmental (Mr. Leon Leventhal, Mr. William Major), and at Eberline Instrument Corporation (Mr. Eric Geiger, Mr. Ernest Sanchez).

Soil and sediment samples (estimate 2800 samples to be processed):

Initial processing (LLL, Bldg. 412) - Samples in process
or completed, as of 9 March 1973 - 1,640
as of 23 February 1973 - 1,325
as of 9 February 1973 - 1,050

Current rate: \geq 125 samples per week.

Fish samples (441 samples to be processed):

Final breakdown on samples prepared at UW, Seattle and delivered to LLL for gamma counting.

Vertebrates	326
Invertebrates	81
Seawater filters	28
Algae	3
Sediments	2
Corals	1
TOTAL	441

REPOSITORY DOE History Division

COLLECTION R91 326, Tommy McCraw Jub 1360

BOX No. 5

FOLDER Radiological Survey

Plus 59 jars of additional dried material (200 g each)
from samples included in the above count.

Initial processing phase complete as of 23 February 1973.

Vegetation, other terrestrial biota (300? samples to be processed):

Initial processing (LLL) - 138 vegetation samples completed.

Seawater (58 samples collected):

Chemical separation (LLL) - total of 58 samples; adding carriers
and tracers, sequential separation of various elements; in process
with a rate of 8-12 samples per week; anticipate 6 weeks of addi-
tional effort.

Plankton (17 samples collected):

17 samples in process (LLL) - dry, weigh, package.

Core samples (36 samples collected):

Total of 36 collected. In various stages of processing at LLL.
These are being sectioned into 5-cm slices, dried, ground, and
analyzed. A total of 165 samples will result from 36 cores.

Air filters (61 samples collected):

High-volume samples gamma counted (LLL) - 11 samples.

Wet chemical analysis for ^{239}Pu (MCL) - 7 (in process).

Remainder will be processed as soon as results are in on
first batch.

Gamma counting, precision Ge(Li) detector spectroscopy:

Samples counted and data in computer bank (LLL) -

	<u>9 Feb. '73</u>	<u>23 Feb. '73</u>	<u>9 Mar. '73</u>
Soils	278	371	442
Sediments	218	218	223
Fish	144	186	212
Vegetation	15	16	16
Air filters	<u>7</u>	<u>11</u>	<u>11</u>
TOTAL	662	802	904*

* There are 50-100 samples where counting results have been obtained but are not into the data bank due to slowness in processing in the big computers. These will appear in the next tally.

Chemical analyses, samples dissolved and elements isolated chemically:

McClellan Laboratory (MCL) -

	<u>23 Feb. '73</u>	<u>9 Mar. '73</u>
Samples received	502	614
Data on ⁹⁰ Sr and Pu	297	411
Data on ⁹⁰ Sr or Pu	87	15
Chemistry complete, samples counting	43	107
In process	75	81

LFE Environmental Analysis Laboratory (LFE) -

Contract finally complete ~ 2 March 1973. Chemical analysis of coral samples for ⁹⁰Sr and ²³⁹Pu began on 5 March 1973. A total of 108 samples have been delivered to LFE as of 9 March 1973.

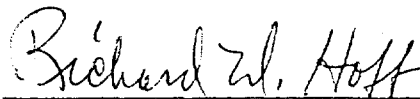
Eberline Instrument Company (EIC) -

Qualification analyses were completed and data reported to LLL on 2 March 1973. Notified NVOO to arrange contract with EIC on 7 March 1973. Pending final contract arrangements, batches of 50-g coral samples will be shipped to EIC for Sr and Pu analyses.

University of Washington, Seattle (UW) -

Analysis of a set of 12 selected fish samples for ^{239}Pu , ^{90}Sr , and ^{55}Fe (is in progress) at UW and MCL. Data will be compared to assure accurate calibration of tracers, etc.

A progress report will be issued every two weeks.



Dr. Richard W. Hoff
Associate Division Leader
Radiochemistry Division

RWH:mb