

Cdr. W. F. Wolff

Interdepartmental letterhead

411573

Mail Station L-231

June 22, 1973

Ext: 8711

~~Captain Gay~~  
~~Mr. Carlson~~  
~~CDR Wolff~~  
~~Major Collier~~  
~~Major Giannotta~~

MEMORANDUM

TO: W. E. Neryik, Division Leader, Radiochemistry  
FROM: R. W. Hoff, Radiochemistry Division  
SUBJECT: Eniwetok sample analytical program. Progress Report No. 10.  
Status as of 15 June 1973.

Operation  
Radial

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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, Dr. William Schell), 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).

I. Initial processing.

Soil, sediment, and core samples:

Initial processing efforts at LLL have been completed as of 15 June. A total of 3,950 samples were handled with the following breakdown:

- 3,560 soils
- 225 sediments
- 165 cores

The sediments and core samples were collected from the lagoon floor.

Fish samples (441 samples to be processed; breakdown - 407 fish, 28 seawater filters, 3 algae, 2 sediment, 1 coral):

Initial processing phase at UW, Seattle, complete as of 23 February 1973.

Dried samples subsequently dry-ashed at LLL - 55.

REPOSITORY DOE History Division  
COLLECTION RG 326 Tommy McCraw, Job # 1320  
BOX No. 5  
FOLDER University of California Radiological Survey  
**LAWRENCE LIVERMORE LABORATORY**

Destroy. \_\_\_\_\_ Retain \_\_\_\_\_  
Suggested \_\_\_\_\_  
Retention. \_\_\_\_\_  
Recommended by. \_\_\_\_\_

Terrestrial animals, eggs, etc. (estimate 200 samples to be processed):

Initial processing (LLL) - 247 samples completed as of 15 June 1973.

Seawater (58 samples collected):

Chemical separation (LLL) - initial separation chemistry completed as of 18 May 1973.

Initial processing completed on the following samples prior to 20 April 1973:

Vegetation (208 samples)

Plankton (16 samples)

Air filters (61 samples).

II. Gamma counting, precision Ge(Li) detector spectroscopy:

Samples counted and data in computer bank (LLL)

	<u>18 May 1973</u>	<u>1 June 1973</u>	<u>15 June 1973</u>
Soils	2073	2397	2760
Sediments	224 complete	(224)	(224)
Cores	51	88	101
Fish	407 complete	(407)	(407)
Algae	2	2	2
Seawater (Hydroxide fraction)	52	58 complete	(58)
Plankton	16 complete	(16)	(16)
Coral	2	2	2
Vegetation	208 complete	(208)	(208)
Air Filters	61 complete	(61)	(61)
Animals, birds, eggs, etc.	24	45	77
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TOTAL	3120	3508	3916

III. Chemical analyses, samples dissolved and elements isolated chemically:

McClellan Laboratory (MCL) - The analytical work at MCL was begun in December 1972.

	<u>18 May 1973</u>	<u>1 June 1973</u>	<u>15 June 1973</u>
Samples received (15 June - 1194 soils, 208 sediments, 20 fish, 55 air filters)	1226	1345	1477
Data reported on <sup>90</sup> Sr and Pu (15 June - 776 soils, 208 sediments, 9 fish, 48 air filters)	814	921	1041
Chemistry complete, samples counting	248	408	370
In process	164	16	66

LFE Environmental Analysis Laboratory (LFE) - The analytical work at LFE was begun on March 5, 1973.

	<u>18 May 1973</u>	<u>1 June 1973</u>	<u>15 June 1973</u>
Samples received			
Soils	615	679	679
Sediments	3	6	6
Fish	5	5	5
Vegetation		40	40
Water plant residues		2	2
TOTAL	<u>623</u>	<u>732</u>	<u>732</u>
Pu data reported			
Soils	289	379	507
Fish	4	4	4
Sr data reported			
Soils	250	376	474
Fish	4	4	4
<sup>55</sup> Fe data reported (analyses required only on fish samples)			
Fish	4	4	4

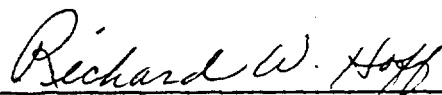
Eberline Instrument Company (EIC) - The analytical work at EIC was begun on April 2, 1973.

	<u>18 May 1973</u>	<u>1 June 1973</u>	<u>15 June 1973</u>
Samples received - soils	220	326	326
Pu data reported	54	102	220
Sr data reported	0	0	44

University of Washington, Seattle (UW) -

A meeting was held on Wednesday, June 13, at Seattle to discuss techniques for determination of Pu, Sr, and Fe in fish samples. Bill Myers and Terry Hawkins from MCL, Hugh Wilson from LLL, and Bill Schell, Vic Nelson, and Dr. A. Nevissi of UW were participants. Chemical procedures and tracer calibration were major points in the discussion. UW will analyze a total of 114 marine samples for Pu,  $^{90}\text{Sr}$ , and  $^{55}\text{Fe}$ . In addition, they will analyze the 28 filter media ( $\text{Al}_2\text{O}_3$ ) samples from the UW large volume water samplers (LVWS). Ashing has been completed on 101 samples. The remaining 13 plus 24 LVWS samples will arrive at UW ~ 6/22/73. Data on the 12 calibration samples are being processed and most of it should be received at LLL within the next 10 days.

A progress report will be issued every two weeks.

  
Dr. Richard W. Hoff *mb*  
Deputy Division Leader  
Radiochemistry Division

RWH:mb