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MEMORANDUM

FOLDER Radiological Survey

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 Major Cotner
 Major Giannotta *SFG*

TO: W. E. Nervik, Division Leader, Radiochemistry
 FROM: R. W. Hoff, Radiochemistry Division
 SUBJECT: Eniwetok sample analytical program. Progress Report No. 6.
 Status as of 20 April 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).

I. Initial processing

Soil, sediment, and core samples:*

Estimate 2,800 soil samples to be processed. ✓

Collected 224 sediment samples - initial processing complete. ✓

Collected 165 ✓ core samples - initial processing complete on 157 as of 20 April 1973.

Initial processing (LLL, Bldg. 412) - samples in process or completed; cumulative number includes soil, sediment, and core samples,

as of 20 April 1973 - 2,700

as of 6 April 1973 - 2,470

as of 23 March 1973 - 1,990

Current rate for completed samples: 180 samples per week.

*The sediment and core samples were collected from the lagoon floor.

Fish samples (441 samples to be processed):

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

Dried samples subsequently dry-ashed at LLL - 20.

Terrestrial animals, eggs, etc. (estimate 100 samples to be processed):

Initial processing (LLL) - in various stages of completion as of 20 April 1973; samples not yet released for analysis.

Seawater (58 samples collected):

Chemical separation (LLL) - chemistry completed on 29 samples as of 20 April 1973.

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

Vegetation (210 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>23 March 1973</u> | <u>6 April 1973</u> | <u>20 April 1973</u> |
|----------------------------------|----------------------|---------------------|----------------------|
| Soils | 686 | 990 | 1387 ✓ |
| Sediments | 224 | 224 | 224 ✓ |
| Cores | 0 | 2 | 4 ✓ |
| Fish | 310 | 346 | 384 |
| Algae | 0 | 1 | 1 |
| Seawater (hydroxide fraction) | 0 | 0 | 0 |
| Plankton | 0 | 0 | 6 |
| Coral | 0 | 1 | 1 |
| Vegetation | 46 | 46 | 89 |
| Air filters | 11 | 11 | 27 ✓ |
| TOTAL | <u>1277</u> | <u>1621</u> | <u>2123</u> |

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

McClellan Laboratory (MCL) -

| | <u>23 March 1973</u> | <u>6 April 1973</u> | <u>20 April 1973</u> | |
|--|----------------------|---------------------|----------------------|-----|
| Samples received (20 April - 833 soils, 208 sediments, 20 fish, 25 25 air filters) | 738 | 872 | 1086 | 224 |
| Data reported on ⁹⁰ Sr and Pu (20 April - 448 soils, 208 sediments, 46 46 air filters) | 554 | 602 | 662 | 103 |
| Chemistry complete, samples counting | 60 | 123 | 244 | |
| In process | 124 | 147 | 180 | 252 |

LFE Environmental Analysis Laboratory (LFE) -

| | <u>6 April 1973</u> | <u>20 April 1973</u> | <u>24 April 1973</u> |
|------------------|---------------------|----------------------|----------------------|
| Samples received | | | |
| Soils | 423 | 615 | |
| Sediments | 0 | 3 | |
| Fish | 4 | 4 | |
| Total | <u>427</u> | <u>622</u> | <u>622</u> |
| Pu data reported | | | |
| Soils | 25 | 64 | 103 |
| Fish | 0 | 4 | 4 |
| Sr data reported | | | |
| Soils | 0 | 47 | 101 |
| Fish | | | 4 |

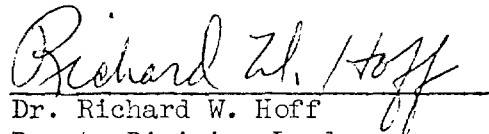
Eberline Instrument Company (EIC) -

Analyses began on 2 April 1973. Two batches (102 samples) of soils have been shipped to EIC for ^{239}Pu and ^{90}Sr analysis. Some preliminary results will be reported to LLL as soon as they are available.

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. Ashing has been completed on many of the 188 fish samples to be handled at UW; ^{55}Fe analyses have been performed on these samples. We expect some data to be reported by each lab before the next progress report.

A progress report will be issued every two weeks.


Dr. Richard W. Hoff
Deputy Division Leader
Radiochemistry Division

RWH:mb