

BROOKHAVEN NATIONAL LABORATORY
ASSOCIATED UNIVERSITIES, INC.

401811

UPTON, L.I., N. Y.

REFER:

TEL. YAPHANK 4-6262

November 22, 1961

Bioassay
[Signature]
Info

Dr. Charles L. Dunham
Division of Biology and Medicine
U.S. Atomic Energy Commission
Germantown, Md.

Dear Chuck:

Here are the values for the internally-deposited radionuclides in the Rongelap population as measured in February 1961.

The mean Cs¹³⁷ body burden of males and females of exposed and unexposed populations, as determined by whole-body counting, does not differ significantly from the 1959 mean value. The mean 1961 Zn⁶⁵ body burden was about 1/6 of the value measured in 1959, a rather surprising drop. This year we positively identified Co⁶⁰ in this population with a mean level of 0.16 mμc/kg body weight. This was possible because of the improved counting equipment, larger crystal and 30-minute counting time employed.

The values for Sr⁹⁰ in the 24-hour urine samples collected are tentative values, since all the samples have not been analyzed and rechecked. We have a composite 5-gallon sample that is being analyzed and I suspect this will give the best value for the mean level of urinary Sr⁹⁰. To date, on the basis of the individual 24-hour samples analyzed, there is an average increase in urinary Sr⁹⁰ concentration of 35% compared with the mean value reported in 1959.

I hope this information will serve for the present. I'm working on the report of the entire set of data and hope to have it soon. Please call on me if there is any further information that you need right now.

Sincerely yours,

Stan

Stanton H. Cohn, Ph.D.
Medical Physics Division
Medical Department

SHC:gfb

Dr. Mary Dept Re-Survey

5012084

URINE
File = Nup 35
Access # 326-86
Box 1611

Conard offered the suggestion of obtaining a ship with an iron room and equipped to do the sort of work that is now being done at Rongelap on a permanent basis and thus have a floating laboratory ready to go where ever needed. This suggestion was offered for future consideration rather than present action.

The Sr⁹⁰ burden in the 1956 death in the population was 0.8 of a strontium unit. Teeth have been collected for Sr⁹⁰ determination. Bruner pointed that in order to have comparable data similar parts of the tooth should be used. Most of the Sr⁹⁰ can be expected in the cemented^{um} region of the tooth.

Sr⁹⁰ and Cs¹³⁷ analyses are summarized in the following table:

d/m/ liter of urine		Remarks
Sr ⁹⁰	Cs ¹³⁷	
12.	174.	Collected 24 days after Bravo. Analyzed 2 years later
2.4	33.	Feb. 1956, pre Redwing
.48		Majuro, 1957 average
.34-1.43	137-370	Majuro, 1957 range
25X	100X	Rongelap, 1954
'57 value	'57 value	

The following data were presented by Cohn. In 1958 Cs¹³⁷ body burden was 0.5 - 1.5; average 0.8 (µc?). - About 1 year to reach equilibrium. In 1957, Zn⁶⁵ body burden at Rongelap by whole body counting 0.03 to 0.07 µc. In 1957, Zn⁶⁵ body burden at Utirik by whole body counting 0.48 and 0.23. In 1958 Zn⁶⁵ body burden at Rongelap by whole body counter were 1 to 3 µc. The background gamma curves from pre and post Hardtack, showing presence of La¹⁴⁰ in post Hardtack samples, were presented. Some people have La¹⁴⁰ peak, others do not.