

January 11, 1957

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Dear Al:

During a conversation while Ed and I were in Washington last month, you mentioned that the activity levels in the water at Rongelap were higher in July 1956 than the levels reported in UWFL-43 obtained at earlier visits. Ed has looked up the data and summarized it.

The best evidence seems to indicate that the increase noted in the July 1956 samples is due to the recontamination of Rongelap from the 1956 series of weapons tests. The decay of the newly added radioactivity is such that it will soon be insignificant when compared with that from the 1954 series.

The decay of activity of the particulate matter and the filtrate of a cistern water and a lagoon water sample collected at Rongelap Island in July 1956 was followed. Although the counting error is too large to permit a precise evaluation of the decay rate, it is clear that the half life immediately after August 22 (first counting date) was between 20 and 40 days, indicating the presence of short half-life radionuclides. The count of January 1957 resulted in values which compare to those found in October 1956 and reported in UWFL-43, Table 13, as follows (values in d/m/liter):

Collection Date	Oct. '55	July '56	July '56
Counting Date	Oct. '55	Aug. '56	Jan. '57
Cistern water particulate matter	75 <sup>±</sup> 17	390 <sup>±</sup> 17	91 <sup>±</sup> 10
Cistern water filtrate	310 <sup>±</sup> 190	110 <sup>±</sup> 73 910 <sup>±</sup> 100	64 <sup>±</sup> 80
Lagoon water particulate matter		140 <sup>±</sup> 12	24 <sup>±</sup> 9
Lagoon water filtrate	60 <sup>±</sup> 120	2400 <sup>±</sup> 210 2000 <sup>±</sup> 200	240 <sup>±</sup> 105

Sincerely,

91, in conversation, commented on the fact that activity levels in water at Rongelap were higher in July '56 than the levels reported in UWFL-43. Here is some evidence to support the contention that this is primarily due to ~~the 1956 test series~~ contamination at Rongelap from the 1956 test series & that the residual <sup>activity</sup> from this contamination will soon be insignificant compared with that from the 1954 series.

The decay of activity of the particulate matter & the filtrate of a cistern water ~~and~~ a lagoon water sample ~~from~~ <sup>collected at</sup> Rongelap Island in July 1956 was followed. Although the counting error is too large to permit a precise evaluation of the decay rate it is clear that the half life immediately after August 22 (first counting date) was between 20 & 40 days, indicating the presence of short half life radionuclides.

The count of January 1957 resulted in values which ~~are~~ <sup>comparable</sup> to those found in October 1956 & reported in UWFL-43.

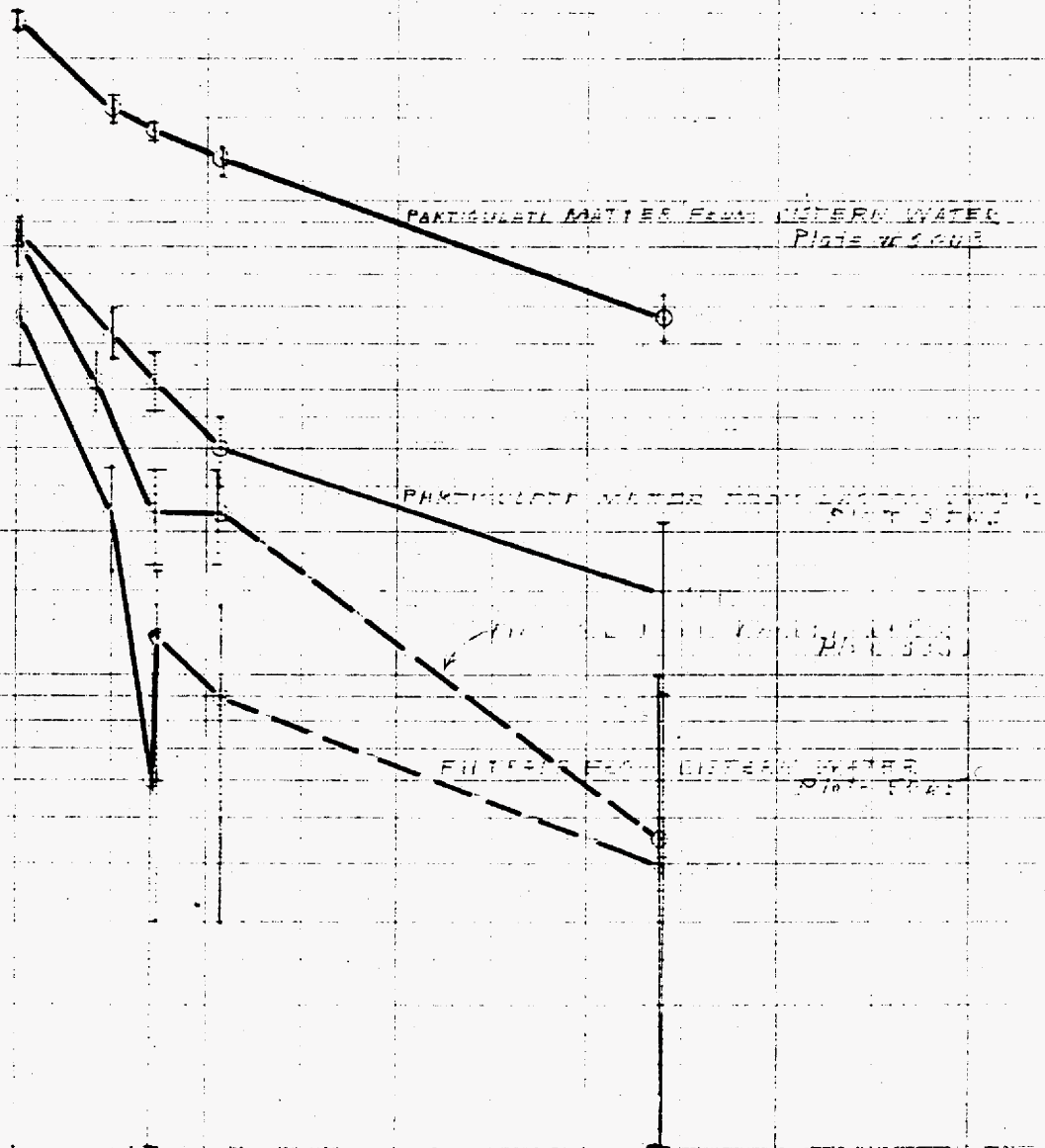
Table 13, as follows (values in d/m/liter):

Collection Date	Oct. '55	July '56	July '56
<del>Collection</del> Counting Date	Oct. '55	Aug '56	Jan '57
Cistern Water Particulate Matter	75 ± 17	390 ± 17	91 ± 10
Cistern Water Filtrate	310 ± 190	110 ± 73 910 ± 100	<del>75</del> 64 ± 80
Lagoon Water Particulate Matter	<del>65 ± 12</del>	140 ± 12	24 ± 9
Lagoon Water Filtrate	60 ± 120	2400 ± 210	240 ± 165

Decay of Radioactivity in Water Samples Collected  
at Rongelap Island July 16, 1956

Plate No.	Sample <del>Counting Date</del>	C/m/sample				
		counting date				
		8/22/56	9/10/56	9/19/56	10/31/56	1/4/57
5043	Cistern Water, Particulate Matter	241 ± 10	158 ± 10	141 ± 9	123 ± 8	57 ± 6
5045	" " , Treated	57 ± 12	22 ± 6	6 ± 6 12 ± 6	9 ± 6	4 ± 5
5046	Sea Water, Particulate Matter	86 ± 7	53 ± 6	42 ± 6	30 ± 5	15 ± 6
5047	" " , Treated	80 ± 7	(9/7/56) 42 ± 6	25 ± 5 19 ± 5	22 ± 5	1 ± 5 8 ± 6

DECAY OF CISTERN WATER AND LAGOON WATER COLLECTED AT RONGELAP ISLAND JULY 16, 1956



RONGELAP ISLAND