



BROOKHAVEN NATIONAL LABORATORY
 ASSOCIATED UNIVERSITY OF CALIFORNIA, INC., BERKELEY, CALIF. 94720

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SAFETY & ENVIRONMENTAL PROTECTION DIVISION

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September 1, 1976

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Mr. T. F. McInaw
 Division of Operational Safety
 U. S. Energy Research & Development
 Administration
 Washington, D. C. 20545

Dear Tommy:

Dr. Conrad and I have discussed the environmental plutonium problem at length, and have agreed that several major operations which will hopefully shed more light on it. The first is a field survey (- September 19 to October 2) with a field of several opportunities to test the "regional theory" that Pu activities are generally higher in the tropical Pacific than at temperate latitudes. The survey has scheduled stops at Wake, Midway, Nihoa, and the Japanese atikini. We expect to collect air, rain, mossy and other environmental samples as possible at these sites and additional environmental samples will be collected at Ebeye and Nauru. We are also investigating the possibility of collecting mossy specimens from "long-term" residents at Kioajaleir and Iowateh (T). I am hopeful that we can obtain separate specimens from 12 year old and young girls, Statler, and from Peace Corps volunteers with statistics of the number of their residence. Additional "background" controls from the former National Laboratory employees will be analyzed and samples will be collected from several BNL employees who spent substantial time in the northern Marshalls during the testing days. Special efforts will be taken to minimize cross contamination of urban areas with Pu contaminated soil and the samples will be analyzed for alpha and beta activity analysis.

Vic Nelson will be making the field work on additional data on the geographical distribution of Pu. We expect to get special samples for analysis for transuranic isotopes. I plan to get additional data on the "reservoirs" for re-suspended and red-polluted soil at Ebeye to support our preliminary finding that plutonium is being re-suspended from ground level materials and is being re-suspended from ground level materials.

As a result of some recent discussion with Ed Wienn (NYU), I am convinced that we should look for americium in Marshallese whole body counts. Making inferences about Pu from Am data can be pretty tenuous, but ^{241}Am uptake data would be useful in establishing conservative upper limits on Pu body burdens. Besides that, the present state of the art allows us to see a small fraction of a maximum permissible body burden for ^{241}Am , and the incremental cost of adding this specific analysis to the present whole body counting program would be small; I am strongly encouraging the addition of Ed Wienn's services to the whole body counting program tentatively scheduled for next summer. I hope to arrange a meeting soon between Ed Wienn, Stan Conrad, and myself to discuss the details. If additional sites are identified beyond our budgets, I may have to fall back on the possibility of additional funding from BER or OS.

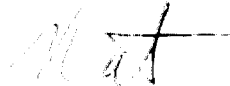
As a follow-up to our discussion of the Itirik thyroid cancer cases, I spoke with Stan Conrad about the available estimates. He substantiated our surmise that the estimates were based on other tissues and late (post-exposure) urine analysis, and that late exposure rate measurements. Evaluations of environmental levels of ^{131}I may prove helpful in shedding more light on thyroid dose estimates, particularly in establishing a dose ratio between Rongelap and Itirik. However, preliminary attempts at activation analysis by the BNL chemistry department have indicated a total soil iodine level of ~ 10 ppm in samples from Rongelap. This is near the limit of detection, and the ^{131}I level is yet to be established. We will continue to look into this approach, however, because of the larger samples and preliminary chemical separation of iodine may be necessary to improve the sensitivity of the technique.

The following approximate schedule may span a week depending on interface requirements with BNL. It may also be a program at Bikini.

Fri.	September 27	Itirik	Kwajalein
Sun.	September 29	Kwajalein	Wotje
Wed.	September 22	Wotje	Ailsh
Thurs.	September 23	Ailsh	Itirik
Mon.	September 27	Itirik	Rongelap
Fri.	October 1	Rongelap	Bikini
Sun.	October 3	Bikini	Kwajalein
Mon.	October 4	Kwajalein	Bikini

I will keep you posted of any new developments.

Best regards,



M. J. Greenhouse

sls

cc: C. Meinhold
 J. Naidu
 R. Conrad

MEMO ROUTE SL

Form AEC-95 (Rev. May 4, 1947)

For action. For information.

TO (Name and unit): <i>Dr. Biles</i>	INITIAL: <i>MB</i>	REMARKS: <i>May, 1947 - make L4 copy of the attached memo + make copy to</i>
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TO (Name and unit): <i>T. Deal</i>	INITIAL: <i>TD</i>	REMARKS: <i>Send him all of the stuff you - will give you a copy of your & Breen's</i>
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TO (Name and unit):	INITIAL:	REMARKS: <i>Sent to Robinson Breen, Wagner Administrative 10/4</i>
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FROM (Name and unit): <i>T.M. Crow</i>	REMARKS: <i>This gives an indication of what is being done to pin down some facts associated with the observation of Pu in Bikini urine samples. Note ENL may need a few extra \$\$. Sept 29 '46</i>
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PHONE NO. DATE

Sept 29 '46