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6 April 1954

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From: Project Officer, Project 4.1 JTF
To: Commanding Officer, U.S. Naval Radiological Defense Laboratory

Subj: Study on internal deposition of fission products in man and animals; suggestions concerning

Encl: (1) Numbered list of urine specimens

1. The handling of all animals and data concerning them should be considered Secret Restricted Data because of probable presence of fissionable material derived from a thermonuclear device until classification is established by proper authority.

2. Desirable studies have been considered by Dr. Cohn and Project Officer 4.1 and is felt that the following should be performed.

- a. General observations - weight, temperature, behavior, mortality.
- b. Hematologic studies - hematocrit, hemocrit, studies on red cell size (MCV, MCH, MCHC), Leukocytes, platelets, and evidence for hemolytic processes.
- c. Daily excretion (24 hour) of fission products gross beta, gamma, and alpha and other radioisotopes (lithium, plutonium). See Kishart.
- d. Survey thyroids for radioactivity.
- e. Pathologic studies for spontaneous deaths or sacrificed animals - regular studies on all tissues, special fixation skin (Boris's), fixation split bones (Formal-inker's or other appropriate fixative for marrow cytology) imbedding in celluloid desirable if feasible, fixation of endocrines particularly hypophysis in appropriate fixative for study specific granules, etc.
- f. Analysis of tissues for radioisotopes (gross beta, alpha, and gamma studies), chemical studies for plutonium, gross and hist autoradiographs as indicated.
- g. Above suggestions apply to guinea, rat, and fowl.

3. By time this letter received you will have received approximately 25 assorted hens, roosters, chicks, and ducks. It is suggested by Dr. Cohn that these animals, in addition to those previously received, be housed in Bldg. 707.

4. The chicks were born approximately one week ago and will give an estimate of rate of incorporation of FP into growing eggs and uptake of FP by newly hatched chickens approximately three weeks after the event.

STATUS VERIFIED UNCLASSIFIED

[Signature]
AUTHORIZED DERIVATIVE CLASSIFIER

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suggestions concerning - Con't

5. The types of information that are essential for further planning of studies in the field are:

- a. General radio-chemical analysis with specific identification of radioisotopes found.
- b. Decay pattern of samples.
- c. Radioautographs of bones, lungs, spleen, and GI tract.

6. Dr. Cohn requests that information in paragraph 5 be given top priority in the branch and recommends overtime and additional help as needed as planning here is dependent upon radiochemical analyses in stateside laboratories.

7. Two batches of urine have been shipped as describe in enclosure (1). Further samples will be prepared and shipped at regular intervals by Dr. Cohn. The first set of samples from Cohn beginning with #43 were improperly prepared due to lack of acid. Subsequent samples will be properly preserved with acid and formaldehyde.

8. Information on contamination of native foodstuffs, earth, and water is urgently needed to help plan ultimate disposition of natives.

9. Dr. Cohn suggests that Smith from Davis check chickens periodically. There is no objection to this providing proper security can be maintained.

R. P. CROKITE
CDR MC USN

Copies to:
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CTG-7 Eniwetok Admin.
Dr. Cohn
Lt. Chapman USN
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ENCLOSURE (1)

1. On 1 April two 24-hour urine collections were shipped to NavRadLab, San Francisco, Calif. The first collection commenced at 0800 on 29 March and was terminated at 0800 on 30 March. The second collection commenced at 0800 on 30 March and was terminated at 0800 31 March.
2. The identification marks made on each urine bottle consists of the patient's name, the date of collection, and the patient's clinical number. (For example; J30-45 indicates the 24-hour collection was begun on 29 March and terminated on 30 March for patient number 45).
3. The accompanying tables contains the total urine volume collected on 30 and 31 March.

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PATIENTS NAME

PATIENTS NO.

URINE
3-30-54

VOLUME
3-31-54

2	0	100
3	0	0
4	555	0
5	0	0
7	680	750
9	945	0
10	635	565
11	230	590
12	405	460
13	315	270
14	620	825
15	0	0
17	0	140
18	275	255
19	0	190
20	310	0
21	0	0
22	320	85
23	170	0
24	0	0
25	260	520
26	880	0
27	895	465

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PATIENTS NAME

PATIENTS NO.

URINE
~~3-30-54~~

~~3-31-54~~

30	490	560
32	465	230
33	295	60
34	460	445
35	510	0
36	0	160
37	960	500
38	0	0
39	290	120
40	650	590
42	0	0
46	220	330
47	600	185
49	770	70
52	560	370
54	0	0
55	490	455
56	0	635
57	245	435
58	285	730
60	350	940
61	150	235
61	470	620
63	610	625
64	235	515
65	0	0

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~~IRINE RESTRICTED DATA~~
3-30-54 3-31-54

PATIENTS NAME

PATIENTS NO.

66	135	795
67	720	80
68	350	0
69	445	0
71	395	630
72	120	315
73	610	335
74	500	250
75	570	880
76	330	0
77	895	0
78	175	535
79	610	290
80	0	220
82	560	310

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PATIENTS NAME

PATIENTS NO.

URINE
3-30-54

VOLUME
3-31-54

1	970	960
6	0	0
8	0	0
16	745	390
28	730	710
29	350	0
31	380	245
41	620	700
43	440	280
44	270	450
45	475	525
48	0	65
50	935	900
51	310	450
53	0	90
59	330	725
70	170	330
81	350	600

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