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 AUTHORITY: [redacted]
 BY: [redacted] DATE: [redacted]

RESEARCH & APPL.

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John A. Dugher

June 1, 1954

1. Sky shine. The phenomena of sky shine with the passage of the cloud was documented at St. George, Utah in the spring of 1953. The gamma dose from the sky shine might have been appreciable when one considers the relatively heavy fallout. This factor is extremely difficult to assess.

2. Dose rate readings were made by different individuals, at different times, at different locations, and by different types of instruments some of which were calibrated and some were not.

3. The exact time of initial fallout is not known. An hour or even half-hour difference in estimating initial time of fallout will make a difference in estimated doses in the early times after detonation.

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Distribution:

Orig. - Dr. Dugher
Green, pink & yellow - B&M files
1 cc - Lt. Robt Sharpe, NMRI, NMC, Bethesda, Md.
4 cc's - Bioph. Br.

NOTES

- estimated time of fallout: - 0 hours.
- time of evacuation and number of evacuees: 14 51 16 by air;
8 by ship)
- radiation levels.
- 1. (evacuation team)

~~Information concerning the
evacuation of the ship within the
USC.~~
~~Person~~

decontamination readings - 2 March 1954

Time (D+2)	Place	Geiger Muller Reading (R/50hrs)
0855	Int at landing	1.0 R
0900	Int 100 yards from landing	1. R
0903	120 yards from landing	1.5 R
0904	Int 50 yards over + 50 yds. from landing	1.2 R
0905	Int 25 yds. over + 50 yds. from landing	1.2 R
0906	10 yds. in 50 yds. from landing	1.4 R
0907	at landing	
0915	200 yards from beach on ground	1.3 R
"	" " " 3' level	1.3 R
0917	250 yards from beach on ground	1.6 R
"	" " " trees	1.3 R
0920	150 yards from beach on ground	1.9 R
"	" " " 3' level	1.5 R
0922	100 yards in at school house	1.3 R
0925	50 yards from beach	1.5 R
1020	100 yards in from landing on ground	1.6 R
"	" " " " 3' level	1.2 R
1023	200 yards in on ground	1.5 R
"	" " " 3' level	1.2 R
1025	400 yards in on ground	1.8 R
"	" " " 3' level	1.3 R
1030	450 yards in + 200 yds. over on ground	1.6 R
"	" " " " 3' level	1.3 R
1035	200 yards in + 400 over on ground	2.1 R
"	" " " " 3' level	1.5 R
1037	200 yards in + 500 over on ground	2.3 R
"	" " " " 3' level	1.6 R
1045	" " " 550 " on ground	1.3 R
"	" " " " 3' level	1.4 R

- 1. 1.4 r/hr at 14 31
- 2. 7 r/hr at 14 55
- NYOO aerial survey

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- 1. 1.4 r/hr at 14 36 (Lt. Larson of Task Force)

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4.

Typical Readings in Ongelap Village 8 March

<u>Location</u>	<u>Dose Rate (mr/hr)</u>
Ongelap Island (average)	775
Center of village	200
Near central cistern	300
Near southern cistern	220
Near northern cistern	350

(Scoville using TEB)

5. 40 mr/hr at D 4 25 (Schlavoone using PDR-39)

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1. LINGUAE TON (1. BLIND)

A. Estimated time of fallout 5-6 hours.

B. Time of evacuation: 7 + 54 hours.

C. Number of evacuees: 18 natives.

D. Radiation levels:

1. 400 mr/hr at 8 + 31

240 mr/hr at 8 + 75

(NYOO aerial survey)

2. 245 mr/hr at 8 + 58

member of Task Force using TEB)

3. 100 mr/hr at 8 + 0

(Seaville using TEB)

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1. Estimated time of fallout: 7.5 hours.
2. Time of evacuation and number of evacuees: 3 air weather personnel at H + 28 hours; 20 air weather personnel at H + 34 hours.
3. Radiation levels.

1. Film badge readings:

- 28 roentgens (representing 2 air weather personnel at one end of island. (as hung about 4 feet high on the tent pole)
- 32 roentgens (hung between and against one wall of metal barracks)
- 44 roentgens
- 40 roentgens
- 40 roentgens (representing 3 people)
- 38.5 roentgens (in an icebox)
- 38 roentgens (" " ")
- 37.5 roentgens (" " ")
- 37.5 roentgens (" " ")
- 37.5 roentgens (" " ")
- 37.5 roentgens (" " ")

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BY: L.P. GUTHRIE, 2/2/70

2. NIOO automatic recorder went off-scale (100 mr/hr) at H + 7.3 hours.
3. 1.8 r/hr at H + 28 hours (evacuation team)
4. (Seoville using TIB)

TYPICAL READINGS IN CAMP ON ENIWETOK IS. - 10 MARCH

Location	Outside Dose Rate (mr/hr)	Inside Dose Rate (mr/hr)
Eniwetok Island (average)	280	- -
mess hall	120	110
Tent, edge of main camp	170	175
Latrine	260	160
Sleeping quarters	160	90
Washroom	160	110

Longerik (cont'd)

17 March, 1200 ALC

Living Area Readings:

Mess hall interior	40 - 100 nr/hr
Hospital interior	50 - 75 nr/hr
Walk from hospital to mess	100 - 110 nr/hr
Store room (behind mess)	50 - 55 nr/hr
Exterior store room tent	100 - 150 nr/hr
General area exterior	100 - 150 nr/hr

Weather Station Site Readings:

Exterior areas local	50 - 160 nr/hr
Interior all tents	50 - 75 nr/hr
Interior building	50 - 60 nr/hr

Army Site Readings:

General area	140 - 100 nr/hr
Interior tents	70 - 90 nr/hr
Adjacent to trailer	160 - 180 nr/hr

18 March, 1100 - 1220 ALC

Landing on beach	42 nr/hr
Living area	60 nr/hr
Inside mess hall	22 nr/hr
Inside dispensary	26 nr/hr
Inside barracks	23 nr/hr
ESE end of island (Ravinsends)	47 nr/hr
Along road to Ravinsends area 40-2	40 nr/hr
Inside weather building	23 nr/hr
Work area outside building	60 nr/hr
Army area (around trailer)	40 nr/hr
Inside foliage area	40 nr/hr
Inside tent	19 nr/hr

19 March, 1400 ALC

Inside weather building	21 nr/hr
Living area Still	60 nr/hr
Inside barracks	23 nr/hr
Inside dispensary	25 nr/hr

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~~5. (conclusion using 22-99 recently calibrated)~~

6. 1.7 r/hr at E + 31 hrs.

1.0 r/hr at E + 30 hrs.

(100 aerial survey)

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A. Estimated time of fallout: 16-18 hours.

B. Time of evacuation: 14-18 hours.

C. Number of evacuees: 154 natives.

D. Radiation levels.

1. 160 mr/hr at H # 55 (survey team from Task Force using IIB)

2. 120 and 150 mr/hr at H # 77 (Goodwin)

3. 100 mr/hr at H # 77 (evacuation team)

4. 40 mr/hr at D # 8 (Seville using IIB)

5. 3.3 mr/hr at D # 54 (highest reading)

6. 2.0 mr/hr at D # 54 (lowest reading)

7. 1.0 - 1.2 mr/hr at D # 54 (on sleeping mats)

8. 240 mr/hr at H # 34

160 mr/hr at H # 30

BYOC aerial survey

Distribution:

Orig. - Dr. Bugher

1 cc - Lt. Sharpe, NMRI, NMC, Bethesda, Md.

2 cc's - B&M files (attached to yellow and pink copies of memo
fm. Dunning to Bugher dated June 8, 1951)

2 cc's - Bioph. Br.

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