

October 1, 1956

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NRDL RAD-SAFE SUPPORT FOR OPERATION REDWING

The following describes the rad-safe activities of L. V. Barker in connection with Operation Redwing:

Chapter III - Bikini Operations

A. Event No. 1

BEST COPY AVAILABLE

Did not participate in Event No. 1.

B. Event No. 2

2. Project 2.6.3

The U.S.S. Sioux was boarded at 0045 on 30 May for recovery of skiff samples and servicing of skiffs. The following stations and skiffs were serviced on 30 May and 31 May:

	<u>Skiff No.</u>	<u>Anchorage No.</u>
	4	14
	18	18
	*3	12
	7	6
	11	13
	22	2
	17	16
	16	4
	6	5

\*Skiff No. 3 was almost capsized and was not recovered.

RG 181 AGENCY/NRDL

Location SAN BRUNO FRC

Access No. 181 GIC 0531 Box 104

Folder A II/REDWING-NRDL

SUPPORT-RAD SAFE FOR  
OPERATION REDWING

CLASSIFICATION CANCELLED\*  
BY AUTHORITY OF OCE/OC

J. D. King 2/20/91  
REVIEWED BY DATE

\* Ltr. DNA, Swisher to  
DOE, MA-225, 1/31/90

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B. Event No. 2 Cont.

2. Project 2.6.3 Cont.

[REDACTED]

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B. Event No. 2 Cont.

2. Project 2.6.3 Cont.

SIX BILLS ETC

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Chapter IV - Eniwetok Operations

Lacrosse Event

Project 8.1

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Chapter IV - Eniwetok Operations Cont.

Lacrosse Event Cont.

Project 8.1 Cont.

**PRIVACY ACT MATERIAL REMOVED**

b. Cont.

The island was entered at 1630 and stay time was 10 minutes.

~~Badge readings for the mission:~~

~~95 mr~~

~~82 mr~~

62 mr

B. YAG 48 Participation (This work was done in assistance to these results should be correlated with his).

and

3. Event No. 3

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Boarded the ship at Elmer at 1400 on 7 June.

12 June

A one foot square section of the port quarterdeck was cleaned for use as a reference point for wipe surveys to detect fall-out.

Following are results of wipe surveys:

0800 - less than 0.5 mr/hr (w.c.)

0900 - " " " " "

0930 - " " " " "

1000 - " " " " "

1030 - " " " " "

1100 - " " " " "

1130 - " " " " "

1200 - " " " " "

1230 - " " " " "

1300 - " " " " "

1330 - " " " " "

**PRIVACY ACT MATERIAL REMOVED**

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[REDACTED]

Chapter IV - Eniwetok Operations Cont.

B. YAG 40 Participation Cont.

3. Event No. 3 Cont.

1400 - 0.5 mr/hr

1420 - greater than 20 mr/hr

\*First fall-out detected.

The above readings taken with an IY-5.

YAG 39 reported arrival of fall-out at 1100.

A greased plywood board was placed on the aft hatch at 1300 for fall-out detection. Following are results of IY-5 surveys:

1200 - less than 0.5 mr/hr (w.o.)

1330 - " " " " "

1400 - 1.0 mr/hr

1420 - greater than 20 mr/hr.

1532 - Quarterdeck, port side, C P readings, waist height - 200 mrads/hr including 22 mr/hr.

Four inches above deck - 1 rad/hr including 70 mr/hr.

1640 - Ship closed and washdown started.

Several persons had contamination on skin and hair from fall-out.

The maximum level measured was on hair and amounted to 20 mrads/hr at five inches, and 15 mr/hr at one inch.

The contamination was removed rather easily by showers.

1630 - Entered recorder room. Following readings taken in recorder room with 27-F meter:

1700 - 0.10 mr/hr

1800 - 0.14 mr/hr

1830 - 0.14 mr/hr

1900 - 0.16 mr/hr

2020 - 0.13 mr/hr

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Chapter IV - Eniwetok Operations Cont.

B. YAG 40 Participation Cont.

**PRIVACY ACT MATERIAL REMOVED**

3. Event No. 3 Cont.

1730 - Surveyed No.1 and No.2 holds for inspection (27-F).

No. 1 hold 5 mr/hr

No. 2 hold 12 mr/hr

No. 4 hold 2 mr/hr

13 June - 0630

Boat deck waist height:

port - 20 mr/hr

starboard - 12 mr/hr

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Flight deck - waist height - 800 rads/hr including 200 mr/hr.

surface - 2 rads/hr including 400 mr/hr.

1730 - Survey of personnel after water sampling:

- hands - 3 rads/hr.

hair - 4 rads/hr.

sock - 4 rads/hr.

**PRIVACY ACT MATERIAL REMOVED**

Contamination removed by washing.

1915 - Survey after work on deck.

- hands - 5 rads/hr at five inches.

After four washings - 5 rads/hr at two inches on pre-fingers.

This contamination apparently resulted from wearing contaminated (re-washed) rubber gloves. The contamination was removed the following day.

1920 - Wipe surveys of interior of ship:

Galleys, mess hall, tables, chairs, counter, ward room benches, chairs, and counter - less than  $\frac{1}{2}$  rad/hr.

wardroom deck -  $1\frac{1}{2}$  rads/hr.

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Chapter IV - Eniwetok Operations Cont.

B. YAG 40 Participation Cont.

3. Event No. 3 Cont.

13 June Cont.

1000 - Cont.

Maindeck passageways - 2 rads/hr.

Passageway railings - less than  $\frac{1}{2}$  rrad/hr.

Engineers' shower room - less than  $\frac{1}{2}$  rrad/hr.

Boatdeck living quarters - passageways - 5 rrad/hr.

1115 - Wire Survey of Bridge

Wheel, desks, compass, TID - less than  $\frac{1}{2}$  rrad/hr.

Paper on deck - 4 rads/hr.

Porthole frames - 2 rads/hr.

1515 - Wire Survey of Passageway Decks

Main deck:

starboard - 5 rads/hr.

port - 5 rads/hr.

by galley - 1 rrad/hr.

to port door - 1 rrad/hr.

to starboard door - 1 rrad/hr.

mess room deck - less than  $\frac{1}{2}$  rrad/hr.

15 June

1130 - wire survey of Passage from Port Quarterdeck

5 rads/hr at two inches

passage by galley 1 rrad/hr.

Chapter IV - Eniwetok Operations Cont.

3. YAG 40 Participation Cont.

3. Event No. 3 Cont.

15 June Cont.

1445 - Boat Deck

Starboard aft - waist height - 12 mrad/hr including 4 mr/hr.  
 2 inches above deck - 18 mrad/hr. including 5 mr/hr.  
 drains - 74 mrad/hr including 14 mr/hr.

Port aft - waist height - 8 mrad/hr including 4 mr/hr.  
 2 inches above deck - 20 mrad/hr including 8 mr/hr.  
 drains - 70 mrad/hr including 12 mr/hr.

1500 - Port TIR

Waist height 8 mrad/hr including 4 mr/hr.  
 Deck level 30 mrad/hr including

Starboard TIR

waist height - 6 mrad/hr including 2 mr/hr  
 Deck level - 20 mrad/hr including 4 mr/hr.

No. 4 Hatch Cover

Waist height - 4 mrad/hr including 1 mr/hr.  
 Aft hatch cover - 12 mrad/hr including 2 mr/hr.

Port Side just aft of flight deck      SAN BRUNO ERG

Waist height - 28 mrad/hr including 8 mr/hr.  
 Deck level - 36 mrad/hr including 12 mr/hr.  
 TIR - 16 mrad/hr including 6 mr/hr.  
 Deck at TIR - 30 mrad/hr including 8 mr/hr.

Flight Deck

Dose rates at waist height ranged from 6 mr/hr to 28 mr/hr.  
 Deck joints were 200 mrad/hr including 32 mr/hr at four inches.

Chapter IV - Eniwetok Operations Cont.

B. YAG 40 Participation Cont.

3. Event No. 3 Cont.

15 June Cont.

1600 - Survey of Navy personnel who had performed decontamination work by Firehosing (27F, CP)

coveralls - 1 to 8 mrad/hr.

shoes - 4 to 8 mrad/hr.

skin - less than 1 mrad/hr.

Film Badge Results

It may be of some interest to you to have the results of my Hanford badges for the operation.

<u>mr</u> <u>Gamma</u>	<u>mrad</u> <u>Beta</u>	<u>mrad</u> <u>Total</u>
1095	1525	2620

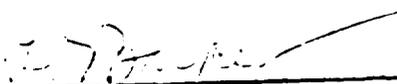
My accumulated dose as measured by TU-7 badges was 1130 mr as I recall.

General Comments and Personal Opinions

In general, I thought the radiation control of ERDL projects was very good considering the nature and magnitude of the operation. The cooperation I received from ERDL people was excellent.

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As far as TU-7 monitoring was concerned, they appeared to be only as good as the civilians we supplied them. I was pleasantly surprised at how well the Navy Yards personnel performed, which would seem to indicate that the training they received was more effective than we thought at the time.

  
L. V. Barker

