

**SIGPM/EL-RFP-1**  
**SigC Task 258A**

**Commanding General**

**SUBJECT: Transmittal of Information (U)**

OCT 8 1955

**TO: Commander**  
**Air Force School of Aviation Medicine**  
**Randolph Air Force Base**  
**Texas**

RG 338

**ATTN: Lt. Sanford Sigoloff**  
**Dept of Radiobiology, Austin, Texas**

Location ST. LOUIS ERC  
Access No. 78-0368-Box 107  
Folder Redwing 2.1  
3-12-10-407 1955/1958

**1. Reference:**

Telephone conversation on 5 September 1956 between Lt. Sanford Sigoloff, Department of Radiobiology, University of Texas, and Mr. R. G. Larrick of these Laboratories.

2. As requested in the above referenced conversation, inclosed is information regarding the participation of Project 2.1 in Operation REDWING.

**FOR THE COMMANDER:**

**3 Incl**

- 1. Extract Summary of REDWING Results (2/s SRD) Cys 1 and 2
- 2. Table 3.16 "RIGED" (1/s SRD) Cys 1 and 2
- 3. TENA Code and Prel Data (1/s SRD) Cys 1 and 2

**P. C. VON HAGEN**  
**1st Lt, Signal Corps**  
**Assistant Adjutant**

CLASSIFICATION CANCELLED \*  
WITH DELETIONS  
BY AUTHORITY OF DOE/OC  
*G. Dias* 4-21-92  
REVIEWED BY \_\_\_\_\_ DATE \_\_\_\_\_  
\*LTD DNA SWISHER TO  
DOE/MA-225, 11-23-90  
*Fahn* 4/22/92

**BEST COPY AVAILABLE**

cc: Special Projects Branch w/o incl  
Weapons Effects Section w/incl

UNCLASSIFIED WHEN  
SEPARATED FROM CLASSIFIED  
ENCLOSURES

~~SECRET~~  
~~RESTRICTED~~  
ENERGY ACT

*mrc*

57

[REDACTED]

## EXTRACT SUMMARY OF REDWING RESULTS

### ZUNI

Table 3.2 and Table 3.3 list the data for ZUNI. Note that for this event 8 inch steel pipe stations were installed at four 210 series stations. These were designated 210.23', 210.27', 210.30' and 210.34'. The rate device at 210.27' became wedged in the station and failed to drop. The initial readings were obliterated by the residual. The cap of 210.30' was broken by the shock causing the instruments to fall immediately. About six percent (1070 r) of the total gamma exposure of 16,000 r arrived before shock at 1.44 seconds. A third rate device at 210.34' without a dropping mechanism yielded only total exposure information.

A mechanical drop device installed in a water filled steel pipe at 210.23' functioned properly. All of the films which dropped read less than one roentgen since the initial exposure was negligible.

### FLATHEAD

Tables 3.4 and 3.5 contain initial data. The difference between the film and quartz fiber exposures at Station 212.03 is not fully understood. At Station 212.05 the 10 r thermal and blast exposures are the result of ZUNI residual contamination. Film indicates about three roentgens initial exposure and quartz fiber dosimeters indicate about 4.5 r. The switches in the mechanical drop devices at 213.02, 213.03, and 213.04 functioned but the dosimeters did not fall below the surface because of a constriction in the pipes.

Results from the quartz fiber exposure versus time devices are shown in Table 3.6 and Figure 3.7.

The rate device at Station 211.01 did not drop, so it was necessary to subtract the residual exposure of 500 r. It was assumed that the 48 r arriving after 15 seconds was residual, the shielding being only 90 percent effective. At Station 212.04 the device operated in reverse, yielding only total residual information. At Station 211.03 the exposure was small and could not be resolved properly.

### ST. LOUIS FRC

Table 3.7 lists installation and recovery information and exposures from residual stations. Information from Project 2.2 indicates that Stations 210.23 to 210.41 received about 1 roentgen of fallout from FLATHEAD shot. The remainder of exposure at these stations was from Shot ZUNI.

EXCLUDED FROM AUTOMATIC REGRADING  
DOD DIR 5200.10 DOES NOT APPLY

REGRADING DATA CANNOT  
BE PREDETERMINED

[REDACTED] ~~REGRADING DATA~~

[REDACTED] NUCLEAR ENERGY ACT OF 1954

[REDACTED]

DAKOTA

Tables 3.8 and 3.9 contain the data from this event. There were high residual gamma exposure rates resulting from Shot FLATHEAD at the time of the DAKOTA Shot instrumentation. Consequently it was necessary to keep the instrumentation to a bare minimum. Unfortunately, the project was not aware of the change in shot coordinates at the time of instrumentation. Since the shot was moved about one half mile closer to FUX complex, the lowest initial exposure recorded was about 800 r.

Dosimeters were placed in two locations on MAN MADE Island No. 3 prior to FLATHEAD Shot. At FLATHEAD recovery, only one group of dosimeters was found. The second group was recovered after DAKOTA. A valid DAKOTA Shot data point was obtained by subtracting the FLATHEAD Shot exposure.

NAVAJO

The data are presented in Tables 3.10 through 3.12. Some phenomena, perhaps the shock, caused all of the quartz fiber dosimeters in the rate devices to activate at an early time. As a result, they yielded only one minutes exposure data. Station 211.01 was partially blown out of the ground. The data from the drop container is inconsistent. Station 211.02 was also blown out of the ground. The rate device did not drop, so the station yielded only total exposure information. The one minute drop timers were corroded and they did not function. Consequently, the estimates of residual exposure on DOG and EASY Islands are not accurate. They will be re-evaluated in the final report when additional data will be available.

ST. LOUIS FRC

[REDACTED]

~~CONFIDENTIAL~~  
ATOMIC ENERGY ACT OF 1954

TABLE 3.16 REDWING INITIAL GAMMA EXPOSURE DATA

Event	Station	Uncorrected Initial	Combined Correction Factor	Corrected Initial	Distance
		r		r	ft
CHEROKEE <sup>a</sup>	113.03				17,100
	113.04		DELETED		17,300
	113.05				17,970
ZUNI	210.30	15,850	1.0	15,850	7,000
	210.29	2,485	1.0	2,485	8,500
	210.33	835	1.0	835	9,420
	210.34	315	1.0	315	10,320
	210.35	190	1.0	190	10,935
	210.56	54	1.0	54	11,510
	210.26	10	1.0	10	12,940
FLATHEAD	212.03				4,422
	213.02				5,110
	211.01 <sup>b</sup>				5,500
	213.03				5,950
	213.01				6,605
	211.02 <sup>b</sup>				6,650
	212.05				10,745
DAKOTA	212.03				4,422
	211.01				5,500
	213.01				6,605
	211.02		DELETED		6,650
	212.04				7,720
NAVAJO	212.03				7,922
	213.02				8,580
	211.01 <sup>b</sup>				8,960
	211.02 <sup>b</sup>				9,810
	212.04				10,680
	211.03 <sup>b</sup>				11,880
	212.05 <sup>b</sup>				13,180

<sup>a</sup>CHEROKEE exposures adjusted to .895 relative air density.

<sup>b</sup>Station contained a rate device.

ST. LOUIS FRC

EXCLUDED FROM AUTOMATIC REGRADING  
DOD DIR 8200.10 DOES NOT APPLY

REGRADING DATA CANNOT  
BE PREDETERMINED

[REDACTED]  
[REDACTED]  
[REDACTED] ENERGY ACT 1954

4

5-61706-56

**TENA CODE AND PRELIMINARY DATA**

Ground Zero coordinates N 164,481; E 99,778;  
there were no drop devices used.

Station No.	Code No.	Distance from Ground Zero ft	NBS Raw Data r
113.01	V-46	15,850	
113.02	V-44	14,380	
113.03	V-49	10,500	
113.04	V-48	6,760	
113.07	V-45	2,875	
113.08	V-47	5,940	
113.09	V-43	10,830	
212.01	V-6	28,980	
212.02	V-20	21,950	
212.03	V-18	DOG	
212.04	V-30	22,460	
212.05	V-4	26,450	
212.06	V-27		
210.23	V-23	OBOE	
210.27	V-5	PETER	
210.30	V-19	ROGER	
210.34	V-14	UNCLE	
210.37	V-29	WILLIAM	
210.38	V-10	YOKE	
210.39	V-37	ZEBRA	
210.40	V-3	57,400	
210.41	V-25	57,000	

DELETED

ST. LOUIS FRC

EXCLUDED FROM AUTOMATIC REGRADING  
DOD DIR 8200.10 DOES NOT APPLY

REGRADING DATA CANNOT  
BE FULLY DETERMINED

~~EXCLUDED FROM AUTOMATIC REGRADING~~  
DOD DIR 8200.10 DOES NOT APPLY

5