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HISTORICAL

-REPORT-

FEB 12, 1951

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~~SECRET~~  
OPERATION

RANGER

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JRB/11-21-110

4925 SPECIAL WEAPONS GROUP  
KIRTLAND AIR FORCE BASE - NEW MEXICO

[REDACTED]

OPERATION RANGER HISTORICAL REPORT (SAN)

12 February 1951

4925 Special Weapons Group

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HEADQUARTERS, 4925TH SPECIAL WEAPONS GROUP  
Office of the Commanding Officer  
Kirtland Air Force Base, New Mexico

12 February 1951






OPERATIONS REPORT - PROJECT "RANGER"

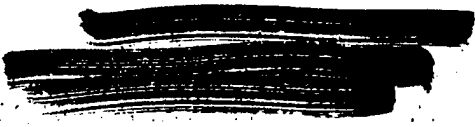
I COMMITMENT

1. The 4925th Special Weapons Group was committed by the Special Weapons Command to drop five (5) nuclear atomic bombs, and one (1) HE practice bomb for the Atomic Energy Commission, Los Alamos, New Mexico.



2. The purpose of these drops was to pre-check test equipment prior to Project "Greenhouse", measure yield of nuclear units, and determine atomic cloud characteristics. The HE drop was for the purpose of testing the operation prior to the nuclear drops. Schedule of drops was as follows:

25	January	1951	HE drop. Full dress rehearsal of operation.
27	January	1951	First nuclear drop - 
28	January	1951	Second nuclear drop - 
1	February	1951	Third nuclear drop - 
2	February	1951	Fourth nuclear drop - 
6	February	1951	Fifth nuclear drop - 



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Operations Report - Project "Ranger"

II PARTICIPATING ORGANIZATIONS

1. AEC, Los Alamos, New Mexico - Control of Project "Ranger", radiological safety, analyzing data, and security.
2. Special Weapons Command  
Kirtland AFB, New Mexico - Command control and coordination.
3. 4925th Special Weapons Group  
Kirtland AFB, New Mexico - Executing drop missions and providing direct support to AEC, Los Alamos, New Mexico
4. 4901st Support Wing (Atomic)  
Kirtland AFB, New Mexico - Support the 4925th Special Weapons Group by providing aircraft and personnel for courier and administrative operations.
5. Sandia Corporation  
Sandia Base, New Mexico - Instrumentation and furnishing units.
6. Edgerton, Germeshausen & Grier, Boston, Massachusetts - Instrumentation and obtaining yield data.
7. AFOAT-1, USAF  
Washington, D. C. - Cloud tracking, sampling, and survey.
8. Strategic Air Command  
Offutt AFB, Nebraska - Provided aircraft and personnel to obtain bomb burst photos.

Operations Report \* Project "Ranger"

III SUPERVISORY PERSONNEL

Mr. Carroll L. Tyler	AEC in charge of Project "Ranger"
Dr. Gaelen Felt	Coordination of activities between Operations Group and AEC, Los Alamos
Dr. John Clark	AEC in charge at the test site.
Mr. R. W. Henderson	Sandia Corporation. Instrumentation and delivery of units.
Colonel O. J. Ritland	Commanding Officer, Operations Group
Colonel J. A. Jack	Special Weapons Command Project Officer
1st Lt O. R. Hill	4925th Special Weapons Group Project Officer
Major E. M. Miller	4925th Operations Officer at test site
Captain M. R. Pierce	4925th Control Officer at Kirtland AFB
Captain L. B. Panther	4925th Operations Officer at Kirtland AFB
Lt Colonel J. A. Cody	Officer in charge of AFOAT-1 activities at Nellis AFB
Colonel A. P. Tacon	Base Commander, Nellis AFB, Nevada. Supported project with facilities and services.

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Operations Report - Project "Ranger"

IV OPERATION AS EXECUTED

1. Staging Bases of Aircraft

a. At Kirtland Air Force Base, New Mexico:

Strike aircraft - B-50 #47169 (Bullpup).  
SAC B-50 (Reindeer).  
C-47 disaster aircraft (Nickname).  
C-45 cover aircraft for Carco.

b. At Indian Springs, Nevada:

Two (2) B-25 courier aircraft (Carry-all 1 and 2).  
One (1) B-25 courier aircraft (Hotshot).  
C-47 standby support aircraft.  
C-45 standby support aircraft.

c. At control point of the site (Mophead):

H-19 Helicopter (Little Joe 3).  
H-13 Helicopter (Little Joe 2).

d. Furnished by and staged at Nellis Air Force Base, Nevada:

H-5 Helicopter (Little Joe 1)

2. General Information

a. Target information:

- (1) The target was located on the Tonopah, Nevada Bombing Range on the northwest side of a dry lake known as Frenchman's Flat, the coordinates being 36°50' north, 115°57' west; elevation 3,138 feet. Target was cross lighted with lights 100' - 300' - 500' from center of target.
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Operations Report - Project "Ranger"

were made with the CP and associated aircraft. Landing lights and an aldis lamp were used to aid askania personnel following the aircraft. Weather information was constantly radioed to Bullpup while in the target area. After the drop, Bullpup returned to Kirtland Air Force Base by proceeding to Las Vegas then by airways Red 15 and Green 4.

4. Reindeer Operation (SAC B-50 Photo Aircraft)

a. This aircraft, carrying photo equipment, took off after Bullpup and followed 2,000 feet above the bomb carrier aircraft for the entire mission. During the live run he was spaced 2,000 feet above and three to four miles to the rear of Bullpup so that better visual contact could be made with the bomb burst.

5. Nickname Operation (Disaster Aircraft)

a. A C-47 carrying a disaster crew, air police, and Radio-logical Defense personnel took off after Bullpup, and followed at 12,000 feet to Las Vegas where the disaster aircraft descended and held at 10,000 feet on the southwest leg of the Las Vegas Range until the drop was completed. The purpose of this aircraft was to monitor the movements of Bullpup and, in the event of an emergency, offer assistance as required. After the drop his mission was terminated, at which time he returned to Kirtland Air Force Base.

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Operations Report - Project "Ranger"

where data and couriers were picked up and transported to Kirtland Air Force Base. The third courier aircraft, Hotshot, remained at Indian Springs where courier and data were delivered by helicopter. This aircraft stopped en route to Kirtland at Nellis Air Force Base to obtain additional data from AFOAT-1. At the start of the operation, this airplane was not in the plan; however, beginning with the first nuclear drop, it was brought into the operation to further expedite delivery of data which could not be put aboard the two "Carry-all" aircraft. Average delivery time of data to Los Alamos was 4 hours 10 minutes after drop time.

8. Carco Cover Aircraft

a. C-45 aircraft, staging from Kirtland Air Force Base, flew cover for Carco airplanes from Kirtland to Los Alamos to provide for prompt location and aid in event of possible Carco aircraft failure.

~~TOP SECRET~~

Operations Report - Project "Ranger"

V SUMMARY OF DROPS

1. HE Drop

a. This mission was conducted according to plan. The drop was made at the specified time with good results. Immediately following this mission, AFOAT-1 requested a change in the communications procedures whereby Bullpup would clear the operating frequency of 7335kc after the drop so that it could be used for directing tracking and sampling aircraft. This request was made because AFOAT-1 had not secured 143.1mc VHF crystals. The change was made utilizing 2862kc en route.

b. The en route procedures of the SAC photo aircraft, Reindeer, were changed whereby it acted as cover aircraft in case an emergency of the strike aircraft existed.

c. The helicopter aircraft were not fully utilized during this mission. The radiological safety surveys and data pickup operations at the test area were accomplished solely by vehicles which proved to be very slow. Plans were made to use helicopters for the next mission and to land B-25 courier aircraft on the dry lake adjacent to the target.

d. A new commitment for furnishing a third B-25 for courier service was received. The function of this aircraft was to pick radiation samples from the test area and filter paper samples from the AFOAT-1 Section, and deliver to Kirtland Air Force Base where Carco service

[REDACTED]

Operations Report - Project "Ranger"

made delivery to Los Alamos. Arrangements to meet this commitment were made.

e. See inclosure #1 for details.

2. First Nuclear Drop (27 January 1951)

a. This mission, in which [REDACTED] was used, was according to plan with no major changes. The use of helicopters to transport monitors and data collecting personnel proved very successful. The B-25 courier aircraft landed on the dry lake for data pickup and departed from there to Kirtland Air Force Base.

b. It was decided during this operation that if the Bullpup bombardier requested, a track of 280° could be used for the bomb run.

c. For details of this mission see inclosure #2.

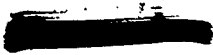
3. Second Nuclear Drop (28 January 1951)

a. This mission was doubtful due to weather conditions; however, it was conducted as scheduled. There existed slight overcast at the target area until the strike aircraft arrived over Las Vegas, at which time sky conditions cleared. However, there were very strong winds from the northwest at altitude. The drop was made holding 17° drift.

b. Timing and results were good, and it appeared that most of the details in the operation's plan were running smoothly.

c. For details see inclosure #3.

[REDACTED]



Operations Report - Project "Ranger"

4. Third Nuclear Drop (1 February 1951)

a. After two days without a mission the third nuclear drop was scheduled and conducted.

b. The only change in the operation's plan was the changing of the communications procedure. The strike aircraft was directed to return to Kirtland Air Force Base utilizing 7385kc. 143.1mc crystals were procured for AFQAT aircraft.

c. See inclosure #4 for details.

5. Fourth Nuclear Drop (2 February 1951)



a. This mission was conducted according to plan; however, Reindeer aircraft failed to take off due to gas leaks.

b. See inclosure #5 for details.

6. Fifth Nuclear Drop (6 February 1951)

a. 3 February 1951 participating agencies coordinated and confirmed the bombing altitude of 29,500 feet SCR 715 reading, bombing true airspeed of 315 MPH, and a burst altitude of the unit of 1350' above the target.

b. On 5 February 1951, the mission was scheduled. 145 miles from Kirtland Air Force Base, Bullpup feathered an engine due to a broken oil line and returned to home base. Because of heavy load conditions the aircraft flew in the local area until proper landing weight was attained.

[REDACTED]

Operations Report - Project "Ranger"

c. A tentative decision was made at Nellis Air Force Base to make a daylight drop. After further consideration, the mission was postponed until the following day, 6 February 1951.

d. On 6 February 1951, the mission was conducted according to plan. Because of the intensity of the burst, data gathering and dispatching the carry-all aircraft to Frenchman's Flat was delayed about one hour.

e. The drop was made with #4 archie ringing in externally. Authority to drop was given by Mophead (the site control point).

f. See inclosure #6 for details.

[REDACTED]

Operations Report - Project "Ranger"

VI CONCLUSIONS

1. Personal contact was made with representatives of each participating agency. Comments received indicated that results from this project were excellent. Sandia Corporation failed to obtain complete askania data from the second nuclear drop due to special equipment failure on the ground. Data for transit time was not received from this drop.

2. The primary data for obtaining yield and checking atomic cloud characteristics was excellent. Uranium, alpha, and neutron data were reported by the target site controller to be excellent.

3. From the standpoint of the 4925th Special Weapons Group, the operation was very successful. Advance planning with participating agencies enabled this organization to employ procedures that were closely followed without major changes. Difficulties encountered were primarily the result of cold weather requiring additional workloads on the maintenance section.

4. Cooperation received by the 4925th Special Weapons Group from supporting and controlling organizations was outstanding.

Operations Report - Project "Ranger"

VII RECOMMENDATIONS

1. Provide more detailed methods for radiological safety checks on personnel and for decontaminating aircraft at Kirtland Air Force Base, giving the exact place and time that checks will be performed.
2. Provide better communications between Indian Springs, where support aircraft were staged, and the target site control point, if this site is to be used for further operations of this kind.

8 Incls:

- 1-HE Practice Drop
- 2-1st Nuclear Drop
- 3-2nd Nuclear Drop
- 4-3rd Nuclear Drop
- 5-4th Nuclear Drop
- 6-5th Nuclear Drop
- 7-IFT report
- 8-Cost Anal

  
DESMOND J. TITICUS  
Colonel, USAF  
Commanding

DISTRIBUTION:

- 1-CG, SMC, KAFB, NM
- 1-Dr. John Clark, LASL  
J-6 Div, Los Alamos, Mex
- 2-Gp File

[REDACTED]

AIRCRAFT DATA

HE PRACTICE DROP

25 January 1951

(TIMES ARE PST)

1. Bullpup Operation

a. Take-off

(1) Bullpup	0115	ETA Mophead	0336
(2) Nickname	0116		
(3) Reindeer	0118		

2. Position Reports

a. 0130	49 miles from Able
b. 0145	103 miles from Able
c. 0200	157 miles from Able
d. 0215	5 miles from Baker
e. 0230	62 miles from Baker
f. 0245	35 miles from Charlie
g. 0300	90 miles from Charlie
h. 0310	In contact with Mophead

3. Information of the Day to Bullpup 0305

a. Ground temperature	38° F
b. Temperature at altitude	24° C
c. Altimeter setting	30.31
d. Wind:	
(1) Surface	60° at 5 K
(2) 10,000	40° at 6 K

Inclosure #1

[REDACTED]

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Acft Data - HE Practice Drop - 25 Jan 51

- |     |                               |      |         |
|-----|-------------------------------|------|---------|
| (3) | 22,000                        | 300° | at 15 K |
| (4) | Relative humidity at altitude | 15%  |         |
| (5) | Track                         | 270° |         |
| (6) | Time                          | 0550 |         |
4. Bullpup in area at 10,000' starting IFI 0336
5. IFI complete 0410
6. Total time for practice IFI - 34 minutes
7. Bomb runs completed:
- a. First dummy run 0453
  - b. Second dummy run 0512
  - c. Third dummy run 0526
  - d. Live run:
    - (1) Doors open 0532
    - (2) Base leg 0538
    - (3) Drop time 0550.05
    - (4) Actual time of fall - 35.25 Sec.
    - (5) C.E. 228' @ 0300
8. Little Joe #3 Operation:
- a. Departed C.P. - 0715; arrived lake - 0720; returned to C.P. - 0755.
  - b. Departed C.P. for Indian Springs - 0950; arrived - 1010.
9. Carry-all Operation:
- a. C-47 arrived lake - 0715; departed for Indian Springs - 0759.
  - b. B-25 carry-all #1 departed Indian Springs for Kirtland AFB - 0819.
  - c. B-25 carry-all #2 departed Indian Springs for Kirtland AFB - 0930.

Inclosure #1

Acft Data - HE Practice Drop - 25 Jan 51

10. Landing times at Albuquerque and total mission time:

a. Bullpup	0820	7 + 05
b. Nickname	0915	7 + 59
c. Reindeer	0800	6 + 42
d. Carry-all No. 1	1034	2 + 15
e. Carry-all No. 2	1150	2 + 20

[REDACTED]

AIRCRAFT DATA

FIRST NUCLEAR DROP - [REDACTED]

27 January 1951

(TIMES ARE PST)

1. Bullpup Operation

a. Take-off

(1) Bullpup	0115	ETA Mophead 0330
(2) Nickname	0117	
(3) Reindeer	0105	

2. Position Reports

a. 0130	31 miles from Able
b. 0145	97 miles from Able
c. 0200	152 miles from Able
d. 0215	201 miles from Able
e. 0230	41 miles from Baker
f. 0245	Over Charlie
g. 0300	52 miles from Charlie
h. 0315	89 miles from Charlie
i. 0330	Over Dog

3. Information of the day to Bullpup 0347

a. Ground temperature	35° F
b. Temperature at altitude	24.5° C
c. Altimeter setting	29.83

[REDACTED]

[REDACTED]

[REDACTED]

Inclosure #2'

[REDACTED]

[REDACTED]

Acft Data, 1st Nuclear Drop - [REDACTED] 27 Jan 51

d. Winds

(1) Surface	150° at 5 K
(2) 10,000	280° at 12 K
(3) 22,000	290° at 30 K
(4) Relative humidity at altitude	30%
(5) Track	270°
(6) Time	0546

4. Bullpup in area at 10,000' starting IFI - 0350
5. IFI completed 0434
6. Total time IFI - 44 minutes
7. Bomb runs completed
  - a. First dummy run 0507
  - b. Second dummy run 0520
  - c. Live run
    - (1) Doors opened 0527
    - (2) Base leg (turn before final) 0534
    - (3) Drop time 0544.5 (Scheduled - 0546)
    - (4) Time of fall - 35.44 Sec.
    - (5) C.E. 100' at 0600
8. Little Joe #3 Operation
  - a. Take-off from C.P. -0559; arrived Frenchman's Flat - 0605; returned to C.P. - 0618.
  - b. Take-off C.P. - 0625 for Frenchman's Flat; returned to C.P. - 0719.
  - c. Take-off from C.P. for Frenchman's Flat - 0800; returned to C.P. - 0812.

[REDACTED]

Acft Data, 1st Nuclear Drop - [REDACTED] 27 Jan 51

- d. Take-off from C.P. - 1027; arrived Indian Springs - 1045.
9. Little Joe #2 Operation
- a. Take-off from C.P. - 1010; arrived Indian Springs - 1031.
10. Carry-all (B-25) Operation
- a. Carry-all #1
- (1) Dispatched from Indian Springs to Frenchman's Flat - 0623; arrived at 0640.
- (2) Take-off from Frenchman's Flat for Kirtland AFB - 0659; arrived at 0905. Lapse time 2 + 06.
- b. Carry-all #2
- (1) Dispatched from Indian Springs for Frenchman's Flat - 0652; arrived at 0708.
- (2) Take-off from Frenchman's Flat for Kirtland AFB - 0742; arrived - 0951. Lapse time 2 + 09
- c. Hotshot
- (1) Departed Indian Springs for Nellis AFB - 1040; arrived 1102.
- (2) Departed Nellis AFB for Kirtland AFB - 1140; arrived 1331. Lapse time 1 + 59
11. Arrivals at Kirtland AFB
- |             |      |                   |
|-------------|------|-------------------|
| a. Bullpup  | 0750 | Lapse time 6 + 45 |
| b. Nickname | 0823 | Lapse time 7 + 08 |
| c. Reindeer | 0745 | Lapse time 6 + 40 |

g a l c

[REDACTED]

SELO: [REDACTED]

██████████  
AIRCRAFT DATA

SECOND NUCLEAR DROP - ██████████

28 January 1951

(TIMES ARE PST)

1. Bullpup Operation

a. Take-off

(1) Bullpup	0105	ETA Mophead	0338
(2) Nickname	0107		
(3) Reindeer	0100		

2. Position Reports

a. 0115	32 miles from Able (Albuquerque)
b. 0130	74 miles from Able
c. 0145	119 miles from Able
d. 0200	165 miles from Able
e. 0215	6 miles from Baker (Winslow)
f. 0230	9 miles from Charlie (Prescott)
g. 0245	56 miles from Charlie
h. 0300	97 miles from Charlie
i. 0315	Over Dog (Las Vegas)

3. Information of the Day to Bullpup

a. Ground temperature	40° F
b. Temperature at 22,000'	26.5 C
c. Altimeter setting	29.67
d. Winds	
(1) Surface	220° at 5 K

██████████  
Inclosure #3

SPECIFIC  
██████████  
██████████  
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[REDACTED]

Acft Data - 2nd Nuclear Drop - [REDACTED] - 28 Jan 51

- (2) 10,000' 250° at 22 K
- (3) 22,000' 270° at 15 K
- e. Relative humidity at altitude 62%
- f. Track 270°
- g. Time 0550
- 4. Bullpup in area at 10,000' starting IFI 0342
- 5. IFI completed 0418
- 6. Total time for IFI - 36 minutes
- 7. Bomb runs completed:
  - a. First dummy run 0447
  - b. Second dummy run 0508
  - c. Third dummy run 0525
  - d. Live run
    - (1) Bomb doors opened 0530
    - (2) Base leg (turn before final) 0538
    - (3) Drop time 0552.04 (Scheduled - 0550)
    - (4) Time of fall - 35.34 Sec.
    - (5) C.E. 185' at 0500
- 8. Little Joe #3 (Helicopter) Operation
  - a. Take-off from C.P. to Frenchman's Flat - 0618; arrived - 0625; returned to C.P. - 0731.
  - b. Take-off from C.P. to target area for reconnaissance - 0740; returned to C.P. - 0820.
  - c. Take-off from C.P. for Indian Springs - 0946; arrived - 1009.

[REDACTED]

Acft Data - 2nd Nuclear Drop - [REDACTED] - 28 Jan 51

9. Little Joe #2 Operation

a. Take-off from C.P. for Indian Springs - 0940; arrived - 0959.

10. Carry-all (B-25) Operation

a. Carry-all No. 1

(1) Dispatched from Indian Springs to Frenchman's Flat - 0645; arrived - 0706.

(2) Take-off from Frenchman's Flat for Kirtland AFB - 0709; arrived - 0919; lapse time 2 + 10

b. Carry-all No. 2

(1) Dispatched from Indian Springs for Frenchman's Flat - 0705; arrived - 0721

(2) Take-off from Frenchman's Flat for Kirtland AFB - 0803; arrived at 1008; lapse time 2 + 05

c. Hotshot

(1) Departed Indian Springs for Nellis AFB - 1021; arrived - 1040.

(2) Departed Nellis AFB for Kirtland AFB - 1134; arrived - 1331; lapse time - 1 + 57

11. Arrival times at Kirtland AFB and mission time

Bullpup	0751	6 + 46
Nickname	0820	7 + 13
Reindeer	0753	6 + 53

[REDACTED]

AIRCRAFT DATA

THIRD NUCLEAR DROP - [REDACTED]

1 February 1951

(TIMES ARE PST)

1. Bullpup Operation

a. Take-off

(1) Bullpup	0116
(2) Nickname	0120
(3) Reindeer	0122

2. Position Reports

a. 0130	31 miles from Able (Albuquerque)
b. 0145	79 miles from Able
c. 0200	135 miles from Able
d. 0215	172 miles from Able
e. 0230	26 miles from Baker (Winslow)
f. 0245	Over Charlie (Prescott)
g. 0300	41 miles from Charlie
h. 0315	87 miles from Charlie
i. 0330	110 miles from Charlie
j. 0345	25 miles from Dog (Las Vegas)

3. Information of the Day to Bullpup - 0400

a. Ground temperature	22° F
b. Temperature at altitude	31.5° C
c. Altimeter setting	30.36

Inclosure #1

[REDACTED]

[REDACTED]



[REDACTED]

Acft Data - 3rd Nuclear Drop - [REDACTED] - 1 Feb 51

9. Little Joe #2 Operation
- a. Take-off C.P. - 0630; arrived Frenchman's Flat - 0738; returned to C.P. - 0848.
  - b. Take-off C.P. - 0849; arrived Indian Springs - 0910
10. Carry-all (B-25) Operation
- a. Carry-all No. 1
    - (1) Dispatched from Indian Springs - 0623; arrived Frenchman's Flat - 0639; departed for Kirtland AFB - 0655; arrived KAFB - 0910; lapse time - 2 + 15
  - b. Carry-all No. 2
    - (1) Dispatched for Indian Springs - 0635; arrived Frenchman's Flat - 0651; departed for Kirtland AFB - 0733; arrived KAFB - 0941; lapse time - 2 + 08
  - c. Hotshot
    - (1) Departed Indian Springs for Nellis AFB - 1008; arrived - 1142; Departed Nellis AFB for Kirtland AFB - 1215; arrived KAFB - 1410; lapse time - 1 + 55

11. Arrival times at Kirtland AFB and mission time

Bullpup	0751	Lapse time	6 + 35
Nickname	0820	Lapse time	7 + 00
Reindeer	0753	Lapse time	6 + 31



[REDACTED]

Acft Data - 4th Nuclear Drop - [REDACTED] - 2 Feb 51

d. Winds

- |             |              |
|-------------|--------------|
| (1) Surface | Calm         |
| (2) 10,000' | 280° at 25 K |
| (3) 22,000' | 300° at 45 K |

e. Relative humidity      Ground - 73%; altitude - 18%

f. Track      280°

g. Drop time      0547

4. Bullpup in area at 10,000' starting IFI      0340

5. IFI completed      0408

6. Total time for IFI - 28 minutes

7. Bomb runs completed

a. First dummy run      0437

b. Second dummy run      0456

c. Third dummy run      0519

d. Live run

(1) Bomb doors open      0524

(2) Base leg      0532

(3) Drop time      0548.973

e. Actual time of fall - 35.34 seconds

f. C.E. 380' at 1000

8. Little Joe #3 Operation

a. Take-off C.P. - 0610; arrived Frenchman's Flat - 0617;  
returned to C.P. - 0652

b. Take-off C.P. for P-1 camera station - 0801; returned to C.P. -  
0827

c. Take-off C.P. - 0928; arrived Indian Springs - 0740

[REDACTED]

Acft Data - 4th Nuclear Drop - [REDACTED] - 2 Feb 51

9. Little Joe #2 Operation

- a. Take-off C.P. for generator shack - 0716; returned C.P. - 0739
- b. Take-off C.P. for generator shack - 0840; returned C.P. - 0901

10. Carry-all (B-25) Operation

a. Carry-all No. 1

- (1) Take-off from Indian Springs - 0619; arrived Frenchman's Flat - 0636
- (2) Departed Frenchman's Flat for Kirtland AFB - 0646; arrived - 0856; lapse time - 2 + 10

b. Carry-all No. 2

- (1) Take-off from Indian Springs - 0630; arrived Frenchman's Flat - 0645
- (2) Departed Frenchman's Flat for Kirtland AFB - 0721; arrived - 0924; lapse time - 2 + 03

c. Hotshot

- (1) Departed Indian Springs for Nellis AFB - 0955; arrived - 1015
- (2) Departed Nellis AFB for Kirtland AFB - 1100; arrived 1258; lapse time - 1 + 58

11. Arrival times at Kirtland AFB and mission time

Bullpup	0745	Lapse time	6 + 23
Nickname	0831	Lapse time	7 + 08
Reindeer	Cancelled		

Inclosure #5



[REDACTED]

AIRCRAFT DATA

FIFTH NUCLEAR DROP - [REDACTED]

6 February 1951

(TIMES ARE PST)

1. Bullpup Operation

a. Take-off

(1) Bullpup	0045	ETA Mophead	0315
(2) Nickname	0046		
(3) Reindeer	0039		

2. Position Reports

a. 0100	39 miles from Able (Albuquerque)
b. 0115	90 miles from Able
c. 0130	140 miles from Able
d. 0145	189 miles from Able
e. 0200	40 miles from Baker (Winslow)
f. 0215	3 miles from Charlie (Prescott)
g. 0230	43 miles from Charlie
h. 0245	90 miles from Charlie
i. 0300	132 miles from Charlie
j. 0319	Over target area

3. Information of the Day to Bullpup - 0315

a. Scattered cirrus at 27,000'	
b. Ground temperature	37° F
c. Temperature at altitude	45° C
d. Altimeter setting	30.06

[REDACTED]

[REDACTED]

Inclosure #6

[REDACTED]

[REDACTED]

[REDACTED]

Acft Data - 5th Nuclear Drop - [REDACTED] - 6 Feb 51

e. Winds

- |             |              |
|-------------|--------------|
| (1) Surface | Calm         |
| (2) 10,000' | 320° at 24 K |
| (3) 20,000' | 320° at 50 K |
| (4) 25,000' | 320° at 54 K |
| (5) 32,000' | 320° at 65 K |

f. Relative humidity                      Ground 72%; altitude - 15%

g. Track                                      280°

h. Drop time                                0545

4. Bullpup in area at 10,000' starting IFI - 0319

5. IFI completed                            0349

6. Total time for IFI - 30 minutes

7. Bullpup leveled off at 17,000' --suspected radar interference

8. Bomb runs completed

a. First dummy run                        0437 (Bombardier requested  
to use track of 270°)

b. Second dummy run                       0453

c. Third dummy run                         0513

d. Live run

(1) Doors open                            0517

(2) Base leg (turn before final)        0529

(3) Drop time                             0546.17 (0545 scheduled)

e. Actual time of fall - 45.23 seconds

f. C.E. 380' at 0900

[REDACTED]

Acft Data - 5th Nuclear Drop - [REDACTED] - 6 Feb 51

9. Little Joe #3 Operation

- a. Take-off C.P. - 0625; arrived Frenchman's Flat - 0629; returned to C.P. - 0725.
- b. Departed C.P. for Area - 0925 to reconnoiter; returned C.P. - 0938;
- c. Departed C.P. for Indian Springs - 1031; arrived 1049 with Hotshot material.

10. Little Joe #2 Operation

- a. Departed C.P. for Indian Springs - 0829; arrived 0845 with carry-all No. 2 material.

11. Carry-all (B-25) Operation

a. Carry-all No. 1

- (1) Dispatched from Indian Springs to lake - 0632; arrived - 0647
- (2) Take-off from lake for Kirtland AFB - 0729; arrived - 0940; lapse time - 2 + 11

b. Carry-all No. 2

- (1) Staged from Indian Springs
- (2) Material delivered to acft by Little Joe No. 2 at 0850
- (3) Carry-all No. 2 departed Indian Springs for Kirtland AFB - 0855; arrived - 1044; lapse time - 1 + 49

c. Hotshot

- (1) Departed Indian Springs for Nellis AFB - 1058; arrived - 1117;
- (2) Departed Nellis AFB for Kirtland AFB - 1201; arrived - 1359; lapse time - 1 + 58

12. Arrival times at Kirtland AFB and mission time

Bullpup	0750	Lapse time	7 + 05
	0826		
Nickname	0726	Lapse time	7 + 40
Reindeer	0745	Lapse time	7 + 06

Inclosure #6

4

[REDACTED]

[REDACTED]