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T-12466 AUG 28 1967 File: XW-58

SIX-FOOT BY TWO-HUNDRED FOOT THUNDERPIPE
TEST OF CALIBRATE R. V. CTU-15/BA1 (U)

Organization 7300 Environmental Test Report

G. Bruington - 7331

Approved by James E. Beor
7331 Test Project Engineer

SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
Review Date 9/22/98
Authority ☐ ADC ☒ ADD W Layne
Name
Date 9/23/98
RB Craner
Determination (Circle Number)
0 Classification Retained
Classification Changed to U
Contains No DOE Classified Information
Coordinate With
8 Contains UCAI? NO
Comments
OK for Apennet

CENTRAL TECHNICAL FILE
ACCOUNTABILITY CARD
FILE NO. XW 58
3-2

Distribution:
R. H. Schultz, 8124
A. R. Willis, 8146
W. D. Zinke, 8147
E. White, 7331
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SANDIA SYSTEMATIC DECLASSIFICATION REVIEW
DOWNGRADING OR DECLASSIFICATION STAMP
CLASSIFICATION CHANGED TO: U
Emelda Selph 9/28/98
PERSON CHANGING MARKING & DATE
W Layne 9/28/98
PERSON VERIFYING MARKING & DATE
AUTHORITY: R.B. Cran
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DATED: 9/23/98

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SIX-FOOT BY TWO-HUNDRED FOOT THUNDERPIPE
TEST OF CALIBRATE R. V. CTU-15/BA1 (U)

Introduction

This report covers facility setup data recorded during the test of calibrate R. V. CTU-15/BA1-4 XW-58. Vehicle instrumentation data recorded during the shot will be reduced by SCLL and a complete report will be published by Organization, 8124.

The test was requested by R. H. Schultz, 8124 on June 23, 1967, and was completed on August 16, 1967. C. G. Coalson, 7343 was the Test Engineer.

GHB:7331:vb

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7343 INDIVIDUAL TEST SUMMARY REPORT

EVENT NO. 67-89 T-NO. 12466 DATE OF TEST 8/16/67

LOCATION Area Y Coyote Test Field TIME 7:00 p.m.

PROGRAM NAME 6 x 200 Foot Shock Tube

REQUESTING ORGANIZATION 8124 REQUESTOR R. H. Schultz

TEST PURPOSES OR OBJECTIVES To determine the response of a CTU-15 to an explosively driven shock wave.

EXPLOSIVE AND FUEL DATA:

TYPE AND AMOUNT 2000 gr/ft. primacord. Net Wt - minus 149.3 lb; Gross Wt - minus 121 lbs; Rack length = 10.2 ft.

TYPE AND NUMBER OF DETONATORS 2 each SE-1 detonators with 1/2 x 1/2" tetryl pellets.

FIRING SET Unclassified capacitor discharge unit.

SUMMARY OF OPERATIONS 1. Test gas was sulfur-hexafluoride (SF_6) at an initial pressure and temperature of 1.62 psia and 538°R respectively. (Pressure calculated from leak rate) (Thermocouples located at stations 21.2, 132.8 and 199.4) The SF_6 was heated in a 140°F water tank so that the SF_6 was injected at approximately 90°F. The speed of sound in the SF_6 was 452 ft/sec.

2. The driver end of the tube was sealed with a one inch thick steel plate with a 9 inch plywood plug attached to the plate inside the tube and a 25,000 lb. concrete block placed against the closure plate. The 45° receiver was sealed with a 0.040 inch aluminum diaphragm.

3. The CTU-15 was suspended in the 45° receiver by glass straps. The angle of attack with respect to the yaw and pitch axis was 0°.

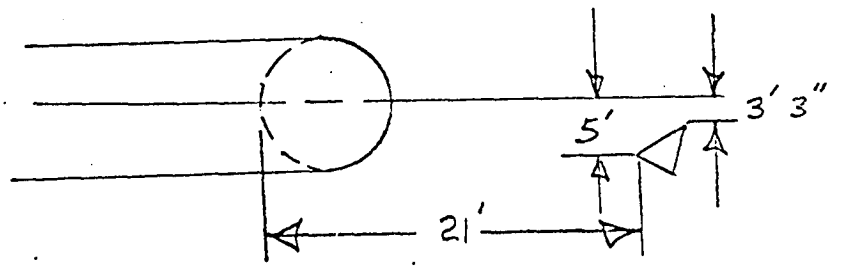
4. A sawdust recovery assembly, 52 inches deep, was used to cushion the CTU after ejection from the tube. The base of the CTU was found 21 ft. west of the lower lip of the 45° receiver and displaced

to the north as follows:

a. Base 5 ft. north of the tube centerline.

b. Nose 3 ft. 3 inches north of the tube centerline and pointing southwest.

The initial landing point of the aft end of the CTU was approximately 19 to 20 feet from the bottom lip of the receiver and on the centerline of the tube.



TOP VIEW

5. The attached sketch shows the orientation of the CTU in the receiver.
6. The CTU made a good exit from the shock tube.
7. Preliminary data (Sanborn Recorder):

Station (ft.)	Time (Msec.)
92.77	19.8
172.87	43.6
220.48	60.8

8. Approximately 18.5 Msec. of data was obtained.
9. A 1/2" plywood buffer was placed between the 25,000 lb concrete block and the 1" steel breech closure.

TEST CONDUCTED BY C. G. Coalson REPORT PREPARED BY M. G. Vigil

SIGNED M. G. Vigil DATE 8-24-67

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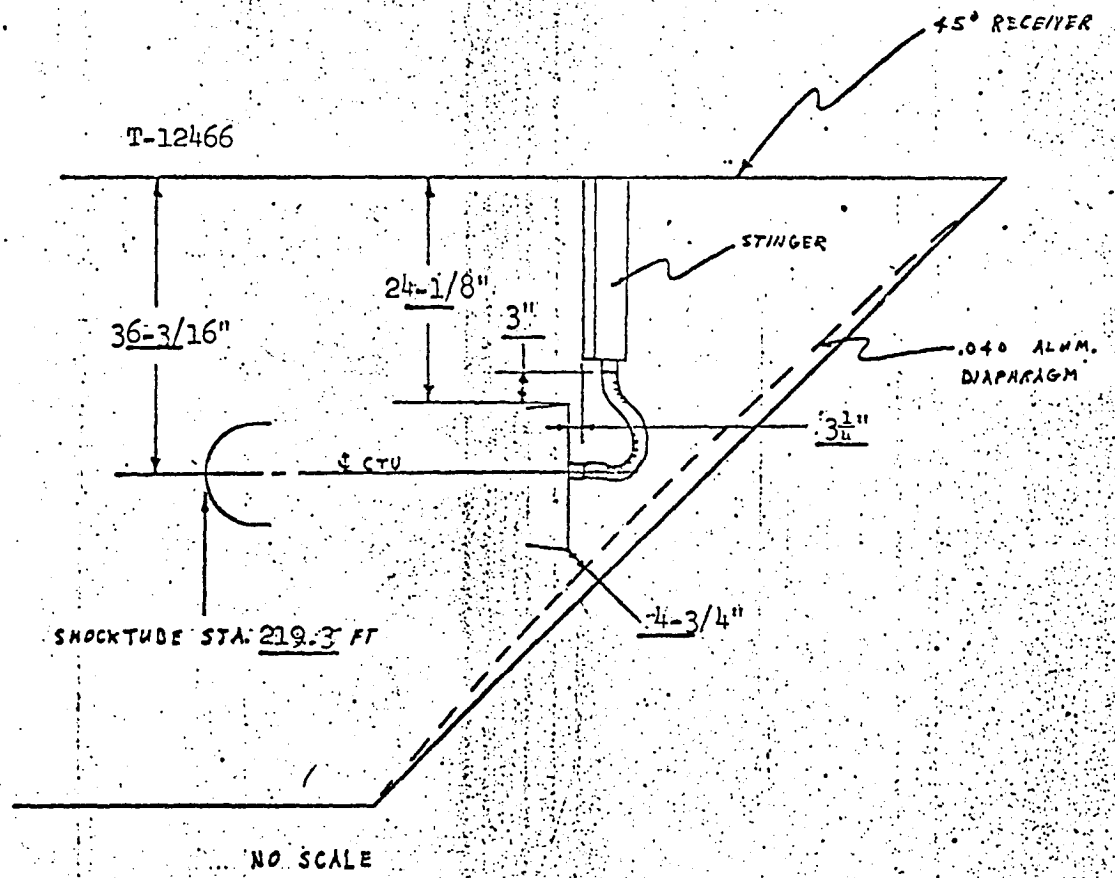
W. E. Bear, 7331
File, 7343 (2)

The CTU was parallel to the centerline of the tube and displaced to the South of the centerline 3/4".



Location of CTU-15/BA1 in Receiver

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7343 PUMP DOWN AND LEAK CHECK OPERATIONS

EVENT NO. 67-89 T-NO. 12466 DATE OF TEST 8/11/67

		mm/Hg	TIME
1.	Time and pressure at start of pump down	627.0	10:30
2.	Time and pressure at START of leak rate check	95.8	1:15
3.	Time and pressure at FINISH of leak rate check	98.0	1:30
4.	Leak rate is:	.14mm hg/min	
5.	Evacuate shock tube to lowest obtainable pressure	1.5	6:20
6.	START backfill with SF_6 gas to 2.5 psi. (50% above test pressure)	1.5	6:22
7.	COMPLETE backfill	128	6:30
8.	Evacuate pipe to _____ _____.	81.7	6:43
9.	CP pressure gage calibration 1.		
	2.		
	3.		
10.	Completion of call to CP to start countdown (-6 minutes)		
11.	Calculated pressure at zero time (from leak rate)	84.08	7:00
12.	Remote pressure gage reading at zero time	N/A	

P_o = 1.62 psia

SIGNED Charles Connally

DATE 8-24-67

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