

AD-A041 589

ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/6 4/2
17901AT HONEST JOHN MISSILE NUMBER 1537, ROUND NUMBER 657 ASL (--ETC(U)
APR 77

UNCLASSIFIED

DR-940

NL

| OF |
AD
A041 589



END

DATE
FILMED

8 - 77

DR-940

April 1977

AD

AD A 041589

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

12

METEOROLOGICAL DATA REPORT

17901AT HONEST JOHN
MISSILE NO. 1537, ROUND NO. 657 ASL
(27 APRIL 1977)

BY

WSMR METEOROLOGICAL TEAM

COPY AVAILABLE TO DDC DOES NOT
PERMIT FULLY LEGIBLE PRODUCTION

DDC
JUL 15 1977

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

AD NO. _____
DDC FILE COPY

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

DISPOSITION INSTRUCTIONS

Destroy this report when it is no longer needed. Do not return to the originator.

DISCLAIMER

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR-940	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 17901AT Honest John Missile No. 1537, Round No. 657 ASL (27 April 1977)		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) WSMR Meteorological Team		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Meteorological data rept.		8. CONTRACT OR GRANT NUMBER(s) DA Task 1T665702D127-02
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Command Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 1272
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Command Ft. Monmouth, New Jersey		12. REPORT DATE April 1977
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		13. NUMBER OF PAGES 16
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
18. SUPPLEMENTARY NOTES		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. Ballistics 2. Meteorology 3. Wind		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 17901AT Honest John, Missile Number 1537, Round Number 657 ASL, are presented in tabular form.		

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

400 844

13

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)



ii

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

CONTENTS

	PAGE
INTRODUCTION -----	1
DISCUSSION -----	1
TABLES	
I. Surface Observations taken at LC 33 -----	1
II. Pilot-Balloon-Measured Wind Data, Release No. 3 at 1410 MDT -----	2
III. White Sands Significant Level Data (Release Time: 1400 MDT) -----	6
IV. White Sands Upper Air Data (Release Time: 1400 MDT) -----	7
V. White Sands Mandatory Levels (Release Time: 1400 MDT) -----	9

DESIGNATION FOR	
WIS	White Section <input checked="" type="checkbox"/>
WIC	Out Section <input type="checkbox"/>
UNANNOUNCED <input type="checkbox"/>	
JUSTIFICATION	
BY	
DISTRIBUTION/AVAILABILITY CODES	
Dist.	AVAIL. and/or SPECIAL
A	23

XIX

INTRODUCTION

17901AT Honest John, Missile Number 1537, Round Number 657 ASL, was launched from LC 33, White Sands Missile Range (WSMR), New Mexico, at 1400 HRS MDT, 27 April 1977. The scheduled launch time was 1400 HRS MDT.

DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

ELEVATION	3,986.67	FEET/MSL
PRESSURE	880.1	MBS
TEMPERATURE	29.2	°C
RELATIVE HUMIDITY	22	%
DEW POINT	5.5	°C
DENSITY	1,008	GM/M ³
WIND SPEED	05	MPH
WIND DIRECTION	220	DEGREES
CLOUD COVER	.3 .3	Cu Ci

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC 33, 1400 HRS MDT/27 APRIL 1977.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	250	05	2100	200	10
100	233	05	2200	210	11
200	225	04	2300	213	12
300	215	04	2400	217	11
400	210	04	2500	214	11
500	203	04	2600	220	10
600	210	04	2700	219	11
700	210	04	2800	210	11
800	220	04	2900	216	12
900	236	04	3000	210	11
1000	236	04	3100	216	12
1100	206	03	3200	218	11
1200	197	05	3300	216	12
1300	203	08	3400	215	12
1400	206	09	3500	214	13
1500	204	07	3600	213	13
1600	205	08	3700	213	13
1700	209	07	3800	213	13
1800	199	08	3900	199	09
1900	217	08	4000	210	11
2000	206	10	4100	209	13

TABLE II. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 3
RELEASED FROM LC 33, AT 1410 MDT/27 APRIL 1977
17901AT HONEST JOHN, MISSILE NO. 1537, ROUND NO. 657 ASL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 486,296.83 Y = 185,251.85 Z = 3,986.67

APPROXIMATELY: 815 FT. SSE OF LAUNCHER

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	216	12
4300	225	11
4400	230	12
4500	234	10
4600	225	11
4700	232	11
4800	232	11
4900	220	12
5000	228	13
5100	235	13
5200	223	12
5300	223	12
5400	222	13
5500	231	15
5600	223	12
5700	223	12
5800	219	12
5900	219	13
6000	225	14
6100	229	12
6200	232	11
6300	231	12
6400	232	14
6500	231	17

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
6600	231	17
6700	229	16
6800	231	15
6900	237	15
7000	241	13
7100	230	14
7200	239	13
7300	239	11
7400	247	09
7500	239	10
7600	243	11
7700	255	14
7800	251	14
7900	256	12
8000	257	11
8100	265	12
8200	265	12
8300	259	13
8400	246	12
8500	247	10
8600	253	12
8700	255	12
8800	252	11
8900	260	11

TABLE II. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9000	252	14	11400	258	15
9100	245	12	11500	264	15
9200	239	12	11600	260	14
9300	248	15	11700	263	16
9400	245	14	11800	261	17
9500	240	14	11900	262	16
9600	234	15	12000	268	16
9700	231	15	12100	275	17
9800	227	15	12200	265	18
9900	236	15	12300	267	17
10000	238	16	12400	265	18
10100	235	16	12500	273	16
10200	235	16	12600	270	18
10300	243	13	12700	272	19
10400	237	16	12800	256	16
10500	239	17	12900	265	17
10600	239	16	13000	272	16
10700	236	16	13100	260	18
10800	242	16	13200	256	19
10900	250	14	13300	257	14
11000	244	13	13400	261	14
11100	249	15	13500	279	13
11200	251	15	13600	277	14
11300	252	16	13700	253	14

TABLE II. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
13800	261	15	15200	266	18
13900	261	15	15300	268	16
14000	264	14	15400	278	15
14100	264	14	15500	276	15
14200	262	14	15600	283	14
14300	257	15	15700	282	15
14400	254	17	15800	284	15
14500	261	16	15900	277	13
14600	260	19	16000	282	13
14700	264	18	16100	289	14
14800	267	19	16200	289	11
14900	270	18	16300	288	10
15000	265	16	16400	290	13
15100	265	17			

TABLE II. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

WSTM SITE COORDINATES
 488580.00 FEET E
 185045.00 FEET N

SIGNIFICANT LEVEL DATA
 1170020339
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
 27 APR. 77 1400 HRS MDT
 ASCENSION NO. 339

TABLE III.

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
872.2 3989.0	27.0 5.3	25.0
850.0 4733.5	25.0 4.2	26.0
780.8 7142.6	16.6 1.9	37.0
734.3 8845.3	11.7 1.1	48.0
713.3 9639.8	9.5 -3.1	41.0
700.0 10151.6	7.9 -1.9	50.0
682.3 10843.8	6.0 -3.6	50.0
611.3 13765.0	-1.0 -8.9	55.0
589.8 14702.2	-2.3 -13.7	41.0
562.3 15941.4	-5.5 -15.8	44.0
535.8 17179.4	-8.7 -16.1	55.0
527.3 17586.3	-9.6 -22.6	33.0
500.0 18930.2	-11.9 -30.8	19.0
491.3 19371.6	-12.4 -25.0	34.0
475.3 20201.6	-13.6 -28.5	27.0
457.3 21164.8	-14.8 -32.7	20.0
397.3 24604.2	-23.9 -36.2	31.0
379.7 25688.1	-26.0 -33.3	50.0
374.8 25997.0	-26.9 -33.2	55.0

STATION ALTITUDE 3989.00 FEET MSL
 27 APR. 77
 ASCENSION NO. 339
 1400 HRS MDT

UPPER AIR DATA
 1170020339
 WHITE SANDS
 TABLE IV.

WSTM SITE COORDINATES
 488580.00 FEET E
 185045.00 FEET N

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REF. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	872.2	27.0	25.0	1008.4	676.2	90.0	4.1	1.000262
4000.0	871.9	27.0	25.0	1008.1	676.2	90.6	4.1	1.000262
4500.0	856.9	25.6	25.7	995.4	674.7	122.6	3.8	1.000258
5000.0	842.1	24.1	27.2	983.3	672.9	150.5	4.6	1.000254
5500.0	827.3	22.3	29.5	971.9	670.9	167.1	6.1	1.000251
6000.0	812.9	20.6	31.8	960.6	668.9	176.6	8.0	1.000248
6500.0	798.7	18.8	34.1	949.5	666.9	178.1	9.2	1.000245
7000.0	784.7	17.1	36.3	938.6	664.8	169.9	8.9	1.000241
7500.0	770.6	15.6	39.3	926.9	663.1	178.1	8.2	1.000238
8000.0	757.0	14.1	42.5	914.8	661.4	192.5	8.1	1.000235
8500.0	743.5	12.7	45.8	903.0	659.8	207.9	9.1	1.000232
9000.0	730.2	11.3	46.6	891.4	658.1	217.9	8.5	1.000228
9500.0	717.0	9.9	42.2	880.0	656.3	227.1	7.9	1.000220
10000.0	703.9	8.4	47.3	868.6	654.6	232.9	7.6	1.000218
10500.0	691.0	6.9	50.0	857.1	652.9	238.3	6.7	1.000215
11000.0	678.3	5.6	50.3	845.5	651.3	246.1	5.6	1.000211
11500.0	665.7	4.4	51.1	833.4	649.9	261.2	4.9	1.000207
12000.0	653.3	3.2	52.0	821.5	648.4	263.9	5.3	1.000203
12500.0	641.1	2.0	52.8	809.8	647.0	259.9	6.2	1.000199
13000.0	629.1	.8	53.7	798.3	645.5	257.5	7.4	1.000195
13500.0	617.4	-.4	54.5	786.9	644.1	255.9	8.8	1.000192
14000.0	605.8	-1.3	51.5	775.0	642.9	255.3	10.2	1.000187
14500.0	594.4	-2.0	44.0	762.6	642.0	255.3	11.6	1.000182
15000.0	583.1	-3.1	41.7	751.1	640.7	256.8	12.9	1.000178
15500.0	571.9	-4.4	42.9	740.3	639.1	261.1	13.9	1.000175
16000.0	561.0	-5.7	44.5	729.7	637.6	264.4	14.9	1.000172
16500.0	550.2	-6.9	49.0	719.1	636.0	265.5	15.3	1.000170
17000.0	539.6	-8.2	53.4	708.7	634.5	266.1	15.5	1.000167
17500.0	529.1	-9.4	37.7	698.3	632.9	264.4	15.0	1.000162
18000.0	518.7	-10.3	28.7	687.1	631.8	264.8	14.4	1.000157

STATION ALTITUDE 3989.00 FEET MSL
 27 APR. 77 1400 HRS MDT
 ASCENSION NO. 339

UPPER AIR DATA
 1170020339
 WHITE SANDS

WSTM SITE COORDINATES
 488580.00 FEET E
 185045.00 FEET N

TABLE IV. (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	RHUMIDITY PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
18500.0	508.6	-11.2	-27.9	23.5	676.0	690.7	271.0	13.7	1.000154
19000.0	498.6	-12.0	-29.6	21.4	664.8	679.7	278.7	12.7	1.000151
19500.0	488.8	-12.6	-25.5	32.9	653.1	679.0	268.4	11.6	1.000150
20000.0	479.1	-13.3	-27.6	28.7	642.1	678.1	292.6	9.7	1.000147
20500.0	469.6	-14.0	-29.7	24.8	631.0	677.3	296.1	8.7	1.000143
21000.0	460.3	-14.6	-31.9	21.2	620.0	676.5	297.5	8.7	1.000140
21500.0	451.1	-15.7	-32.9	21.1	610.1	675.2	295.5	10.0	1.000138
22000.0	441.9	-17.0	-33.3	22.7	600.9	673.6	293.4	11.6	1.000136
22500.0	433.0	-18.3	-33.7	24.3	591.8	672.0	294.8	12.8	1.000134
23000.0	424.2	-19.7	-34.2	25.9	582.8	670.4	296.3	13.9	1.000132
23500.0	415.7	-21.0	-34.8	27.5	574.0	618.7	298.7	14.2	1.000130
24000.0	407.2	-22.3	-35.4	29.1	565.4	617.1	299.2	14.5	1.000128
24500.0	399.0	-23.6	-36.0	30.7	556.9	615.5	296.7	15.1	1.000126
25000.0	390.8	-24.7	-34.8	37.9	547.7	614.2			1.000124
25500.0	382.7	-25.6	-33.6	46.7	538.4	613.0			1.000122

STATION ALTITUDE 3989.00 FEET MSL
 27 APR. 77 1400 HRS MDT
 ASCENSION NO. 339

MANDATORY LEVELS
 1170020339
 WHITE SANDS
 TABLE V.

ASTM SITE COORDINATES
 488580.00 FEET E
 185045.00 FEET N

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4732.	25.0	4.2	26.	137.1	4.0	
800.0	6458.	19.0	2.7	34.	178.8	9.2	
750.0	8258.	13.4	1.5	44.	201.0	8.5	
700.0	10145.	7.9	-1.9	50.	234.6	7.5	
650.0	12133.	2.9	-5.9	52.	262.7	5.5	
600.0	14242.	-1.7	-11.3	48.	255.3	10.9	
550.0	16495.	-7.0	-15.8	49.	265.5	15.3	
500.0	18910.	-11.9	-30.8	19.	277.4	12.9	
450.0	21538.	-15.8	-32.9	71.	295.2	10.2	
400.0	24408.	-23.5	-35.9	70.	297.0	15.0	