

AD-A081 620 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
19702A, 0SRS, MISSILE NUMBER BR-7, ROUND NUMBER B-52, 25 OCTOBE--ETC(U)
OCT 79

UNCLASSIFIED ERADCOM/ASL-DR-1084

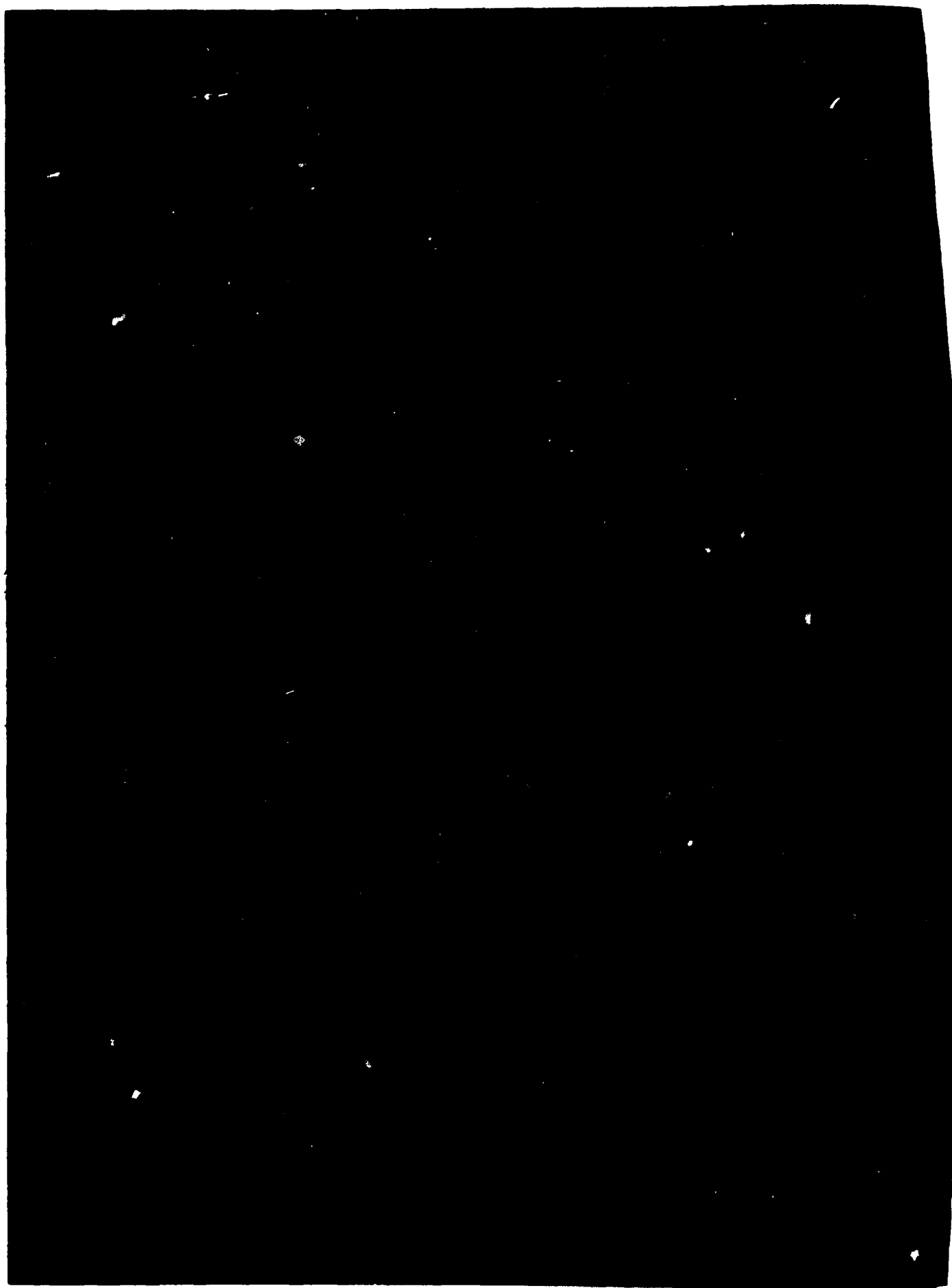
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 19702A GSRs, Missile Number BR-7, Round Number B-52 are presented in tabular form.		

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INTRODUCTION

19702A GSRS, Missile Number BR-7, Round Number B-52, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1345 MDT 25 October 1979. The scheduled launch time was 1345 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

SITE AND ALTITUDE

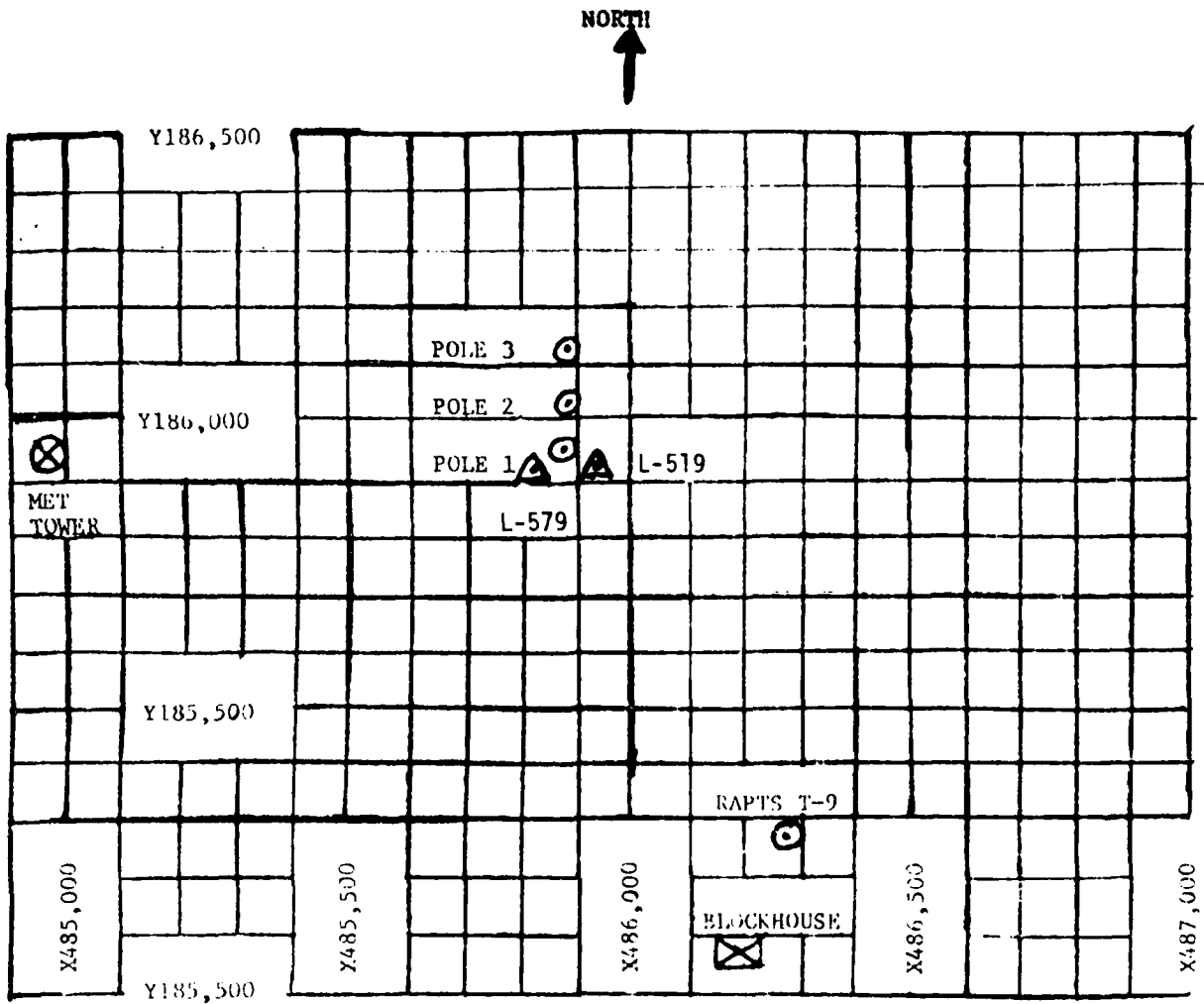
NICK 2Km
LC-33 2Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 34,500 feet in 500-foot increments.

SITE AND TIME

SMR 1300 MST

Accession for	
NTM	<input checked="" type="checkbox"/>
DES TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	<input type="checkbox"/>
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or special
A	23 CF



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 17 ft, 91 ft, 102 ft, and 107 ft with L/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with L/A recorders.
 - (a) Pole #1 - 38.7 ft
 - (b) Pole #2 - 33.0 ft
 - (c) Pole #3 - 83.6 ft
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System (9 Radar).

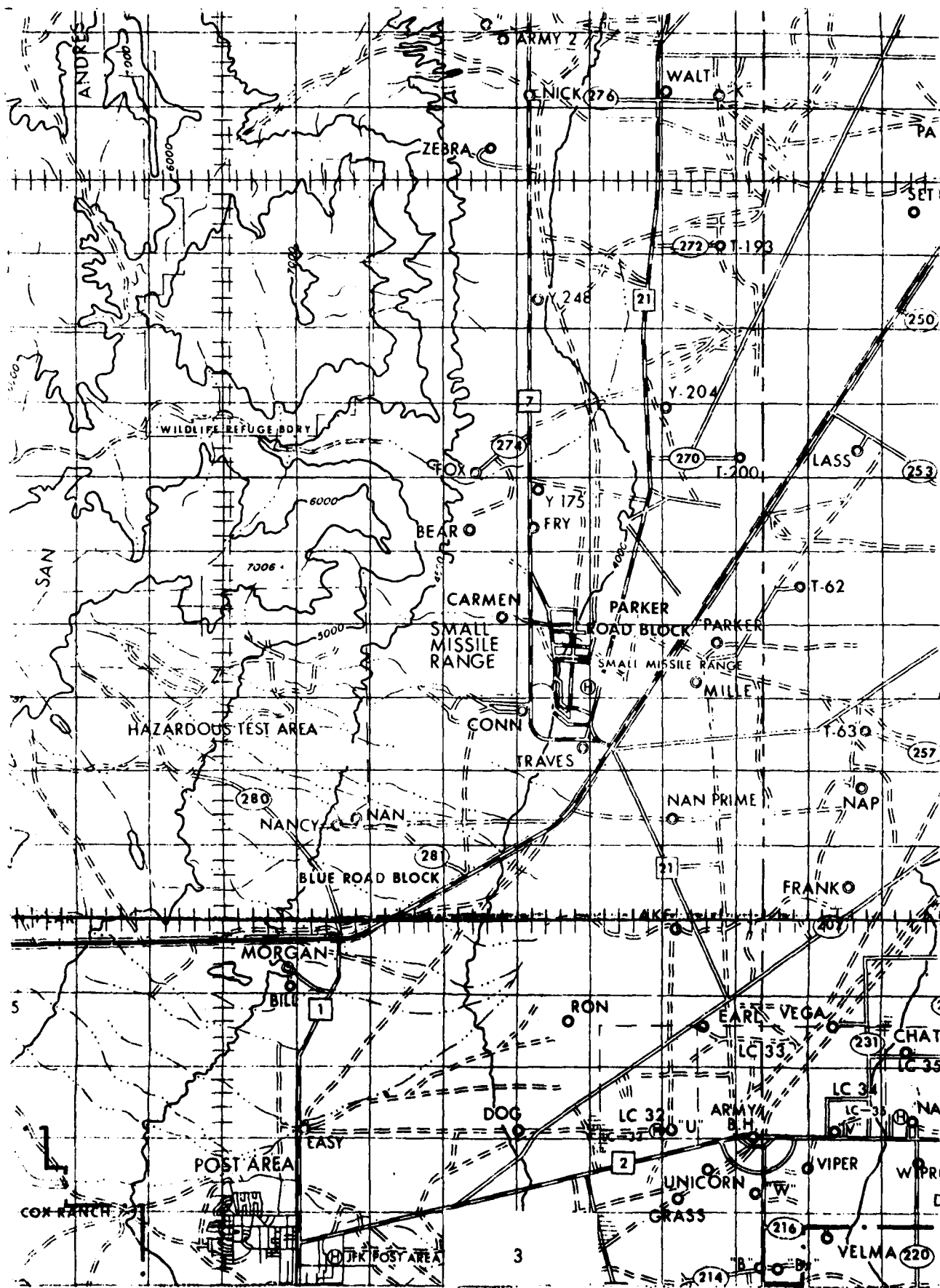


TABLE 1. Surface Observations taken at 1345 MDT,
 25 October 1979, at LC-33, 19702A GSRS,
 Missile Number BR-7, Round Number B-52.

ELEVATION	3977.30	FT/MSL
PRESSURE	879.6	MBS
TEMPERATURE	25.9	°C
RELATIVE HUMIDITY	22	%
DEW POINT	2.4	°C
DENSITY	1019	GM/M ³
WIND SPEED	02	KTS
WIND DIRECTION	175	DEGREES
CLOUD COVER	CLEAR	

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	MISG	03	-30	156	03	-30	107	02
-20	MISG	03	-20	160	03	-20	143	01
-10	MISG	03	-10	150	03	-10	095	01
0.0	MISG	02	0.0	161	03	0.0	255	01
+10	MISG	03	+10	153	03	+10	174	01

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft AGL

TABLE 2

TYPE 1970A GSRS MISSILE NO. BR-7 ROUND NO. B-52

LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 Feet			LEVEL #2 62 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	225	04	-30	233	04
-20	231	03	-20	233	04
-10	230	03	-10	233	03
0.0	250	03	0.0	230	04
+10	238	04	+10	230	04
LEVEL #3 102 Feet			LEVEL #4 202 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	230	03	-30	204	04
-20	218	03	-20	207	04
-10	230	03	-10	207	03
0.0	235	03	0.0	207	03
+10	235	03	+10	221	03

WTSM COORDINATES: X484,982.64 Y185,057.73 H3983.00 (base)

TABLE 3

TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52

LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 25 October 1979 TIME 1335 MDT

TRACKER COORDINATES (WSTM) X= 486,037.24 Y= 182.350.16 H= 3977.30

MISSILE TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52

MISSILE LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS A-E REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS	HEIGHT AGL	DIRECTION DEGREES	SPEED KTS	HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM						
90	174	06						
150	174	03						
210	173	03						
270	165	03						
330	170	05						
390	193	04						
500	189	04						
650	216	04						
800	222	03						
950	238	07						
1150	254	08						
1350	264	12						
1550	247	07						
1750	205	06						
2000	228	11						

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

TRACKER COORDINATES (WSTM) X= 486.037.24 Y= 182.350.16 H= 3977.30

MISSILE TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52

MISSILE LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS	HEIGHT AGL	DIRECTION DEGREES	SPEED KTS	HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	175	02						
90	MISG	MISG						
150	137	08						
210	140	06						
270	184	07						
330	172	07						
390	187	06						
500	198	06						
650	190	03						
800	218	03						
950	253	06						
1150	256	10						
1350	262	11						
1550	249	08						
1750	210	06						
2000	232	11						

GSRS PILOT BALLOON MEASURED WIND DATA

TABLE 6

RELEASED FROM NICK DATE 25 October 1979 TIME 1345 MDT
 TRACKER _____ COORDINATES (WSTM) X= 470.734.56 Y= 255,775.64 H= 4126.57
 MISSILE TYPE 19702A GSRS MISSILE NO. BR-7 ROUND NO. B-52
 MISSILE LAUNCHED FROM LC-33 DATE 25 October 1979 TIME 1345 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

HEIGHT - METERS AGL

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS	HEIGHT AGL	DIRECTION DEGREES	SPEED KTS	HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM						
90	MISG	MISG						
150	MISG	MISG						
210	MISG	MISG						
270	095	04						
330	075	02						
390	101	02						
500	134	01						
650	189	02						
800	250	05						
950	257	08						
1150	260	09						
1350	256	10						
1550	239	08						
1750	233	05						
2000	233	05						

STATION ALTITUDE 3997.30 FEET MSL
 25 OCT. 79
 ASCENSION NO. 365

SIGNIFICANT LEVEL DATA
 2980060365

S M R

TABLE 7

GEODETIC COORDINATES
 32.46034 LAT DEG
 106.42307 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
679.1	3997.3	28.2	18.0
865.8	4437.6	24.4	18.0
550.0	4964.1	22.4	18.0
760.2	8103.5	14.7	20.0
700.0	10377.6	11.1	14.0
645.6	12577.9	7.2	16.0
566.6	16048.3	-1.7	25.0
500.0	19272.2	-9.7	44.0
452.4	21784.9	-15.5	25.0
400.0	24808.3	-21.2	17.0
310.6	30773.8	-35.9	20.0
300.0	31567.9	-36.1	
279.8	33160.9	-36.3	
260.0	34825.3	-39.8	

STATION ALTITUDE 3997.30 FEET MSL
 25 OCT. 79 1300 HRS MST
 WSCF5107 INO. 305

UPPER AIR DATA
 2980060305
 S M P

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LONG DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE						
397.3	879.1	28.2	1.7	18.0	1013.2	677.3	170.0	6.0	1.000255
400.0	879.0	28.2	1.6	18.0	1013.2	677.3	170.0	6.0	1.000254
4500.0	803.9	24.2	-1.6	18.0	1009.9	672.5	181.6	4.7	1.000248
5000.0	843.9	22.3	-3.1	18.0	998.8	670.4	200.1	3.8	1.000244
5500.0	834.0	21.1	-3.9	18.3	985.3	669.0	226.2	3.4	1.000240
6000.0	819.3	19.9	-4.6	18.7	972.1	667.5	254.0	4.9	1.000236
6500.0	804.8	18.6	-5.4	19.0	959.0	666.1	266.7	7.7	1.000232
7000.0	790.6	17.4	-6.2	19.3	946.2	664.7	269.4	9.9	1.000228
7500.0	776.7	16.2	-7.0	19.6	933.5	663.2	270.4	12.0	1.000224
8000.0	763.0	15.0	-7.8	19.9	921.1	661.8	264.9	10.9	1.000221
8500.0	749.3	14.1	-8.2	19.0	907.5	660.7	250.4	9.5	1.000216
9000.0	735.9	13.3	-10.8	17.6	893.8	659.8	242.2	9.0	1.000212
9500.0	722.6	12.5	-12.4	16.3	880.3	658.8	227.2	9.2	1.000207
10000.0	709.7	11.7	-14.0	15.0	866.9	657.9	229.3	9.7	1.000203
10500.0	696.9	10.9	-15.4	14.1	853.8	656.9	232.1	10.2	1.000199
11000.0	684.2	10.0	-15.8	14.6	840.9	655.9	236.4	9.7	1.000196
11500.0	671.7	9.1	-16.1	15.0	828.2	654.8	244.8	9.3	1.000193
12000.0	659.5	8.2	-16.5	15.5	815.7	653.8	246.8	8.0	1.000190
12500.0	647.5	7.3	-16.8	15.9	803.4	652.8	250.0	6.4	1.000187
13000.0	635.4	6.1	-17.0	17.1	791.9	651.3	260.2	3.5	1.000184
13500.0	623.6	4.8	-17.2	18.4	780.7	649.9	301.5	1.8	1.000182
14000.0	612.0	3.6	-17.4	19.7	769.7	648.3	330.6	2.7	1.000179
14500.0	600.6	2.3	-17.8	21.0	758.9	646.8	336.7	4.0	1.000177
15000.0	589.4	1.0	-18.1	22.3	748.3	645.3	331.7	5.8	1.000174
15500.0	578.4	-0.3	-18.6	23.6	737.8	643.8	328.9	7.6	1.000172
16000.0	567.6	-1.6	-19.0	24.9	727.5	642.3	329.0	9.2	1.000169
16500.0	556.9	-2.8	-18.9	27.7	716.8	640.8	323.3	10.4	1.000167
17000.0	546.1	-4.1	-18.8	30.6	706.3	639.4	315.1	11.1	1.000165
17500.0	535.6	-5.3	-19.8	33.6	695.9	637.9	304.6	11.7	1.000162
18000.0	525.3	-6.5	-19.9	36.5	685.7	636.4	292.1	11.9	1.000160
18500.0	515.2	-7.8	-19.1	39.4	675.7	634.9	261.4	12.8	1.000158
19000.0	505.3	-9.0	-19.4	42.4	665.8	633.4	273.6	14.0	1.000155
19500.0	495.5	-10.2	-20.6	42.3	655.9	632.0	271.2	15.4	1.000153
20000.0	485.7	-11.4	-22.7	38.5	645.9	630.6	272.6	16.6	1.000149
20500.0	476.1	-12.5	-24.9	34.7	636.1	629.1	273.9	17.3	1.000146
21000.0	466.8	-13.7	-27.1	30.9	626.4	627.7	275.0	17.8	1.000143
21500.0	457.6	-14.8	-29.5	27.2	616.8	626.3	274.0	19.2	1.000140
22000.0	448.5	-15.9	-31.6	24.4	607.1	625.0	272.3	21.0	1.000138
22500.0	439.4	-16.8	-33.0	23.1	597.1	623.8	271.2	22.8	1.000135
23000.0	430.6	-17.8	-34.4	21.8	587.2	622.6	270.4	24.5	1.000133

STATION ALTITUDE 3997.30 FEET MSL
 25 OCT. 79 1300 HRS MST
 ASCENSION NO. 365

UPPER AIR DATA
 2960060365
 S M R

GEODETIC COORDINATES
 32.46034 LAT UEG
 106.42307 LON UEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TW)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	421.9	-18.7	-35.8	20.5	577.5	621.5	270.3	24.7	1.000130
24000.0	413.4	-19.7	-37.2	19.1	566.0	620.3	270.5	24.0	1.000128
24500.0	405.1	-20.6	-38.7	17.8	556.7	619.1	273.4	22.4	1.000126
25000.0	396.8	-21.7	-40.0	17.1	549.5	617.8	278.9	20.3	1.000124
25500.0	388.4	-22.9	-40.9	17.3	540.7	616.3	284.4	19.9	1.000121
26000.0	380.3	-24.1	-41.8	17.6	531.9	614.8	289.2	20.4	1.000119
26500.0	372.3	-25.4	-42.7	17.9	523.4	613.3	289.3	22.1	1.000117
27000.0	364.5	-26.6	-43.6	18.1	515.0	611.8	288.1	24.1	1.000115
27500.0	356.9	-27.8	-44.5	18.4	506.7	610.2	285.5	25.9	1.000114
28000.0	349.4	-29.1	-45.5	18.6	498.6	608.7	282.5	27.6	1.000112
28500.0	342.0	-30.3	-46.4	18.9	490.6	607.1	279.0	29.2	1.000110
29000.0	334.9	-31.5	-47.3	19.1	482.8	605.6	275.3	30.7	1.000108
29500.0	327.8	-32.8	-48.3	19.4	475.1	604.0	272.2	33.2	1.000106
30000.0	321.0	-34.0	-49.2	19.6	467.5	602.5	259.3	35.9	1.000105
30500.0	314.2	-35.2	-50.1	19.9	460.1	600.9	268.1	34.3	1.000103
31000.0	307.5	-36.0	-53.5	14.3**	451.7	600.0	267.1	32.1	1.000101
31500.0	300.9	-36.1	-59.6	1.7**	442.2	599.8	267.7	24.9	1.000099
32000.0	294.4	-36.2			432.7	599.7	269.5	16.9	1.000096
32500.0	288.0	-36.2			423.5	599.7	269.2	11.9	1.000094
33000.0	281.8	-36.3			414.4	599.6	267.5	7.3	1.000092
33500.0	275.6	-37.0			406.7	598.7			1.000091
34000.0	269.6	-38.1			399.6	597.3			1.000089
34500.0	263.8	-39.1			392.6	596.0			1.000087

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

MANDATORY LLVELS
 2980060365
 S M R

STATION ALTITUDE 3997.30 FEET MSL
 25 OCT. 79
 ASCENSION NO. 365

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LONG DEG

TABLE 9

PRESSURE GEOPOTENTIAL		TEMPERATURE	REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4961.	22.4	-3.1	198.4	3.8
800.0	6674.	18.2	-5.7	268.6	8.6
750.0	8470.	14.1	-9.1	256.9	9.6
700.0	10367.	11.1	-15.4	231.4	10.0
650.0	12381.	7.5	-16.6	248.8	7.0
600.0	14522.	2.2	-17.8	338.0	4.1
550.0	16802.	-3.6	-18.9	318.7	10.8
500.0	19245.	-9.7	-19.6	270.4	14.8
450.0	21683.	-15.7	-31.3	272.6	20.7
400.0	24767.	-21.2	-39.7	276.5	21.1
350.0	27950.	-29.0	-45.4	282.6	27.6
300.0	31505.	-36.1		267.8	24.1

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.