DR 1089
NOVEMBER 1979

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LEVEL II

METEOROLOGICAL DATA REPORT

19304D GSRS
Missile Nos. 1129 and 1082
Round Nos. V-81 and V-82
06 November 1979

by

White Sands Meteorological Team

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

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Meteorological data gathered for the launching of the 19304D GSRS, Missile Numbers 1129 and 1082, Round Numbers V-81 and V-82 are presented in tabular form.

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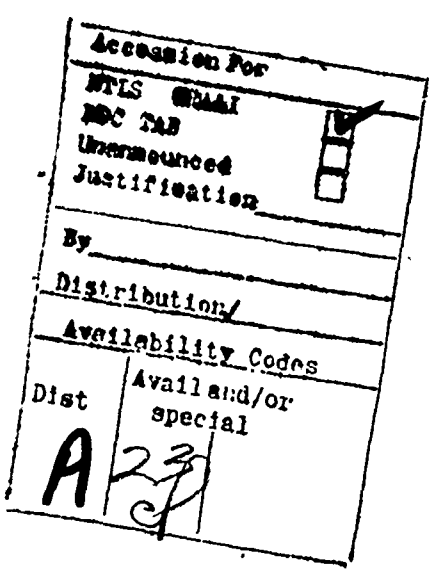
CONTENTS



INTRODUCTION

19304D GSRS, Missile Numbers 1129 and 1082, Round Numbers V-81 and V-82, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1007 and 1077:08, on 06 November 1979. The schedule launch times were 1000 and 1000:02.

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 (^{o}C), relative humidity, dew point (^{o}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.

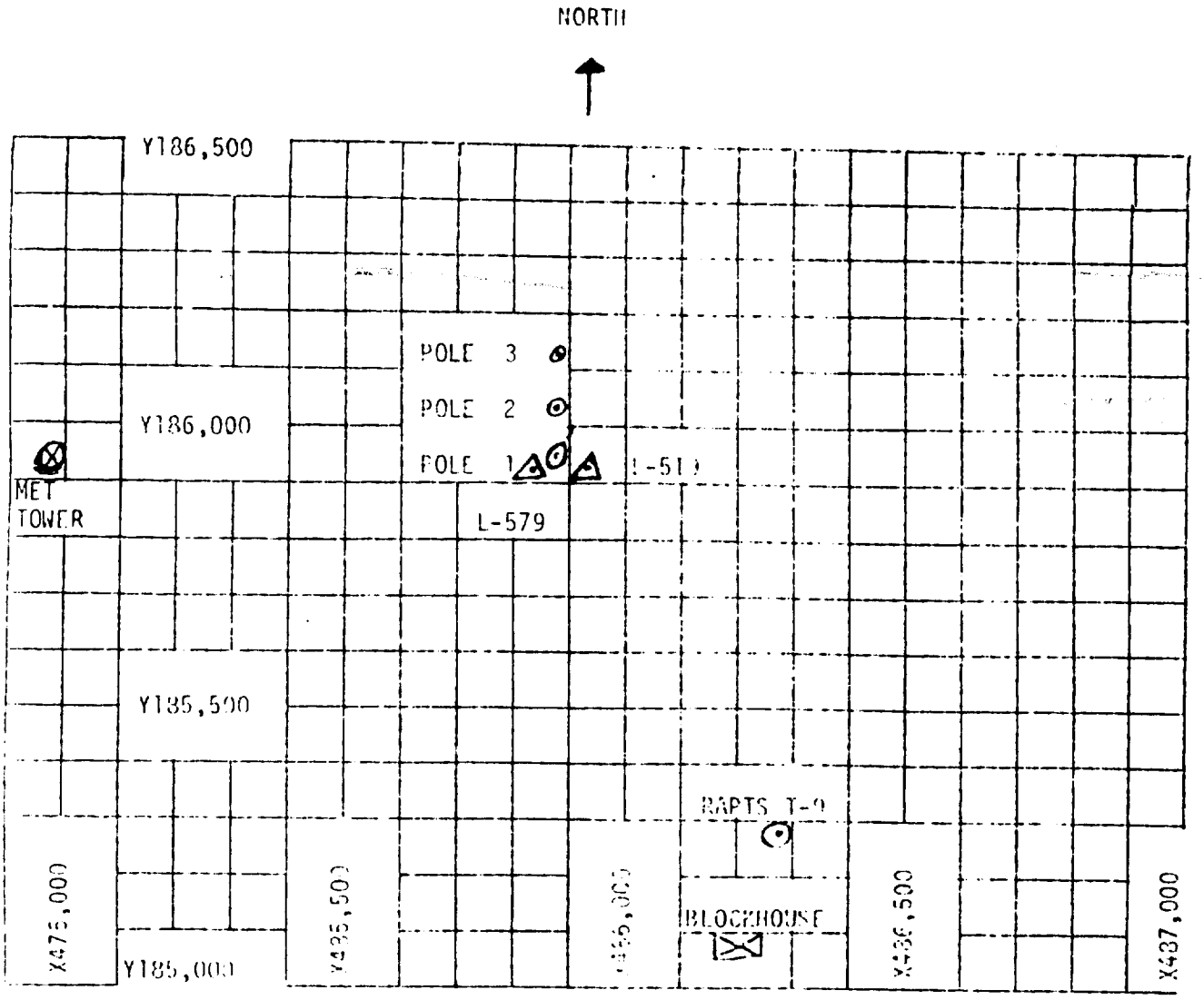
b. Upper Air

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

SITE AND ALTITUDE	
LC-33	2 km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 20,000 feet in 500-feet increments.

SITE AND TIME
SMR 1000 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 11 ft, 62 ft, 102 ft, and 202 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 - 53.0 ft.

   (c) Pole #3 - 33.6 ft.

3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

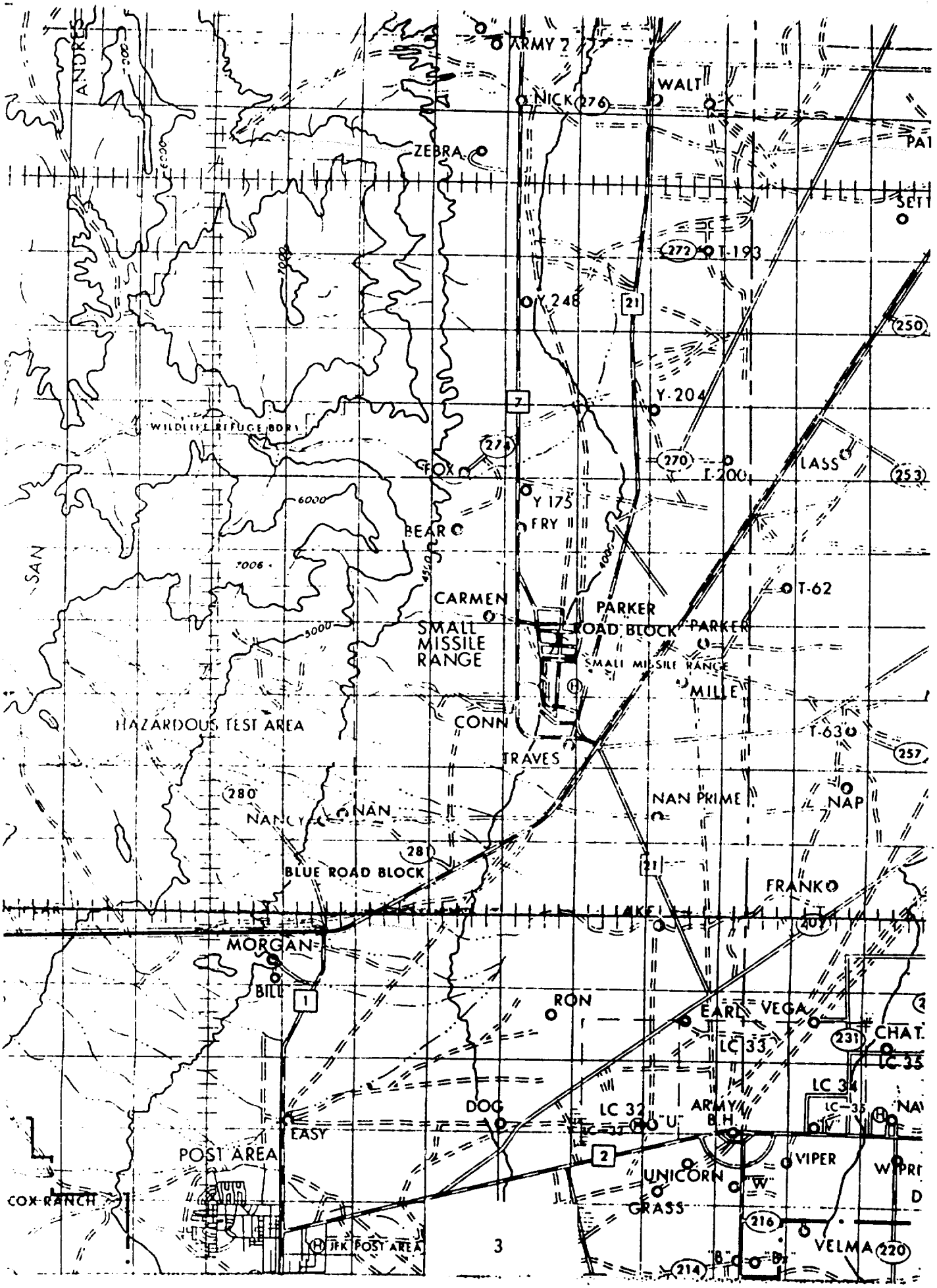

ARMY 2
NICK
WALT
ZEBRA
ANDRE
Y 248
T-193
Y-204
T-200
LASS
WILDLIFE REFUGE BDRY
FOX
Y 175
FRY
BEAR
CARMEN
SMALL MISSILE RANGE
PARKER
ROAD BLOCK
PARKER
SMALL MISSILE RANGE
T-62
MILLE
HAZARDOUS TEST AREA
CONN
TRAVES
T-63
NAN PRIME
NAP
NANCY
NAN
BLUE ROAD BLOCK
FRANKO
MORGAN
BILL
RON
EARL
VEGA
CHAT
LC 33
LC 34
LC 32
DOG
EASY
POST AREA
ARMY H.
VIPER
UNICORN
GRASS
COX RANCH
JFK POST AREA
VELMA
6000
5000
4000

TABLE 1. Surface Observations taken at 1007 MST, 06 November 1979, at LC-33, 19304D GSRS, Missile Numbers 1129 and 1082, Round Numbers V-81 and V-82.

ELEVATION	3977.30	FT/MSL
PRESSURE	890.3	MBS
TEMPERATURE	12.8	°C
RELATIVE HUMIDITY	53	
DEW POINT	3.6	°C
DENSITY	1082.7	GM/M^3
WIND SPEED	11	KTS
WIND DIRECTION	135	DEGREES
CLOUD COVER	10	AS

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

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		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	149	09	-30	163	06	-30	154	08
-20	120	11	-20	145	09	-20	146	09
-10	130	09	-10	139	07	-10	136	10
0.0	136	11	0.0	121	06	0.0	137	11
+10	143	08	+10	133	06	+10	145	11

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	127	11	-30	136	12
-20	128	11	-20	149	12
-10	142	09	-10	156	09
0.0	144	06	0.0	148	10
+10	128	08	+10	150	09

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	132	11	-30	138	12
-20	145	12	-20	145	12
-10	143	09	-10	139	11
0.0	141	10	0.0	134	12
+10	146	09	+10	133	11

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM LC-33 DATE 06 November 1979 TIME 0950 MST

TRACKER COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 39977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL X OR FEET AGL ___.

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	135	18
90	136	17
150	136	17
210	136	17
270	126	20
330	132	18
390	132	16
450	125	17
550	137	16
700	140	18
950	152	13
1250	155	17
1550	161	21
1850	185	20
2150	197	22
9000	202	23

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33 DATE 06 November 1979 TIME 1007 MST

TRACKER COORDINATES (WSTM) X= 486,037.24 Y= 182,350.16 H= 3977.30

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL ___.

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	136	11
90	142	04
150	138	11
210	129	10
270	111	11
330	113	10
390	116	11
500	123	11
650	140	11
800	135	13
950	140	15
1150	160	17
1350	162	23
1550	180	20
1750	195	20
2000	198	24

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

STATION ALTITUDE 3997.30 FEET MSL
6 NOV. 79 1000 HRS MST
ASCENSION NO. 371

SIGNIFICANT LEVEL DATA
3100603/1
S M R

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

TABLE 6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
899.2	3997.3	7.2	-3.3	47.0
879.4	4200.6	10.5	-.3	47.0
858.6	5224.3	7.8	-.7	55.0
782.2	7454.4	2.1	-.3	64.0
766.8	7963.5	3.1	-.5	77.0
750.2	8568.9	5.1	-2.9	58.0
735.2	9112.6	6.7	-3.3	47.0
709.0	10062.0	4.6	-5.7	47.0
689.6	10832.8	4.4	-6.6	44.0
618.4	13713.8	-2.5	-8.6	63.0
610.0	14070.2	-3.4	-10.0	60.0
601.6	14430.9	-3.4	-16.0	37.0
559.6	16287.9	-7.9	-15.5	54.0
534.6	17450.7	-10.3	-24.5	30.0
531.6	17602.7	-10.5	-15.2	68.0
516.4	18355.3	-12.0	-19.2	55.0
500.0	19145.0	-13.8	-22.6	47.0
482.2	19741.2	-14.4	-32.9	19.0
480.8	20121.8	-14.8	-27.8	32.0

STATION ALTITUDE 3997.30 FEET MSL
6 NOV. 79 1000 HRS MST
ASCENSION NO. 371

UPPER AIR DATA
3100060371
S M R

TABLE 7

GEODETIC COORDINATES
52.46034 LAT DEG
106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	889.2	7.2	-3.3	47.0	1102.7	653.0	180.0	9.9	1.000269
4000.0	889.1	7.2	-3.3	47.0	1102.5	653.0	180.0	9.9	1.000269
4500.0	872.9	9.9	-.4	48.7	1071.5	656.3	177.1	10.7	1.000267
5000.0	857.0	8.5	-.5	53.1	1057.5	654.6	174.6	11.5	1.000264
5500.0	841.3	7.1	-.5	58.6	1043.8	653.0	172.5	12.3	1.000261
6000.0	825.8	5.8	-.2	65.1	1028.4	651.6	169.6	13.1	1.000258
6500.0	810.5	4.5	-.1	71.6	1013.9	650.1	168.5	14.2	1.000256
7000.0	795.6	3.3	-.2	78.1	999.6	648.6	154.3	15.7	1.000253
7500.0	780.9	2.2	-.3	83.4	985.1	647.4	154.3	16.3	1.000249
8000.0	766.3	3.2	-.6	76.4	968.4	648.5	150.6	20.7	1.000244
8500.0	752.1	4.9	-2.6	58.5	940.1	650.4	168.2	22.4	1.000234
9000.0	738.3	6.4	-3.6	48.9	917.9	652.1	177.7	24.0	1.000227
9500.0	724.7	6.1	-4.4	47.0	902.0	651.7	180.2	24.9	1.000222
10000.0	711.3	5.3	-5.1	47.0	890.0	650.8	191.8	24.8	1.000218
10500.0	698.2	4.6	-5.9	46.5	874.0	649.9	196.9	24.4	1.000214
11000.0	685.3	4.0	-6.8	45.1	859.6	649.2	203.6	24.2	1.000210
11500.0	672.4	2.8	-7.0	48.4	847.1	647.8	210.5	24.4	1.000207
12000.0	659.8	1.6	-7.2	51.7	834.9	646.4	215.5	24.7	1.000204
12500.0	647.5	.4	-7.6	55.0	822.8	645.0	219.8	25.0	1.000201
13000.0	635.3	-.8	-7.9	58.3	811.0	643.6	222.5	24.7	1.000198
13500.0	623.4	-2.0	-8.4	61.6	799.3	642.2	225.5	24.7	1.000195
14000.0	611.6	-3.2	-9.7	60.6	786.0	640.6	229.3	25.3	1.000191
14500.0	600.0	-3.6	-15.9	37.6	774.5	640.0	231.2	26.0	1.000182
15000.0	588.5	-4.8	-15.6	42.2	762.0	638.5	232.1	26.8	1.000179
15500.0	577.2	-6.0	-15.5	46.8	751.7	637.1	229.8	26.5	1.000177
16000.0	566.1	-7.2	-15.5	51.4	740.6	635.7	228.0	26.9	1.000175
16500.0	555.2	-8.3	-17.0	49.6	729.5	634.3	227.6	27.9	1.000171
17000.0	544.4	-9.4	-20.6	39.3	718.3	633.0	231.2	27.8	1.000166
17500.0	533.8	-10.4	-20.7	42.3	707.0	631.8	236.4	26.8	1.000164
18000.0	523.3	-11.3	-17.3	60.9	695.4	630.7	236.8	28.7	1.000164
18500.0	513.0	-12.4	-19.9	53.4	684.7	629.4	238.8	28.9	1.000160
19000.0	502.9	-13.5	-22.0	48.4	674.1	628.0	244.9	26.2	1.000156
19500.0	492.9	-14.2	-27.8	30.3	662.7	627.1	257.5	29.6	1.000151
20000.0	483.2	-14.7	-29.1	27.8	650.9	626.5			1.000148

STATION ALTITUDE 5997.30 FEET MSL
6 NOV. 79 1000 HRS MST
ASCENSION NO. 371

MANDATORY LEVELS
31000&0371
S M R
TABLE 8

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT		DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE		PERCENT	DEGREES(TN)	KNOTS
850.0	5220.	7.8	-.7	55.	173.7	11.9
800.0	6650.	3.6	-.2	76.	154.9	15.1
750.0	8563.	5.1	-2.9	56.	169.7	22.7
700.0	10422.	4.6	-5.7	47.	196.1	24.4
650.0	12392.	.7	-7.5	54.	219.3	25.0
600.0	14483.	-3.6	-15.9	38.	231.2	26.0
550.0	16717.	-8.8	-18.6	45.	229.3	27.8
500.0	19116.	-13.8	-22.6	47.	247.7	25.1