

DR 1107
DECEMBER 1979

AD

METEOROLOGICAL DATA REPORT

19304D MLRS
Missile No. 1130
Round No. V-99
18 December 1979

by

White Sands Meteorological Team

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) ↓ Meteorological data gathered for the launching of the 19304D MLRS, Missile Number 1130, Round Number V-99 are presented in tabular form. ↑			

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INTRODUCTION

19304D MLRS, Missile Number 1130, Round Number V-99,
was launched from LC-33, White Sands Missile Range (WSMR), New Mexico,
at 1139 MST, 18 December 1979. The scheduled launch time was 1030
MST.

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) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

b. Upper Air

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

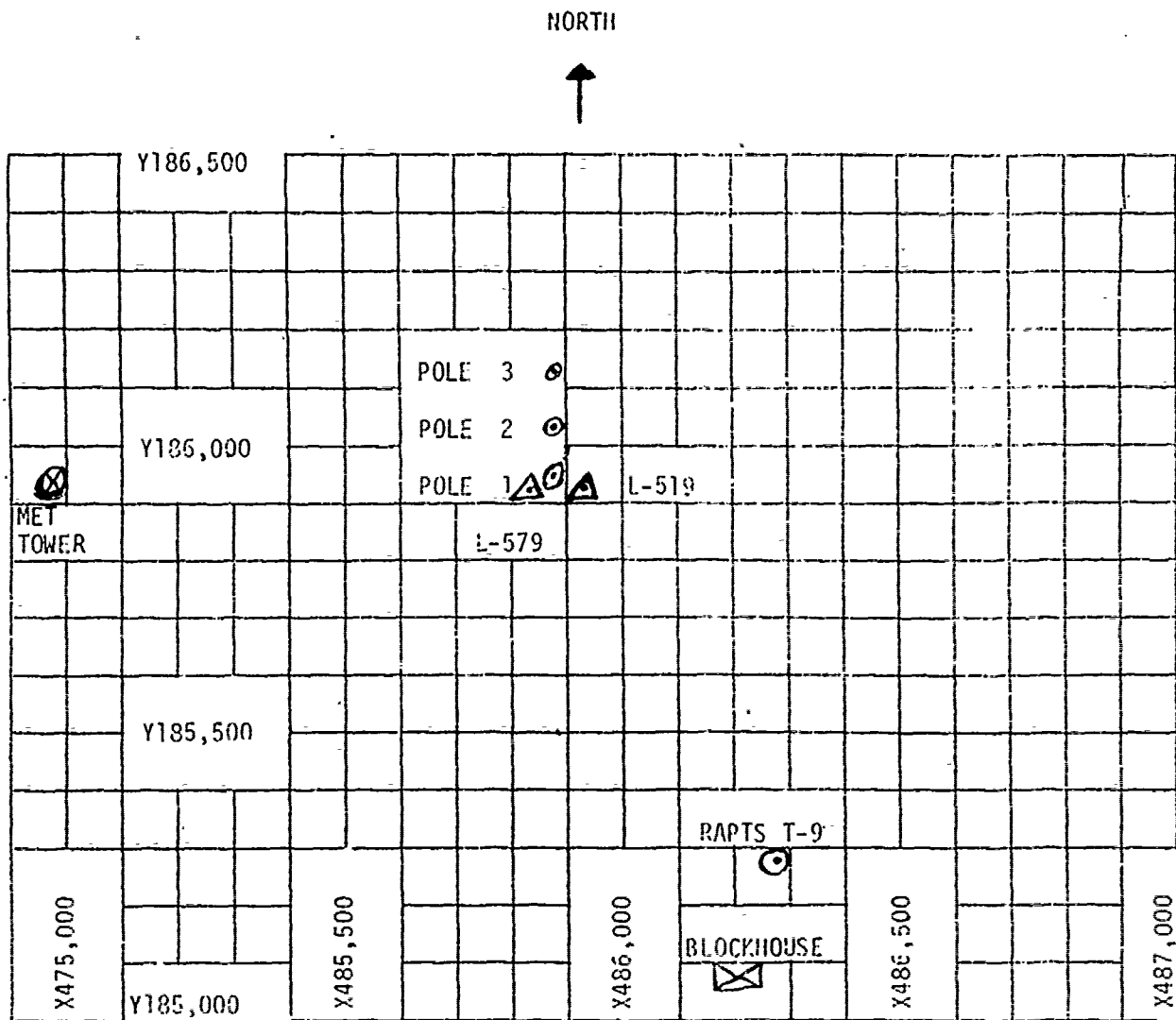
SITE AND ALTITUDE

LC-33 2Km
Nick 2Km

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 78,500 feet in 500-foot increments.

SITE AND TIME

WSD 1130 MST



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft.
 - (b) Pole #2 - 53.0 ft.
 - (c) Pole #3 - 83.6 ft.
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

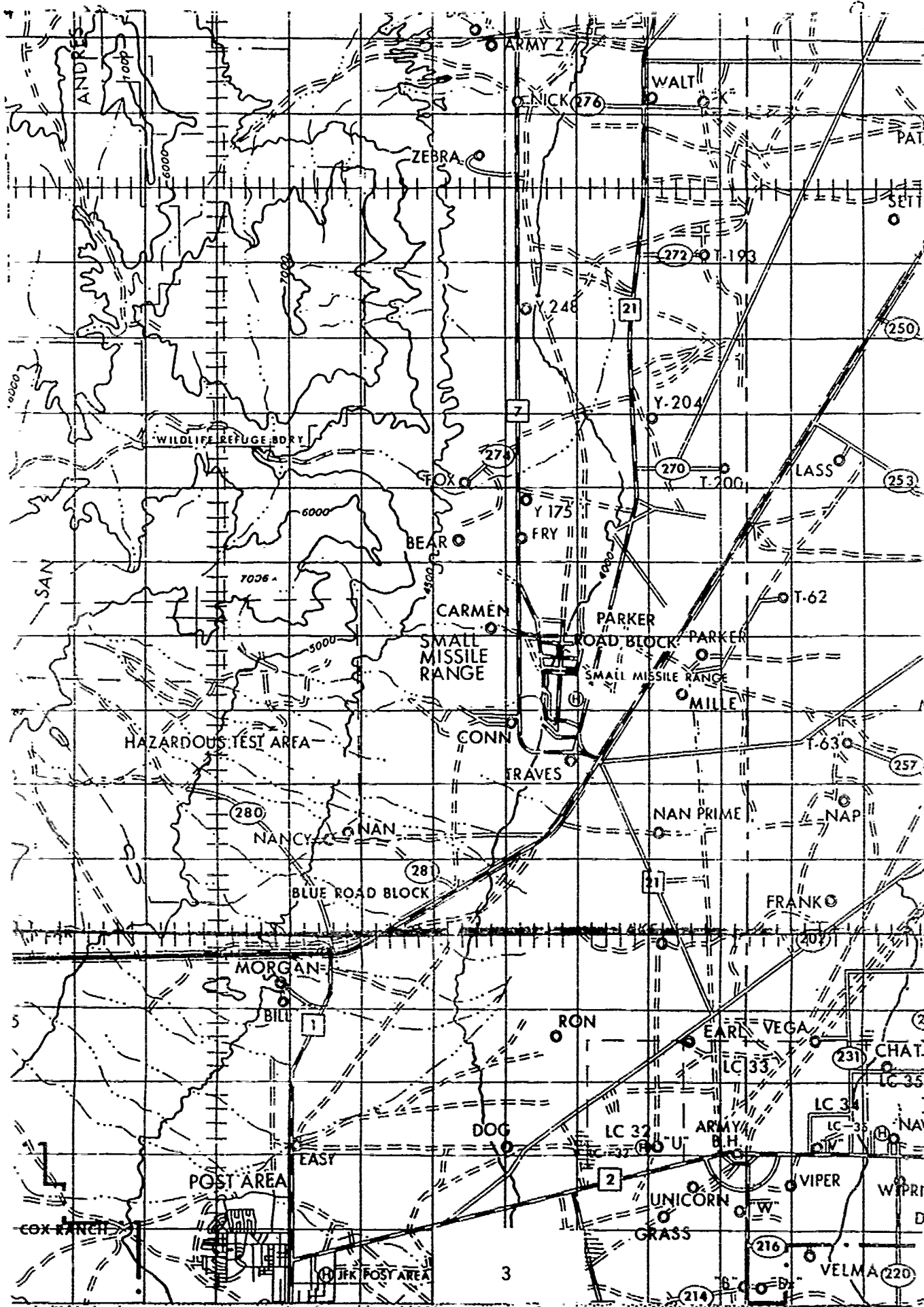


TABLE 1. Surface Observations taken at 1139 MST,
18 December 1979, at LC-33, 19304D-MLRS,
Missile Number 1130, Round Number V-99.

ELEVATION	3977.30	FT/MSL
PRESSURE	889.2	MBS
TEMPERATURE	6.4	°C
RELATIVE HUMIDITY	55	%
DEW POINT	-2.0	°C
DENSITY	1104	GM/M ³
WIND SPEED	CALM	KTS
WIND DIRECTION		DEGREES
CLOUD COVER	.1	Ci

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	MISG	01	-30	174	02	-30		CALM
-20	MISG	01	-20	177	02	-20		CALM
-10	MISG	01	-10	160	02	-10		CALM
0.0	MISG	01	0.0	160	02	0.0		CALM
+10	MISG	01	+10	160	02	+10		CALM

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 K.	T-TIME SEC	DIR DEG	SPEED KTS
-30	117	02	-30	127	03
-20	114	02	-20	126	03
-10	107	03	-10	125	02
0.0	102	03	0.0	128	03
+10	102	03	+10	128	02

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	125	02	-30	107	02
-20	125	02	-20	107	02
-10	125	02	-10	107	02
0.0	125	03	0.0	107	02
+10	128	03	+10	107	02

TABLE 4

RELEASED FROM LC-33

DATE 18 December 1979

TIME 1120 MST

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

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL.

[illegible][illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM LC-33

DATE 18 December 1979

TIME 1139 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

[illegible][illegible][illegible]

TIME 1139 MST

TRACKER COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.57

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL XX OR FEET AGL .

[illegible][illegible][illegible]

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
3520020535
WHITE SANDS
TABLE 7

STATION ALTITUDE 3989.00 FEET MSL
18 JUL 79
ASCENSION NO. 545

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEW-POINT CENTIGRADE	
890.0	3989.0	5.8	-3.3	32.0
878.8	4329.8	6.4	-3.5	48.0
868.0	4661.6	4.0	-2.0	62.0
850.0	5222.4	5.0	-4.3	51.0
837.2	5629.7	5.7	-6.2	36.0
816.6	6301.5	7.9	-11.4	24.0
776.4	7670.0	8.7	-14.3	18.0
727.6	9428.4	7.5	-17.4	15.0
700.0	10468.4	4.5	-11.1	31.0
555.2	16514.2	-9.4	-23.3	31.0
538.0	17313.6	-9.6	-29.4	18.0
522.0	18078.9	-10.5	-30.0	17.0
505.6	1873.8	-12.4	-32.3	17.0
500.0	19163.7	-12.2	-31.0	18.0
481.8	20092.6	-14.2	-26.9	33.0
400.0	24433.7	-25.7	-26.3	30.0
370.2	26463.4	-30.3	-39.3	40.0
350.0	27767.7	-33.8	-40.4	51.0
336.8	28651.7	-35.6	-39.2	69.0
317.6	29986.1	-39.2	-43.0	61.0
300.0	31267.4	-41.0	-47.3	49.0
293.0	31794.8	-42.1	-49.0	43.0
250.0	35283.0	-48.5		
200.0	40324.4	-57.4		
177.8	42461.1	-59.3		
168.6	43559.3	-58.3		
156.0	45165.8	-59.6		
150.0	45975.6	-59.1		
136.4	47932.6	-60.8		
128.8	49101.9	-63.2		
118.2	50839.7	-64.2		
110.0	52293.4	-63.0		
100.0	54214.7	-65.5		
80.6	58516.8	-68.1		
78.0	59171.4	-65.3		
70.0	61342.3	-66.1		
50.0	68132.7	-63.0		
45.4	70093.3	-63.5		
33.8	76162.5	-56.5		
30.0	78688.2	-56.0		

UPPER AIR DATA
3520920535
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
18 DEC. 79 1130 HRS MST
ASPERISION NO. 535

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND FT/STS	DIRECTION DEGREES (TH)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	890.0	5.8	-3.3	52.0	1109.2	651.3		0.0	1.000270
4000.0	889.6	5.0	-3.3	51.9	1108.7	651.4		257.4	1.000270
4500.0	873.2	5.2	-3.1	55.2	1090.7	650.6		257.4	1.000267
5000.0	857.1	4.6	-3.6	55.4	1072.6	649.9		257.4	1.000262
5500.0	841.3	5.5	-6.8	40.8	1050.1	650.0		257.4	1.000252
6000.0	825.8	6.9	-9.7	29.4	1025.8	652.4		259.9	1.000243
6500.0	810.6	8.0	-11.0	23.1	1003.2	653.0		261.3	1.000235
7000.0	795.0	8.3	-12.7	20.9	983.9	653.9		250.2	1.000230
7500.0	781.3	8.6	-13.8	18.7	965.0	654.3		251.7	1.000225
8000.0	767.0	8.5	-14.8	17.4	947.9	654.1		258.7	1.000220
8500.0	753.0	8.1	-15.7	16.6	931.7	653.7		262.6	1.000216
9000.0	739.2	7.8	-16.6	15.7	915.8	653.3		267.2	1.000212
9500.0	725.7	7.3	-16.7	16.1	900.0	652.7		270.2	1.000209
10000.0	712.3	5.9	-13.2	23.8	888.4	651.1		273.0	1.000209
10500.0	699.2	4.4	-11.2	31.0	870.2	649.5		272.8	1.000208
11000.0	685.9	3.3	-12.2	31.0	863.2	648.1		271.3	1.000204
11500.0	672.9	2.1	-13.2	31.0	850.5	646.8		267.6	1.000200
12000.0	660.1	1.0	-14.2	31.0	837.9	645.4		264.8	1.000197
12500.0	647.6	-0.2	-15.2	31.0	825.5	644.0		263.1	1.000193
13000.0	635.3	-1.3	-16.2	31.0	813.3	642.6		261.2	1.000190
13500.0	623.2	-2.5	-17.2	31.0	801.3	641.3		257.0	1.000187
14000.0	611.4	-3.6	-18.2	31.0	789.3	639.9		253.7	1.000183
14500.0	599.8	-4.8	-19.3	31.0	777.9	638.5		252.3	1.000180
15000.0	588.4	-5.9	-20.3	31.0	766.4	637.1		252.2	1.000177
15500.0	577.2	-7.1	-21.3	31.0	755.2	635.7		252.2	1.000174
16000.0	566.3	-8.2	-22.3	31.0	744.1	634.3		249.7	1.000171
16500.0	555.3	-9.4	-23.3	31.0	733.2	632.9		247.3	1.000168
17000.0	544.7	-9.5	-26.7	23.1	719.4	632.7		240.4	1.000164
17500.0	534.1	-9.8	-29.7	17.8	706.3	632.3		247.5	1.000160
18000.0	523.5	-10.4	-30.6	17.1	694.0	631.0		243.7	1.000157
18500.0	513.4	-11.5	-31.6	17.0	683.3	630.3		230.4	1.000155
19000.0	503.3	-12.3	-32.0	17.4	671.9	629.3		230.7	1.000152
19500.0	493.3	-12.9	-27.4	23.4	660.2	628.6		231.9	1.000150
20000.0	483.6	-14.0	-27.2	31.5	649.7	627.3		233.4	1.000148
20500.0	473.8	-15.2	-27.7	33.3	639.7	625.8		233.8	1.000146
21000.0	464.2	-16.5	-29.8	33.6	629.8	624.3		237.5	1.000144
21500.0	454.8	-17.8	-29.9	33.9	620.1	622.7		233.4	1.000141
22000.0	445.6	-19.0	-30.8	34.3	610.6	621.2		233.5	1.000139
22500.0	436.3	-20.3	-31.8	34.6	601.2	619.6		238.2	1.000136
23000.0	427.7	-21.6	-32.9	34.9	592.0	618.0		237.4	1.000134

UPPER AIR DATA
3520020555
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
18 DEC. 79
ASCENSION NO. 555

GEODETIC COORDINATES
32.49043 LAT DEG
106.37033 LON DEG

TABLE 8 (CONT)

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	419.0	-22.8	35.3	593.0	616.5	256.7	35.3	1.000132
24000.0	410.5	-24.1	35.6	574.1	614.9	255.6	38.1	1.000130
24500.0	402.2	-25.4	35.9	565.3	613.3	255.6	40.7	1.000128
25000.0	393.8	-26.6	36.8	556.4	611.6	255.5	42.7	1.000126
25500.0	385.6	-27.9	37.9	547.6	610.2	255.0	44.3	1.000123
26000.0	377.5	-29.1	39.0	538.9	608.6	254.0	45.2	1.000121
26500.0	369.5	-30.4	40.3	530.3	607.0	252.4	46.6	1.000119
27000.0	361.8	-31.7	44.5	521.9	605.4	251.3	48.7	1.000117
27500.0	354.1	-33.1	48.7	513.7	603.7	250.2	51.1	1.000116
28000.0	346.5	-34.5	55.7	505.2	602.2	249.2	53.8	1.000114
28500.0	339.0	-35.9	65.9	496.4	600.9	248.6	56.0	1.000112
29000.0	331.7	-36.5	66.9	486.2	599.3	244.1	58.2	1.000110
29500.0	324.5	-37.9	63.9	480.4	597.6	242.3	60.4	1.000108
30000.0	317.4	-39.2	60.9	472.6	595.9	240.9	62.6	1.000106
30500.0	310.4	-39.9	56.2	463.6	595.0	240.6	64.2	1.000104
31000.0	303.8	-40.6	51.5	454.8	594.1	240.9	65.6	1.000102
31500.0	296.9	-41.5	46.4	446.4	593.0	241.6	66.0	1.000100
32000.0	290.3	-42.5	40.5**	438.3	591.7	242.3	66.6	1.000098
32500.0	283.7	-43.4	34.3**	430.2	590.5	243.2	68.4	1.000096
33000.0	277.4	-44.5	28.1**	422.2	589.3	243.7	70.3	1.000094
33500.0	271.1	-45.2	22.0**	414.4	588.2	243.7	72.4	1.000092
34000.0	265.0	-46.1	15.8**	406.7	587.0	243.5	72.9	1.000091
34500.0	259.1	-47.1	9.7**	399.2	585.8	243.2	71.1	1.000089
35000.0	253.2	-48.0	3.5**	391.8	584.8	242.9	70.0	1.000087
35500.0	247.5	-48.9		384.4	583.4	242.8	69.6	1.000086
36000.0	241.7	-49.8		377.1	582.2	242.5	70.9	1.000084
36500.0	236.1	-50.8		369.9	580.9	242.1	74.0	1.000082
37000.0	230.6	-51.7		362.8	579.7	242.0	76.3	1.000081
37500.0	225.2	-52.7		355.9	578.5	242.2	76.6	1.000079
38000.0	220.0	-53.6		349.1	577.2	242.4	76.7	1.000078
38500.0	214.9	-54.5		342.4	576.0	242.8	74.9	1.000076
39000.0	209.9	-55.5		335.9	574.8	243.1	72.9	1.000075
39500.0	205.0	-56.4		329.5	573.5	243.3	69.0	1.000073
40000.0	200.2	-57.4		323.2	572.3	243.5	65.1	1.000072
40500.0	195.3	-57.9		316.3	571.0	243.4	60.2	1.000070
41000.0	190.6	-58.4		309.5	571.0	243.2	55.1	1.000069
41500.0	186.2	-58.9		302.8	570.3	242.9	50.9	1.000067
42000.0	181.8	-59.3		296.2	569.6	242.5	46.6	1.000066
42500.0	177.5	-59.7		289.7	569.1	242.2	43.2	1.000065
43000.0	173.2	-59.1		281.9	570.0	241.9	39.7	1.000063

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

STATION ALTITUDE 9989.00 FEET MSL
18 DEC. 79 1130 HRS MSL
ASCENSION NO. 555

UPPER AIR DATA
3520020555
WHITE SAILS

GEODETIC COORDINATES
32.40043 LAT DEG
106.57033 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KIOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KIOTS	
43500.0	169.1	-58.4			274.3	570.9	242.0	36.4	1.000061
44000.0	165.0	-58.7			266.1	570.0	242.7	33.2	1.000060
44500.0	161.1	-59.1			262.1	570.0	243.5	30.2	1.000058
45000.0	157.3	-59.5			256.4	569.5	244.5	28.4	1.000057
45500.0	153.5	-59.4			250.2	569.0	245.7	26.7	1.000056
46000.0	149.8	-59.1			243.9	569.9	246.3	25.3	1.000054
46500.0	146.2	-59.6			238.5	569.4	246.7	23.9	1.000053
47000.0	142.7	-60.0			233.2	568.8	247.0	22.7	1.000052
47500.0	139.3	-60.4			228.1	568.2	247.3	21.6	1.000051
48000.0	135.9	-60.9			223.2	567.5	247.7	20.6	1.000050
48500.0	132.7	-62.0			218.0	566.1	248.1	19.6	1.000049
49000.0	129.4	-63.0			214.6	564.8	248.6	18.7	1.000048
49500.0	126.3	-63.4			209.8	564.2	249.2	18.2	1.000047
50000.0	123.2	-63.7			204.8	563.8	249.9	17.8	1.000046
50500.0	120.2	-64.0			200.2	563.4	250.5	18.1	1.000045
51000.0	117.3	-64.1			195.4	563.2	251.1	18.6	1.000044
51500.0	114.4	-63.9			190.5	563.5	251.2	17.3	1.000042
52000.0	111.6	-63.7			185.6	563.8	251.0	14.8	1.000041
52500.0	108.9	-63.8			181.2	563.7	252.2	12.2	1.000040
53000.0	106.2	-64.3			177.2	563.0	259.7	9.4	1.000039
53500.0	103.6	-64.8			173.2	562.3	273.4	6.8	1.000039
54000.0	101.1	-65.3			169.4	561.7	292.1	6.1	1.000038
54500.0	98.6	-65.7			165.5	561.2	312.5	6.1	1.000037
55000.0	96.1	-66.0			161.7	560.7	324.1	5.9	1.000036
55500.0	93.8	-66.3			157.9	560.3	332.3	5.1	1.000035
56000.0	91.4	-66.6			154.2	559.9	339.0	4.4	1.000034
56500.0	89.2	-66.9			150.6	559.5	335.5	3.7	1.000034
57000.0	87.0	-67.2			147.1	559.1	330.0	3.1	1.000033
57500.0	84.8	-67.5			143.7	558.7	323.1	2.5	1.000032
58000.0	82.7	-67.8			140.3	558.3	316.5	1.9	1.000031
58500.0	80.7	-68.1			137.0	557.9	301.2	2.2	1.000031
59000.0	78.7	-68.0			132.3	550.7	291.3	3.0	1.000029
59500.0	76.7	-65.4			128.7	561.5	288.7	3.9	1.000029
60000.0	74.8	-65.6			125.6	561.2	291.6	5.2	1.000028
60500.0	73.0	-65.3			122.6	561.0	293.5	6.4	1.000027
61000.0	71.2	-66.0			119.7	560.7	284.9	8.3	1.000027
61500.0	69.5	-66.0			116.8	560.7	279.0	10.2	1.000026
62000.0	67.8	-65.8			113.6	561.0	277.9	11.5	1.000025
62500.0	66.1	-65.6			110.9	561.3	278.3	11.9	1.000025
63000.0	64.5	-65.3			108.1	561.0	278.7	12.3	1.000024

STATION ALTITUDE 9989.00 FEET MSL
18 DEC. 79 1130 HRS MSF
ASCENSION NO. 533

UPPER AIR DATA
3520020535
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNUTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNUTS	INDEX OF REFRACTION
63500.0	62.9	-65.1		105.3	501.9	267.7	10.8	1.000023
64000.0	61.0	-64.9		102.0	502.2	299.7	9.6	1.000023
64500.0	59.9	-64.7		100.0	502.5	308.6	9.0	1.000022
65000.0	58.4	-64.4		97.5	502.8	311.2	8.8	1.000022
65500.0	57.0	-64.2		95.0	503.1	314.0	8.6	1.000021
66000.0	55.6	-64.0		92.6	503.4	314.8	7.8	1.000021
66500.0	54.2	-63.7		90.2	503.8	315.7	7.1	1.000020
67000.0	52.9	-63.5		87.9	504.1	320.6	6.2	1.000020
67500.0	51.6	-63.3		85.6	504.4	331.1	5.3	1.000019
68000.0	50.3	-63.1		83.5	504.7	343.9	4.5	1.000019
68500.0	49.1	-63.1		81.4	504.6	347.8	3.3	1.000018
69000.0	47.9	-63.2		79.5	504.5	356.3	2.1	1.000018
69500.0	46.7	-63.3		77.6	504.3	350.9	1.9	1.000017
70000.0	45.6	-63.5		75.8	504.1	338.4	2.5	1.000017
70500.0	44.5	-63.0		73.8	504.7	330.6	3.1	1.000016
71000.0	43.4	-62.5		71.8	505.5	328.9	3.7	1.000016
71500.0	42.4	-61.9		69.9	506.3	328.2	4.2	1.000016
72000.0	41.4	-61.3		68.1	507.0	347.9	4.6	1.000015
72500.0	40.4	-60.7		66.3	507.8	351.9	2.9	1.000015
73000.0	39.4	-60.2		64.5	508.6	348.0	1.2	1.000014
73500.0	38.5	-59.6		62.8	509.3	96.1	1.1	1.000014
74000.0	37.6	-59.0		61.1	570.1	110.0	3.4	1.000014
74500.0	36.7	-58.4		59.5	570.9	112.8	5.7	1.000013
75000.0	35.8	-57.9		57.9	571.6	121.6	6.7	1.000013
75500.0	34.9	-57.3		56.4	572.4	137.4	7.0	1.000013
76000.0	34.1	-56.7		54.9	573.1	150.9	7.7	1.000012
76500.0	33.3	-56.4		53.5	573.5	151.8	8.4	1.000012
77000.0	32.5	-56.3		52.2	573.8	151.5	8.9	1.000012
77500.0	31.7	-56.2		51.0	573.8			1.000011
78000.0	31.0	-56.1		49.8	573.9			1.000011
78500.0	30.3	-56.0		48.6	574.0			1.000011

STATION ALTITUDE 3989.00 FEET MSL
18 DEC. 79 1130 HRS MST
ASCENSION NO. 535

MANDATORY LEVELS
3520020535
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 9

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5219.	5.0	-4.3	51.	257.4	1.3
800.0	6852.	8.2	-12.4	22.	257.9	3.4
750.0	8600.	8.1	-15.9	16.	263.9	12.3
700.0	10458.	4.5	-11.1	31.	272.9	13.7
650.0	12422.	.1	-15.0	31.	263.3	23.8
600.0	14507.	-4.7	-19.2	31.	252.3	15.2
550.0	16732.	-9.5	-24.9	27.	246.9	12.2
500.0	19137.	-12.2	-31.6	18.	251.1	24.4
450.0	21749.	-18.4	-30.3	34.	258.7	29.4
400.0	24592.	-25.7	-36.3	30.	256.6	41.2
350.0	27717.	-33.8	-40.4	31.	249.7	52.4
300.0	31205.	-41.0	-47.5	49.	241.2	65.8
250.0	35206.	-48.5			242.0	69.9
200.0	39928.	-57.4			243.5	65.1
175.0	42680.	-59.4			242.0	41.3
150.0	45852.	-59.1			246.2	25.4
125.0	49565.	-63.5			249.5	18.1
100.0	54047.	-65.5			299.8	6.0
80.0	58472.	-67.5			297.9	2.4
70.0	61132.	-66.1			281.3	9.5
60.0	64210.	-64.7			308.1	9.0
50.0	67877.	-63.0			344.5	4.3
40.0	72593.	-60.5			334.2	2.4
30.0	78553.	-56.0				

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