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19319A MLRS MISSILE. NUMBERS BN-183 BN-155 BN-164 ROUND
NUMBERS V-405/PQT-... (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER JAN 83
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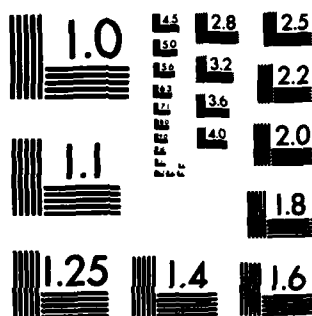
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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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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 19319A MLRS, Missile Number BN-183, BN-155, BN-164, Round Number V-405/PQT-103, V-406/PQT-104, V-407/PQT-105 are presented in tabular form. K		

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INTRODUCTION

19319A MURS, Missile Numbers BU-183, BU-155, and BU-164, Round Numbers V-405/PQT-103, V-406/PQT-104, and V-407/PQT-105, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1539:49, 1539:53, and 1539:58 MST, 29 Jan 1983. The scheduled launch times were 1539:00, 1539:04.5, and 1539:09 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. Observation

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m³), wind direction and speed, and cloud cover were made at the LC-33 Wet 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 Pilot-balloon observations at:

SITE AND ALTITUDE

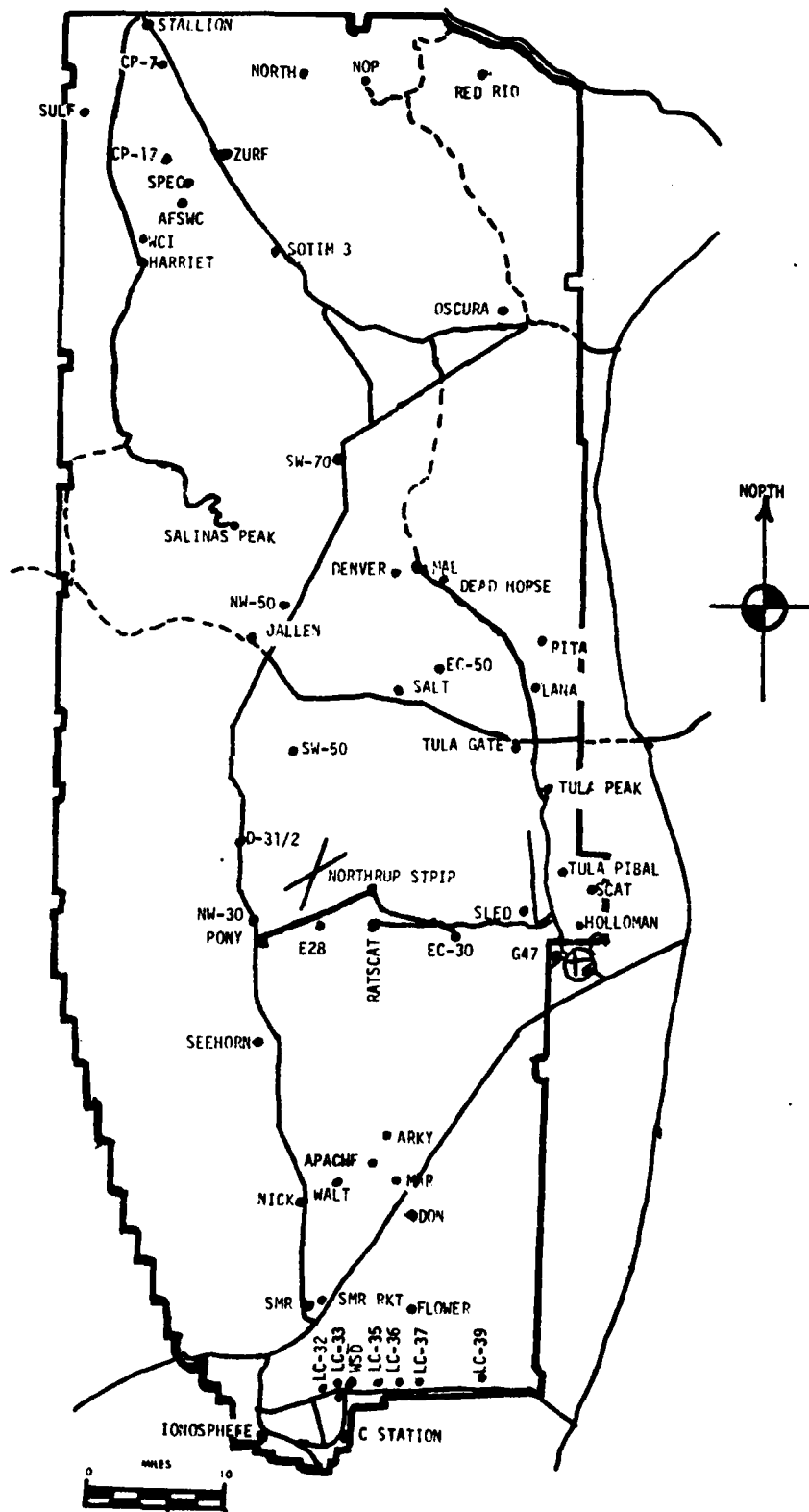
USD	2 km
DDH	2 km

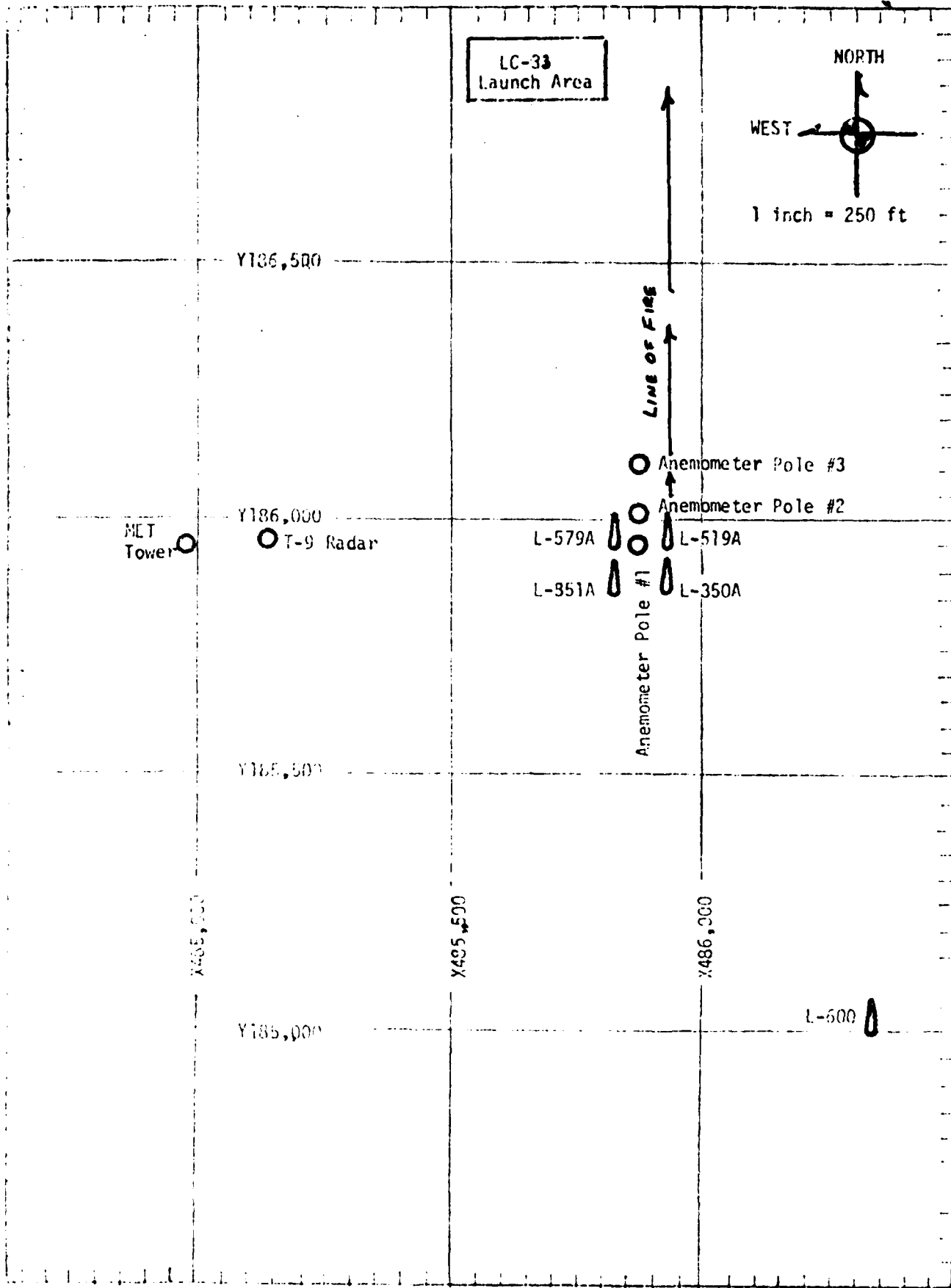
(2) Air structure data (rawinsonde) were collected at the following Wet Sites:

SITE AND TIME

USD	1130 MST
USD	1330 MST
USD	1530 MST

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1

STATION LC-33 E1											
X= 104,082.64 Y=105,957.73 H=3005.00											
TABLE 1											
DATE 22		Jan		03							
DAY		MONTH		YEAR							
TIME	M	M	---	PRESSURE	TEMPERATURE	DEW POINT	RELATIVE	DENSITY	DIRECTION	WIND	VISIBIL-
				mbs	°C	°C	HUMIDITY	gm/m ³	degs	SPEED	ITY
							%			kts	

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS			
	1st LAYER		2nd LAYER		3rd LAYER					
	AMT	TYPE	HGT	AMT	TYPE	HGT				
	2	SC	5,500	2	AC	12,000	5	CS	25,000	4 ALDS

PSYCHROMETRIC COMPUTATION

TIME:	15.40	
DRY BULB TEMP.	13.0	
WET BULB TEMP.	6.5	
WET BULB DEPR.	7.3	
DEW POINT	-1.2	
RELATIVE HUMID.	36	

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 X485,874.29 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 KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	267	13	-30	243	09	-30	256	16
-20	255	12	-20	240	03	-20	263	15
-10	273	12	-10	265	08	-10	273	13
0.0	273	13	0.0	270	10	0.0	269	14
+10	273	12	+10	268	10	+10	265	15

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 KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	290	11	-30	260	12
-20	291	11	-20	270	12
-10	273	09	-10	243	11
0.0	297	10	0.0	266	16
+10	295	11	+10	266	14

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 KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	276	15	-30	279	16
-20	277	16	-20	269	14
-10	274	16	-10	270	14
0.0	275	16	0.0	266	14
+10	272	15	+10	260	14

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 28 Jan 1983

SITE: USD

TIME: 1540 MST
WSTM COORDINATES:

X= 488,852.29

Y= 134,982.45

H= 3,993.75

SITE: DON

TIME: 1540 MST
WSTM COORDINATES:

X= 511,988.37

Y= 247,396.36

H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	260	18
150	268	23
210	262	25
270	273	25
330	273	22
390	262	19
500	268	22
650	268	24
800	273	21
950	291	26
1150	297	27
1350	300	28
1550	320	32
1750	335	35
2000	329	52

Data obtained from a Nike-Hercules
Radar Tracked Pilot-balloon obser-
vation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	260	10
150	269	21
210	272	23
270	275	23
330	278	22
390	280	24
500	283	27
650	288	33
800	294	34
950	298	31
1150	308	25
1350	316	25
1550	323	26
1750	334	30
2000	346	28

Data obtained from a single Theodolite
Tracked Pilot-balloon observation.

AIMING AND T-TIME COMPUTER MET MESSAGES

28 January 1983

WSD 1130 MST

METCM1324064

281850122875

00480020 28630875

01485024 28420364

02494025 28100338

03503023 27720798

04531026 27270750

05545041 27040705

06530044 26880662

07524047 26460621

08541043 26060582

09530062 26030545

10503074 25970510

11514036 25520478

12525087 24910431

WSD 1330 MST

METCM1324064

282050122873

00444030 28960373

01435033 28600363

02496022 28320837

03498026 27990798

04528031 27590750

05533037 27330705

06524037 26920662

07525045 26490621

08537066 26350582

09539067 26330546

10540062 25950512

11529067 25480479

12519080 24770432

WSD 1530 MST

METCM1324064

282250122874

00462018 28880874

01469021 28650864

02493018 28360838

03486026 27950799

04542029 27530751

05538039 27320706

06574063 27580663

07555061 27230623

08541068 26810585

09531072 26330549

10525072 25860514

11521069 25380481

12509072 24740434

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA

U280020044
WHITE SANDS
TAP 6

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 83
ASCENSION NO. 44
1130 HRS MST

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
874.6	3989.0	12.5	.3	43.0
871.4	4089.7	11.4	-5.1	31.0
850.0	4768.3	8.6	-3.6	42.0
834.0	5282.6	6.6	-3.3	49.0
793.0	6633.2	2.9	-3.4	63.0
742.5	8369.5	-1.9	-4.9	80.0
713.5	9407.6	-3.9	-8.7	69.0
700.0	9904.4	-2.8	-11.0	53.0
687.3	10381.3	-2.8	-14.2	41.0
665.5	11219.1	-3.9	-19.3	29.0
627.9	12715.9	-8.0	-24.1	26.0
571.8	15070.9	-13.8	-30.4	23.0
531.1	16929.4	-12.4	-32.3	17.0
522.2	17354.5	-11.7	-32.4	16.0
500.0	18441.8	-15.0	-34.5	17.0
457.8	20603.8	-20.9	-38.3	19.0
400.0	23443.9	-28.1	-41.9	25.0
368.5	25785.2	-27.1	-42.7	21.0
361.7	26226.6	-27.6	-43.1	21.0
328.0	28516.9	-32.9	-48.1	20.0
320.7	29038.3	-32.9	-48.5	19.0
314.3	29508.1	-30.0	-46.1	19.0
307.9	29992.0	-28.5	-44.8	19.0
300.0	30606.0	-27.9	-44.3	19.0
276.9	32492.4	-30.2	-46.2	19.0
270.9	33006.0	-30.0	-46.1	19.0
250.0	34878.9	-32.7	-48.4	19.0
241.8	35650.4	-34.1	-49.6	19.0
200.0	39949.8	-42.7		
174.0	42992.0	-51.0		
150.0	46119.0	-58.9		
138.1	47814.7	-62.6		
122.7	50206.3	-64.9		
120.3	50605.4	-63.2		
114.1	51679.3	-63.0		
112.6	51948.7	-61.9		
106.5	53086.7	-61.5		
100.0	54367.2	-64.0		
85.9	57410.6	-68.0		
81.1	58550.0	-68.4		

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
0280020044
WHITE SANDS
TABLE - CONT'D

STATION ALTITUDE 3999.00 FEET MSL
28 JAN. 83 1130 HRS MST
ASCENSION NO. 44

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
78.0 59326.3	-65.9		
72.0 60920.8	-68.4		
70.0 61481.2	-66.5		
66.8 62423.0	-63.6		
61.2 64202.0	-62.6		
58.2 65225.9	-62.6		
50.0 68319.9	-62.6		
42.2 71793.6	-60.5		

STATION ALTITUDE 3989.00 FEET MSL
 28 JAN. 23 1130 HRS MST
 ASCENSION NO. 44

UPPER AIR DATA
 0280020044
 WHITE SANDS
 TAP 1

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	874.6	12.5	.3	43.0	1063.7	659.3	270.0	20.0	1.000266
4000.0	874.3	12.4	-.3	41.7	1063.9	659.1	270.1	20.0	1.000265
4500.0	958.4	9.7	-4.0	37.7	1055.1	655.9	273.5	21.9	1.000257
5000.0	842.8	7.7	-3.4	45.2	1043.1	653.6	276.4	23.8	1.000255
5500.0	827.3	6.0	-3.3	51.3	1030.1	651.6	278.9	25.7	1.000253
6000.0	812.0	4.6	-3.3	56.4	1016.0	650.0	281.2	25.8	1.000250
6500.0	797.0	3.3	-3.4	61.6	1002.1	648.4	284.0	23.4	1.000247
7000.0	782.1	1.9	-3.7	66.6	988.3	646.8	288.0	22.9	1.000244
7500.0	767.4	.5	-4.0	71.5	974.7	645.2	292.3	23.1	1.000240
8000.0	753.0	-.9	-4.5	76.4	961.3	643.5	297.7	25.3	1.000237
8500.0	738.8	-2.2	-5.4	78.6	947.7	642.0	302.2	27.8	1.000232
9000.0	724.7	-3.1	-7.2	75.3	933.2	640.8	304.5	32.3	1.000226
9500.0	711.0	-3.7	-9.1	66.0	917.7	640.0	306.2	36.8	1.000220
10000.0	697.4	-2.8	-11.6	50.6	897.5	641.0	304.7	40.4	1.000213
10500.0	684.2	-3.0	-14.8	39.3	881.2	640.7	303.1	43.7	1.000206
11000.0	671.1	-3.6	-17.8	32.1	866.7	639.9	300.1	44.2	1.000201
11500.0	658.3	-4.7	-20.2	28.4	853.5	638.6	297.1	45.0	1.000197
12000.0	645.6	-6.0	-21.8	27.4	841.5	636.9	294.3	46.4	1.000193
12500.0	633.2	-7.4	-23.4	26.4	829.6	635.2	293.5	48.3	1.000190
13000.0	620.9	-8.7	-24.8	25.6	817.5	633.7	294.2	49.3	1.000186
13500.0	608.7	-9.9	-26.2	25.0	805.2	632.2	298.2	44.9	1.000183
14000.0	596.8	-11.2	-27.5	24.4	793.2	630.7	301.8	40.7	1.000180
14500.0	585.1	-12.4	-28.8	23.7	781.3	629.2	303.9	40.7	1.000177
15000.0	573.6	-13.6	-30.2	23.1	769.7	627.7	303.5	47.2	1.000174
15500.0	562.3	-13.5	-30.8	21.6	754.1	627.9	302.8	54.3	1.000171
16000.0	551.2	-13.1	-31.2	20.0	738.1	628.3	302.2	61.6	1.000167
16500.0	540.3	-12.7	-31.8	18.4	722.5	628.8	297.6	64.9	1.000163
17000.0	529.6	-12.3	-32.3	16.8	707.1	629.3	289.8	66.3	1.000160
17500.0	519.2	-12.1	-32.7	16.1	692.7	629.5	284.2	70.0	1.000156
18000.0	508.9	-13.7	-33.6	16.6	683.0	627.6	284.5	76.2	1.000154
18500.0	498.8	-15.2	-34.6	17.1	673.4	625.8	285.7	79.3	1.000152
19000.0	488.8	-16.5	-35.5	17.5	663.3	624.2	286.8	80.4	1.000149
19500.0	478.9	-17.9	-36.3	18.0	653.5	622.5	287.6	79.1	1.000147
20000.0	469.5	-19.2	-37.2	18.4	643.8	620.8	288.8	77.7	1.000145
20500.0	459.4	-20.6	-38.1	18.9	634.2	619.2	290.1	76.4	1.000143
21000.0	450.4	-21.8	-39.7	19.7	624.1	617.7	291.4	80.7	1.000140
21500.0	441.1	-22.9	-39.2	20.7	613.9	616.4	292.5	85.1	1.000138
22000.0	432.0	-24.0	-39.6	21.6	603.9	615.0	292.9	89.1	1.000136
22500.0	423.1	-25.1	-40.3	22.5	594.1	613.6	293.3	92.4	1.000133
23000.0	414.5	-26.2	-40.9	23.4	584.5	612.2	293.5	92.0	1.000131

STATION ALTITUDE 3989.00 F. FT MSL
28 JAN. 83 1130 HRS MST
ASCENSION NO. 44

UPPER AIR DATA
0280020044
WHITE SANDS
TABLE-7 cont'd

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TH)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	405.8	-27.3	-41.5	24.4	575.0	610.8	293.7	93.0	1.000129
24000.0	397.4	-28.0	-42.0	24.7	564.6	610.0	293.7	102.5	1.000127
24500.0	389.1	-27.8	-42.1	23.6	552.3	610.3	293.9	116.6	1.000124
25000.0	380.9	-27.5	-42.3	22.6	540.1	610.6	294.5	119.4	1.000121
25500.0	373.0	-27.2	-42.6	21.6	528.3	611.0	295.4	109.6	1.000119
26000.0	365.2	-27.3	-42.9	21.0	517.5	610.8	296.6	92.7	1.000116
26500.0	357.5	-28.2	-43.7	20.9	508.4	609.7	296.8	83.9	1.000114
27000.0	349.9	-29.4	-44.8	20.7	500.1	608.3	294.2	76.8	1.000112
27500.0	342.6	-30.5	-45.9	20.4	491.8	606.8	274.6	83.6	1.000110
28000.0	335.3	-31.7	-47.0	20.2	483.8	605.4			1.000108
28500.0	328.2	-32.9	-48.1	20.0	475.8	603.9			1.000106
29000.0	321.2	-32.9	-48.5	19.1	465.7	603.9			1.000104
29500.0	314.4	-30.0	-46.1	19.0	450.5	607.5			1.000101
30000.0	307.8	-28.5	-44.8	19.0	438.2	609.4			1.000098
30500.0	301.3	-28.0	-44.4	19.0	428.2	610.0			1.000096
31000.0	295.0	-28.4	-44.7	19.0	419.8	609.5			1.000094
31500.0	288.8	-29.0	-45.2	19.0	412.0	608.8			1.000092
32000.0	282.8	-29.6	-45.7	19.0	404.4	608.0			1.000091
32500.0	276.8	-30.2	-46.2	19.0	396.9	607.3			1.000089
33000.0	271.0	-30.0	-46.1	19.0	388.2	607.5			1.000087
33500.0	265.2	-30.7	-46.7	19.0	381.1	606.6			1.000085
34000.0	259.6	-31.4	-47.3	19.0	374.1	605.7			1.000084
34500.0	254.1	-32.2	-47.9	19.0	367.3	604.8			1.000082
35000.0	248.7	-32.9	-48.6	19.0	360.6	603.9			1.000081
35500.0	243.4	-33.8	-49.3	19.0	354.2	602.7			1.000079
36000.0	238.1	-34.8	-50.9	17.5**	348.0	601.5			1.000078
36500.0	232.9	-35.8	-52.9	15.2**	341.8	600.2			1.000076
37000.0	227.8	-36.8	-55.0	13.0**	335.8	598.9			1.000075
37500.0	222.8	-37.8	-57.3	10.8**	329.8	597.7			1.000074
38000.0	218.0	-38.8	-59.9	8.6**	324.0	596.4			1.000072
38500.0	213.2	-39.8	-62.9	6.4**	318.3	595.1			1.000071
39000.0	208.6	-40.8	-66.7	4.2**	312.7	593.8			1.000070
39500.0	204.0	-41.8	-72.6	2.0**	307.2	592.6			1.000068
40000.0	199.5	-42.8			301.8	591.2			1.000067
40500.0	195.0	-44.2			296.7	589.5			1.000066
41000.0	190.6	-45.6			291.8	587.7			1.000065
41500.0	186.3	-46.9			286.9	586.0			1.000064
42000.0	182.1	-48.3			282.1	584.2			1.000063
42500.0	178.0	-49.7			277.4	582.4			1.000062
43000.0	173.9	-51.0			272.8	580.6			1.000061

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

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 83 1130 HRS MST
ASCENSION NO. 44

UPPER AIR DATA
0280020044
WHITE SANDS
TARLE-7 COR+1

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	169.9	-52.3		267.9	579.0			1.000060
44000.0	165.9	-53.5		263.1	577.3			1.000059
44500.0	162.0	-54.8		258.4	575.7			1.000058
45000.0	158.2	-56.1		253.9	574.0			1.000057
45500.0	154.5	-57.3		249.3	572.3			1.000056
46000.0	150.8	-58.6		244.9	570.6			1.000055
46500.0	147.2	-59.7		240.3	569.1			1.000054
47000.0	143.7	-60.8		235.8	567.7			1.000053
47500.0	140.2	-61.9		231.3	566.2			1.000052
48000.0	136.8	-62.8		226.6	565.1			1.000050
48500.0	133.5	-63.3		221.6	564.4			1.000049
49000.0	130.2	-63.7		216.7	563.8			1.000048
49500.0	127.1	-64.2		211.9	563.1			1.000047
50000.0	124.0	-64.7		207.2	562.5			1.000046
50500.0	120.9	-65.6		201.1	563.9			1.000045
51000.0	118.0	-63.1		195.7	564.6			1.000044
51500.0	115.1	-63.0		190.9	564.7			1.000042
52000.0	112.3	-61.9		185.2	566.3			1.000041
52500.0	109.6	-61.7		180.6	566.5			1.000040
53000.0	107.0	-61.5		176.1	566.7			1.000039
53500.0	104.4	-62.3		172.4	565.7			1.000038
54000.0	101.8	-63.3		169.0	564.4			1.000038
54500.0	99.3	-64.2		165.6	563.2			1.000037
55000.0	96.9	-64.8		162.0	562.3			1.000036
55500.0	94.5	-65.5		158.5	561.4			1.000035
56000.0	92.2	-66.1		155.1	560.5			1.000035
56500.0	89.9	-66.8		151.8	559.6			1.000034
57000.0	87.7	-67.5		148.5	558.7			1.000033
57500.0	85.5	-68.0		145.2	558.0			1.000032
58000.0	83.4	-68.2		141.7	557.7			1.000032
58500.0	81.3	-68.4		138.3	557.5			1.000031
59000.0	79.3	-67.0		134.0	559.4			1.000030
59500.0	77.3	-66.2		130.1	560.5	251.2	80.0	1.000029
60000.0	75.4	-67.0		127.4	559.4	265.9	73.0	1.000028
60500.0	73.5	-67.7		124.7	558.4	269.4	58.8	1.000028
61000.0	71.7	-68.1		121.9	557.8	274.6	45.3	1.000028
61500.0	69.9	-66.4		117.9	560.1	276.9	44.2	1.000027
62000.0	68.2	-64.9		114.1	562.2	279.1	43.3	1.000026
62500.0	66.5	-63.6		110.6	564.0	281.1	44.6	1.000025
63000.0	64.9	-63.3		107.8	564.4	282.9	46.0	1.000025
						283.4	41.9	1.000024

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

GEODETIC COORDINATES
32.40043 LAT UEG
106.37033 LON UEG

UPPER AIR DATA
0280020044
WHITE SANDS
-APR-7 CONT'D

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 63 1130 HRS MST
ASCENSION NO. 44

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	63.4	-63.0			105.0	564.8	283.9	37.8	1.000023
64000.0	61.8	-62.7			102.3	565.1	283.0	27.1	1.000023
64500.0	60.3	-62.6			99.8	565.3	280.6	15.7	1.000022
65000.0	58.8	-62.6			97.4	565.3	271.7	7.0	1.000022
65500.0	57.4	-62.6			95.0	565.3	160.1	2.5	1.000021
66000.0	56.0	-62.6			92.7	565.3	117.8	11.5	1.000021
66500.0	54.7	-62.6			90.5	565.3	113.1	21.7	1.000020
67000.0	53.3	-62.6			88.3	565.3	110.7	34.2	1.000020
67500.0	52.1	-62.6			86.1	565.3	109.2	48.1	1.000019
68000.0	50.8	-62.6			84.0	565.3	109.6	49.1	1.000019
68500.0	49.6	-62.5			82.0	565.4	111.9	37.6	1.000018
69000.0	48.4	-62.2			79.9	565.8	124.2	15.9	1.000018
69500.0	47.2	-61.9			77.8	566.2	271.2	25.4	1.000017
70000.0	46.1	-61.6			75.8	566.7			1.000017
70500.0	45.0	-61.3			73.9	567.1			1.000016
71000.0	43.9	-61.0			72.0	567.5			1.000016
71500.0	42.8	-60.7			70.2	567.9			1.000016

STATION ALTITUDE 3989.00 FEET MSL
26 JAN. 83 1130 HRS MST
ASCENSION NO. 44

MANDATORY LEVELS
0280020094
WHITE SANDS
-0015.0

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4765.	8.6	-3.6	42.	275.1	22.9
800.0	6394.	3.5	-3.4	61.	283.4	23.9
750.0	8099.	-1.2	-4.6	77.	298.7	25.8
700.0	9895.	-2.8	-11.0	53.	305.0	39.7
650.0	11816.	-5.6	-21.2	28.	295.3	45.9
600.0	13854.	-10.8	-27.1	25.	300.8	41.8
550.0	16032.	-13.1	-31.3	20.	302.1	62.3
500.0	18416.	-15.0	-34.5	17.	285.5	78.9
450.0	20995.	-21.8	-38.7	20.	291.5	80.9
400.0	23805.	-28.1	-41.9	25.	293.7	99.4
350.0	26954.	-29.4	-44.8	21.	294.7	76.8
300.0	30546.	-27.9	-44.3	19.	9999.0	9999.0XX
250.0	34803.	-32.7	-48.4	19.	9999.0	9999.0XX
200.0	39854.	-42.7			9999.0	9999.0XX
175.0	42760.	-50.7			9999.0	9999.0XX
150.0	45994.	-58.9			9999.0	9999.0XX
125.0	49689.	-64.5			9999.0	9999.0XX
100.0	54199.	-64.0			9999.0	9999.0XX
80.0	58626.	-67.5			9999.0	9999.0XX
70.0	61270.	-66.5			246.0	84.3
60.0	64374.	-62.6			278.9	43.2
50.0	68063.	-62.6			279.9	14.0
					110.8	42.5

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

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
0280020045
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 83
ASCENSION NO. 45
1330 HRS MST

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE	REL. HUM.
MILLIBARS	MSL FEET	AIR DEWPOINT DEGREES CENTIGRADE	PERCENT
873.3	3989.0	15.5	37.0
869.2	4119.4	12.9	27.0
850.0	4732.3	10.3	37.0
789.7	6725.9	5.5	48.0
763.3	7634.8	2.7	57.0
733.7	8684.4	1.7	34.0
700.0	9924.7	-0.3	20.0
603.7	13742.3	-10.3	17.0
586.3	14481.7	-10.9	14.0
574.9	14979.8	-8.6	14.0
566.3	15364.1	-8.3	14.0
526.5	17211.6	-11.6	14.0
500.0	18503.1	-15.5	15.0
406.6	23495.1	-29.7	22.0
400.0	23879.0	-29.8	36.0
394.1	24226.8	-30.8	60.0
392.0	24351.7	-30.5	64.0
387.1	24645.8	-30.8	49.0
377.6	25226.4	-30.7	49.0
365.7	25973.9	-31.3	41.0
351.9	26873.4	-29.9	25.0
345.1	27330.4	-30.5	21.0

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

UPPER AIR DATA
0280020045
WHITE SANDS
T001-11

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 83 1330 HRS MST
ASCENSION NO. 45

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	873.3	15.5	.9	37.0	1051.0	662.8	250.0	29.9	1.000264
4000.0	873.0	15.3	.4	36.2	1051.5	662.5	250.1	29.5	1.000263
4500.0	857.2	11.3	-4.5	33.2	1047.8	657.7	255.9	28.3	1.000254
5000.0	841.6	9.7	-3.8	38.5	1034.6	655.8	262.2	27.0	1.000252
5500.0	826.3	8.5	-3.9	41.2	1020.0	654.4	269.1	26.1	1.000249
6000.0	811.1	7.2	-4.2	44.0	1005.7	653.0	276.3	25.6	1.000246
6500.0	796.3	6.0	-4.5	46.8	991.5	651.6	283.4	25.7	1.000242
7000.0	781.6	4.7	-4.7	50.7	978.1	650.0	287.5	27.0	1.000239
7500.0	767.2	3.1	-4.9	55.7	965.3	648.2	291.2	28.4	1.000236
8000.0	752.9	2.4	-7.2	49.0	950.3	647.2	294.5	29.9	1.000229
8500.0	738.8	1.9	-10.9	38.0	934.6	646.5	296.5	32.0	1.000222
9000.0	725.0	1.2	-14.2	30.4	919.6	645.6	298.2	34.2	1.000215
9500.0	711.4	.4	-17.4	24.8	905.2	644.6	299.8	36.4	1.000210
10000.0	698.0	-.5	-20.7	19.9	891.2	643.5	298.9	37.5	1.000205
10500.0	684.6	-1.8	-22.0	19.5	878.4	641.9	297.7	38.4	1.000201
11000.0	671.4	-3.1	-23.3	19.2	865.7	640.3	296.6	39.3	1.000198
11500.0	658.5	-4.4	-24.6	18.8	853.3	638.8	296.4	39.5	1.000194
12000.0	645.9	-5.7	-26.0	18.4	841.1	637.2	296.8	39.4	1.000191
12500.0	633.5	-7.0	-27.3	18.0	829.0	635.6	297.2	39.2	1.000188
13000.0	621.3	-8.4	-28.6	17.6	817.1	634.1	298.7	39.8	1.000185
13500.0	609.4	-9.7	-29.9	17.2	805.5	632.5	301.3	41.2	1.000182
14000.0	597.6	-10.5	-31.4	16.0	792.4	631.4	301.7	49.6	1.000179
14500.0	585.9	-10.8	-33.0	14.0	777.8	631.1	300.9	65.6	1.000175
15000.0	574.4	-8.6	-31.2	14.0	756.2	633.8	300.7	80.5	1.000171
15500.0	563.3	-8.5	-31.2	14.0	741.3	633.8	301.4	85.7	1.000168
16000.0	552.3	-9.4	-31.9	14.0	729.3	632.7	302.6	78.5	1.000165
16500.0	541.5	-10.3	-32.6	14.0	717.5	631.7	303.3	64.6	1.000162
17000.0	530.9	-11.2	-33.3	14.0	705.9	630.6	303.4	54.1	1.000159
17500.0	520.5	-12.5	-34.2	14.2	695.4	629.1	303.1	55.3	1.000157
18000.0	510.2	-14.0	-35.2	14.6	685.6	627.2	301.9	59.9	1.000154
18500.0	500.1	-15.5	-36.1	15.0	676.0	625.4	300.9	64.5	1.000152
19000.0	489.8	-16.9	-36.9	15.7	665.8	623.7	299.7	66.4	1.000150
19500.0	479.8	-18.3	-37.6	16.4	655.8	621.9	298.2	66.1	1.000147
20000.0	469.9	-19.8	-38.4	17.1	646.0	620.2	296.8	65.8	1.000145
20500.0	460.3	-21.2	-39.2	17.8	636.3	618.4	295.6	67.4	1.000143
21000.0	450.9	-22.6	-40.0	18.5	626.8	616.7	294.5	69.4	1.000141
21500.0	441.6	-24.0	-40.9	19.2	617.5	614.9	293.5	71.4	1.000139
22000.0	432.6	-25.4	-41.8	19.9	608.3	613.2	292.7	73.9	1.000136
22500.0	423.7	-26.9	-42.7	20.6	599.3	611.4	292.0	76.3	1.000134
23000.0	415.0	-28.3	-43.6	21.3	590.4	609.6	291.1	78.9	1.000132

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 83 1330 HRS MST
ASCENSION NO. 45

UPPER AIR DATA
02R0020045
WHITE SANDS
TABLE NO. CONTINUED

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	406.5	-29.7	22.2	581.6	607.9	289.8	82.0	1.000130
24000.0	397.9	-30.1	44.3	570.4	607.4	288.5	91.9	1.000128
24500.0	389.5	-30.7	56.4	559.4	606.7	287.4	97.7	1.000126
25000.0	381.3	-30.7	49.0	547.8	606.6	286.0	89.2	1.000123
25500.0	373.2	-30.9	46.1	536.6	606.4	287.0	99.9	1.000121
26000.0	365.3	-31.3	40.5	526.0	606.0			1.000118
26500.0	357.6	-30.5	31.6	513.2	606.9			1.000115
27000.0	350.0	-30.1	23.9	501.5	607.4			1.000112

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 83
ASCENSION NO. 45

MANDATORY LEVELS
0280020045
WHITE SANDS
-401.1

GEODETIC COORDINATES
32.40043 LAT DEG
106.57033 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DEGREES(TN)	SPEED KNOTS	
850.0	4729.	10.3	-3.7	37.	258.7	27.7	
800.0	6372.	6.3	-4.4	46.	281.9	25.5	
750.0	8095.	2.3	-7.9	47.	294.9	30.3	
700.0	9915.	-3.3	-20.5	20.	294.1	37.3	
650.0	11841.	-5.3	-25.5	18.	296.6	39.4	
600.0	13882.	-10.4	-31.1	16.	301.9	46.9	
550.0	16087.	-9.6	-32.0	14.	302.8	76.1	
500.0	18478.	-15.5	-36.2	15.	300.9	64.5	
450.0	21050.	-22.7	-40.1	19.	294.4	69.7	
400.0	23840.	-29.8	-40.0	36.	288.6	88.5	
350.0	26952.	-30.1	-44.1	24.			

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
0280020046
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 83 1530 HRS MST
ASCENSION NO. 46

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE	REL. HUM.
MILLIBARS	MSL FEET	ALM DEWPOINT DEGREES CENTIGRADE	PERCENT
874.1	3989.0	14.6	35.0
866.8	4220.9	12.7	40.0
850.0	4758.7	10.9	42.0
806.3	6202.7	6.3	49.0
764.6	7614.0	2.6	55.0
723.6	9071.3	-0.3	50.0
700.0	9942.4	-0.7	34.0
697.2	10047.6	-1.0	33.0
674.0	10941.9	3.4	18.0
668.5	11160.2	3.4	18.0
604.8	13797.4	-2.9	17.0
500.0	18625.8	-16.6	20.0
470.5	20116.1	-21.0	21.0
439.2	21772.8	-25.8	30.0
413.7	23192.3	-28.0	63.0
400.0	23986.7	-28.9	70.0
380.3	25168.9	-31.8	56.0
352.3	26930.2	-36.7	58.0
334.7	27824.3	-38.5	60.0

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 83
ASCENSION NO. 46

UPPER AIR DATA
0280020042
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	874.1	14.6	35.0	1055.6	661.7	260.0	18.1	1.000262
4000.0	873.8	14.5	35.2	1055.5	661.6	250.1	18.1	1.000262
4500.0	858.0	11.8	41.0	1046.5	658.4	208.3	18.7	1.000260
5000.0	842.5	10.1	43.2	1033.6	656.5	272.1	19.5	1.000256
5500.0	827.1	8.5	45.6	1020.5	654.6	277.0	20.5	1.000252
6000.0	812.0	6.9	48.0	1007.7	652.7	273.3	23.2	1.000248
6500.0	797.1	5.5	50.3	994.3	651.0	273.0	25.6	1.000244
7000.0	782.3	4.2	52.4	980.6	649.5	276.0	27.3	1.000240
7500.0	767.9	2.9	54.5	967.1	647.9	289.6	28.8	1.000236
8000.0	753.5	1.8	53.7	952.6	646.6	300.6	30.4	1.000231
8500.0	739.4	.8	52.0	938.5	645.4	310.6	31.1	1.000226
9000.0	725.6	-.2	50.2	924.4	644.2	320.9	32.5	1.000221
9500.0	711.9	-.5	42.1	908.4	643.7	328.6	36.2	1.000215
10000.0	698.5	-.9	33.5	892.7	643.2	331.7	42.4	1.000209
10500.0	685.4	1.2	25.4	869.4	645.6	330.7	47.4	1.000202
11000.0	672.5	3.4	18.0	846.5	648.1	323.7	51.9	1.000196
11500.0	659.9	2.6	17.9	833.1	647.2	323.6	55.3	1.000192
12000.0	647.5	1.4	17.5	821.1	645.7	319.2	59.0	1.000189
12500.0	635.3	.2	17.5	809.2	644.3	315.3	62.7	1.000186
13000.0	623.4	-1.0	17.3	797.5	642.9	311.8	66.7	1.000183
13500.0	611.7	-2.2	17.1	786.0	641.5	309.3	69.3	1.000180
14000.0	600.0	-3.5	17.1	774.7	639.9	307.3	71.0	1.000177
14500.0	588.3	-4.9	17.4	763.6	638.2	305.3	72.8	1.000174
15000.0	576.8	-6.3	17.7	752.7	636.5	303.5	73.2	1.000171
15500.0	565.5	-7.7	18.1	742.0	634.8	301.6	72.7	1.000169
16000.0	554.5	-9.1	18.4	731.4	633.1	299.7	72.2	1.000166
16500.0	543.7	-10.5	18.7	721.1	631.4	298.3	71.3	1.000163
17000.0	533.1	-12.0	19.0	710.9	629.7	297.0	70.0	1.000161
17500.0	522.7	-13.4	19.3	700.8	628.0	295.7	68.7	1.000158
18000.0	512.5	-14.8	19.6	690.9	626.2	294.9	68.3	1.000156
18500.0	502.5	-16.2	19.9	681.2	624.5	294.1	67.9	1.000154
19000.0	492.4	-17.7	20.3	671.4	622.7	293.6	67.4	1.000151
19500.0	482.5	-19.2	20.6	661.7	620.9	293.2	66.8	1.000149
20000.0	472.7	-20.7	20.9	652.1	619.1	292.8	66.4	1.000147
20500.0	463.1	-22.1	23.1	642.5	617.3	292.3	68.2	1.000145
21000.0	453.5	-23.6	25.8	632.9	615.5	291.5	72.5	1.000142
21500.0	444.2	-25.0	28.5	623.5	613.7	289.6	75.0	1.000140
22000.0	435.0	-26.2	35.3	613.4	612.3	286.8	75.6	1.000138
22500.0	425.9	-27.9	46.9	602.5	611.4	282.7	73.0	1.000136
23000.0	417.1	-27.7	58.5	591.7	610.4	280.1	76.6	1.000134

STATION ALTITUDE 3989.00 FEET MSL
28 JAN. 63 1530 HRS MST
ASCENSION NO. 46

UPPER AIR DATA
0240020046
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	408.3	-28.3	-32.7	65.7	580.9	609.6	276.7	81.6	1.000132
24000.0	399.8	-28.9	-32.7	69.8	570.0	608.9	278.9	86.2	1.000129
24500.0	391.3	-30.2	-34.7	63.9	560.9	607.4	278.9	90.1	1.000127
25000.0	383.1	-31.4	-36.9	58.0	551.8	605.8	278.2	85.9	1.000125
25500.0	374.9	-32.7	-38.4	56.4	543.0	604.1	277.4	81.7	1.000122
26000.0	366.4	-34.1	-39.6	56.9	534.5	602.4	277.8	79.3	1.000120
26500.0	358.9	-35.5	-40.9	57.5	526.1	600.6	279.2	79.8	1.000118
27000.0	351.2	-36.8	-42.0	58.2	517.7	598.9	281.6	86.5	1.000116
27500.0	343.6	-37.8	-42.8	59.3	508.6	597.6			1.000114

STATION ALTITUDE 3489.00 FEET MSL
 28 JAN, 83 1530 HRS MST
 ASCENSION NO. 46

MANDATORY LEVELS
 0280020046
 WHITE SANDS

GEODETI. COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

PRESSURE (EUPOTENTIAL)		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
		DEGREES	CENTIGRADE		DEGREES (TN)	KNOTS
850.0	4755.	10.9	-1.5	42.	269.3	19.1
800.0	6399.	5.8	-3.9	50.	272.6	25.2
750.0	8118.	1.6	-6.9	53.	303.2	30.7
700.0	9933.	-.7	-14.6	34.	331.3	41.7
650.0	11893.	1.6	-20.3	18.	320.1	58.3
600.0	13988.	-3.5	-24.9	17.	307.3	71.0
550.0	16218.	-9.7	-29.2	18.	298.9	72.0
500.0	18600.	-16.6	-34.2	20.	294.0	67.8
450.0	21160.	-24.1	-37.8	27.	291.0	73.7
400.0	23947.	-28.9	-32.6	70.	278.9	86.0
350.0	27031.	-37.0	-42.1	58.	281.9	87.4