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ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 16/1  
12829C LANCE MISSILE NUMBER 2479, ROUND NUMBER 306 DST (8 DECEM--ETC(U)  
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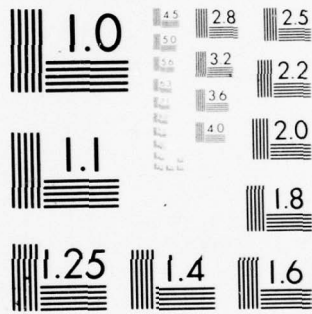
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METEOROLOGICAL DATA REPORT

6 12829C LANCE Number  
MISSILE NO. 2479, ROUND NO. 306 DST  
✓ (8 DECEMBER 1977).  
Number

BY

WSMR METEOROLOGICAL TEAM

9 Meteorological data rept.

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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 12829C Lance, Missile Number 2479, Round Number 306 DST, are presented in tabular form.		

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### INTRODUCTION

12829C Lance, Missile Number 2479, Round Number 306 DST, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1148 HRS MST, 8 December 1977. The scheduled launch time was 1145 HRS MST.

### 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	3,990	FEET/MSL
PRESSURE	873.8	MBS
TEMPERATURE	20.7	°C
RELATIVE HUMIDITY	13	%
DEW POINT	-8.6	°C
DENSITY	1,034	GM/M <sup>3</sup>
WIND SPEED	18, GUST TO 30	MPH
WIND DIRECTION	290	DEGREES
CLOUD COVER	0	C1

TABLE I. SURFACE OBSERVATIONS TAKEN AT WSD,  
1148 HRS MST/8 DECEMBER 1977.

ELEVATION	3,987	FEET/MSL
PRESSURE	872.2	MBS
TEMPERATURE	21.6	°C
RELATIVE HUMIDITY	11	%
DEW POINT	-10.2	°C
DENSITY	1,028	GM/M <sup>3</sup>
WIND SPEED	22	MPH
WIND DIRECTION	280	DEGREES
CLOUD COVER	CLEAR	

TABLE II. SURFACE OBSERVATIONS TAKEN AT LC-33,  
1150 HRS MST/8 DECEMBER 1977.



HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	290	22.0	2100	286	28.5
100	271	19.5	2200	291	28.0
200	273	21.5	2300	289	28.5
300	275	24.0	2400	290	27.5
400	276	26.0	2500	289	29.5
500	277	28.0	2600	289	30.5
600	278	30.5	2700	293	32.5
700	279	33.5	2800	305	37.5
800	283	32.5	2900	315	34.5
900	279	35.5	3000	316	32.0
1000	279	35.5	3100	321	33.0
1100	280	37.0	3200	317	34.0
1200	282	35.0	3300	313	32.5
1300	282	35.0	3400	310	33.5
1400	283	35.0	3500	314	33.0
1500	284	35.0	3600	313	33.0
1600	285	35.0	3700	313	33.0
1700	287	36.5	3800	318	32.0
1800	287	35.5	3900	322	34.0
1900	284	35.0	4000	322	30.5
2000	287	29.5	4100	319	27.5

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1  
RELEASED FROM LC-33, AT 1148 MST/8 DECEMBER 1977  
12829C LANCE, MISSILE NUMBER 2479, ROUND NUMBER 306 DST

PIBAL RELEASE POINT WSTM COORDINATES:

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

APPROXIMATELY: 815 FEET SSE OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	324	28.5	6600	314	24.5
4300	326	30.5	6700	316	28.5
4400	325	27.5	6800	321	29.0
4500	320	28.0	6900	323	32.0
4600	325	28.5	7000	324	29.0
4700	326	26.0	7100	326	27.5
4800	327	27.0	7200	323	29.5
4900	324	24.5	7300	320	30.5
5000	324	22.0	7400	321	32.5
5100	325	24.5	7500	324	34.5
5200	324	26.0	7600	327	33.5
5300	321	25.5	7700	334	35.0
5400	324	26.0	7800	316	33.0
5500	321	27.5	7900	311	33.0
5600	325	28.5	8000	318	31.5
5700	320	26.5	8100	324	42.0
5800	324	29.0	8200	318	46.0
5900	326	32.0	8300	322	49.0
6000	319	33.5	8400	319	47.0
6100	322	35.5	8500	313	48.5
6200	317	29.5	8600	315	49.0
6300	316	28.5	8700	312	43.5
6400	321	30.0	8800	308	39.5
6500	313	29.0	8900	314	44.0

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9000	311	46.0	10600	305	41.5
9100	305	40.0	10700	301	40.5
9200	302	37.5	10800	302	38.5
9300	303	35.0	10900	310	33.5
9400	308	36.0	11000	312	35.0
9500	303	33.5	11100	307	36.5
9600	305	33.0	11200	307	33.5
9700	308	33.0	11300	311	33.5
9800	306	31.5	11400	311	33.0
9900	307	29.5	11500	309	33.5
10000	294	32.0	11600	304	31.0
10100	306	35.5	11700	305	30.5
10200	310	37.0	11800	305	29.5
10300	306	35.5	11900	309	29.0
10400	309	42.5	12000	303	33.5
10500	305	42.0			

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	27	265
-20.0	24	258
-10.0	21	265
-00.00	25	255
+10.00	28	271

TABLE IV. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 1  
RELEASED FROM LC-33, AT 1150 MST/8 DECEMBER 1977  
12829C LANCE, MISSILE NO. 2479, ROUND NO. 306 DST

WSTM COORDINATES: X = 485,874.29 Y = 185,958.90 Z = 4,018.74

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

T-TIME (SEC)	SPEED (MPH)	DIR DEG
-30.0	21.1	300
-20.0	15.9	285
-10.0	16.0	290
-00.00	23.8	287
+10.00	20.5	300

TABLE V. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 2  
 RELEASED FROM LC-33, AT 1150 MST/8 DECEMBER 1977  
 12829C LANCE, MISSILE NO. 2479, ROUND NO. 306 DST

WSTM COORDINATES: X = 485,874.93 Y = 186,012.00 Z = 4,033.57

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 472

SIGNIFICANT LEVEL DATA  
 3420030472  
 JALLEN  
 TABLE VI.

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE AIR	DEWPOINT	RFL. HUM.
MILLIBARS	MSL FEET	DEGREES	CENTIGRADE	PFCENT
873.2	4051.0	13.7	-8.2	21.0
850.0	4798.2	13.9	-7.4	22.0
840.8	5099.7	15.5	-6.1	22.0
833.0	5358.8	15.9	-5.8	22.0
797.3	6573.3	13.9	-6.9	23.0
700.0	10111.9	5.0	-12.4	27.0
687.8	10582.1	5.0	-13.9	24.0
682.3	10797.4	6.3	-14.4	21.0
676.8	11014.6	5.7	-16.7	18.0
612.8	13653.4	.8	-19.6	20.0
600.6	14183.5	1.6	-18.9	20.0
500.0	18913.9	-10.6	-29.1	20.0
400.0	24382.0	-25.0	-41.3	20.0
337.8	28322.5	-35.1	-50.0	20.0
300.0	30989.3	-42.4		
250.0	34932.1	-52.6		
238.8	35895.4	-55.0		
214.8	38117.1	-53.4		
200.0	39616.3	-54.4		
189.3	40709.2	-54.0		
157.3	44618.4	-58.1		
150.0	45591.4	-60.4		
136.8	47454.8	-63.2		
110.8	51615.7	-70.5		
100.0	53609.6	-69.3		
90.3	55590.1	-71.1		
70.0	60506.2	-66.4		
67.3	61348.8	-63.6		
63.6	62498.2	-57.3		
54.3	65704.3	-64.5		

STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77 1015 HRS MST  
 ASCENSION NO. 472

SIGNIFICANT LEVEL DATA  
 3420030472  
 JALLEN  
 TABLE VI. (CONT)

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

PRESSURE MILLIBARS	GEOMETRICAL ALTITUDE MSL FEET	TEMPERATURE		RFL. HUM. PFRCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
50.8	67033.3	-64.2		
50.0	67352.0	-61.7		
48.9	67805.1	-58.1		
41.8	71043.5	-55.9		
30.0	77906.3	-56.9		
27.5	79717.0	-53.2		
24.8	81861.4	-54.0		
21.3	85093.8	-49.5		
20.0	86429.2	-52.0		
16.3	90733.9	-52.8		

STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 472

UPPER AIR DATA  
 3420030472  
 JALLEN  
 TABLE VII.

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE					SPEED KNOTS	REFRACTION	
4051.0	873.2	13.7	-8.2	21.0	1059.0	660.3	20.0	4.1	1.000251	
4500.0	859.2	13.8	-7.7	21.6	1041.4	660.4	346.4	3.5	1.000248	
5000.0	843.8	15.0	-6.5	22.0	1018.6	661.8	311.9	4.4	1.000244	
5500.0	828.8	15.7	-5.9	22.1	997.9	662.7	293.4	6.3	1.000240	
6000.0	814.0	14.8	-6.3	22.5	982.8	661.7	297.9	9.1	1.000236	
6500.0	799.4	14.0	-6.8	22.9	968.1	660.8	302.7	12.2	1.000233	
7000.0	784.9	12.8	-7.5	23.5	954.5	659.4	306.0	14.6	1.000229	
7500.0	770.6	11.6	-8.3	24.0	941.3	657.9	307.2	17.1	1.000225	
8000.0	756.5	10.3	-9.0	24.6	928.3	656.4	306.7	19.4	1.000221	
8500.0	742.8	9.1	-9.8	25.2	915.5	654.9	306.5	22.4	1.000218	
9000.0	729.2	7.8	-10.6	25.7	902.9	653.5	306.4	25.8	1.000214	
9500.0	715.9	6.5	-11.4	26.3	890.5	652.0	307.8	28.7	1.000211	
10000.0	702.9	5.3	-12.2	26.9	878.3	650.5	309.4	31.3	1.000207	
10500.0	689.9	5.0	-13.6	24.5	863.1	650.1	313.0	31.9	1.000203	
11000.0	677.2	5.7	-16.6	18.2	845.1	650.9	316.4	32.6	1.000196	
11500.0	664.5	4.8	-17.2	18.4	832.2	649.8	318.0	33.9	1.000193	
12000.0	652.2	3.9	-17.8	18.7	819.4	648.7	317.7	35.8	1.000190	
12500.0	640.0	2.9	-18.3	19.1	806.8	647.6	315.9	38.3	1.000187	
13000.0	628.1	2.0	-18.8	19.5	794.5	646.5	312.8	38.5	1.000184	
13500.0	616.3	1.1	-19.4	19.9	782.3	645.4	309.3	38.0	1.000181	
14000.0	604.8	1.3	-19.1	20.0	767.0	645.7	303.1	34.2	1.000178	
14500.0	593.3	.8	-19.6	20.0	753.9	645.1	297.4	32.3	1.000174	
15000.0	581.9	-.5	-20.7	20.0	742.9	643.5	294.5	32.9	1.000171	
15500.0	570.7	-1.8	-21.7	20.0	732.2	642.0	293.1	33.7	1.000169	
16000.0	559.8	-3.1	-22.8	20.0	721.6	640.4	294.2	34.5	1.000166	
16500.0	549.0	-4.4	-23.9	20.0	711.2	638.9	294.9	34.5	1.000163	
17000.0	538.5	-5.7	-25.0	20.0	700.9	637.3	295.0	33.2	1.000160	
17500.0	528.2	-7.0	-26.1	20.0	690.8	635.8	295.4	32.7	1.000158	
18000.0	518.0	-8.2	-27.1	20.0	680.9	634.2	296.1	33.2	1.000155	
18500.0	508.1	-9.5	-28.2	20.0	671.1	632.7	297.0	33.1	1.000153	



STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77 1015 HRS MST  
 ASCENSION NO. 472

UPPER AIR DATA  
 3420030472  
 JALLEN  
 TABLE VII. (CONT)

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

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
19000.0	498.2	-10.8	20.0	661.4	631.1	297.8	32.7	1.000150
19500.0	488.2	-12.1	20.0	651.3	629.5	297.4	32.8	1.000148
20000.0	478.3	-13.5	20.0	641.4	627.9	296.4	33.1	1.000145
20500.0	468.7	-14.8	20.0	631.7	626.3	296.1	34.6	1.000143
21000.0	459.2	-16.1	20.0	622.1	624.7	295.9	36.2	1.000141
21500.0	449.9	-17.4	20.0	612.7	623.1	295.8	37.0	1.000138
22000.0	440.8	-18.7	20.0	603.5	621.5	295.4	37.6	1.000136
22500.0	431.9	-20.0	20.0	594.4	619.9	293.5	37.6	1.000134
23000.0	423.2	-21.4	20.0	585.4	618.2	292.1	37.6	1.000132
23500.0	414.7	-22.7	20.0	576.6	616.6	291.9	37.3	1.000130
24000.0	406.3	-24.0	20.0	568.0	615.0	292.4	36.9	1.000128
24500.0	398.0	-25.3	20.0	559.3	613.4	293.9	36.2	1.000126
25000.0	389.5	-26.6	20.0	550.3	611.8	295.8	36.1	1.000123
25500.0	381.3	-27.9	20.0	541.4	610.2	299.7	36.5	1.000121
26000.0	373.2	-29.1	20.0	532.7	608.6	299.7	38.4	1.000119
26500.0	365.3	-30.4	20.0	524.2	607.0	301.0	41.5	1.000117
27000.0	357.5	-31.7	20.0	515.8	605.4	301.2	43.9	1.000115
27500.0	349.9	-33.0	20.0	507.6	603.8	300.8	46.1	1.000114
28000.0	342.5	-34.3	20.0	499.5	602.1	300.3	47.1	1.000112
28500.0	335.1	-35.6	18.7**	491.4	600.5	299.8	47.7	1.000110
29000.0	327.8	-37.0	14.9**	483.4	598.7	300.4	47.2	1.000108
29500.0	320.6	-38.3	11.2**	475.5	597.0	301.3	46.4	1.000106
30000.0	313.5	-39.7	7.4**	467.8	595.3	302.7	48.6	1.000104
30500.0	306.6	-41.1	3.7**	460.2	593.5	304.1	51.2	1.000103
31000.0	299.9	-42.4		452.7	591.8	305.2	50.7	1.000101
31500.0	293.0	-43.7		444.9	590.1	306.3	50.2	1.000099
32000.0	286.3	-45.0		437.2	588.4	305.4	47.4	1.000097
32500.0	279.8	-46.3		429.6	586.8	304.1	44.4	1.000096
33000.0	273.4	-47.6		422.2	585.1	300.8	45.4	1.000094
33500.0	267.1	-48.9		414.9	583.4	297.5	46.9	1.000092

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

STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77 1015 HRS MST  
 ASCENSION NO. 472

UPPER AIR DATA  
 3420030472  
 JALLEN  
 TABLE VII. (CONT)

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPFFU OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
34000.0	261.0	-50.2		407.8	581.7	296.4	47.7	1.000091	
34500.0	255.0	-51.5		400.8	580.0	295.6	48.4	1.000089	
35000.0	249.2	-52.8		393.9	578.3	295.9	50.4	1.000088	
35500.0	243.3	-54.0		386.8	576.7	296.4	52.6	1.000086	
36000.0	237.6	-54.9		379.3	575.5	295.2	55.7	1.000084	
36500.0	232.0	-54.6		369.8	576.0	294.1	58.8	1.000082	
37000.0	226.5	-54.2		360.5	576.5	292.3	60.0	1.000080	
37500.0	221.2	-53.8		351.4	576.9	290.5	61.0	1.000078	
38000.0	216.0	-53.5		342.6	577.4	289.4	60.7	1.000076	
38500.0	210.9	-53.7		334.8	577.2	288.4	60.5	1.000075	
39000.0	206.0	-54.0		327.4	576.7	287.7	61.8	1.000073	
39500.0	201.1	-54.3		320.2	576.3	287.1	63.0	1.000071	
40000.0	196.4	-54.3		312.5	576.4	286.9	63.9	1.000070	
40500.0	191.7	-54.1		304.9	576.6	286.7	64.8	1.000068	
41000.0	187.2	-54.2		297.9	576.4	286.4	64.3	1.000066	
41500.0	182.8	-54.8		291.6	575.7	286.0	63.0	1.000065	
42000.0	178.4	-55.3		285.3	575.0	285.4	62.0	1.000064	
42500.0	174.2	-55.8		279.2	574.3	284.3	61.4	1.000062	
43000.0	170.0	-56.4		273.3	573.6	283.1	61.2	1.000061	
43500.0	166.0	-56.9		267.4	572.9	281.9	62.2	1.000060	
44000.0	162.1	-57.4		261.7	572.2	280.7	63.2	1.000058	
44500.0	158.2	-58.0		256.1	571.5	280.3	63.4	1.000057	
45000.0	154.4	-59.0		251.2	570.1	279.9	63.6	1.000056	
45500.0	150.7	-60.2		246.5	568.5	280.6	63.4	1.000055	
46000.0	147.0	-61.0		241.4	567.4	281.7	63.1	1.000054	
46500.0	143.4	-61.8		236.3	566.4	282.6	62.7	1.000053	
47000.0	139.9	-62.5		231.4	565.4	283.4	62.1	1.000052	
47500.0	136.5	-63.3		226.6	564.4	284.2	61.5	1.000050	
48000.0	133.1	-64.2		221.8	563.2	284.1	61.6	1.000049	
48500.0	129.7	-65.0		217.2	562.0	283.7	61.8	1.000048	

UPPER AIR DATA  
 3420030472  
 JALLEN  
 TABLE VII. (CONT)

STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77 1015 HRS MST  
 ASCENSION NO. 472

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPFFD OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
49000.0	126.5	-65.9		212.6	560.8	283.3	62.3	1.0000047
49500.0	123.3	-66.8		208.2	559.6	282.7	63.7	1.0000046
50000.0	120.3	-67.7		203.9	558.5	282.2	65.1	1.0000045
50500.0	117.2	-68.5		199.6	557.3	281.8	65.5	1.0000044
51000.0	114.3	-69.4		195.5	556.1	281.5	65.4	1.0000044
51500.0	111.5	-70.3		191.4	554.9	281.4	64.8	1.0000043
52000.0	108.6	-70.3		186.5	554.9	282.0	63.1	1.0000042
52500.0	105.9	-70.0		181.5	555.3	282.8	61.7	1.0000040
53000.0	103.2	-69.7		176.7	555.7	284.9	62.4	1.0000039
53500.0	100.6	-69.4		171.9	556.1	287.0	63.2	1.0000038
54000.0	98.0	-69.7		167.8	555.7	288.8	64.8	1.0000037
54500.0	95.5	-70.1		163.9	555.1	290.4	66.6	1.0000036
55000.0	93.1	-70.6		160.1	554.5	291.7	67.6	1.0000036
55500.0	90.7	-71.0		156.4	553.9	292.2	66.4	1.0000035
56000.0	88.4	-70.7		152.2	554.3	292.6	65.2	1.0000034
56500.0	86.2	-70.2		148.0	554.9	292.2	63.0	1.0000033
57000.0	84.0	-69.8		143.9	555.6	290.8	60.0	1.0000032
57500.0	81.9	-69.3		139.9	556.2	289.3	57.0	1.0000031
58000.0	79.8	-68.8		136.1	556.9	286.6	56.4	1.0000030
58500.0	77.8	-68.4		132.3	557.5	283.8	56.0	1.0000029
59000.0	75.8	-67.9		128.7	558.2	281.8	55.9	1.0000029
59500.0	73.9	-67.4		125.2	558.8	280.4	56.2	1.0000028
60000.0	72.1	-66.9		121.7	559.4	279.2	55.1	1.0000027
60500.0	70.2	-66.5		118.4	560.1	278.4	48.6	1.0000026
61000.0	68.5	-64.8		114.5	562.3	277.3	42.1	1.0000026
61500.0	66.8	-62.8		110.6	565.1	275.4	34.2	1.0000025
62000.0	65.2	-60.0		106.5	568.7	271.9	25.7	1.0000024
62500.0	63.6	-57.3		102.6	572.4	265.3	17.5	1.0000023
63000.0	62.0	-58.4		100.7	570.9	260.4	13.9	1.0000022
63500.0	60.5	-59.5		98.7	569.4	252.1	10.4	1.0000022

UPPER AIR DATA  
 3420030472  
 JALLEN  
 TABLE VII. (CONT)

STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77 1015 HRS MST  
 ASCENSION NO. 472

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPFDD OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
6400.0	59.1	-60.7		96.6	567.9	244.7	8.4	1.000022	
6450.0	57.6	-61.8		95.0	566.4	248.0	8.2	1.000021	
6500.0	56.2	-62.9		93.2	564.9	251.5	8.0	1.000021	
6550.0	54.8	-64.0		91.4	563.4	258.0	8.0	1.000020	
6600.0	53.5	-64.4		89.3	562.8	266.2	8.1	1.000020	
6650.0	52.2	-64.3		87.0	563.0	273.9	8.4	1.000019	
6700.0	50.9	-64.2		84.8	563.1	282.7	8.7	1.000019	
6750.0	49.6	-60.5		81.3	568.1	291.5	9.1	1.000018	
6800.0	48.4	-58.0		78.4	571.5	299.4	9.7	1.000017	
6850.0	47.3	-57.6		76.4	571.9	299.5	10.6	1.000017	
6900.0	46.1	-57.3		74.5	572.4	298.6	11.5	1.000017	
6950.0	45.0	-56.9		72.6	572.8	297.9	12.4	1.000016	
7000.0	44.0	-56.6		70.7	573.3	292.7	13.0	1.000016	
7050.0	42.9	-56.3		68.9	573.7	287.5	13.7	1.000015	
7100.0	41.9	-55.9		67.2	574.2	282.8	14.5	1.000015	
7150.0	40.9	-56.0		65.6	574.1	279.2	13.9	1.000015	
7200.0	39.9	-56.0		64.0	574.0	275.4	13.0	1.000014	
7250.0	39.0	-56.1		62.5	573.9	271.1	12.3	1.000014	
7300.0	38.0	-56.2		61.1	573.8	266.9	11.1	1.000014	
7350.0	37.1	-56.3		59.6	573.7	261.9	9.9	1.000013	
7400.0	36.2	-56.3		58.2	573.6	255.6	8.8	1.000013	
7450.0	35.4	-56.4		56.8	573.6	251.0	8.8	1.000013	
7500.0	34.5	-56.5		55.5	573.5	248.5	9.7	1.000012	
7550.0	33.7	-56.5		54.2	573.4	246.4	10.5	1.000012	
7600.0	32.9	-56.6		52.9	573.3	242.7	11.2	1.000012	
7650.0	32.1	-56.7		51.7	573.2	237.5	11.8	1.000012	
7700.0	31.3	-56.8		50.5	573.1	232.8	12.5	1.000011	
7750.0	30.6	-56.8		49.3	573.0	229.1	13.2	1.000011	
7800.0	29.9	-56.7		48.1	573.1	228.5	13.0	1.000011	
7850.0	29.2	-55.7		46.7	574.5	227.9	12.8	1.000010	

UPPER AIR DATA  
 3420030472  
 JALLEN  
 TABLE VII. (CONT)

STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77 1015 HRS MST  
 ASCENSION NO. 472

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
79000.0	28.5	-54.7		45.4	575.8	227.3	12.6	1.000010
79500.0	27.8	-53.6		44.1	577.2	225.2	12.4	1.000010
80000.0	27.1	-53.3		43.0	577.6	222.2	12.1	1.000010
80500.0	26.5	-53.5		42.0	577.4	219.1	11.9	1.000009
81000.0	25.9	-53.7		41.1	577.1	216.0	11.6	1.000009
81500.0	25.3	-53.9		40.1	576.9	213.9	10.2	1.000009
82000.0	24.7	-53.8		39.2	576.9	211.0	8.8	1.000009
82500.0	24.1	-53.1		38.1	577.9	207.2	7.4	1.000008
83000.0	23.5	-52.4		37.1	578.8	200.8	6.1	1.000008
83500.0	23.0	-51.7		36.1	579.7	190.3	4.9	1.000008
84000.0	22.4	-51.0		35.2	580.6	174.1	4.0	1.000008
84500.0	21.9	-50.3		34.3	581.5	151.4	3.5	1.000008
85000.0	21.4	-49.6		33.3	582.4	191.1	3.0	1.000007
85500.0	20.9	-50.3		32.7	581.6	225.9	3.9	1.000007
86000.0	20.4	-51.2		32.0	580.4	243.1	5.7	1.000007
86500.0	19.9	-52.0		31.4	579.3	258.8	8.6	1.000007
87000.0	19.5	-52.1		30.7	579.2	270.8	13.4	1.000007
87500.0	19.0	-52.2		30.0	579.1	276.3	18.4	1.000007
88000.0	18.6	-52.3		29.3	579.0	279.5	23.5	1.000007
88500.0	18.1	-52.4		28.6	578.8			1.000006
89000.0	17.7	-52.5		27.9	578.7			1.000006
89500.0	17.3	-52.6		27.3	578.6			1.000006
90000.0	16.9	-52.7		26.7	578.5			1.000006
90500.0	16.5	-52.8		26.1	578.4			1.000006

STATION ALTITUDE 4051.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 472

MANDATORY LEVELS  
 3420030472  
 JALLEN  
 TABLE VIII.

GEODETIC COORDINATES  
 33.16712 LAT NEG  
 106.49511 LON NEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	RFL. HUM. PFCENT	WIND DATA	
					DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4797.	13.9	-7.4	22.	323.7	3.9
800.0	6479.	14.1	-6.8	23.	302.6	12.1
750.0	8250.	9.7	-9.4	25.	306.5	20.7
700.0	10112.	5.0	-12.4	27.	310.0	31.6
650.0	12095.	3.7	-17.9	19.	317.3	36.3
600.0	14214.	1.5	-18.9	20.	299.9	32.6
550.0	16488.	-4.3	-23.8	20.	294.9	34.5
500.0	18923.	-10.6	-29.1	20.	297.7	32.7
450.0	21540.	-17.4	-34.9	20.	295.8	37.1
400.0	24400.	-25.0	-41.3	20.	293.7	36.3
350.0	27534.	-33.0	-48.2	20.	300.7	46.4
300.0	31022.	-42.4			305.4	50.7
250.0	34976.	-52.6			295.9	50.6
200.0	39675.	-54.4			287.0	63.4
175.0	42479.	-55.7			284.1	61.4
150.0	45672.	-60.4			281.2	63.2
125.0	49349.	-66.3			282.8	63.6
100.0	53725.	-69.3			288.3	64.4
80.0	58079.	-68.9			285.2	56.2
70.0	60717.	-66.4			277.6	43.5
60.0	63861.	-60.0			245.1	8.3
50.0	67542.	-61.7			295.7	9.4
40.0	72175.	-56.0			271.8	12.4
30.0	78165.	-56.9			228.0	12.8
25.0	82000.	-53.9			208.7	7.9
20.0	86752.	-52.0			272.4	14.5

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

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77 1045 HRS MST  
 ASCENSION 10. 873

SIGNIFICANT LEVEL DATA  
 3420020873  
 WHITE SANDS  
 TABLE IX.

GEODETIC COORDINATES  
 32.40043 LAT NEG  
 106.37033 LON NEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	AIR TEMPERATURE DEGREES CENTIGRAD	TEMPERATURE DEWPOINT CENTIGRAD	RFL. HUM. PERCENT
874.0	3989.0	19.8	-11.5	11.0
650.0	4773.9	16.8	-7.6	18.0
641.3	5060.6	15.9	-6.4	21.0
822.8	5680.3	16.8	-5.0	22.0
793.3	6696.5	15.1	-5.3	24.0
700.0	10114.5	6.4	-13.2	23.0
649.3	12124.4	3.4	-17.4	20.0
601.0	14166.6	.1	-20.7	19.0
591.3	14594.6	1.2	-20.4	18.0
500.0	18924.6	-9.9	-29.7	18.0
438.3	22193.8	-19.2	-36.4	20.0
400.0	24399.9	-24.2	-41.1	19.0
339.3	28247.6	-34.6	-49.1	21.0
300.0	31014.7	-42.8		
264.8	33722.5	-50.8		
250.0	34945.7	-51.6		
229.3	36760.2	-56.5		
200.0	39604.7	-55.4		
188.3	40862.5	-55.2		
150.0	45544.8	-61.0		
113.3	51100.8	-71.5		
100.0	53509.6	-71.5		
70.0	60419.4	-69.6		
63.3	62392.2	-66.4		
57.3	64349.3	-68.6		
50.0	67065.9	-60.4		
36.3	73591.5	-59.1		
30.0	77492.4	-58.4		
27.8	79065.5	-55.0		
20.0	85930.4	-54.2		

STATION ALTITUDE 3989.00 FEET MSL  
8 DEC. 77 1045 HRS MST  
ASCENSION NO. 873

SIGNIFICANT LEVEL DATA  
3420020873  
WHITE SANDS  
TABLE IX. (CONT)

GEODETTIC COORDINATES  
32.40043 LAT NEG  
106.37033 LON NEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	RFL. HUM. PFCENT
13.7 93819.1	-54.6	
10.0 100495.5	-46.4	



UPPER AIR DATA  
 3420020873  
 WHITE SANDS  
 TABLE X.

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 873

GEODETIC COORDINATES  
 32.40043 LAT NEG  
 106.37033 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPFFU OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE						
3989.0	874.0	19.8	-11.5	11.0	1038.2	667.2	270.0	18.1	1.000243
4000.0	873.7	19.8	-11.4	11.1	1037.9	667.1	270.0	18.1	1.000243
4500.0	858.3	17.8	-8.6	15.6	1029.1	665.0	271.7	20.8	1.000243
5000.0	843.1	16.1	-6.6	20.4	1013.8	663.1	273.1	23.6	1.000243
5500.0	828.1	16.5	-5.4	21.7	994.0	663.7	274.1	26.3	1.000240
6000.0	813.4	16.3	-5.1	22.6	977.2	663.4	275.2	28.9	1.000237
6500.0	798.9	15.4	-5.2	23.6	962.6	662.4	284.8	26.9	1.000233
7000.0	784.5	14.3	-6.0	23.9	948.9	661.2	295.6	25.8	1.000229
7500.0	770.3	13.1	-7.1	23.8	936.0	659.7	306.9	25.2	1.000225
8000.0	756.3	11.8	-8.3	23.6	923.2	658.1	318.2	25.1	1.000221
8500.0	742.6	10.5	-9.5	23.5	910.6	656.6	328.2	25.8	1.000217
9000.0	729.1	9.2	-10.6	23.3	898.2	655.1	328.9	25.5	1.000213
9500.0	715.9	8.0	-11.8	23.2	886.0	653.6	329.7	25.3	1.000209
10000.0	702.9	6.7	-12.9	23.0	874.0	652.1	325.2	25.7	1.000206
10500.0	690.0	5.8	-14.0	22.4	860.6	651.1	320.2	26.3	1.000202
11000.0	677.2	5.1	-15.0	21.7	847.0	650.2	317.1	29.2	1.000198
11500.0	664.6	4.3	-16.1	20.9	833.6	649.3	314.7	32.4	1.000194
12000.0	652.3	3.6	-17.1	20.2	820.4	648.4	311.9	34.0	1.000191
12500.0	640.1	2.8	-18.0	19.8	807.4	647.4	309.5	35.3	1.000187
13000.0	628.1	2.0	-18.8	19.6	794.7	646.5	307.6	34.4	1.000184
13500.0	616.4	1.2	-19.6	19.3	782.1	645.5	305.7	33.4	1.000181
14000.0	604.8	.4	-20.5	19.1	769.7	644.5	303.8	31.7	1.000178
14500.0	593.4	1.0	-20.5	18.2	753.6	643.2	301.0	29.7	1.000174
15000.0	582.1	.2	-21.3	18.0	741.4	644.3	294.8	26.8	1.000171
15500.0	570.9	-1.1	-22.4	18.0	730.6	642.8	291.0	25.9	1.000168
16000.0	560.0	-2.4	-23.4	18.0	720.1	641.2	290.2	26.6	1.000165
16500.0	549.2	-3.7	-24.5	18.0	709.6	639.7	292.7	26.2	1.000162
17000.0	538.7	-5.0	-25.6	18.0	699.4	638.2	295.1	25.5	1.000160
17500.0	528.4	-6.2	-26.6	18.0	689.3	636.6	295.3	23.7	1.000157
18000.0	518.2	-7.5	-27.7	18.0	679.4	635.1	295.4	22.7	1.000155

UPPER AIR DATA  
 3420020873  
 WHITE SANDS  
 TABLE X. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 873

GEODETIC COORDINATES  
 32.40043 LAT NEG  
 106.37033 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE						
18500.0	508.3	-8.8	-28.8	18.0	669.6	633.5	295.3	23.4	1.000152
19000.0	498.5	-10.1	-29.8	18.0	659.9	632.0	294.8	23.7	1.000150
19500.0	488.5	-11.5	-30.8	18.4	650.3	630.2	293.9	23.3	1.000147
20000.0	478.8	-13.0	-31.8	18.7	640.8	628.5	293.0	22.9	1.000145
20500.0	469.3	-14.4	-32.9	19.0	631.5	626.8	292.0	22.5	1.000143
21000.0	459.9	-15.8	-33.9	19.3	622.4	625.0	291.3	22.4	1.000141
21500.0	450.7	-17.2	-34.9	19.6	613.4	623.3	293.1	24.4	1.000138
22000.0	441.7	-18.6	-36.0	19.9	604.5	621.6	294.6	26.4	1.000136
22500.0	432.8	-19.9	-37.1	19.9	595.2	620.0	295.8	26.9	1.000134
23000.0	423.9	-21.0	-38.1	19.6	585.6	618.6	296.9	27.4	1.000132
23500.0	415.2	-22.2	-39.2	19.4	576.2	617.3	298.7	28.8	1.000130
24000.0	406.7	-23.3	-40.3	19.2	566.9	615.9	300.3	30.3	1.000127
24500.0	398.3	-24.5	-41.3	19.1	557.9	614.4	302.2	31.4	1.000125
25000.0	389.9	-25.8	-42.4	19.3	549.1	612.7	304.1	32.5	1.000123
25500.0	381.6	-27.2	-43.4	19.6	540.4	611.0	305.0	31.8	1.000121
26000.0	373.5	-28.5	-44.4	19.8	531.9	609.4	305.9	31.3	1.000119
26500.0	365.6	-29.9	-45.5	20.1	523.5	607.7	306.0	32.2	1.000117
27000.0	357.9	-31.2	-46.5	20.4	515.3	606.0	306.1	33.0	1.000115
27500.0	350.3	-32.6	-47.6	20.6	507.3	604.3	306.4	32.8	1.000114
28000.0	342.9	-33.9	-48.6	20.9	499.3	602.6	306.8	32.6	1.000112
28500.0	335.5	-35.3	-50.6	19.1**	491.5	600.8	309.2	32.5	1.000110
29000.0	328.1	-36.8	-53.7	15.3**	483.7	598.9	311.8	32.5	1.000108
29500.0	320.9	-38.3	-57.2	11.5**	476.0	597.0	311.8	32.3	1.000106
30000.0	313.9	-39.8	-61.5	7.7**	468.5	595.1	311.6	32.0	1.000104
30500.0	306.9	-41.3	-67.6	3.9**	461.2	593.2	309.8	30.8	1.000103
31000.0	300.2	-42.8	-90.2	.1**	453.9	591.3	307.8	29.3	1.000101
31500.0	293.4	-44.2			446.4	589.4	305.1	26.7	1.000099
32000.0	286.7	-45.7			439.1	587.5	301.4	25.5	1.000098
32500.0	280.1	-47.2			431.9	585.6	296.9	25.9	1.000096
33000.0	273.8	-48.7			424.8	583.7	297.6	29.3	1.000095

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

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77 1045 HRS MST  
 ASCENSION NO. 873

UPPER AIR DATA  
 3420020873  
 WHITE SANDS  
 TABLE X. (CONT)

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	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
33500.0	267.5	-50.1		417.9	581.8	299.7	33.4	1.000093
34000.0	261.4	-51.0		409.8	580.7	303.6	32.7	1.000091
34500.0	255.3	-51.3		400.9	580.3	304.3	32.5	1.000089
35000.0	249.4	-51.7		392.3	579.7	300.3	32.9	1.000087
35500.0	243.5	-53.1		385.5	577.9	296.0	36.9	1.000086
36000.0	237.8	-54.4		378.7	576.1	292.6	42.9	1.000084
36500.0	232.2	-55.8		372.1	574.4	293.5	48.2	1.000083
37000.0	226.7	-56.4		364.3	573.5	294.5	53.5	1.000081
37500.0	221.3	-56.2		355.4	573.8	294.1	56.7	1.000079
38000.0	216.0	-56.0		346.6	574.1	293.8	60.0	1.000077
38500.0	210.9	-55.8		338.1	574.3	292.9	60.5	1.000075
39000.0	205.9	-55.6		329.8	574.6	291.8	59.3	1.000073
39500.0	201.0	-55.4		321.6	574.8	290.4	58.4	1.000072
40000.0	196.2	-55.3		313.9	575.0	288.6	57.9	1.000070
40500.0	191.6	-55.3		306.3	575.1	286.1	58.7	1.000068
41000.0	187.0	-55.4		299.2	574.9	283.2	60.8	1.000067
41500.0	182.6	-56.0		292.9	574.1	281.9	61.9	1.000065
42000.0	178.2	-56.6		286.6	573.3	281.8	62.3	1.000064
42500.0	173.9	-57.2		280.6	572.5	281.9	62.3	1.000062
43000.0	169.7	-57.8		274.6	571.6	282.1	62.0	1.000061
43500.0	165.7	-58.5		268.8	570.8	281.1	62.5	1.000060
44000.0	161.7	-59.1		263.1	570.0	278.3	64.2	1.000059
44500.0	157.8	-59.7		257.6	569.2	275.9	65.9	1.000057
45000.0	154.0	-60.3		252.1	568.3	275.3	66.1	1.000056
45500.0	150.3	-60.9		246.8	567.5	274.6	66.2	1.000055
46000.0	146.6	-61.9		241.7	566.3	277.7	64.2	1.000054
46500.0	142.9	-62.8		236.7	565.0	282.3	61.8	1.000053
47000.0	139.4	-63.8		231.9	563.7	286.2	58.9	1.000052
47500.0	135.9	-64.7		227.1	562.5	289.9	55.8	1.000051
48000.0	132.5	-65.6		222.5	561.2	290.1	53.8	1.000050

UPPER AIR DATA  
 3420020873  
 WHITE SANDS  
 TABLE X. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 873

GEODETIC COORDINATES  
 32.40043 LAT NEG  
 106.37033 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPFFD SOUND KNOTS	WIND DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
48500.0	129.2	-66.6			217.9	559.9	287.9	52.4	1.000049
49000.0	126.0	-67.5			213.4	558.6	285.8	53.2	1.000048
49500.0	122.8	-68.5			209.1	557.4	284.0	55.5	1.000047
50000.0	119.8	-69.4			204.8	556.1	282.9	57.1	1.000046
50500.0	116.8	-70.4			200.6	554.8	282.8	57.7	1.000045
51000.0	113.9	-71.3			196.5	553.5	282.7	58.3	1.000044
51500.0	111.0	-71.5			191.7	553.2	284.0	58.9	1.000043
52000.0	108.1	-71.5			186.8	553.2	285.2	59.6	1.000042
52500.0	105.4	-71.5			182.0	553.2	286.5	61.9	1.000041
53000.0	102.7	-71.5			177.4	553.2	287.2	63.8	1.000040
53500.0	100.0	-71.5			172.8	553.2	287.0	64.6	1.000038
54000.0	97.5	-71.4			168.3	553.4	286.5	63.6	1.000037
54500.0	95.0	-71.2			163.9	553.6	285.8	61.1	1.000037
55000.0	92.6	-71.1			159.6	553.8	285.1	58.6	1.000036
55500.0	90.2	-71.0			155.5	554.0	284.3	56.0	1.000035
56000.0	87.9	-70.8			151.4	554.2	282.0	53.6	1.000034
56500.0	85.7	-70.7			147.4	554.3	279.2	51.4	1.000033
57000.0	83.5	-70.5			143.6	554.5	274.5	49.7	1.000032
57500.0	81.4	-70.4			139.8	554.7	269.4	48.5	1.000031
58000.0	79.3	-70.3			136.2	554.9	267.0	49.1	1.000030
58500.0	77.3	-70.1			132.6	555.1	265.0	49.9	1.000030
59000.0	75.3	-70.0			129.2	555.3	265.9	48.8	1.000029
59500.0	73.4	-69.9			125.6	555.5	267.1	47.4	1.000028
60000.0	71.5	-69.7			122.5	555.7	268.4	44.3	1.000027
60500.0	69.7	-69.5			119.2	556.0	270.0	40.2	1.000027
61000.0	68.0	-68.7			115.8	557.1	271.7	36.4	1.000026
61500.0	66.2	-67.8			112.4	558.2	273.1	33.6	1.000025
62000.0	64.6	-67.0			109.1	559.3	274.7	30.8	1.000024
62500.0	63.0	-66.5			106.1	560.0	273.7	28.8	1.000024
63000.0	61.4	-67.1			103.8	559.2	272.3	26.8	1.000023

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 873

UPPER AIR DATA  
 3420020873  
 WHITE SANDS  
 TABLE X. (CONT)

GEODETIC COORDINATES  
 32.40043 LAT NEG  
 106.37033 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPFDD OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	59.8	-67.6		101.4	558.5	270.3	24.7	1.000023
64000.0	58.3	-68.2		99.1	557.7	267.4	22.7	1.000022
64500.0	56.9	-68.1		95.6	557.8	265.5	20.4	1.000022
65000.0	55.5	-66.6		93.6	559.8	267.3	17.6	1.000021
65500.0	54.1	-65.1		90.6	561.9	269.9	14.9	1.000020
66000.0	52.7	-63.6		87.7	563.9	278.5	10.6	1.000020
66500.0	51.4	-62.1		84.9	566.0	297.6	6.8	1.000019
67000.0	50.2	-60.6		82.2	568.0	320.6	4.4	1.000018
67500.0	48.9	-60.3		80.1	568.4	.2	3.1	1.000018
68000.0	47.8	-60.2		78.1	568.5	30.5	2.4	1.000017
68500.0	46.6	-60.1		76.2	568.6	139.9	.2	1.000017
69000.0	45.5	-60.0		74.3	568.8	204.5	2.5	1.000017
69500.0	44.4	-59.9		72.5	568.9	215.8	5.0	1.000016
70000.0	43.3	-59.8		70.7	569.0	219.6	7.5	1.000016
70500.0	42.2	-59.7		69.0	569.2	223.3	8.5	1.000015
71000.0	41.2	-59.6		67.3	569.3	227.9	8.5	1.000015
71500.0	40.2	-59.5		65.6	569.4	232.5	8.6	1.000015
72000.0	39.2	-59.4		64.0	569.5	237.8	8.7	1.000014
72500.0	38.3	-59.3		62.4	569.7	242.8	8.8	1.000014
73000.0	37.4	-59.2		60.9	569.8	244.7	9.6	1.000014
73500.0	36.5	-59.1		59.3	569.9	244.7	10.6	1.000013
74000.0	35.6	-59.0		57.9	570.1	245.0	11.5	1.000013
74500.0	34.7	-58.9		56.5	570.2	246.7	12.1	1.000013
75000.0	33.9	-58.8		55.1	570.3	248.3	12.8	1.000012
75500.0	33.1	-58.8		53.7	570.4	248.1	13.8	1.000012
76000.0	32.3	-58.7		52.4	570.5	247.4	14.9	1.000012
76500.0	31.5	-58.6		51.1	570.7	246.7	15.8	1.000011
77000.0	30.7	-58.5		49.9	570.8	245.7	15.6	1.000011
77500.0	30.0	-58.4		48.6	570.9	244.7	15.3	1.000011
78000.0	29.3	-57.3		47.2	572.4	246.8	15.2	1.000011

UPPER AIR DATA  
 3420020873  
 WHITE SANDS  
 TABLE X. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 873

GEODETIC COORDINATES  
 32.40043 LAT NEG  
 106.37033 LON NEG

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 DEGREES CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
78500.0	28.6	-56.2	-56.2	45.9	573.8	251.0	15.2	1.000010	
79000.0	27.9	-55.1	-55.1	44.9	575.2	255.2	15.3	1.000010	
79500.0	27.2	-54.9	-54.9	43.5	575.5	249.4	13.2	1.000010	
80000.0	26.6	-54.9	-54.9	42.4	575.5	239.3	11.1	1.000009	
80500.0	26.0	-54.8	-54.8	41.4	575.6	225.9	9.6	1.000009	
81000.0	25.3	-54.8	-54.8	40.4	575.7	218.8	9.2	1.000009	
81500.0	24.7	-54.7	-54.7	39.4	575.8	211.2	9.1	1.000009	
82000.0	24.1	-54.7	-54.7	38.5	575.9	215.5	9.3	1.000009	
82500.0	23.6	-54.6	-54.6	37.6	575.9	238.1	11.6	1.000008	
83000.0	23.0	-54.5	-54.5	36.7	576.0	252.0	15.0	1.000008	
83500.0	22.5	-54.5	-54.5	35.8	576.1	257.3	17.3	1.000008	
84000.0	21.9	-54.4	-54.4	34.9	576.2	259.1	18.3	1.000008	
84500.0	21.4	-54.4	-54.4	34.1	576.2	260.8	19.3	1.000008	
85000.0	20.9	-54.3	-54.3	33.3	576.3	263.5	18.3	1.000007	
85500.0	20.4	-54.3	-54.3	32.5	576.4	267.1	16.9	1.000007	
86000.0	19.9	-54.2	-54.2	31.7	576.5	271.2	15.5	1.000007	
86500.0	19.5	-54.2	-54.2	31.0	576.4	276.6	14.8	1.000007	
87000.0	19.0	-54.3	-54.3	30.2	576.4	282.6	14.2	1.000007	
87500.0	18.5	-54.3	-54.3	29.5	576.4	286.2	12.6	1.000007	
88000.0	18.1	-54.3	-54.3	28.8	576.3	279.9	7.9	1.000006	
88500.0	17.7	-54.3	-54.3	28.1	576.3	256.5	3.5	1.000006	
89000.0	17.3	-54.4	-54.4	27.5	576.3	209.4	3.9	1.000006	
89500.0	16.9	-54.4	-54.4	26.8	576.2	207.0	7.1	1.000006	
90000.0	16.5	-54.4	-54.4	26.2	576.2	206.1	10.3	1.000006	
90500.0	16.1	-54.4	-54.4	25.6	576.2	218.0	15.0	1.000006	
91000.0	15.7	-54.5	-54.5	25.0	576.1	226.8	20.7	1.000006	
91500.0	15.3	-54.5	-54.5	24.4	576.1	231.7	26.8	1.000005	
92000.0	14.9	-54.5	-54.5	23.8	576.1	236.6	27.9	1.000005	
92500.0	14.6	-54.5	-54.5	23.3	576.0	241.2	29.1	1.000005	
93000.0	14.2	-54.6	-54.6	22.7	576.0	245.1	30.2	1.000005	

UPPER AIR DATA  
 3420020873  
 WHITE SANDS  
 TABLE X. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77 1045 HRS MST  
 ASCENSION NO. 673

GEODETIC COORDINATES  
 32.40043 LAT NEG  
 106.37033 LON NEG

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	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
93500.0	13.9	-54.6			22.2	576.0	246.8	29.0	1.000005
94000.0	13.6	-54.4			21.6	576.2	248.6	27.8	1.000005
94500.0	13.3	-53.8			21.1	577.0	248.7	26.5	1.000005
95000.0	13.0	-53.1			20.5	577.8	240.2	24.6	1.000005
95500.0	12.7	-52.5			20.0	578.6	230.6	23.3	1.000004
96000.0	12.4	-51.9			19.5	579.5	224.3	22.8	1.000004
96500.0	12.1	-51.3			19.0	580.3	232.9	23.4	1.000004
97000.0	11.8	-50.7			18.5	581.1	240.9	24.4	1.000004
97500.0	11.5	-50.1			18.0	581.9	248.7	25.9	1.000004
98000.0	11.2	-49.5			17.5	582.7	257.1	28.1	1.000004
98500.0	11.0	-48.9			17.1	583.5	264.2	30.8	1.000004
99000.0	10.7	-48.2			16.6	584.3			1.000004
99500.0	10.5	-47.6			16.2	585.1			1.000004
100000.0	10.2	-47.0			15.8	585.8			1.000004

STATION ALTITUDE 3989.00 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 873

MANDATORY LEVELS  
 3420020673  
 WHITE SANDS  
 TABLE XI.

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		RFL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PFRCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4773.	16.8	-7.6	16.	272.5	22.3	
800.0	6462.	15.5	-5.2	24.	284.1	27.0	
750.0	8242.	11.2	-8.8	24.	323.7	25.4	
700.0	10114.	6.4	-13.2	23.	324.0	25.8	
650.0	12097.	3.4	-17.3	20.	311.4	34.3	
600.0	14213.	.2	-20.7	19.	302.9	30.9	
550.0	16491.	-3.6	-24.4	18.	292.7	26.2	
500.0	18932.	-9.9	-29.7	18.	294.9	23.7	
450.0	21561.	-17.3	-35.0	20.	293.4	24.7	
400.0	24410.	-24.2	-41.1	19.	302.0	31.3	
350.0	27557.	-32.6	-47.6	21.	306.5	32.8	
300.0	31046.	-42.8			307.3	28.8	
250.0	34987.	-51.6			299.9	33.0	
200.0	39661.	-55.4			289.5	58.1	
175.0	42450.	-57.1			281.9	62.3	
150.0	45622.	-61.0			275.4	65.7	
125.0	49279.	-67.8			284.4	55.0	
100.0	53621.	-71.5			286.9	64.8	
80.0	57958.	-70.3			266.5	49.3	
70.0	60565.	-69.6			270.9	38.2	
60.0	63610.	-67.6			268.6	23.5	
50.0	67249.	-60.4			356.8	3.2	
40.0	71821.	-59.5			238.5	8.7	
30.0	77743.	-58.4			247.1	15.2	
25.0	81555.	-54.7			208.3	9.1	
20.0	86244.	-54.2			277.8	14.7	
15.0	92293.	-54.5			243.0	29.7	
10.0	100933.	-46.4					

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



STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77 1230 HRS MST  
 ASCENSION NO. 5

SIGNIFICANT LEVEL DATA  
 3420220005  
 NW 30  
 TABLE XII.

GEODETIC COORDINATES  
 32.88497 LAT NEG  
 106.49714 LON NEG

PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE AIR DEWPOINT	RFL. HUM.
MILLIBARS	MSL FEET	DEGREES CENTIGRADE	PERCENT
874.1	4010.4	22.3	15.0
850.0	4804.4	18.6	21.0
724.3	9212.9	7.6	24.0
700.0	10133.3	7.0	21.0
620.8	13349.1	3.9	19.0
603.3	14108.9	2.8	17.0
500.0	18974.7	-0.6	17.0
400.0	24463.2	-24.1	18.0
339.8	28281.0	-34.1	20.0
300.0	31091.2	-41.6	
267.3	33612.1	-48.9	
250.0	35041.3	-51.6	
232.8	36540.4	-55.7	
200.0	39709.5	-54.9	
194.3	40315.7	-53.6	
170.8	43004.9	-57.0	
150.0	45666.5	-61.1	
110.3	51737.8	-71.1	
100.0	53659.5	-69.6	
79.3	58201.8	-67.1	
74.3	59499.6	-62.3	
70.0	60700.6	-62.5	
58.5	64255.2	-69.3	
52.3	66499.2	-57.7	
50.0	67422.8	-58.6	
34.3	75192.3	-55.9	
31.8	76772.0	-53.0	
30.0	77994.7	-53.5	
22.3	84178.7	-55.7	
20.0	86447.2	-53.5	

STATION ALTITUDE 4010.40 FEET MSL  
8 DEC. 77 1230 HRS MST  
ASCENSION NO. 5

SIGNIFICANT LEVEL DATA  
3420220005  
NW 30  
TABLE XII. (CONT)

GEODETIC COORDINATES  
32.88497 LAT DEG  
106.49714 LON DEG

PRESSURE GEOMETRIC MILLIBARS MSL FEET	TEMPERATURE AIR DEGREE CENTIGRAD	REL. HUM. PERCENT
12.8 95917.0	-47.5	

UPPER AIR DATA  
 3420220005  
 NW 30  
 TABLE XIII.

STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77 1230 HRS MST  
 ASCENSION 10. 5

GEODETIC COORDINATES  
 32.88497 LAT DEG  
 106.49714 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE					SPEED KNOTS	INDX	
4010.4	874.1	22.3	-5.6	15.0	1028.9	670.2	270.0	20.0	1.000247	
4500.0	859.2	20.0	-4.5	18.7	1019.0	667.7	271.1	16.9	1.000246	
5000.0	844.0	18.1	-4.4	21.1	1007.5	665.5	272.7	13.8	1.000244	
5500.0	828.8	16.9	-5.3	21.5	993.7	664.1	275.2	10.6	1.000240	
6000.0	813.9	15.6	-6.1	21.8	980.1	662.6	280.1	7.9	1.000236	
6500.0	799.3	14.4	-7.0	22.2	966.7	661.2	288.2	9.9	1.000232	
7000.0	784.9	13.1	-7.8	22.5	953.6	659.7	293.5	12.0	1.000228	
7500.0	770.8	11.9	-8.7	22.8	940.6	658.2	296.0	16.3	1.000224	
8000.0	756.9	10.6	-9.5	23.2	927.8	656.8	297.5	20.6	1.000221	
8500.0	743.3	9.4	-10.4	23.5	915.2	655.3	299.4	23.8	1.000217	
9000.0	729.9	8.1	-11.3	23.9	902.8	653.8	300.9	26.9	1.000213	
9500.0	716.6	7.4	-12.3	23.1	888.7	653.0	305.0	28.6	1.000209	
10000.0	703.5	7.1	-13.5	21.4	873.5	652.5	308.7	30.1	1.000205	
10500.0	690.5	6.6	-14.2	20.8	858.7	652.0	312.2	30.4	1.000201	
11000.0	677.7	6.2	-14.8	20.5	844.3	651.4	314.4	30.7	1.000197	
11500.0	665.2	5.7	-15.4	20.2	830.2	650.9	315.0	30.9	1.000194	
12000.0	652.9	5.2	-16.0	19.8	816.3	650.3	311.4	32.2	1.000190	
12500.0	640.8	4.7	-16.6	19.5	802.6	649.7	307.6	33.0	1.000187	
13000.0	628.9	4.2	-17.2	19.2	789.1	649.1	304.1	32.0	1.000184	
13500.0	617.3	3.7	-18.0	18.6	776.1	648.5	302.7	29.9	1.000180	
14000.0	605.8	3.0	-19.5	17.3	763.7	647.6	302.5	27.0	1.000177	
14500.0	594.3	1.8	-20.6	17.0	752.4	646.2	303.7	25.5	1.000174	
15000.0	582.9	.5	-21.6	17.0	741.5	644.7	304.4	24.4	1.000171	
15500.0	571.8	-.7	-22.7	17.0	730.7	643.2	303.4	24.2	1.000168	
16000.0	560.8	-2.0	-23.7	17.0	720.2	641.7	301.4	24.7	1.000165	
16500.0	550.1	-3.3	-24.8	17.0	709.6	640.2	298.6	25.9	1.000162	
17000.0	539.6	-4.6	-25.8	17.0	699.5	638.6	296.0	26.9	1.000160	
17500.0	529.3	-5.8	-26.9	17.0	689.5	637.1	293.5	27.8	1.000157	
18000.0	519.2	-7.1	-28.0	17.0	679.5	635.6	292.0	27.8	1.000155	
18500.0	509.2	-8.4	-29.0	17.0	669.8	634.0	291.1	27.3	1.000152	

STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77 1230 HRS MST  
 ASCENSION NO. 5

UPPER AIR DATA  
 3420220005  
 NW 30  
 TABLE XIII. (CONT)

GEODETIC COORDINATES  
 32.88497 LAT NEG  
 106.49714 LON NEG

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	
19000.0	499.5	-9.7	-30.1	17.0	660.1	632.5	290.4	26.9	1.000150
19500.0	489.4	-11.0	-31.1	17.1	650.1	630.9	289.6	26.8	1.000147
20000.0	479.6	-12.3	-32.1	17.2	640.3	629.3	287.9	27.5	1.000145
20500.0	469.9	-13.6	-33.2	17.3	630.6	627.7	287.0	28.5	1.000143
21000.0	460.5	-15.0	-34.2	17.4	621.1	626.1	286.4	29.8	1.000140
21500.0	451.2	-16.3	-35.3	17.5	611.8	624.5	285.3	30.9	1.000138
22000.0	442.1	-17.6	-36.3	17.6	602.6	622.9	284.5	31.2	1.000136
22500.0	433.2	-18.9	-37.4	17.6	593.5	621.2	283.9	30.9	1.000134
23000.0	424.5	-20.2	-38.5	17.7	584.6	619.6	283.1	30.3	1.000132
23500.0	416.0	-21.6	-39.5	17.8	575.9	618.0	283.8	30.4	1.000129
24000.0	407.6	-22.9	-40.6	17.9	567.3	616.4	285.9	31.5	1.000127
24500.0	399.4	-24.2	-41.6	18.0	558.8	614.7	289.4	32.3	1.000125
25000.0	390.9	-25.5	-42.6	18.3	549.9	613.1	292.0	33.0	1.000123
25500.0	382.7	-26.8	-43.6	18.5	541.1	611.5	291.6	32.4	1.000121
26000.0	374.6	-28.1	-44.6	18.8	532.5	609.9	291.0	31.6	1.000119
26500.0	366.7	-29.4	-45.6	19.1	524.1	608.2	290.0	30.4	1.000117
27000.0	358.9	-30.7	-46.5	19.3	515.8	606.6	290.0	30.2	1.000115.
27500.0	351.3	-32.1	-47.5	19.6	507.6	604.9	290.5	30.5	1.000114
28000.0	343.9	-33.4	-48.6	19.9	499.6	603.3	291.7	32.1	1.000112
28500.0	336.5	-34.7	-50.3	18.4**	491.6	601.6	292.9	33.8	1.000110
29000.0	329.1	-36.0	-53.2	14.9**	483.5	599.9	294.0	34.9	1.000108
29500.0	321.9	-37.4	-56.6	11.3**	475.6	598.2	294.9	35.9	1.000106
30000.0	314.9	-38.7	-60.6	7.8**	467.8	596.5	294.9	36.0	1.000104
30500.0	308.0	-40.0	-66.1	4.2**	460.2	594.8	295.1	35.9	1.000103
31000.0	301.2	-41.4	-79.4	.6**	452.7	593.1	296.3	34.5	1.000101
31500.0	294.4	-42.8			445.3	591.3	297.9	33.5	1.000099
32000.0	287.8	-44.2			437.9	589.4	300.5	35.3	1.000098
32500.0	281.3	-45.7			430.7	587.6	302.6	37.5	1.000096
33000.0	274.9	-47.1			423.7	585.7	303.6	41.0	1.000094
33500.0	268.7	-48.6			416.6	583.8	304.2	43.6	1.000093

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

STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77 1230 HRS MST  
 ASCENSION NO. 5

UPPER AIR DATA  
 3420220005  
 NW 30  
 TABLE XIII. (CONT)

GEODETIC COORDINATES  
 32.88497 LAT NEG  
 106.49714 LON NEG

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	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
34000.0	262.5	-49.6			409.1	582.4	304.4	44.7	1.000091
34500.0	256.4	-50.6			401.3	581.2	303.3	43.5	1.000089
35000.0	250.5	-51.5			393.7	580.0	301.3	41.3	1.000088
35500.0	244.6	-52.9			386.8	578.2	298.9	40.6	1.000086
36000.0	238.9	-54.2			380.1	576.4	296.3	40.3	1.000085
36500.0	233.2	-55.6			373.5	574.6	295.6	41.8	1.000083
37000.0	227.7	-55.6			364.6	574.6	294.7	43.3	1.000081
37500.0	222.3	-55.5			355.8	574.8	292.1	44.6	1.000079
38000.0	217.1	-55.3			347.2	575.0	289.8	45.9	1.000077
38500.0	211.9	-55.2			338.8	575.1	289.1	46.8	1.000075
39000.0	206.9	-55.1			330.5	575.3	288.5	47.9	1.000074
39500.0	202.0	-55.0			322.5	575.5	288.6	51.3	1.000072
40000.0	197.2	-54.3			313.9	576.4	288.7	54.8	1.000070
40500.0	192.6	-53.8			305.9	576.9	286.6	57.3	1.000068
41000.0	188.0	-54.5			299.5	576.1	284.5	59.8	1.000067
41500.0	183.6	-55.1			293.3	575.3	283.8	59.0	1.000065
42000.0	179.2	-55.7			287.2	574.4	283.3	57.8	1.000064
42500.0	175.0	-56.4			281.2	573.6	284.2	58.9	1.000063
43000.0	170.8	-57.0			275.3	572.8	285.3	60.4	1.000061
43500.0	166.7	-57.8			269.7	571.7	285.4	61.2	1.000060
44000.0	162.7	-58.5			264.1	570.7	285.2	61.8	1.000059
44500.0	158.8	-59.3			258.7	569.7	285.2	62.2	1.000058
45000.0	155.0	-60.1			253.3	568.7	285.3	62.2	1.000056
45500.0	151.2	-60.8			248.1	567.6	285.4	62.2	1.000055
46000.0	147.5	-61.6			242.9	566.6	286.4	62.4	1.000054
46500.0	143.8	-62.5			237.8	565.5	287.4	62.6	1.000053
47000.0	140.2	-63.3			232.8	564.4	287.9	61.1	1.000052
47500.0	136.7	-64.1			227.9	563.3	288.4	59.4	1.000051
48000.0	133.3	-64.9			223.1	562.2	288.5	56.0	1.000050
48500.0	130.0	-65.8			218.4	561.0	288.3	51.9	1.000049

STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77 1230 HRS MST  
 ASCENSION NO. 5

UPPER AIR DATA  
 3420220005  
 NW 30  
 TABLE XIII. (CONT)

GEODETIC COORDINATES  
 32.88497 LAT NEG  
 106.49714 LON NEG

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 DEGREES CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
49000.0	126.8	-66.6		213.8	559.9	288.4	48.5	1.000048	
49500.0	123.6	-67.4		209.3	558.8	289.1	46.0	1.000047	
50000.0	120.5	-68.2		204.9	557.7	289.4	44.3	1.000046	
50500.0	117.5	-69.0		200.6	556.6	287.9	48.0	1.000045	
51000.0	114.6	-69.9		196.4	555.5	286.6	51.8	1.000044	
51500.0	111.7	-70.7		192.3	554.3	284.2	59.3	1.000043	
52000.0	108.9	-70.9		187.6	554.0	282.1	67.5	1.000042	
52500.0	106.2	-70.5		182.5	554.6	281.3	71.7	1.000041	
53000.0	103.5	-70.1		177.5	555.1	281.2	73.7	1.000040	
53500.0	100.8	-69.7		172.7	555.6	281.5	74.0	1.000038	
54000.0	98.3	-69.4		168.0	556.1	282.9	70.9	1.000037	
54500.0	95.8	-69.1		163.6	556.4	284.5	67.7	1.000036	
55000.0	93.4	-68.9		159.2	556.8	286.5	64.3	1.000035	
55500.0	91.0	-68.6		155.0	557.2	288.8	60.9	1.000035	
56000.0	88.7	-68.3		150.9	557.6	290.3	58.5	1.000034	
56500.0	86.5	-68.0		146.9	557.9	291.7	56.5	1.000033	
57000.0	84.3	-67.8		143.0	558.3	290.9	55.2	1.000032	
57500.0	82.2	-67.5		139.2	558.7	290.1	53.2	1.000031	
58000.0	80.1	-67.2		135.5	559.1	288.8	48.4	1.000030	
58500.0	78.1	-66.0		131.4	560.7	287.4	42.3	1.000029	
59000.0	76.2	-64.1		127.0	563.2	285.8	34.3	1.000028	
59500.0	74.3	-62.3		122.8	565.7	283.6	26.5	1.000027	
60000.0	72.5	-62.4		119.8	565.6	281.3	19.4	1.000027	
60500.0	70.7	-62.5		116.9	565.5	277.9	13.5	1.000026	
61000.0	68.9	-63.1		114.3	564.7	279.6	13.0	1.000025	
61500.0	67.2	-64.0		112.0	563.4	281.6	12.7	1.000025	
62000.0	65.6	-65.0		109.7	562.1	283.5	14.6	1.000024	
62500.0	63.9	-65.9		107.5	560.8	285.0	16.5	1.000024	
63000.0	62.3	-66.9		105.3	559.5	285.8	17.6	1.000023	
63500.0	60.8	-67.9		103.1	558.2	286.2	18.0	1.000023	

UPPER AIR DATA  
 3420220005  
 NW 30  
 TABLE XIII. (CONT)

STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77 1230 HRS MST  
 ASCENSION NO. 5

GEODETIC COORDINATES  
 32.88497 LAT NEG  
 106.49714 LON NEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
64000.0	59.3	-68.8		101.0	556.9	286.5	18.3	1.000023
64500.0	57.8	-68.0		98.1	557.9	286.7	16.7	1.000022
65000.0	56.4	-65.4		94.5	561.5	286.9	14.7	1.000021
65500.0	55.0	-62.9		91.1	564.9	287.1	12.7	1.000020
66000.0	53.6	-60.3		87.7	568.4	287.9	12.1	1.000020
66500.0	52.3	-57.7		84.6	571.8	288.8	11.5	1.000019
67000.0	51.0	-58.2		82.7	571.2	289.8	15.4	1.000018
67500.0	49.8	-58.6		80.9	570.7	290.5	20.9	1.000018
68000.0	48.6	-58.4		78.9	570.9	290.0	22.5	1.000018
68500.0	47.5	-58.2		76.9	571.1	288.1	19.3	1.000017
69000.0	46.3	-58.1		75.0	571.4	284.3	14.2	1.000017
69500.0	45.2	-57.9		73.2	571.6	199.2	2.9	1.000016
70000.0	44.1	-57.7		71.3	571.8	126.9	14.8	1.000016
70500.0	43.1	-57.5		69.6	572.1	142.9	15.8	1.000015
71000.0	42.0	-57.4		67.9	572.3	160.6	17.1	1.000015
71500.0	41.0	-57.2		66.2	572.5	181.4	16.5	1.000015
72000.0	40.0	-57.0		64.5	572.7	211.7	16.5	1.000014
72500.0	39.1	-56.8		62.9	573.0	234.9	19.9	1.000014
73000.0	38.1	-56.7		61.4	573.2	240.2	15.8	1.000014
73500.0	37.2	-56.5		59.9	573.4	249.1	12.0	1.000013
74000.0	36.3	-56.3		58.4	573.7	257.5	10.7	1.000013
74500.0	35.5	-56.1		56.9	573.9	262.9	10.8	1.000013
75000.0	34.6	-56.0		55.5	574.1	268.7	11.2	1.000012
75500.0	33.8	-55.3		54.1	575.0	275.9	13.3	1.000012
76000.0	33.0	-54.4		52.6	576.2	281.1	15.5	1.000012
76500.0	32.2	-53.5		51.1	577.4	284.2	14.3	1.000011
77000.0	31.5	-53.1		49.8	577.9	287.8	11.7	1.000011
77500.0	30.7	-53.3		48.7	577.6	292.5	9.2	1.000011
78000.0	30.0	-53.5		47.6	577.4	292.4	6.7	1.000011
78500.0	29.3	-53.7		46.5	577.1	292.2	4.2	1.000010

STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77 1230 HRS MST  
 ASCENSION NO. 5

UPPER AIR DATA  
 3420220005  
 NW 30  
 TABLE XIII. (CONT)

GEODETIC COORDINATES  
 32.88497 LAT DEG  
 106.49714 LON DEG

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 DEGREES CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
79000.0	28.6	-53.9			45.4	576.9	289.9	3.2	1.000010
79500.0	27.9	-54.0			44.4	576.7	286.6	3.6	1.000010
80000.0	27.2	-54.2			43.4	576.4	284.0	4.1	1.000010
80500.0	26.6	-54.4			42.4	576.2	285.6	4.6	1.000009
81000.0	26.0	-54.6			41.4	576.0	287.4	5.0	1.000009
81500.0	25.4	-54.7			40.4	575.7	288.9	6.1	1.000009
82000.0	24.8	-54.9			39.5	575.5	289.5	9.5	1.000009
82500.0	24.2	-55.1			38.6	575.3	289.7	12.9	1.000009
83000.0	23.6	-55.3			37.7	575.0	284.0	14.1	1.000008
83500.0	23.0	-55.5			36.9	574.8	273.6	14.0	1.000008
84000.0	22.5	-55.6			36.0	574.6	263.5	14.3	1.000008
84500.0	22.0	-55.4			35.1	574.9	250.5	13.9	1.000008
85000.0	21.4	-54.9			34.2	575.5	237.3	14.2	1.000008
85500.0	20.9	-54.4			33.3	576.2	228.7	15.1	1.000007
86000.0	20.4	-53.9			32.5	576.8	228.5	16.0	1.000007
86500.0	20.0	-53.5			31.6	577.4	228.3	16.9	1.000007
87000.0	19.5	-53.1			30.9	577.8	225.8	18.0	1.000007
87500.0	19.0	-52.8			30.1	578.3	221.0	19.5	1.000007
88000.0	18.6	-52.5			29.4	578.7	216.8	21.1	1.000007
88500.0	18.2	-52.2			28.6	579.1	215.1	23.3	1.000006
89000.0	17.7	-51.9			27.9	579.5	221.2	28.0	1.000006
89500.0	17.3	-51.6			27.2	579.9	225.4	32.8	1.000006
90000.0	16.9	-51.2			26.6	580.3	228.6	37.9	1.000006
90500.0	16.5	-50.9			25.9	580.7	234.7	35.0	1.000006
91000.0	16.1	-50.6			25.3	581.2	242.4	31.8	1.000006
91500.0	15.8	-50.3			24.6	581.6	251.6	29.3	1.000005
92000.0	15.4	-50.0			24.0	582.0	258.8	26.5	1.000005
92500.0	15.0	-49.7			23.4	582.4	265.6	23.4	1.000005
93000.0	14.7	-49.3			22.9	582.8	274.3	20.8	1.000005
93500.0	14.3	-49.0			22.3	583.2			1.000005



UPPER AIR DATA  
 3420220005  
 NW 30  
 TABLE XIII. (CONT)

STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77 1230 HRS MST  
 ASCENSION NO. 5

GEODETIC COORDINATES  
 32.88497 LAT NEG  
 106.49714 LON NEG

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	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
94000.0	14.0	-48.7			21.7	583.6			1.000005
94500.0	13.7	-48.4			21.2	584.0			1.000005
95000.0	13.4	-48.1			20.7	584.5			1.000005
95500.0	13.1	-47.8			20.2	584.9			1.000004

STATION ALTITUDE 4010.40 FEET MSL  
 8 DEC. 77  
 ASCENSION NO. 5  
 1230 HRS MST  
 MANDATORY LEVELS  
 3420220005  
 NW 30  
 TABLE XIV.  
 GEODETIC COORDINATES  
 32.88497 LAT NEG  
 106.49714 LON NEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		RFL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4803.	18.6	-4.1	21.	272.0	15.0
800.0	6494.	14.4	-6.9	22.	288.2	9.8
750.0	8267.	10.0	-10.0	23.	298.6	22.3
700.0	10134.	7.0	-13.8	21.	309.7	30.2
650.0	12124.	5.1	-16.1	20.	310.3	32.6
600.0	14258.	2.4	-20.1	17.	303.1	26.2
550.0	16539.	-3.3	-24.6	17.	298.3	26.0
500.0	18983.	-9.6	-30.0	17.	290.4	26.9
450.0	21618.	-16.4	-35.4	17.	284.9	31.2
400.0	24481.	-24.1	-41.6	18.	289.4	32.3
350.0	27625.	-32.3	-47.7	20.	290.8	30.9
300.0	31124.	-41.6			296.8	34.0
250.0	35084.	-51.6			300.7	40.9
200.0	39767.	-54.9			288.7	53.7
175.0	42569.	-56.4			284.5	59.3
150.0	45746.	-61.1			286.1	62.3
125.0	49409.	-67.0			289.1	45.8
100.0	53774.	-69.6			282.7	71.4
80.0	58164.	-67.2			287.8	45.2
70.0	60850.	-62.5			279.7	13.0
60.0	63928.	-68.3			286.6	18.3
50.0	67611.	-58.6			290.5	23.6
40.0	72229.	-57.0			234.7	20.0
30.0	78252.	-53.5			292.1	4.0
25.0	82089.	-54.9			289.7	12.3
20.0	86768.	-53.5			224.5	18.4
15.0	92894.	-49.6				

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