

AD-A092 777

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
12828F LANCE, MISSILE NUMBER 5302, ROUND NUMBER 358-NSL, 2 OCTO--ETC(U)
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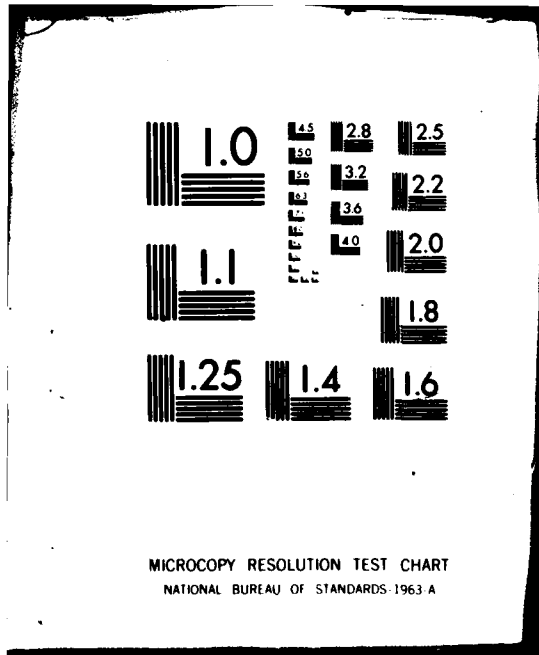
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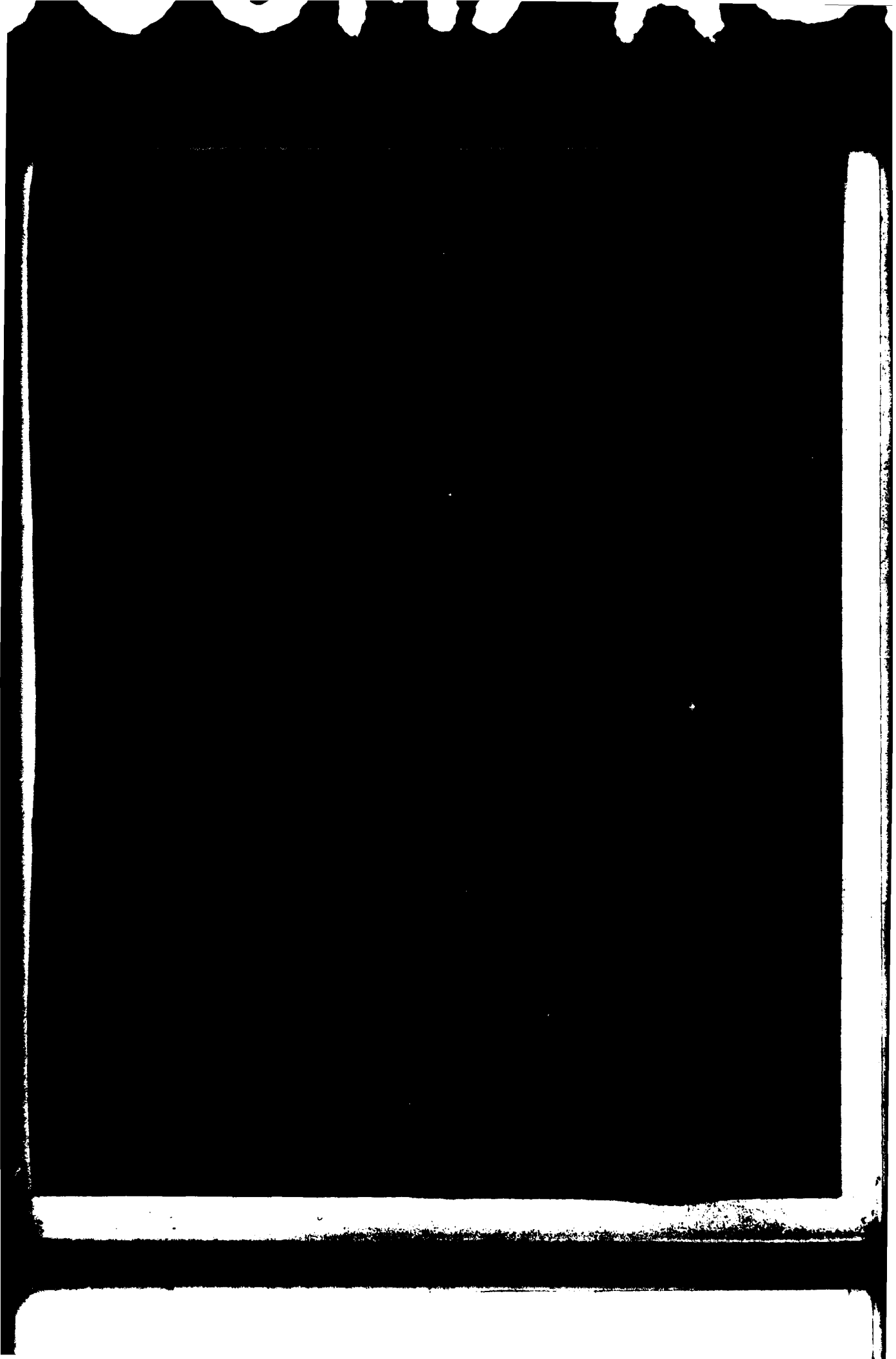
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 12828F LANCE, Missile Number 5302, Round Number 358-NSL ^{was} presented in tabular form.		

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INTRODUCTION

12828F LANCE, Missile Number 5302, Launch Number 358-NSL
was launched from LC 33, White Sands Missile Range, New Mexico
at 1034 MDT on 2 October 1980
1030 MDT

DISCUSSION

Observations were made and recorded at the White Sands Missile Range
Team. Atmospheric Science Laboratory (ASL) at the White Sands Missile Range
the data was obtained by the following methods:

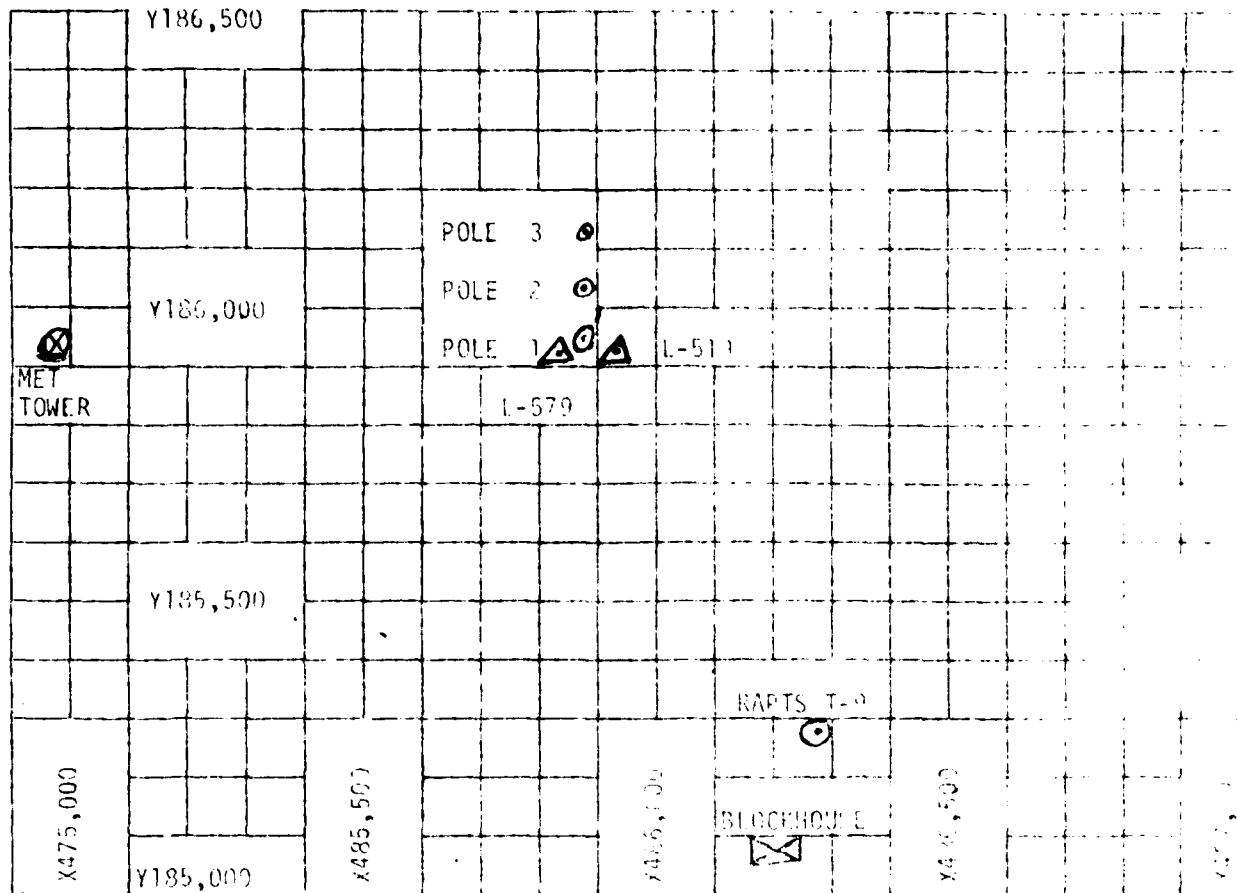
- (1) Surface Observations
Standard surface observations (sea level pressure, temperature,
relative humidity, dew point ($^{\circ}$ C), density (g/cm^3), cloud cover, and
cloud base) were made at the LC 33 site at 1030 MDT.
- (2) Anemometer data were provided from existing rotane anemometer
located at LC-33. Monitor of wind speed and direction at
anemometer also provided to the launch controller.
- (3) Low level wind data were obtained from SAPI. The data were
provided to the launch controller.

SITE AND ALTITUDE
LC 33 2700 and 3000 Meters

(4) Air structure data (rawinsonde) were collected from the launch site
the data were collected from surface to high as possible
at 1030 MDT.

SITE AND TIME
WSD 1020 MDT
APA 0900 MDT

NORTH



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 1030 MDT,
 2 October 1980, at LC-33, 12828F LANCE,
 Missile Number 5302, Round Number 358-NSL.

ELEVATION	3977.30	FT/MSL
PRESSURE	885.4	MBS
TEMPERATURE	20.3	°C
RELATIVE HUMIDITY	49	%
DEW POINT	9.2	°C
DENSITY	1044	GM/M ³
WIND SPEED	04	KTS
WIND DIRECTION	150	DEGREES
CLOUD COVER	CLEAR	

Accession For	
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ERIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Notification	
by _____	
Distribution/	
Availability Codes	
Avail and/or	
Dist	Special
A	

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 X485,877.23 Y136,116.06 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	MISG	-30	108	05	-30	MISG	MISG
-20	MISG	MISG	-20	092	04	-20	MISG	MISG
-10	MISG	MISG	-10	088	03	-10	MISG	MISG
0.0	MISG	MISG	0.0	105	03	0.0	MISG	MISG
+10	MISG	MISG	+10	107	03	+10	MISG	MISG

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (100 FT. TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	093	04	-30	109	MISG
-20	112	05	-20	092	MISG
-10	105	04	-10	088	MISG
0.0	085	07	0.0	105	MISG
+10	080	09	+10	107	MISG

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	098	07	-30	MISG	MISG
-20	078	07	-20	MISG	MISG
-10	089	08	-10	MISG	MISG
0.0	078	08	0.0	MISG	MISG
+10	078	09	+10	MISG	MISG

STATION ALTITUDE 3989.00 FEET MSL
 2 OCT. 60
 ASCENSION NO. 529 1020 HRS MDT

ATMOSPHERIC DATA
 2760' MDT
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MIL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	
885.4	3989.0	20.3	9.2	49.0
873.4	4375.9	20.2	7.2	43.0
850.0	5142.7	19.0	6.8	48.0
781.0	7499.7	12.1	3.3	55.0
744.6	8017.2	13.1	4.3	55.0
726.2	9008.1	12.1	3.1	54.0
700.0	10519.9	12.1	-6.8	26.0
674.0	11556.9	9.9	-9.7	24.0
582.0	15485.4	-8	-19.3	23.0
574.2	15039.9	-1	-24.3	14.0
565.6	16236.9	-1	-25.2	13.0
500.0	19430.9	-8.4	-31.8	13.0
481.0	20417.6	-9.3	-33.4	12.0
400.0	25021.6	-18.9	-37.7	17.0
342.4	28772.2	-27.0	-45.1	16.0
311.4	30998.3	-32.8	-49.4	17.0
300.0	31858.0	-35.5		
264.4	34708.4	-42.9		
250.0	35746.4	-45.1		
213.3	39176.5	-53.4		
158.0	45567.8	-65.5		
150.0	46609.2	-65.7		
131.8	49132.3	-69.7		
119.4	51131.1	-67.3		
111.0	52558.8	-71.9		
100.0	54503.6	-71.9		
87.8	57132.2	-69.9		
80.4	58777.3	-66.4		
70.0	61632.7	-68.5		
65.8	62809.2	-64.6		
62.4	63935.4	-66.2		
55.4	66155.7	-59.6		

STATION ALTITUDE 3989.00 FEET MSL
2 OCT. 80 1020 HRS MDT
ASCENSION NO. 529

SIGNIFICANT LEVEL DATA
2760020529
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 6 (CONT)

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
50.0	68476.1	-59.4	
39.7	73309.3	-54.0	
35.0	75973.6	-55.6	
30.0	79244.4	-52.6	

STATION ALTITUDE 3989.00 FEET MSL
 2 OCT. 80 1020 HRS MDT
 ASCENSION NO. 529

UPPER AIR DATA
 2760020529
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
3989.0	885.4	20.3	49.0	1045.8	669.0	150.0	4.1	1.000284
4000.0	885.1	20.3	48.8	1045.5	669.0	150.0	4.1	1.000284
4500.0	869.6	19.8	43.8	1029.3	668.3	148.5	4.5	1.000274
5000.0	854.3	18.4	47.1	1016.2	666.7	147.3	4.9	1.000271
5500.0	839.2	17.1	49.1	1002.8	665.2	146.3	5.4	1.000267
6000.0	824.2	15.9	50.5	989.4	663.7	134.6	5.9	1.000262
6500.0	809.6	14.6	52.0	976.1	662.2	113.1	7.3	1.000257
7000.0	795.1	13.4	53.5	963.1	660.7	104.6	7.5	1.000253
7500.0	781.0	12.1	55.0	950.2	659.2	100.5	6.3	1.000248
8000.0	767.0	12.5	55.0	931.8	659.7	98.1	4.7	1.000245
8500.0	753.2	12.9	55.0	913.7	660.2	96.0	2.8	1.000241
9000.0	739.7	12.8	54.7	897.3	660.2	94.9	2.6	1.000238
9500.0	726.4	12.1	54.0	883.6	659.3	94.7	2.9	1.000232
10000.0	713.3	12.1	40.4	868.5	659.0	86.9	2.6	1.000220
10500.0	700.5	12.1	26.5	853.8	658.6	73.8	2.3	1.000208
11000.0	687.8	11.1	25.1	841.5	657.4	60.6	2.6	1.000203
11500.0	675.4	10.0	24.1	829.5	656.1	51.5	3.2	1.000199
12000.0	662.9	8.7	23.9	818.2	654.5	60.3	3.1	1.000195
12500.0	650.7	7.3	23.8	807.0	652.9	74.4	3.0	1.000192
13000.0	638.6	6.0	23.6	796.0	651.3	75.4	3.4	1.000188
13500.0	626.8	4.6	23.5	785.2	649.7	74.5	3.8	1.000185
14000.0	615.2	3.2	23.4	774.5	648.0	49.7	5.0	1.000181
14500.0	603.8	1.9	23.3	764.0	646.4	35.2	6.9	1.000178
15000.0	592.6	.5	23.1	753.7	644.8	10.3	8.9	1.000175
15500.0	581.7	-.8	22.6	743.3	643.2	355.9	11.8	1.000172
16000.0	570.7	-.1	13.6	727.7	643.9	342.1	13.3	1.000166
16500.0	559.9	-.8	13.0	715.8	643.1	332.1	15.0	1.000163
17000.0	549.2	-2.1	13.0	705.5	641.6	326.6	14.3	1.000161
17500.0	538.7	-3.4	13.0	695.3	640.0	321.2	13.6	1.000158
18000.0	528.4	-4.7	13.0	685.4	638.5	318.4	12.3	1.000156
18500.0	518.3	-6.0	13.0	675.6	636.9	317.5	11.2	1.000153
19000.0	508.4	-7.3	13.0	665.9	635.3	324.5	11.2	1.000151

UPPER AIR DATA
 2760020529
 WHITE SANDS
 TABLE 7 (CONT)

STATION ALTITUDE 3989.00 FEET MSL
 2 OCT. 80
 ASCENSION NO. 529

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
19500.0	498.6	-8.5	-31.9	12.9	656.1	633.9	333.7	11.9	1.000148
20000.0	489.0	-8.9	-32.7	12.4	644.4	633.4	345.3	14.1	1.000146
20500.0	479.4	-9.5	-33.4	12.1	633.2	632.7	353.1	15.4	1.000143
21000.0	469.9	-10.5	-33.8	12.6	623.1	631.4	359.8	15.5	1.000141
21500.0	460.6	-11.6	-34.2	13.2	613.2	630.2	5.5	15.9	1.000138
22000.0	451.5	-12.6	-34.7	13.7	603.5	628.9	10.5	16.5	1.000136
22500.0	442.5	-13.6	-35.1	14.3	593.9	627.7	8.7	17.2	1.000134
23000.0	433.7	-14.7	-35.6	14.8	584.5	626.4	6.0	18.0	1.000132
23500.0	425.1	-15.7	-36.1	15.3	575.2	625.1	3.3	17.3	1.000130
24000.0	416.7	-16.8	-36.6	15.9	566.1	623.9	.4	16.6	1.000128
24500.0	408.4	-17.8	-37.2	16.4	557.1	622.6	.2	16.5	1.000126
25000.0	400.3	-18.9	-37.7	17.0	548.3	621.3	.4	16.4	1.000124
25500.0	392.1	-19.9	-38.7	16.9	539.4	620.0	359.7	16.4	1.000121
26000.0	384.1	-21.0	-39.7	16.7	530.6	618.7	358.8	16.4	1.000119
26500.0	376.2	-22.1	-40.6	16.6	522.0	617.3	358.0	17.0	1.000117
27000.0	368.5	-23.2	-41.6	16.5	513.5	616.0	357.3	17.8	1.000115
27500.0	360.9	-24.3	-42.6	16.3	505.1	614.7	358.3	19.9	1.000113
28000.0	353.5	-25.3	-43.6	16.2	496.9	613.3	359.7	22.4	1.000111
28500.0	346.3	-26.4	-44.5	16.1	488.9	612.0	.3	24.7	1.000110
29000.0	339.1	-27.6	-45.5	16.1	481.0	610.5	.6	26.8	1.000108
29500.0	331.9	-28.9	-46.5	16.3	473.4	608.9	.5	28.0	1.000106
30000.0	324.9	-30.2	-47.5	16.6	465.9	607.3	360.0	28.1	1.000104
30500.0	318.1	-31.5	-48.4	16.8	458.5	605.6	359.7	28.1	1.000103
31000.0	311.4	-32.8	-49.4	17.0**	451.3	604.0	.1	27.5	1.000101
31500.0	304.7	-34.4	-50.9	7.1**	444.5	602.0	.5	27.0	1.000099
32000.0	298.1	-35.9	-51.9		437.7	600.1	1.3	27.5	1.000097
32500.0	291.6	-37.2			430.4	598.5	2.1	27.9	1.000096
33000.0	285.2	-38.5			423.3	596.8	4.0	27.9	1.000094
33500.0	278.9	-39.8			416.4	595.2	6.1	27.8	1.000093
34000.0	272.8	-41.1			409.5	593.5	6.9	27.9	1.000091
34500.0	266.9	-42.4			402.8	591.8	6.7	28.3	1.000090
35000.0	260.9	-43.4			395.7	590.5	5.7	28.6	1.000088

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

STATION ALTITUDE 3989.00 FEET MSL
 2 OCT. 60 1020 HRS MDT
 ASCENSION NO. 529

UPPER AIR DATA
 276002029
 WHITE SAHOS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 7 (CONT)

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
						DEGREE-HIT CENTIGRADE	DIRECTION (DEGREES-TRUE)	
35500.0	255.1	-44.3		388.3	589.3	3.1	28.8	1.000086
36000.0	249.4	-45.2		381.2	588.1	.6	29.1	1.000085
36500.0	242.7	-46.4		374.4	586.6		28.5	1.000083
37000.0	238.1	-47.6		367.8	585.0	353.5	27.8	1.000082
37500.0	232.7	-48.9		361.4	583.4	350.3	27.9	1.000080
38000.0	227.3	-50.1		355.0	581.9	347.7	28.7	1.000079
38500.0	222.1	-51.3		348.8	580.3	346.1	29.6	1.000078
39000.0	217.0	-52.5		342.7	578.7	345.4	30.7	1.000076
39500.0	212.0	-53.6		336.5	577.2	346.6	31.7	1.000075
40000.0	206.9	-54.6		329.9	575.9	346.0	32.5	1.000073
40500.0	202.0	-55.6		323.4	574.6	345.5	33.4	1.000072
41000.0	197.2	-56.6		317.1	573.3	344.8	34.2	1.000071
41500.0	192.4	-57.6		310.9	572.0	344.1	35.0	1.000069
42000.0	187.8	-58.5		304.9	570.7	343.0	35.4	1.000068
42500.0	183.3	-59.5		298.9	569.4	341.1	35.0	1.000067
43000.0	178.9	-60.5		293.1	568.1	339.2	34.7	1.000065
43500.0	174.7	-61.5		287.4	566.8	336.4	33.6	1.000064
44000.0	170.5	-62.4		281.8	565.5	333.4	32.4	1.000063
44500.0	166.4	-63.4		276.4	564.2	330.0	32.2	1.000062
45000.0	162.4	-64.4		271.0	562.9	326.5	33.1	1.000060
45500.0	158.5	-65.4		265.8	561.6	323.3	34.0	1.000059
46000.0	154.6	-65.6		259.5	561.3	320.0	36.4	1.000058
46500.0	150.8	-65.7		253.2	561.1	317.2	38.9	1.000056
47000.0	147.1	-66.2		247.5	560.5	316.9	40.9	1.000055
47500.0	143.4	-66.7		242.1	559.7	319.3	42.1	1.000054
48000.0	139.9	-67.3		236.7	558.9	321.6	43.4	1.000053
48500.0	136.4	-67.9		231.5	558.1	329.9	43.9	1.000052
49000.0	133.0	-68.5		226.4	557.3	338.9	45.2	1.000050
49500.0	129.7	-68.8		221.1	556.9	346.7	47.5	1.000049
50000.0	126.4	-69.0		215.7	556.7	347.6	48.2	1.000048
50500.0	123.3	-69.1		210.5	556.5	348.5	48.9	1.000047
51000.0	120.2	-69.3		205.4	556.3	347.9	48.6	1.000046

UPPER AIR DATA
 2760020529
 WHITE SAHUS

STATION ALTITUDE 3989.00 FEET MSL
 2 OCT. 60 1020 HRS MDT
 ASCENSION NO. 529

GEOMETRIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

TABLE 7 (CONT)

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	
51500.0	117.2	-70.0		200.9	555.3	343.1	46.1	1.000045	
52000.0	114.2	-70.9		196.7	554.1	337.9	43.9	1.000044	
52500.0	111.3	-71.8		192.6	552.8	335.3	42.9	1.000043	
53000.0	108.5	-71.9		187.8	552.7	335.6	42.9	1.000042	
53500.0	105.8	-71.9		183.1	552.7	335.9	42.9	1.000041	
54000.0	103.1	-71.9		178.4	552.7	337.5	42.4	1.000040	
54500.0	100.5	-71.9		173.9	552.7	339.8	41.7	1.000039	
55000.0	97.9	-71.6		169.2	553.1	342.1	41.1	1.000038	
55500.0	95.4	-71.2		164.6	553.7	343.1	37.4	1.000037	
56000.0	93.0	-70.8		160.2	554.2	344.2	33.5	1.000036	
56500.0	90.7	-70.4		155.8	554.7	345.4	29.8	1.000035	
57000.0	88.4	-70.0		151.6	555.3	345.7	27.4	1.000034	
57500.0	86.2	-69.2		147.2	556.4	346.1	25.0	1.000033	
58000.0	84.0	-68.2		142.8	557.8	347.6	23.1	1.000032	
58500.0	81.9	-67.2		138.6	559.1	352.1	23.2	1.000031	
59000.0	79.9	-66.5		134.7	560.0	356.5	23.4	1.000030	
59500.0	77.9	-66.9		131.6	559.5	.1	23.6	1.000029	
60000.0	76.0	-67.3		128.6	559.0	2.4	23.9	1.000029	
60500.0	74.1	-67.6		125.6	558.5	4.6	24.1	1.000028	
61000.0	72.3	-68.0		122.7	558.0	7.3	23.4	1.000027	
61500.0	70.5	-68.4		119.9	557.5	11.5	21.0	1.000027	
62000.0	68.7	-67.3		116.3	558.9	16.7	18.8	1.000026	
62500.0	67.0	-65.8		112.6	561.0	21.5	16.6	1.000025	
63000.0	65.4	-64.8		109.3	562.3	24.8	14.2	1.000024	
63500.0	63.8	-65.5		107.0	561.3	29.4	12.0	1.000024	
64000.0	62.2	-66.0		104.6	560.7	28.0	10.3	1.000023	
64500.0	60.7	-64.7		101.4	562.5	15.0	9.6	1.000023	
65000.0	59.2	-63.3		98.3	564.4	1.6	9.4	1.000022	
65500.0	57.8	-61.9		95.3	566.2	356.9	9.2	1.000021	
66000.0	56.4	-60.6		92.4	568.0	359.4	8.8	1.000021	
66500.0	55.0	-59.6		89.7	569.3	2.2	8.4	1.000020	
67000.0	53.7	-59.5		87.6	569.4	8.7	8.0	1.000020	

STATION ALTITUDE 3989.00 FEET MSL
 2 OCT. 80 1020 HRS MDT
 ASCENSION NO. 529

UPPER AIR DATA
 2760020529
 WHITE SAIGS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

TABLE 7 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED SOUPY KNOTS	DIRECTION (DEGREES(TN))	WIND DATA		INDEX OF REFRACTION
							TEMPERATURE DEGREES CENTIGRADE	DEW POINT DEGREES CENTIGRADE	
67500.0	52.4	-59.5		85.5	569.4	17.2		7.8	1.000019
68000.0	51.2	-59.4		83.4	569.5	26.1		7.7	1.000019
68500.0	49.9	-59.4		81.4	569.6	27.5		6.9	1.000018
69000.0	48.8	-58.8		79.3	570.4	26.9		5.9	1.000018
69500.0	47.6	-58.3		77.2	571.1	26.2		5.0	1.000017
70000.0	46.5	-57.7		75.2	571.8	25.1		4.5	1.000017
70500.0	45.4	-57.1		73.2	572.6	23.9		4.1	1.000016
71000.0	44.3	-56.6		71.3	573.3	22.3		3.7	1.000016
71500.0	43.3	-56.0		69.4	574.1	18.6		3.4	1.000015
72000.0	42.3	-55.5		67.6	574.8	14.1		3.3	1.000015
72500.0	41.3	-54.9		65.9	575.5	9.2		3.1	1.000015
73000.0	40.3	-54.3		64.1	576.3	14.4		3.6	1.000014
73500.0	39.3	-54.1		62.6	576.6	19.5		4.3	1.000014
74000.0	38.4	-54.4		61.2	576.2	23.3		5.0	1.000014
74500.0	37.5	-54.7		59.8	575.8	34.9		5.4	1.000013
75000.0	36.6	-55.0		58.5	575.4	47.6		6.0	1.000013
75500.0	35.8	-55.3		57.2	575.0	57.8		6.8	1.000013
76000.0	35.0	-55.6		56.0	574.6	81.1		6.2	1.000012
76500.0	34.1	-55.1		54.6	575.2	115.1		6.8	1.000012
77000.0	33.3	-54.7		53.2	575.9	137.7		9.1	1.000012
77500.0	32.6	-54.2		51.8	576.5				1.000012
78000.0	31.8	-53.7		50.5	577.1				1.000011
78500.0	31.1	-53.3		49.2	577.7				1.000011
79000.0	30.3	-52.8		48.0	578.3				1.000011

MANDATORY LEVELS
 2760020529
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
 2 OCT. 80 1020 HRS MUT
 ASCENSION NO. 529

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 8

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5139.	18.0	6.8	48.	147.0	5.1
800.0	6830.	13.8	4.4	53.	105.8	7.9
750.0	8610.	12.9	4.1	55.	95.1	2.4
700.0	10509.	12.1	-6.8	26.	73.4	2.3
650.0	12528.	7.3	-12.1	24.	75.5	2.9
600.0	14665.	1.4	-17.3	23.	25.0	7.5
550.0	16948.	-2.0	-26.7	13.	327.0	14.4
500.0	19403.	-8.4	-31.8	13.	331.5	11.6
450.0	22066.	-12.8	-34.7	14.	11.0	16.7
400.0	24979.	-18.0	-37.7	17.	.4	16.4
350.0	28198.	-25.9	-44.0	16.	.1	23.6
300.0	31794.	-35.5			1.1	27.3
250.0	35867.	-45.1			.9	29.1
200.0	40634.	-56.0			345.2	33.7
175.0	43306.	-61.4			336.5	33.6
150.0	46402.	-65.7			316.8	39.4
125.0	50082.	-69.0			348.0	48.5
100.0	54419.	-71.9			340.1	41.6
80.0	58781.	-66.5			356.0	23.3
70.0	61420.	-68.5			12.5	20.5
60.0	64492.	-64.0			10.2	9.4
50.0	68218.	-59.4			27.5	7.0
40.0	72858.	-54.2			15.7	3.8
30.0	78905.	-52.6				

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

STATION ALTITUDE 3951.40 FEET MSL
2 OCT. 80
ASCENSION NO. 41

SIGNIFICANT LEVEL DATA

2760050041
APACHE

TABLE 9 (CONT)

GEOMETRIC ALTITUDE	PRESSURE	TEMPERATURE	REL. HUM.
MILLIBARS	MILLIBARS	AIR DEGREE	PERCENT
MSL FEET	MSL FEET	CELSIUS	
50.0	68706.2	-57.3	
30.0	79523.8	-51.6	

GEODETIC COORDINATES
32.62700 LAT DEG
106.39332 LON DEG

STATION ALTITUDE 3951.40 FEET MSL
 2 OCT. 60
 ASCENSION, MO. 41 0900 HRS MDT

UPPER AIR DATA
 2760055041
 APACHE

GEOMETRIC COORDINATES
 32.62700 LAT DEG
 106.39352 LON DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEPT. CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3951.4	885.8	19.8	6.2	41.0	1049.1	668.1	300.0	12.0	1.000276
4000.0	884.3	19.7	6.1	41.0	1047.7	668.0	301.2	12.1	1.000275
4500.0	868.7	18.6	5.0	40.5	1033.3	666.7	313.1	13.0	1.000269
5000.0	853.4	17.5	3.8	40.1	1019.1	665.4	323.0	14.3	1.000263
5500.0	838.3	16.6	2.7	42.2	1004.4	664.3	331.1	16.0	1.000260
6000.0	823.4	15.6	1.8	45.1	989.7	663.2	337.1	17.4	1.000257
6500.0	808.8	16.1	1.1	48.1	970.3	663.9	337.3	12.5	1.000256
7000.0	794.5	17.3	6.2	48.1	948.6	665.5	338.9	7.4	1.000254
7500.0	780.2	17.8	6.2	46.7	930.4	666.0	354.4	2.0	1.000250
8000.0	766.7	17.1	5.8	47.4	916.2	665.2	113.9	2.3	1.000246
8500.0	753.1	15.1	4.8	50.2	906.2	662.9	125.1	5.2	1.000241
9000.0	739.7	13.7	3.9	51.2	894.6	661.2	139.8	3.9	1.000237
9500.0	726.5	13.2	3.1	50.4	880.3	660.6	172.0	2.9	1.000232
10000.0	713.4	12.6	1.9	47.8	866.5	659.8	214.0	4.0	1.000226
10500.0	700.6	12.0	.2	44.2	853.0	659.0	225.6	5.0	1.000219
11000.0	687.9	10.8	-1.5	42.2	841.5	657.4	219.5	4.1	1.000213
11500.0	675.4	9.5	-3.3	40.3	830.3	655.8	224.8	2.6	1.000208
12000.0	663.1	8.2	-5.1	38.4	819.2	654.2	273.5	1.2	1.000202
13000.0	651.0	6.9	-7.0	36.5	808.2	652.6	347.4	2.2	1.000198
13500.0	639.1	5.6	-8.9	34.3	797.3	651.0	3.1	4.2	1.000193
14000.0	627.2	4.5	-11.2	30.9	785.8	649.7	8.9	5.8	1.000188
14500.0	615.6	3.4	-13.6	27.5	774.4	648.3	9.2	7.8	1.000183
15000.0	604.1	2.3	-16.1	24.1	763.2	646.9	4.2	10.3	1.000179
15500.0	592.9	1.2	-18.8	20.7	752.2	645.6	357.5	12.0	1.000174
16000.0	581.8	1.4	-21.5	15.2	737.8	645.7	348.8	13.2	1.000170
16500.0	570.9	1.3	-24.8	13.1	724.3	645.6	340.6	13.5	1.000166
17000.0	560.0	-1.1	-28.9	13.4	714.1	643.9	330.9	12.9	1.000163
17500.0	549.3	-1.5	-32.7	13.6	704.1	642.3	321.5	12.7	1.000161
18000.0	538.9	-2.9	-36.6	13.9	694.3	640.6	314.7	12.5	1.000158
18500.0	528.6	-4.3	-40.3	14.2	684.6	638.9	309.7	12.2	1.000156
19000.0	518.6	-5.7	-44.0	14.5	675.1	637.3	307.1	11.6	1.000153
19500.0	508.7	-7.1	-47.4	14.8	665.7	635.6	306.2	10.7	1.000151

STATION ALTITUDE 3951.40 FEET MSL
 2 OCT. 60
 ASCENSION NO. 41 0900 HRS MDT

UPPER AIR DATA
 2760050041
 APACHE

GEODETTIC COORDINATES
 32.62700 LAT DEG
 106.39352 LON DEG

TABLE 10 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
19500.0	499.0	-8.4	-30.3	15.0	656.2	634.0	307.2	9.6	1.000149
20000.0	409.3	-9.0	-30.8	15.0	645.0	633.3	316.6	9.7	1.000146
20500.0	479.7	-9.6	-31.3	15.0	633.9	632.6	324.3	10.8	1.000144
21000.0	470.4	-10.3	-31.9	15.0	623.1	631.8	330.4	12.2	1.000141
21500.0	461.1	-11.2	-32.6	15.0	613.1	630.6	338.6	12.9	1.000139
22000.0	452.1	-12.1	-33.4	15.0	603.2	629.5	346.9	14.1	1.000136
22500.0	443.2	-13.1	-34.2	15.0	593.5	628.3	355.1	15.8	1.000134
23000.0	434.4	-14.0	-34.9	15.1	583.9	627.2	357.4	16.9	1.000132
23500.0	425.7	-15.1	-35.3	15.8	574.5	626.0	357.4	17.6	1.000130
24000.0	417.2	-16.1	-35.7	16.5	565.3	624.7	355.0	17.8	1.000128
24500.0	408.9	-17.1	-36.1	17.2	556.2	623.5	352.1	18.0	1.000125
25000.0	400.7	-18.1	-36.6	17.9	547.2	622.2	349.2	18.9	1.000123
25500.0	392.5	-19.2	-37.4	18.1	538.3	620.9	346.6	20.0	1.000121
26000.0	384.3	-20.4	-38.3	18.1	529.5	619.5	346.0	21.4	1.000119
26500.0	376.3	-21.5	-39.3	18.2	520.9	618.1	345.6	22.7	1.000117
27000.0	368.5	-22.6	-40.2	18.3	512.4	616.7	347.0	23.7	1.000115
27500.0	360.9	-23.8	-41.1	18.4	504.0	615.2	348.6	24.5	1.000113
28000.0	353.4	-24.9	-42.0	18.4	495.8	613.8	351.1	25.1	1.000111
28500.0	346.0	-26.1	-43.0	18.5	487.8	612.4	353.2	25.6	1.000109
29000.0	338.8	-27.2	-43.9	18.6	479.9	611.0	354.7	26.2	1.000108
29500.0	331.8	-28.3	-44.8	18.6	472.1	609.6	355.1	26.7	1.000106
30000.0	324.9	-29.5	-45.7	18.7	464.5	608.2	353.4	27.0	1.000104
30500.0	318.2	-30.6	-46.7	18.8	457.0	606.7	351.5	27.3	1.000102
31000.0	311.6	-31.7	-47.6	18.9	449.6	605.3	349.4	27.7	1.000101
31500.0	305.1	-32.9	-48.6	18.9	442.3	603.9	348.8	28.2	1.000099
32000.0	298.7	-34.1	-49.7	18.5**	435.2	602.4	350.3	28.5	1.000097
32500.0	292.2	-35.4	-52.0	16.2**	428.0	600.8	352.3	28.8	1.000096
33000.0	285.8	-36.7	-54.3	13.9**	420.9	599.1	354.8	29.3	1.000094
33500.0	279.5	-38.0	-56.8	11.6**	414.0	597.5	356.0	30.7	1.000092
34000.0	273.4	-39.3	-59.6	9.3**	407.1	595.8	356.5	32.7	1.000091
34500.0	267.4	-40.6	-62.8	7.0**	400.5	594.2	355.9	33.2	1.000089
35000.0	261.5	-41.9	-66.7	4.7**	393.9	592.5	354.9	32.9	1.000088

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

GEODETIC COORDINATES
 32.62700 LAT DEG
 106.39352 LON DEG

UPPER AIR DATA
 276050041
 APACHE

STATION ALTITUDE 3951.40 FEET MSL
 2 OCT. 60
 0900 HRS MDT
 ASCENSION, NO. 41

TABLE 10 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEPT. CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (IN)	WIND SPEED KNOTS	INDEX OF REFRACTION
35500.0	255.8	-43.2	-72.3	2.4**	387.4	590.8	353.2	31.8	1.000086
36000.0	250.2	-44.5	-93.0	.1**	381.1	589.1	350.7	30.2	1.000085
36500.0	244.5	-45.8			374.7	587.5	348.2	29.9	1.000083
37000.0	239.0	-47.1			368.3	585.8	345.9	30.7	1.000082
37500.0	233.6	-48.4			362.0	584.1	343.8	31.4	1.000081
38000.0	228.3	-49.1			354.9	583.2	341.8	32.0	1.000079
38500.0	223.0	-49.8			348.0	582.2	340.5	33.0	1.000078
39000.0	217.9	-51.0			341.6	580.7	339.5	34.0	1.000076
39500.0	212.8	-52.1			335.4	579.2	338.5	33.9	1.000075
40000.0	207.9	-53.2			329.3	577.7	337.6	33.6	1.000073
40500.0	203.1	-54.4			323.3	576.2	336.5	32.9	1.000072
41000.0	198.3	-55.5			317.4	574.8	335.4	32.1	1.000071
41500.0	193.6	-56.5			311.3	573.5	335.8	32.1	1.000069
42000.0	189.0	-57.5			305.3	572.1	336.6	32.2	1.000068
42500.0	184.6	-58.5			299.5	570.8	334.9	31.9	1.000067
43000.0	180.1	-59.3			293.4	569.7	332.6	31.5	1.000065
43500.0	175.8	-60.0			287.2	568.8	329.1	32.3	1.000064
44000.0	171.5	-60.7			281.2	567.9	325.5	33.6	1.000063
44500.0	167.4	-61.4			275.3	566.9	323.4	35.2	1.000061
45000.0	163.3	-62.1			269.6	566.0	321.7	36.9	1.000060
45500.0	159.4	-62.8			263.9	565.1	319.8	38.1	1.000059
46000.0	155.5	-63.5			258.4	564.1	317.8	39.2	1.000058
46500.0	151.8	-64.2			253.0	563.2	316.8	40.1	1.000056
47000.0	148.0	-64.8			247.5	562.3	316.2	40.8	1.000055
47500.0	144.4	-65.4			242.1	561.5	318.3	42.2	1.000054
48000.0	140.8	-66.0			236.8	560.7	321.6	44.1	1.000053
48500.0	137.3	-66.6			231.6	559.9	325.1	45.9	1.000052
49000.0	133.9	-67.2			226.5	559.1	328.7	47.5	1.000050
49500.0	130.6	-67.8			221.5	558.3	331.4	49.0	1.000049
50000.0	127.4	-68.4			216.7	557.5	333.0	49.8	1.000048
50500.0	124.2	-68.4			211.3	557.5	334.5	50.5	1.000047
51000.0	121.1	-68.1			205.7	557.9	335.1	47.4	1.000046

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

UPPER AIR DATA
 2760050041
 APACHE

STATION ALTITUDE 3951.40 FEET MSL
 2 OCT. 80 0900 HRS MDT
 ASCENSION NO. 41

GEODETIC COORDINATES
 32.62700 LAT DEG
 106.39352 LON DEG

TABLE 10 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
51500.0	118.1	-68.6			201.1	557.2	335.9	44.2	1.000045
52000.0	115.1	-69.1			196.6	556.5	337.4	39.6	1.000044
52500.0	112.2	-69.6			192.1	555.8	339.4	34.8	1.000043
53000.0	109.4	-70.2			187.8	555.1	334.8	35.9	1.000042
53500.0	106.7	-70.4			183.3	554.7	328.8	39.5	1.000041
54000.0	104.0	-70.7			178.9	554.3	326.8	43.2	1.000040
54500.0	101.4	-71.0			174.6	554.0	326.9	46.6	1.000039
55000.0	98.8	-70.8			170.1	554.2	328.3	47.3	1.000038
55500.0	96.3	-70.1			165.3	555.1	332.6	43.0	1.000037
56000.0	93.9	-69.4			160.6	556.1	337.5	38.9	1.000036
56500.0	91.5	-68.7			156.0	557.0	337.5	34.8	1.000035
57000.0	89.3	-68.7			152.1	557.0	337.5	30.6	1.000034
57500.0	87.0	-68.7			148.3	557.0	337.5	28.9	1.000033
58000.0	84.9	-68.3			144.3	557.5	337.5	27.7	1.000032
58500.0	82.8	-67.5			140.2	558.7	339.8	26.5	1.000031
59000.0	80.7	-66.7			136.2	559.8	344.6	25.2	1.000030
59500.0	78.7	-65.9			132.3	560.9	350.5	23.8	1.000029
60000.0	76.8	-65.6			128.9	561.2	.3	21.4	1.000029
60500.0	74.9	-65.9			125.8	560.9	12.1	19.9	1.000028
61000.0	73.0	-66.1			122.9	560.6	23.7	17.4	1.000027
61500.0	71.2	-66.3			120.0	560.3	38.2	15.5	1.000027
62000.0	69.5	-66.2			116.9	560.4	47.9	15.3	1.000026
62500.0	67.8	-65.3			113.6	561.7	46.6	16.0	1.000025
63000.0	66.1	-64.3			110.3	562.9	45.3	16.8	1.000025
63500.0	64.5	-63.6			107.2	563.9	33.8	16.2	1.000024
64000.0	62.9	-63.8			104.7	563.6	21.1	16.3	1.000023
64500.0	61.4	-64.0			102.2	563.4	10.0	15.9	1.000023
65000.0	59.9	-64.0			99.7	563.4	358.8	14.6	1.000022
65500.0	58.4	-63.1			96.9	564.6	346.0	13.9	1.000022
66000.0	57.0	-62.2			94.2	565.8	345.7	14.8	1.000021
66500.0	55.7	-61.3			91.5	567.0	346.7	15.8	1.000020
67000.0	54.3	-60.4			89.0	569.3	347.9	16.6	1.000020

STATION ALTITUDE 3991.40 FEET MSL
 2 OCT. 60 0900 HRS MDT
 ASCENSION NO. 41

UPPER AIR DATA
 27600500041
 APACHE

GEOMETRIC COORDINATES
 12.62700 LAT DEG
 106.59352 LONG DEG

TABLE 10 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	WET BULB TEMPERATURE PERCENT	DENSITY GM/CUBIC METER	SOUND SPEED KILOMETERS	DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
67500.0	53.0	-59.5		86.4	569.5	349.9	17.0	1.000019
68000.0	51.7	-58.6		84.0	570.7	351.8	17.4	1.000019
68500.0	50.5	-57.7		81.7	571.9	353.2	15.1	1.000018
69000.0	49.3	-57.1		79.5	572.6	355.1	12.1	1.000018
69500.0	48.2	-56.9		77.6	572.9	358.1	9.2	1.000017
70000.0	47.0	-56.6		75.7	573.3	3.1	6.9	1.000017
70500.0	45.9	-56.4		73.8	573.6	12.7	4.8	1.000016
71000.0	44.9	-56.1		72.0	574.0	31.9	3.8	1.000016
71500.0	43.8	-55.8		70.2	574.3	51.0	4.1	1.000016
72000.0	42.8	-55.6		68.5	574.7	65.7	4.8	1.000015
72500.0	41.8	-55.3		66.8	575.0	65.6	5.0	1.000015
73000.0	40.8	-55.0		65.2	575.4	63.2	5.0	1.000015
73500.0	39.9	-54.8		63.6	575.7	60.2	5.1	1.000014
74000.0	38.9	-54.5		62.0	576.0	53.7	5.2	1.000014
74500.0	38.0	-54.2		60.5	576.4	47.6	5.4	1.000013
75000.0	37.1	-54.0		59.0	576.7	41.7	5.5	1.000013
75500.0	36.3	-53.7		57.6	577.1	35.0	5.4	1.000013
76000.0	35.4	-53.5		56.2	577.4	28.1	5.4	1.000013
76500.0	34.6	-53.2		54.8	577.8	31.3	4.9	1.000012
77000.0	33.8	-52.9		53.5	578.1	44.0	4.2	1.000012
77500.0	33.0	-52.7		52.2	578.5	60.3	3.8	1.000012
78000.0	32.2	-52.4		50.9	578.8			1.000011
78500.0	31.5	-52.1		49.6	579.2			1.000011
79000.0	30.8	-51.9		48.4	579.5			1.000011
79500.0	30.0	-51.6		47.2	579.9			1.000011

STATION ALTITUDE 3951.40 FEET MSL
 2 OCT. 80
 ASCENSION NO. 41 0900 HRS MDT

MANDATORY LEVELS
 2760050041
 APACHE

GEODETTIC COORDINATES
 32.62700 LAT DEG
 106.39352 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5110.	17.3	3.6	325.0	14.7
800.0	6802.	17.1	6.2	337.7	9.5
750.0	8609.	14.7	4.6	127.2	5.1
700.0	10515.	12.0	.1	225.4	5.0
650.0	12532.	6.7	-7.1	349.6	2.3
600.0	14669.	1.9	-17.1	3.0	11.2
550.0	16961.	-1.4	-25.7	321.8	12.7
500.0	19420.	-8.3	-30.2	306.3	9.7
450.0	22004.	-12.4	-33.6	348.8	14.4
400.0	25004.	-18.2	-36.6	349.0	19.0
350.0	28230.	-25.4	-42.5	352.3	25.3
300.0	31838.	-33.8	-49.3	349.9	28.4
250.0	35938.	-44.5		350.7	30.2
200.0	40724.	-55.1		335.8	32.4
175.0	43488.	-60.1		328.6	32.5
150.0	46611.	-64.5		316.6	40.4
125.0	50229.	-68.6		334.1	50.4
100.0	54594.	-71.1		327.0	48.2
80.0	58976.	-66.4		346.0	24.9
70.0	61634.	-66.5		48.5	15.0
60.0	64725.	-64.1		.6	14.8
50.0	68448.	-57.3		353.8	14.0
40.0	73103.	-54.8		61.5	5.1
30.0	79184.	-51.6			

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