

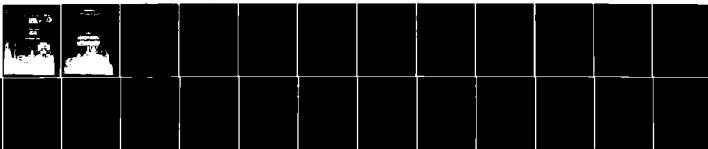
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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2  
14818C LANCE MISSILE NUMBER 4545, ROUND NUMBER 359-APT, 3 OCTOB--ETC(U)  
OCT 80

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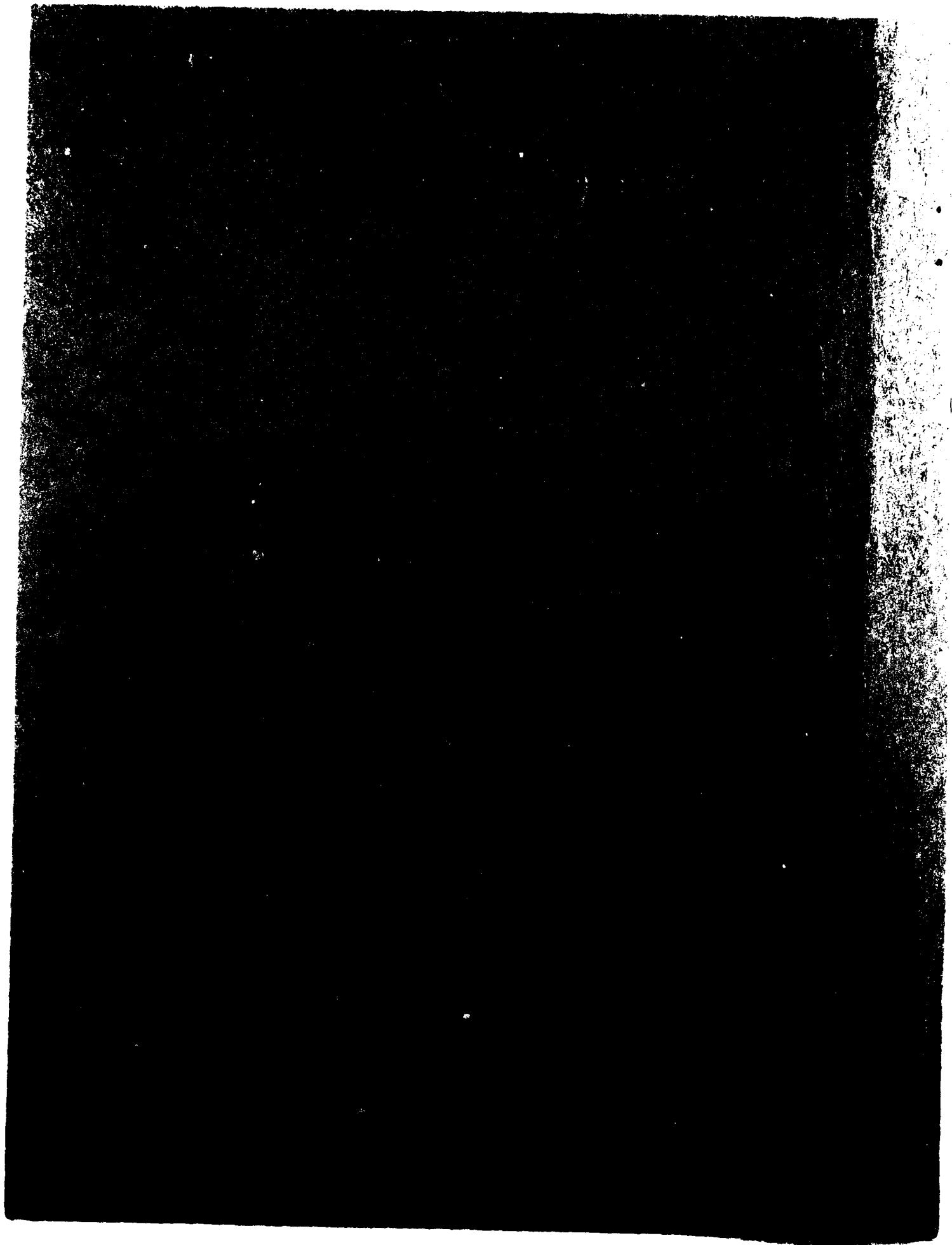
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1160	2. GOVT ACCESSION NO. AD A612 837	3. RECIPIENT'S CATALOG NUMBER
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  Meteorological data gathered for the launching of the 14818c LANCE, Missile Number 4545, Round Number 359-APT presented in tabular form.		

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## INTRODUCTION

14818c Lance, Missile Number 4545, Round Number 359-APT,  
was launched from LC 39, White Sands Missile Range (WSMR), New  
Mexico, at 0800 MDT on 3 October 1980. The scheduled launch time  
was 0800 MDT.

## DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

### 1. Observations

#### a. Surface

(1) Standard surface observations to include pressure, temperature ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the "C" Station met site at T-0 minutes.

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

#### b. Upper Air

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

### SITE AND ALTITUDE

LC 39  
3000 Meters

(b) Air structure data (rawinsonde) were collected at the following met sites. Data were collected from surface to as high as possible in 500-foot increments.

### SITE AND TIME

WSD 0750 MDT  
APA 0630 MDT  
JAL 0750 MDT

TABLE 1. Surface Observations taken at 0800 MDT,  
 3 October 1980, at LC-39, 14818c LANCE,  
 Missile Number 4545, Round Number 359-APT.

ELEVATION	4021	FT/MSL
PRESSURE	886.8	MBS
TEMPERATURE	13.3	°C
RELATIVE HUMIDITY	55	%
DEW POINT	4.4	°C
DENSITY	1073	GM/M <sup>3</sup>
WIND SPEED	03	KTS
WIND DIRECTION	110	DEGREES
CLOUD COVER	CLEAR	





STATION ALTITUDE 3989.00 FEET MSL  
 3 OCT. 80 0750 HRS MDT  
 ASCENSION NO. 532

SIGNIFICANT LEVEL DATA  
 2770205J2  
 WHITE SANDS  
 TABLE 4

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
886.5	10.7	7.8	82.0
874.8	13.9	5.3	56.0
850.0	17.0	8.2	56.0
824.2	13.6	6.2	61.0
800.2	12.2	9.4	83.0
775.0	13.3	8.6	73.0
755.6	12.0	7.5	74.0
727.2	11.4	2.7	55.0
700.0	9.0	.7	56.0
681.2	8.0	.0	57.0
645.0	5.2	-8.6	36.0
602.0	.6	-16.7	26.0
593.6	-5	-14.8	33.0
576.8	-1.9	-23.0	18.0
560.4	-1.9	-25.8	14.0
500.0	-7.9	-30.6	14.0
452.6	-13.5	-29.7	24.0
424.0	-17.6	-35.6	19.0
400.0	-20.0	-39.2	16.0
363.0	-25.3	-43.7	16.0
324.4	-31.8	-48.6	17.0
300.0	-36.1		
250.0	-46.3		
200.0	-56.1		
159.2	-65.0		
150.0	-66.2		
130.8	-68.3		
111.8	-68.2		
100.0	-72.5		
90.8	-74.2		
84.2	-69.9		
70.0	-65.9		

STATION ALTITUDE 3989.00 FEET MSL  
3 OCT. 80 0750 HRS MDT  
ASCENSION NO. 532

SIGNIFICANT LEVEL DATA  
2770020532  
WHITE SANDS

GEODETTIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

TABLE 4 (CONT)

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT PERCENT	REL. HUM. PERCENT
62.0	63964.5	-62.1		
52.8	67241.3	-62.5		
50.0	68358.4	-60.1		
35.2	75677.5	-55.4		
30.0	79052.1	-55.0		
23.8	84007.7	-49.5		

UPPER AIR DATA  
 2770020532  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 5 OCT. 80  
 ASCENSION NO. 532

GEOMETRIC ALTITUDE  
 MSL FEET

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 5

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	886.5	10.7	7.8	82.0	1093.1	657.8	210.0	1.9	1.000291
4000.0	886.1	7.7	7.7	81.2	1082.3	657.9	209.5	2.0	1.000291
4500.0	870.3	14.5	5.8	56.0	1049.9	662.0	196.8	3.8	1.000276
5000.0	854.8	16.4	7.6	56.0	1023.7	664.4	192.3	5.6	1.000275
5500.0	839.6	15.6	7.4	58.0	1008.1	663.6	190.0	7.5	1.000272
6000.0	824.7	13.7	6.3	60.9	997.3	661.2	188.7	8.3	1.000266
6500.0	809.9	12.8	8.3	74.0	981.8	660.4	189.6	8.8	1.000269
7000.0	795.4	12.4	9.3	81.1	965.0	660.2	190.8	8.1	1.000269
7500.0	781.2	13.0	8.8	75.5	945.7	660.9	209.9	5.3	1.000263
8000.0	767.2	12.8	8.1	73.4	929.7	660.5	251.6	4.0	1.000257
8500.0	753.4	12.0	7.2	72.6	915.9	659.5	258.8	4.8	1.000251
9000.0	739.8	11.7	5.0	63.5	900.9	658.9	263.9	5.6	1.000242
9500.0	726.5	11.3	2.6	55.0	886.2	658.4	272.7	6.1	1.000232
10000.0	713.4	10.2	1.7	55.5	873.9	657.0	280.0	6.7	1.000227
10500.0	700.5	9.0	.7	56.0	861.7	655.6	303.1	8.1	1.000223
11000.0	687.7	8.3	.3	56.7	848.1	654.8	317.9	10.3	1.000219
11500.0	675.1	7.5	-1.3	53.6	835.3	653.7	325.2	10.8	1.000213
12000.0	662.7	6.6	-4.1	46.4	823.2	652.4	331.5	11.3	1.000205
12500.0	650.6	5.6	-7.1	39.3	811.2	651.2	336.2	10.8	1.000198
13000.0	638.6	4.5	-9.7	34.5	799.7	649.7	341.2	10.9	1.000192
13500.0	626.7	3.3	-11.9	31.8	788.6	648.2	345.1	12.5	1.000188
14000.0	615.0	2.0	-14.1	29.1	777.6	646.7	347.6	14.2	1.000184
14500.0	603.6	.8	-16.3	26.4	766.8	645.1	348.5	15.9	1.000179
15000.0	592.2	-0.6	-15.3	31.8	756.1	643.5	348.2	17.0	1.000178
15500.0	581.0	-1.5	-20.5	21.8	744.7	642.3	343.4	15.8	1.000172
16000.0	570.0	-1.9	-24.1	16.4	731.7	641.8	337.7	14.6	1.000167
16500.0	559.2	-2.0	-25.9	14.0	718.1	641.6	329.7	12.7	1.000164
17000.0	548.5	-3.0	-26.7	14.0	707.1	640.4	326.9	11.7	1.000151
17500.0	538.0	-4.0	-27.5	14.0	696.1	639.2	337.2	12.2	1.000158
18000.0	527.7	-5.1	-28.3	14.0	685.4	638.0	345.6	13.1	1.000156
18500.0	517.6	-6.1	-29.2	14.0	674.9	636.8	351.8	14.2	1.000153
19000.0	507.7	-7.1	-30.0	14.0	664.5	635.6	352.3	14.5	1.000151

STATION ALTITUDE 3989.00 FEET MSL  
 3 OCT. 80  
 ASCENSION NO. 532

UPPER AIR DATA  
 2770020532  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 5 (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 DEGREES CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
19500.0	497.9	-8.1	-30.5	14.4	654.3	634.3	350.2	17.2	1.000148
20000.0	488.1	-9.2	-30.1	16.4	644.1	633.0	349.1	17.4	1.000146
20500.0	478.6	-10.4	-29.8	18.4	634.2	631.7	348.3	14.6	1.000144
21000.0	469.2	-11.5	-29.7	20.4	624.4	630.3	347.6	15.1	1.000142
21500.0	460.0	-12.6	-29.6	22.4	614.8	629.0	347.0	15.6	1.000140
22000.0	451.0	-13.7	-30.0	23.7	605.4	627.6	347.6	16.4	1.000138
22500.0	442.0	-15.0	-31.8	22.2	596.2	626.1	348.1	17.2	1.000135
23000.0	433.2	-16.3	-33.6	20.6	587.3	624.5	348.5	18.1	1.000133
23500.0	424.6	-17.5	-35.4	19.1	578.4	623.0	348.9	18.9	1.000131
24000.0	416.0	-18.4	-36.7	18.0	568.7	621.9	349.1	20.0	1.000128
24500.0	407.6	-19.2	-38.0	17.0	559.1	620.9	349.3	21.2	1.000126
25000.0	399.4	-20.1	-39.3	16.0	549.7	619.8	348.7	21.4	1.000124
25500.0	391.2	-21.2	-40.3	16.0	540.8	618.4	347.8	21.2	1.000122
26000.0	383.2	-22.3	-41.2	16.0	532.1	617.0	346.9	20.2	1.000120
26500.0	375.3	-23.5	-42.1	16.0	523.6	615.6	346.0	18.8	1.000118
27000.0	367.6	-24.6	-43.1	16.0	515.2	614.2	347.9	17.7	1.000116
27500.0	360.0	-25.8	-44.0	16.1	506.9	612.8	351.2	16.6	1.000114
28000.0	352.5	-27.0	-44.9	16.3	498.8	611.2	353.7	16.3	1.000112
28500.0	345.1	-28.2	-45.9	16.5	490.8	609.7	356.1	16.2	1.000110
29000.0	337.8	-29.5	-46.8	16.6	482.9	608.2	357.6	16.1	1.000108
29500.0	330.7	-30.7	-47.7	16.8	475.2	606.7	358.8	16.0	1.000106
30000.0	323.8	-31.9	-48.9	16.6**	467.5	605.1	.5	16.4	1.000105
30500.0	316.9	-33.1	-52.7	11.9**	459.8	603.6	359.9	17.0	1.000103
31000.0	310.1	-34.3	-57.7	7.2**	452.2	602.1	353.6	17.8	1.000101
31500.0	303.4	-35.5	-66.6	2.5**	444.7	600.6	347.5	20.2	1.000099
32000.0	296.8	-36.7			437.3	599.1	342.6	23.2	1.000097
32500.0	290.2	-37.9			429.9	597.5	341.2	24.7	1.000096
33000.0	283.8	-39.2			422.6	595.9	340.0	26.0	1.000094
33500.0	277.6	-40.4			415.5	594.3	339.0	27.3	1.000093
34000.0	271.4	-41.7			408.5	592.7	339.1	26.5	1.000091
34500.0	265.4	-42.9			401.7	591.1	339.6	24.6	1.000089
35000.0	259.6	-44.2			394.9	589.5	341.4	23.3	1.000088

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

STATION ALTITUDE 3989.00 FEET MSL  
 3 OCT. 80 0750 HRS NOT  
 ASCENSION NO. 532

UPPER AIR DATA  
 2770020532  
 WHITE SANDS  
 TABLE 5 (CONT)

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 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	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
35500.0	253.8	-45.5			388.3	587.9	345.0	23.7	1.000086
36000.0	248.1	-46.6			381.6	586.3	348.5	24.1	1.000085
36500.0	242.4	-47.7			374.5	585.0	349.2	27.0	1.000083
37000.0	236.8	-48.7			367.5	583.7	349.7	29.9	1.000082
37500.0	231.4	-49.7			360.7	582.3	351.2	31.3	1.000080
38000.0	226.0	-50.7			354.0	581.0	352.9	32.0	1.000079
38500.0	220.8	-51.8			347.4	579.7	354.0	32.6	1.000077
39000.0	215.7	-52.8			341.0	578.3	353.8	32.8	1.000076
39500.0	210.7	-53.8			334.7	577.0	353.6	33.1	1.000075
40000.0	205.9	-54.8			328.5	575.6	352.9	32.9	1.000073
40500.0	201.1	-55.9			322.4	574.3	352.1	32.8	1.000072
41000.0	196.3	-56.8			316.2	573.0	351.8	31.7	1.000070
41500.0	191.6	-57.8			309.9	571.7	351.7	30.0	1.000069
42000.0	187.0	-58.7			303.8	570.5	352.0	29.0	1.000068
42500.0	182.5	-59.7			297.8	569.2	353.3	30.4	1.000066
43000.0	178.1	-60.6			291.9	567.9	354.5	31.7	1.000065
43500.0	173.8	-61.6			286.2	566.7	357.7	35.0	1.000064
44000.0	169.6	-62.5			280.6	565.4	.9	38.9	1.000062
44500.0	165.5	-63.5			275.0	564.1	3.9	42.3	1.000061
45000.0	161.6	-64.4			269.6	562.8	8.3	44.1	1.000060
45500.0	157.6	-65.2			264.1	561.8	12.3	46.2	1.000059
46000.0	153.8	-65.7			258.2	561.1	16.3	47.4	1.000058
46500.0	150.0	-66.2			252.4	560.4	20.5	47.8	1.000056
47000.0	146.2	-66.6			246.6	559.9	24.4	48.4	1.000055
47500.0	142.6	-67.0			241.0	559.4	23.0	47.4	1.000054
48000.0	139.1	-67.4			235.4	558.9	21.6	46.3	1.000052
48500.0	135.6	-67.7			230.0	558.3	18.3	46.9	1.000051
49000.0	132.2	-68.1			224.7	557.8	14.4	48.4	1.000050
49500.0	129.0	-68.3			219.3	557.6	11.4	49.8	1.000049
50000.0	125.7	-68.3			213.8	557.6	10.4	50.5	1.000048
50500.0	122.6	-68.3			208.5	557.6	9.3	51.2	1.000046
51000.0	119.5	-68.2			203.2	557.7	7.3	49.8	1.000045

UPPER AIR DATA  
 2770020532  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 3 OCT. 80 0750 HRS MUT  
 ASCENSION NO. 532

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 5 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		I/I, EX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
51500.0	116.6	-68.2	198.2	557.7	3.6	359.4	45.9	1.000044
52000.0	113.7	-68.2	193.2	557.7	359.4	352.0	42.3	1.000043
52500.0	110.8	-68.5	188.7	557.3	352.0	342.8	40.2	1.000042
53000.0	108.0	-69.5	184.8	555.9	342.8	333.6	39.8	1.000041
53500.0	105.3	-70.5	181.0	554.6	333.6	330.7	40.4	1.000040
54000.0	102.6	-71.5	177.3	553.2	330.7	328.4	41.3	1.000039
54500.0	100.1	-72.5	173.7	551.9	328.4	328.1	42.2	1.000038
55000.0	97.5	-72.9	169.7	551.2	328.1	334.4	42.0	1.000037
55500.0	95.0	-73.4	165.7	550.6	334.4	341.8	38.5	1.000036
56000.0	92.6	-73.9	161.8	550.0	341.8	350.1	35.5	1.000035
56500.0	90.2	-73.8	157.7	550.0	350.1	359.2	33.4	1.000034
57000.0	87.9	-72.4	152.6	552.0	359.2	6.0	32.3	1.000033
57500.0	85.7	-70.9	147.6	554.0	6.0	7.4	31.7	1.000032
58000.0	83.5	-69.7	143.1	555.6	7.4	8.8	31.0	1.000031
58500.0	81.5	-69.2	139.1	556.4	8.8	14.8	30.3	1.000030
59000.0	79.4	-68.6	135.3	557.1	14.8	21.5	29.8	1.000029
59500.0	77.5	-68.1	131.6	557.9	21.5	26.4	29.5	1.000028
60000.0	75.5	-67.5	128.0	558.6	26.4	29.0	29.0	1.000027
60500.0	73.7	-67.0	124.5	559.4	29.0	27.7	28.6	1.000026
61000.0	71.8	-66.5	121.0	560.1	31.7	22.7	27.3	1.000025
61500.0	70.0	-65.9	117.7	560.8	22.7	20.5	26.2	1.000024
62000.0	68.3	-65.1	114.4	561.9	20.5	23.9	24.4	1.000023
62500.0	66.7	-64.4	111.2	562.9	23.9	28.3	21.5	1.000022
63000.0	65.0	-63.6	108.1	564.0	28.3	35.1	18.6	1.000021
63500.0	63.4	-62.8	105.1	565.0	35.1	44.6	15.9	1.000020
64000.0	61.9	-62.1	102.2	566.0	44.6	52.8	13.5	1.000019
64500.0	60.4	-62.2	99.7	565.9	52.8	47.5	12.2	1.000018
65000.0	58.9	-62.2	97.3	565.8	47.5	42.9	12.9	1.000017
65500.0	57.5	-62.3	95.0	565.7	42.9	38.5	13.6	1.000016
66000.0	56.1	-62.3	92.7	565.6	38.5	34.5	14.3	1.000015
66500.0	54.8	-62.4	90.5	565.5	34.5		15.1	1.000014
67000.0	53.4	-62.5	88.3	565.5				1.000013

UPPER AIR DATA  
 277020532  
 WHITE SANDS  
 TABLE 5 (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
 3 OCT. 80 0750 HRS MDT  
 ASCENSION NO. 532

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SOUND SPEED KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
67500.0	52.1	-61.9			86.0	566.2	31.5	15.7	1.000019
68000.0	50.9	-60.9			83.5	567.6	35.9	14.0	1.000019
69000.0	49.7	-60.0			81.2	568.8	41.5	12.3	1.000018
69500.0	48.5	-59.7			79.1	569.2	47.7	10.9	1.000018
70000.0	47.3	-59.4			77.1	569.6	54.3	9.6	1.000017
70500.0	46.2	-59.0			75.2	570.0	62.9	8.6	1.000017
71000.0	45.1	-58.7			73.3	570.5	63.3	8.4	1.000016
71500.0	44.1	-58.4			71.5	570.9	59.3	8.8	1.000016
72000.0	43.0	-58.1			69.7	571.3	55.6	9.1	1.000016
72500.0	42.0	-57.8			67.9	571.8	51.7	8.9	1.000015
73000.0	41.0	-57.4			66.2	572.2	47.2	8.5	1.000015
73500.0	40.0	-57.1			64.5	572.6	42.2	8.1	1.000014
74000.0	39.1	-56.8			62.9	573.0	34.8	7.0	1.000014
74500.0	38.1	-56.5			61.3	573.5	23.0	5.9	1.000014
75000.0	37.2	-56.2			59.8	573.9	6.3	5.0	1.000013
75500.0	36.4	-55.8			58.3	574.3	353.5	4.8	1.000013
76000.0	35.5	-55.5			56.8	574.7	345.0	4.8	1.000013
76500.0	34.7	-55.4			55.5	574.9	336.7	4.9	1.000012
77000.0	33.9	-55.3			54.1	575.0	333.5	5.0	1.000012
77500.0	33.1	-55.2			52.9	575.1	333.5	5.0	1.000012
78000.0	32.3	-55.2			51.6	575.2	333.5	5.0	1.000011
78500.0	31.5	-55.1			50.4	575.2	329.7	5.2	1.000011
79000.0	30.8	-55.1			49.2	575.3	322.9	5.5	1.000011
79500.0	30.1	-55.0			48.0	575.4	316.9	5.9	1.000011
80000.0	29.4	-54.5			46.8	576.1	316.8	6.5	1.000010
80500.0	28.7	-53.9			45.6	576.8	322.7	7.4	1.000010
81000.0	28.0	-53.4			44.4	577.5	327.2	8.3	1.000010
81500.0	27.4	-52.8			43.3	578.2	334.0	8.7	1.000010
82000.0	26.8	-52.3			42.2	579.0	352.2	7.6	1.000009
82500.0	26.1	-51.7			41.1	579.7	13.4	7.5	1.000009
83000.0	25.5	-51.2			40.1	580.4			1.000009
83500.0	24.9	-50.6			39.1	581.2			1.000009

STATION ALTITUDE 3989.00 FEET MSL  
 3 OCT. 80  
 ASCENSION NO. 532  
 UPPER AIR DATA  
 2770020532  
 WHITE SANDS  
 GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 5 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	INDEX OF REFRACTION
83500.0	24.4	-50.1		38.1	581.9		1.000008
84000.0	23.8	-49.5		37.1	582.6		1.000008

STATION ALTITUDE 3989.00 FEET MSL  
 3 OCT. 60  
 ASCENSION NO. 532

MANDATORY LEVELS  
 2770020532  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 6

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5153.	17.0	8.2	56.	191.4	6.2
800.0	6835.	12.2	9.4	83.	190.4	8.4
750.0	8617.	11.9	6.7	70.	260.2	4.9
700.0	10507.	9.0	.7	56.	303.6	8.1
650.0	12512.	5.6	-7.3	39.	336.4	10.8
600.0	14639.	.3	-16.1	28.	348.7	16.4
550.0	16912.	-2.9	-26.6	14.	325.3	11.7
500.0	19365.	-7.9	-30.6	14.	350.7	14.3
450.0	22022.	-13.9	-30.2	24.	347.6	16.5
400.0	24919.	-20.0	-39.2	16.	348.8	21.4
350.0	28121.	-27.4	-45.2	16.	354.5	16.3
300.0	31697.	-36.1			345.1	21.7
250.0	35761.	-46.3			347.2	24.0
200.0	40520.	-56.1			352.0	32.7
175.0	43272.	-61.3			356.8	33.9
150.0	46369.	-66.2			20.3	47.8
125.0	49972.	-68.3			10.2	50.6
100.0	54343.	-72.5			328.5	42.2
80.0	58657.	-68.8			12.4	29.9
70.0	61298.	-65.9			27.9	27.4
60.0	64402.	-62.2			47.1	3.1
50.0	68101.	-60.1			39.3	12.9
40.0	72702.	-57.1			42.7	8.1
30.0	78714.	-55.0			316.8	5.9
25.0	82574.	-50.7				

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

STATION ALTITUDE 3951.40 FEET MSL  
 3 OCT. 80  
 ASCENSION NO. 42 0630 HRS MDT

SIGNIFICANT LEVEL DATA  
 2770050042  
 APACHE

GEODETTIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

TABLE 7

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREE CENTIGRADE	DEWPOINT CENTIGRADE	
887.9	3951.4	11.1	8.5	84.0
873.8	4393.1	13.9	4.5	53.0
850.0	5158.8	14.2	4.5	52.0
817.0	6255.4	12.9	6.5	65.0
806.0	6629.8	12.3	9.1	81.0
790.8	7156.4	13.3	8.4	72.0
752.6	8522.8	11.0	7.7	80.0
732.0	9285.3	11.0	4.5	64.0
700.0	10508.5	9.1	2.0	61.0
663.4	11965.7	6.8	-7.2	36.0
579.2	15570.8	-2.1	-20.4	23.0
562.2	16348.1	-2.6	-26.4	14.0
554.0	16731.1	-2.5	-26.3	14.0
500.0	19381.8	-7.3	-30.2	14.0
445.0	22330.0	-14.0	-28.9	27.0
416.8	23950.3	-18.8	-34.7	23.0
400.0	24955.7	-20.5	-39.1	17.0
311.8	30868.7	-33.4	-49.4	18.0
300.0	31756.6	-35.6		
274.6	33760.9	-40.9		
250.0	35840.5	-46.0		
200.0	40629.4	-55.5		
161.0	45094.1	-64.4		
150.0	46517.2	-65.4		
132.8	48939.3	-68.1		
112.6	52163.5	-68.3		
100.0	54518.7	-73.3		
94.0	55713.4	-73.5		
87.8	57047.4	-68.3		
70.0	61587.7	-63.5		
67.8	62234.1	-64.2		
65.0	63092.0	-61.5		

STATION ALTITUDE 3951.40 FEET MSL  
 3 OCT. 80  
 ASCENSION NO. 42 0630 HRS MDT

SIGNIFICANT LEVEL DATA  
 2770050042  
 APACHE

GEODETIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

TABLE 7 (CONT)

GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT
56.6 65924.0	-61.7	
54.2 66807.3	-63.2	
50.0 68461.7	-59.2	
43.0 71604.7	-56.5	
37.6 74419.6	-56.5	
30.0 79201.6	-52.5	
24.4 83656.2	-48.8	
20.0 87697.2	-47.1	
19.0 89121.0	-47.3	
16.4 92364.3	-44.5	
13.9 96021.9	-45.9	

UPPER AIR DATA  
 2770050042  
 APACHE

STATION ALTITUDE 3951.40 FEET MSL  
 3 OCT. 80  
 ASCENSION NO. 42 0630 HRS MDT

GEODETIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA		INDEX OF REFRACTION
								SPEED KNOTS	SPEED KNOTS	
3951.4	887.9	11.1	0.5	84.0	1083.0	658.4	195.0	4.1	1.000293	
4000.0	886.3	11.4	0.2	80.6	1080.0	658.7	192.0	4.3	1.000292	
4500.0	870.4	13.9	4.5	52.9	1052.3	661.3	172.5	6.6	1.000273	
5000.0	854.9	14.1	4.5	52.2	1032.8	661.6	163.6	9.2	1.000269	
5500.0	839.6	13.8	5.2	56.0	1015.2	661.2	158.8	12.0	1.000267	
6000.0	824.6	13.2	6.1	62.0	998.8	660.7	162.1	11.2	1.000266	
6500.0	809.8	12.5	8.3	75.5	982.5	660.1	172.7	8.7	1.000270	
7000.0	795.3	13.0	0.6	74.7	963.0	660.8	191.6	5.8	1.000266	
7500.0	781.0	12.7	0.2	74.0	946.7	660.4	227.2	4.4	1.000262	
8000.0	767.0	11.9	8.0	76.9	932.5	659.5	258.4	4.5	1.000258	
8500.0	753.2	11.0	7.7	79.9	918.4	658.5	285.3	5.2	1.000254	
9000.0	739.6	11.0	5.7	70.0	902.5	658.3	304.9	6.4	1.000244	
9500.0	726.3	10.7	4.0	63.5	887.7	657.7	307.8	7.1	1.000236	
10000.0	713.1	9.9	3.0	62.2	874.2	656.7	308.4	7.5	1.000231	
10500.0	700.2	9.1	2.0	61.0	860.9	655.8	305.5	7.5	1.000225	
11000.0	687.4	8.3	-0.8	52.6	848.1	654.6	307.9	7.9	1.000217	
11500.0	674.9	7.5	-3.9	44.0	835.5	653.5	313.9	9.0	1.000208	
12000.0	662.5	6.7	-7.3	35.9	823.1	652.4	322.9	9.5	1.000200	
12500.0	650.2	5.5	-9.1	34.1	811.5	650.9	331.6	10.3	1.000196	
13000.0	638.1	4.2	-10.8	32.3	800.0	649.4	337.4	11.8	1.000191	
13500.0	626.2	3.0	-12.6	30.5	788.8	647.9	340.4	13.5	1.000187	
14000.0	614.5	1.8	-14.5	28.7	777.7	646.4	341.7	15.5	1.000183	
14500.0	603.0	.5	-16.3	26.9	766.7	644.9	344.0	16.6	1.000179	
15000.0	591.8	-0.7	-18.2	25.1	755.9	643.3	348.4	16.6	1.000176	
15500.0	580.7	-1.9	-20.1	23.3	745.3	641.8	350.1	15.2	1.000172	
16000.0	569.7	-2.4	-23.4	18.0	732.6	641.3	347.4	12.0	1.000168	
16500.0	558.9	-2.6	-26.3	14.0	719.2	641.0	331.9	10.7	1.000164	
17000.0	548.3	-3.0	-26.7	14.0	706.6	640.5	332.6	11.2	1.000161	
17500.0	537.8	-3.9	-27.4	14.0	695.4	639.4	344.2	13.0	1.000158	
18000.0	527.5	-4.8	-28.1	14.0	684.4	638.3	351.8	14.7	1.000156	
18500.0	517.4	-5.7	-28.9	14.0	673.6	637.2	357.0	16.4	1.000153	
19000.0	507.4	-6.6	-29.6	14.0	663.0	636.2	352.1	15.8	1.000150	

STATION ALTITUDE 3951.40 FEET MSL  
 3 OCT. 60  
 ASCENSION NO. 42

UPPER AIR STA  
 2770050042  
 APACHE

GEOMETRIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT DEGREES	PERCENT HUMIDITY	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
19500.0	497.7	-7.6	-30.0	14.5	652.6	635.0	347.8	15.3	1.000148
20000.0	487.9	-8.7	-29.4	16.7	642.5	633.7	346.4	14.3	1.000146
20500.0	478.4	-9.8	-29.1	18.9	632.6	632.3	346.0	13.9	1.000144
21000.0	469.0	-11.0	-28.9	21.1	622.9	630.9	346.7	13.9	1.000142
21500.0	459.8	-12.1	-28.8	23.3	613.4	629.6	341.9	14.4	1.000140
22000.0	450.8	-13.2	-28.8	25.5	604.0	628.2	335.8	15.3	1.000138
22500.0	442.0	-14.5	-28.5	26.6	595.0	626.7	332.9	15.6	1.000136
23000.0	433.1	-16.0	-31.3	25.3	586.5	624.9	332.9	15.9	1.000133
23500.0	424.5	-17.5	-33.1	24.1	578.1	623.0	336.3	16.0	1.000131
24000.0	416.0	-18.9	-34.9	22.7	569.7	621.3	341.2	17.6	1.000129
24500.0	407.5	-19.7	-37.0	19.7	560.1	620.2	346.0	20.8	1.000126
25000.0	399.3	-20.6	-39.2	17.0	550.6	619.2	347.8	23.2	1.000124
25500.0	390.9	-21.7	-40.0	17.1	541.5	617.8	348.4	24.9	1.000122
26000.0	382.8	-22.8	-40.9	17.2	532.5	616.5	345.4	23.3	1.000120
26500.0	374.8	-23.9	-41.8	17.3	523.7	615.1	343.3	21.7	1.000118
27000.0	367.0	-25.0	-42.6	17.3	515.0	613.8	343.0	20.3	1.000116
27500.0	359.3	-26.1	-43.5	17.4	506.5	612.4	344.9	18.5	1.000114
28000.0	351.9	-27.1	-44.4	17.5	498.2	611.1	348.5	16.5	1.000112
28500.0	344.5	-28.2	-45.3	17.6	490.0	609.7	354.1	17.2	1.000110
29000.0	337.3	-29.3	-46.1	17.7	481.9	608.4	358.4	18.5	1.000108
29500.0	330.3	-30.4	-47.0	17.8	474.0	607.0	357.2	20.3	1.000106
30000.0	323.4	-31.5	-47.9	17.9	466.2	605.6	355.0	21.5	1.000104
30500.0	316.7	-32.6	-48.8	17.9	458.6	604.3	350.5	21.6	1.000103
31000.0	310.0	-33.7	-51.1	15.3**	451.1	602.8	347.4	21.5	1.000101
31500.0	303.4	-35.0	-60.7	5.2**	443.7	601.3	345.6	21.2	1.000099
32000.0	296.8	-36.2			436.4	599.6	344.9	21.2	1.000097
32500.0	290.3	-37.6			429.3	598.0	344.7	21.4	1.000096
33000.0	284.0	-38.9			422.3	596.3	344.7	22.3	1.000094
33500.0	277.8	-40.2			415.4	594.6	344.4	23.2	1.000093
34000.0	271.7	-41.5			408.5	593.0	343.5	24.0	1.000091
34500.0	265.6	-42.7			401.5	591.4	342.8	24.2	1.000089
35000.0	259.7	-43.9			394.7	589.8	342.4	23.9	1.000088

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

STATION ALTITUDE 3951.40 FEET MSL  
 3 OCT. 60 0630 HRS MDT  
 ASCENSION NO. 42

UPPER AIR DATA  
 2770050042  
 APACHE

TABLE 8 (CONT)

GEODETIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUMIDITY PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION (DEGREES TN)	SPEED KNOTS	
35500.0	253.9	-45.2	367.9	588.2	341.8	23.1	1.000066	
36000.0	248.1	-46.3	381.1	586.7	341.0	22.5	1.000065	
36500.0	242.4	-47.3	374.0	585.5	339.3	25.2	1.000083	
37000.0	236.9	-48.3	367.0	584.2	338.8	28.7	1.000082	
37500.0	231.4	-49.3	360.1	582.9	339.6	33.5	1.000080	
38000.0	226.1	-50.3	353.4	581.6	341.1	35.5	1.000079	
38500.0	220.9	-51.3	346.8	580.3	342.8	36.5	1.000077	
39000.0	215.8	-52.3	340.3	579.0	343.5	35.8	1.000076	
39500.0	210.8	-53.3	334.0	577.7	344.0	34.4	1.000074	
40000.0	206.0	-54.3	327.8	576.4	344.2	32.6	1.000073	
40500.0	201.2	-55.2	321.7	575.1	344.2	30.7	1.000072	
41000.0	196.4	-56.2	315.5	573.8	345.3	28.9	1.000070	
41500.0	191.7	-57.2	309.3	572.4	346.6	27.2	1.000069	
42000.0	187.1	-58.2	303.3	571.1	346.4	29.1	1.000068	
42500.0	182.6	-59.2	297.4	569.8	348.2	31.1	1.000066	
43000.0	178.2	-60.2	291.6	568.5	349.9	34.7	1.000065	
43500.0	174.0	-61.2	286.0	567.1	349.9	38.0	1.000064	
44000.0	169.8	-62.2	280.4	565.8	353.1	39.1	1.000062	
44500.0	165.7	-63.2	275.0	564.5	356.3	40.8	1.000061	
45000.0	161.7	-64.2	269.7	563.1	360.0	44.6	1.000060	
45500.0	157.8	-64.7	263.7	562.5	4.2	47.4	1.000059	
46000.0	153.9	-65.0	257.6	562.0	11.2	47.8	1.000057	
46500.0	150.1	-65.4	251.7	561.5	17.2	47.4	1.000056	
47000.0	146.4	-66.1	246.4	560.5	22.4	45.3	1.000055	
47500.0	142.8	-66.9	241.1	559.5	24.8	43.8	1.000054	
48000.0	139.2	-67.7	236.0	558.5	22.4	42.6	1.000053	
48500.0	135.8	-68.4	231.0	557.4	19.5	42.1	1.000051	
49000.0	132.4	-69.1	226.0	556.5	16.0	42.7	1.000050	
49500.0	129.1	-69.0	220.2	556.7	12.4	44.8	1.000049	
50000.0	125.9	-68.8	214.6	556.9	9.1	49.2	1.000048	
50500.0	122.7	-68.7	209.1	557.0	7.2	51.4	1.000047	
51000.0	119.6	-68.6	203.8	557.2	6.4	51.3	1.000045	

GEODETIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LONG DEG

UPPER AIR DATA  
 2770050002  
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STATION ALTITUDE 3951.40 FEET MSL  
 3 OCT. 80  
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TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
5100.0	116.7	-68.5	198.5	557.4	5.2	47.4	1.000044	
5200.0	113.7	-68.3	193.5	557.5	3.2	41.1	1.000043	
5250.0	110.9	-69.0	189.2	556.6	359.5	35.1	1.000042	
5300.0	108.1	-70.1	185.4	555.2	349.5	31.3	1.000041	
5350.0	105.3	-71.1	181.7	553.7	337.2	28.7	1.000040	
5400.0	102.7	-72.2	178.0	552.5	328.4	30.3	1.000040	
5450.0	100.1	-73.3	174.4	550.8	327.0	36.0	1.000039	
5500.0	97.5	-73.4	170.1	550.6	325.9	41.8	1.000038	
5550.0	95.0	-73.5	165.8	550.5	333.5	45.9	1.000037	
5600.0	92.6	-72.4	160.7	552.0	340.1	50.6	1.000036	
5650.0	90.3	-70.4	155.2	554.7	345.6	48.8	1.000035	
5700.0	88.0	-68.5	149.8	557.3	351.6	45.0	1.000033	
5750.0	85.8	-67.8	145.6	558.2	356.7	40.9	1.000032	
5800.0	83.7	-67.3	141.7	559.0	.9	36.4	1.000032	
5850.0	81.7	-66.8	137.8	559.7	5.3	32.9	1.000031	
5900.0	79.6	-66.2	134.1	560.4	8.5	31.3	1.000030	
5950.0	77.7	-65.7	130.5	561.1	12.0	29.7	1.000029	
6000.0	75.8	-65.2	126.9	561.8	16.4	27.9	1.000028	
6050.0	73.9	-64.6	123.5	562.5	21.0	26.2	1.000027	
6100.0	72.1	-64.1	120.1	563.2	22.7	25.7	1.000027	
6150.0	70.3	-63.6	116.9	564.0	24.5	25.2	1.000026	
6200.0	68.6	-63.9	114.2	563.5	26.5	23.9	1.000025	
6250.0	66.9	-63.4	111.1	564.3	28.7	22.6	1.000025	
6300.0	65.3	-61.8	107.6	566.4	33.8	20.1	1.000024	
6350.0	63.7	-61.5	104.9	566.7	42.3	17.2	1.000023	
6400.0	62.2	-61.6	102.4	566.7	50.6	15.6	1.000023	
6450.0	60.7	-61.6	99.9	566.6	53.2	16.1	1.000022	
6500.0	59.2	-61.6	97.5	566.6	55.6	16.7	1.000022	
6550.0	57.8	-61.7	95.2	566.5	53.1	17.2	1.000021	
6600.0	56.4	-61.8	93.0	566.3	50.6	17.7	1.000021	
6650.0	55.0	-62.7	91.1	565.2	43.0	17.3	1.000020	
6700.0	53.7	-62.7	88.9	565.1	32.4	16.9	1.000020	

STATION ALTITUDE 3951.40 FEET MSL  
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UPPER AIR DATA  
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GEODETIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	DEWPOINT CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	SOUND SPEED KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
67500.0	52.4	-61.5			86.3	566.7	25.2	16.9	1.000019
68000.0	51.1	-60.3			83.7	568.4	23.4	16.9	1.000019
68500.0	49.9	-59.2			81.3	569.9	22.3	16.6	1.000018
69000.0	48.7	-58.7			79.2	570.5	29.2	13.6	1.000018
69500.0	47.6	-58.3			77.1	571.0	39.5	10.9	1.000017
70000.0	46.4	-57.9			75.2	571.6	47.4	9.1	1.000017
70500.0	45.3	-57.4			73.2	572.2	55.7	7.7	1.000016
71000.0	44.3	-57.0			71.3	572.7	73.3	6.2	1.000016
71500.0	43.2	-56.6			69.5	573.3	105.9	5.9	1.000015
72000.0	42.2	-56.5			67.9	573.4	132.6	7.3	1.000015
72500.0	41.2	-56.5			66.3	573.4	135.9	6.3	1.000015
73000.0	40.2	-56.5			64.7	573.4	140.5	5.2	1.000014
73500.0	39.3	-56.5			63.2	573.4	139.8	3.9	1.000014
74000.0	38.4	-56.5			61.7	573.4	120.2	2.2	1.000014
74500.0	37.5	-56.4			60.2	573.5	58.9	1.5	1.000013
75000.0	36.6	-56.0			58.7	574.1	355.2	1.4	1.000013
75500.0	35.7	-55.6			57.2	574.6	319.2	2.5	1.000013
76000.0	34.9	-55.2			55.8	575.2	309.3	3.8	1.000012
76500.0	34.1	-54.8			54.4	575.7	309.0	5.2	1.000012
77000.0	33.3	-54.3			53.0	576.3	308.9	6.5	1.000012
77500.0	32.5	-53.9			51.7	576.8	305.5	7.4	1.000012
78000.0	31.8	-53.5			50.4	577.4	301.5	8.3	1.000011
78500.0	31.0	-53.1			49.1	577.9	299.2	9.1	1.000011
79000.0	30.3	-52.7			47.9	578.5	305.4	9.9	1.000011
79500.0	29.6	-52.3			46.7	579.0	310.6	10.8	1.000010
80000.0	28.9	-51.8			45.5	579.6	316.9	10.8	1.000010
80500.0	28.2	-51.4			44.4	580.1	326.3	10.0	1.000010
81000.0	27.6	-51.0			43.3	580.6	337.0	9.4	1.000010
81500.0	27.0	-50.6			42.2	581.2	344.5	5.8	1.000009
82000.0	26.3	-50.2			41.2	581.7	24.2	1.6	1.000009
82500.0	25.7	-49.8			40.1	582.3	132.9	3.8	1.000009
83000.0	25.2	-49.3			39.2	582.8	149.2	6.9	1.000009

STATION ALTITUDE 3951.40 FEET MSL  
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GEODETIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
83500.0	24.6	-48.9		38.2	583.4	155.2	10.2	1.000008
84000.0	24.0	-48.7		37.3	583.7	157.8	11.5	1.000008
84500.0	23.5	-48.5		36.4	584.0	159.3	9.2	1.000008
85000.0	22.9	-48.3		35.5	584.2	161.7	6.8	1.000008
85500.0	22.4	-48.1		34.7	584.5	167.5	5.0	1.000008
86000.0	21.9	-47.9		33.9	584.7	179.0	3.6	1.000008
86500.0	21.4	-47.7		33.1	585.0	202.1	2.5	1.000007
87000.0	20.9	-47.5		32.3	585.2	232.4	3.4	1.000007
87500.0	20.5	-47.3		31.6	585.5	246.7	5.0	1.000007
88000.0	20.0	-47.1		30.8	585.7	254.0	6.6	1.000007
88500.0	19.5	-47.2		30.1	585.6	259.3	7.4	1.000007
89000.0	19.1	-47.3		29.5	585.5	263.5	8.3	1.000007
89500.0	18.7	-47.0		28.8	585.9	264.6	8.9	1.000006
90000.0	18.3	-46.5		28.1	586.5	261.5	8.9	1.000006
90500.0	17.8	-46.1		27.4	587.0	258.5	8.9	1.000006
91000.0	17.4	-45.7		26.7	587.6	263.7	9.4	1.000006
91500.0	17.1	-45.2		26.1	588.1	273.0	10.4	1.000006
92000.0	16.7	-44.8		25.4	588.7	280.5	11.7	1.000006
92500.0	16.3	-44.6		24.8	589.0	289.9	11.9	1.000006
93000.0	15.9	-44.7		24.3	588.8	299.6	12.2	1.000005
93500.0	15.6	-44.9		23.8	588.5	308.6	12.9	1.000005
94000.0	15.2	-45.1		23.3	588.3			1.000005
94500.0	14.9	-45.3		22.8	588.0			1.000005
95000.0	14.6	-45.5		22.3	587.8			1.000005
95500.0	14.2	-45.7		21.8	587.5			1.000005
96000.0	13.9	-45.9		21.3	587.3			1.000005

STATION ALTITUDE 3951.40 FEET MSL  
 3 OCT. 80 0630 HRS MDT  
 ASCENSION NO. 42

MANDATORY LEVELS  
 2770050042  
 APACHE

TABLE 9

GEODETIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	AIR		REL. HUM. PERCENT	WIND DATA	
		TEMPERATURE DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5155.	14.2	4.5	52.	161.8	10.1
800.0	6831.	12.7	8.9	77.	183.5	6.7
750.0	8610.	11.0	7.3	78.	290.8	5.4
700.0	10498.	9.1	2.0	61.	305.5	7.5
650.0	12502.	5.5	-9.1	34.	331.7	10.4
600.0	14628.	.2	-16.8	26.	345.2	16.6
550.0	16898.	-2.8	-26.5	14.	330.2	10.9
500.0	19355.	-7.3	-30.2	14.	348.3	15.5
450.0	22017.	-13.4	-28.8	26.	335.6	15.3
400.0	24914.	-20.5	-39.1	17.	347.6	23.0
350.0	28112.	-27.4	-44.6	18.	350.1	16.5
300.0	31693.	-35.6			345.1	21.2
250.0	35762.	-46.0			341.4	22.5
200.0	40531.	-55.5			344.3	30.3
175.0	43289.	-61.0			349.4	37.4
150.0	46392.	-65.4			17.2	47.5
125.0	49989.	-68.8			8.4	50.1
100.0	54351.	-73.3			327.0	35.9
80.0	58705.	-66.3			7.6	31.7
70.0	61377.	-63.5			24.7	25.1
60.0	64499.	-61.6			54.2	16.3
50.0	68205.	-59.2			21.9	16.9
40.0	72831.	-56.5			141.5	5.1
30.0	78864.	-52.5			307.2	10.2
25.0	82759.	-49.2			150.6	7.5
20.0	87595.	-47.1			253.4	6.5
15.0	93870.	-45.3				

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

STATION ALTITUDE 4051.00 FEET MSL  
 3 OCT. 80  
 ASCENSION NO. 268 0750 HRS MDT

SIGNIFICANT LEVEL DATA  
 2770030268  
 JALLEN

GEODETTIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 10

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
884.2	12.2	66.0
874.0	13.7	54.0
864.4	14.3	51.0
850.0	13.7	50.0
825.8	13.0	55.0
797.0	11.4	71.0
769.2	11.8	76.0
756.2	10.5	82.0
741.2	11.6	56.0
700.0	9.8	51.0
669.0	7.5	37.0
642.8	4.7	41.0
600.2	4.6	24.0
583.4	2	13.0
567.0	-1.0	11.0
500.0	-7.2	16.0
429.0	-17.2	19.0
422.0	-17.1	15.0
400.0	-20.2	15.0
346.6	-27.2	14.0
321.6	-32.1	14.0
300.0	-35.7	14.0
250.0	-46.7	14.0
227.4	-51.0	14.0
212.8	-52.5	14.0
200.0	-55.3	14.0
160.4	-64.2	14.0
150.0	-65.6	14.0
141.2	-65.8	14.0
123.6	-70.1	14.0
107.4	-69.5	14.0
100.0	-71.0	14.0

STATION ALTITUDE 4051.00 FEET MSL  
 3 OCT. 80  
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SIGNIFICANT LEVEL DATA  
 2770030268  
 JALLEN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 10 (CONT)

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
89.8 56603.6	-73.7		
81.6 58477.7	-67.7		
70.0 61549.8	-64.2		
65.8 62798.1	-64.9		
63.2 63618.7	-60.5		
56.0 66092.3	-63.0		
50.0 68413.3	-60.0		
40.8 72645.9	-56.2		
33.4 76850.0	-56.2		
30.0 79129.0	-51.8		
25.8 82374.5	-50.3		

STATION ALTITUDE 4051.00 FEET MSL  
 3 OCT. 80  
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UPPER AIR DATA  
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 JALLEN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 11

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT DEGREECENTIGRADE						
4051.0	884.2	12.2	6.0	66.0	1075.1	659.4	.0	.0	1.000283
4500.0	870.0	14.0	4.5	52.7	1051.7	661.3	183.8	2.7	1.000273
5000.0	854.4	13.9	3.7	50.3	1033.3	661.2	183.8	5.8	1.000267
5500.0	839.1	13.4	3.8	52.2	1016.5	660.7	183.8	8.8	1.000264
6000.0	824.1	12.9	4.3	55.9	999.7	660.2	182.2	10.4	1.000261
6500.0	809.3	12.1	5.5	64.1	984.2	659.4	177.9	9.8	1.000261
7000.0	794.7	11.4	6.4	71.4	968.4	658.7	186.3	8.6	1.000261
7500.0	780.4	11.6	7.2	74.0	949.9	659.1	207.4	7.7	1.000259
8000.0	766.4	11.5	7.7	77.3	933.0	659.0	225.9	9.0	1.000257
8500.0	752.5	10.8	6.7	75.7	918.7	658.1	238.9	10.7	1.000251
9000.0	739.0	11.7	3.2	55.7	900.2	658.8	251.3	11.5	1.000236
9500.0	725.6	11.1	2.2	54.1	886.1	658.0	264.0	11.4	1.000231
10000.0	712.5	10.4	1.1	52.5	872.2	657.2	278.8	11.2	1.000226
10500.0	699.6	9.8	.1	50.8	858.6	656.4	286.0	10.3	1.000220
11000.0	686.9	8.8	-2.4	45.2	846.2	655.1	291.2	9.6	1.000213
11500.0	674.4	7.9	-5.0	39.5	833.9	653.9	289.3	8.8	1.000206
12000.0	662.0	6.8	-6.5	38.0	822.2	652.5	288.0	8.2	1.000201
12500.0	649.8	5.5	-7.1	39.9	810.8	651.0	287.2	7.5	1.000198
13000.0	637.8	4.2	-8.4	39.1	799.5	649.5	299.4	8.5	1.000194
13500.0	626.0	3.1	-11.0	34.4	788.1	648.0	311.4	10.3	1.000189
14000.0	614.3	2.0	-13.8	29.8	776.8	646.6	326.9	13.8	1.000184
14500.0	602.8	.9	-16.9	25.1	765.6	645.2	334.3	16.3	1.000179
15000.0	591.5	.4	-20.9	18.4	752.8	644.6	337.4	16.2	1.000174
15500.0	580.4	-.0	-25.4	12.6	739.9	644.0	338.1	15.0	1.000169
16000.0	569.5	-.8	-27.2	11.3	728.2	643.0	337.8	13.3	1.000166
16500.0	558.6	-1.7	-27.7	11.6	716.7	642.0	344.5	13.7	1.000163
17000.0	548.0	-2.7	-27.8	12.4	705.5	640.8	349.1	14.3	1.000160
17500.0	537.5	-3.6	-27.9	13.1	694.4	639.7	348.8	14.9	1.000158
18000.0	527.2	-4.6	-28.0	13.9	683.6	638.6	347.2	15.6	1.000155
18500.0	517.1	-5.5	-28.2	14.7	672.9	637.4	345.1	16.4	1.000153
19000.0	507.3	-6.5	-28.5	15.4	662.4	636.3	340.2	15.1	1.000151
19500.0	497.5	-7.5	-28.9	16.1	652.2	635.1	335.1	14.2	1.000148

STATION ALTITUDE 4051.00 FEET MSL  
 3 OCT. 80  
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UPPER AIR DATA  
 2770030268  
 JALLEN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 11 (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	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
20000.0	487.7	-8.8	-29.7	14.5	642.5	633.5	330.5	13.5	1.000146
20500.0	478.1	-10.1	-30.5	16.9	633.0	631.9	330.8	14.0	1.000144
21000.0	468.7	-11.4	-31.4	17.3	623.6	630.4	333.6	14.9	1.000141
21500.0	459.5	-12.7	-32.2	17.7	614.4	628.8	328.2	14.7	1.000139
22000.0	450.4	-14.0	-33.1	18.0	605.3	627.2	323.8	14.7	1.000137
22500.0	441.6	-15.3	-33.9	18.4	596.4	625.6	327.7	14.9	1.000135
23000.0	432.9	-16.6	-34.8	18.8	587.7	624.1	334.6	15.7	1.000133
23500.0	424.3	-17.1	-36.7	16.3	577.2	623.4	344.4	17.4	1.000130
24000.0	415.7	-18.6	-38.2	15.0	567.4	622.4	349.1	18.6	1.000128
24500.0	407.3	-19.2	-39.2	15.0	558.5	620.9	350.6	19.1	1.000126
25000.0	399.1	-20.3	-40.1	15.0	549.8	619.5	351.5	19.4	1.000124
25500.0	390.9	-21.3	-41.1	14.8	540.6	618.3	352.2	19.5	1.000121
26000.0	382.8	-22.3	-42.0	14.7	531.7	617.0	355.1	20.2	1.000119
26500.0	374.9	-23.4	-42.9	14.5	522.8	615.8	358.0	21.0	1.000117
27000.0	367.2	-24.4	-43.9	14.4	514.2	614.5	.6	21.7	1.000115
27500.0	359.7	-25.4	-44.8	14.3	505.7	613.2	2.5	22.4	1.000113
28000.0	352.3	-26.4	-45.7	14.1	497.3	612.0	3.4	22.8	1.000111
28500.0	345.0	-27.5	-46.7	14.0	489.2	610.6	3.8	22.9	1.000110
29000.0	337.7	-28.9	-47.8	14.0	481.6	608.9	3.8	22.9	1.000108
29500.0	330.6	-30.3	-49.0	14.0	474.2	607.1	3.8	23.2	1.000106
30000.0	323.6	-31.7	-50.1	14.0	466.9	605.4	3.9	23.5	1.000104
30500.0	316.7	-32.9	-53.2	10.9**	459.2	603.9	2.3	23.8	1.000103
31000.0	309.9	-34.0	-58.2	6.6**	451.5	602.5	.2	24.0	1.000101
31500.0	303.3	-35.1		2.2**	443.9	601.0	355.4	23.7	1.000099
32000.0	296.7	-36.4			436.5	599.5	350.7	23.6	1.000097
32500.0	290.1	-37.7			429.3	597.8	347.0	23.9	1.000096
33000.0	283.7	-39.1			422.2	596.0	345.0	24.3	1.000094
33500.0	277.5	-40.4			415.3	594.3	346.6	25.2	1.000092
34000.0	271.3	-41.8			408.5	592.6	347.8	25.9	1.000091
34500.0	265.3	-43.1			401.8	590.9	348.5	26.6	1.000089
35000.0	259.5	-44.5			395.2	589.1	348.3	27.1	1.000088
35500.0	253.7	-45.8			388.8	587.4	346.8	27.2	1.000087

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

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TABLE 11 (CONT)

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(TN)	SPEED KNOTS	INDEX OF REFRACTION
36000.0	248.1	-47.1			382.2	585.8	345.4	28.0	1.000085
36500.0	242.4	-48.1			375.2	584.4	344.6	29.7	1.000084
37000.0	236.9	-49.2			368.4	583.1	344.4	31.4	1.000082
37500.0	231.4	-50.2			361.6	581.7	344.5	32.9	1.000081
38000.0	226.1	-51.1			354.8	580.5	344.3	32.9	1.000079
38500.0	220.9	-51.7			347.4	579.8	344.0	32.8	1.000077
39000.0	215.8	-52.2			340.2	579.1	343.3	32.7	1.000076
39500.0	210.8	-52.9			333.4	578.1	341.1	32.4	1.000074
40000.0	205.9	-54.0			327.2	576.7	336.9	31.8	1.000073
40500.0	201.1	-55.1			321.2	575.3	332.5	30.9	1.000072
41000.0	196.3	-56.1			315.0	574.0	328.0	29.9	1.000070
41500.0	191.6	-57.0			308.8	572.7	328.8	29.4	1.000069
42000.0	187.0	-58.0			302.8	571.4	331.7	29.1	1.000067
42500.0	182.5	-59.0			296.8	570.1	337.0	30.9	1.000066
43000.0	178.1	-60.0			291.1	568.8	342.3	33.9	1.000065
43500.0	173.8	-61.0			285.4	567.5	346.6	36.8	1.000064
44000.0	169.7	-61.9			279.8	566.2	350.3	39.9	1.000062
44500.0	165.6	-62.9			274.4	564.9	354.8	41.9	1.000061
45000.0	161.6	-63.9			269.1	563.6	359.9	43.4	1.000060
45500.0	157.7	-64.6			263.4	562.7	4.5	44.5	1.000059
46000.0	153.8	-65.1			257.5	562.0	9.0	45.1	1.000057
46500.0	150.0	-65.6			251.8	561.3	13.1	45.3	1.000056
47000.0	146.3	-65.7			245.7	561.1	16.7	45.1	1.000055
47500.0	142.7	-65.8			239.8	561.0	18.9	44.5	1.000053
48000.0	139.2	-66.3			234.4	560.4	20.1	43.6	1.000052
48500.0	135.7	-67.1			229.4	559.3	19.7	43.0	1.000051
49000.0	132.3	-67.9			224.6	558.1	18.5	42.5	1.000050
49500.0	129.1	-68.7			219.9	557.0	16.1	43.2	1.000049
50000.0	125.8	-69.5			215.3	555.9	12.7	44.9	1.000048
50500.0	122.7	-70.1			210.5	555.2	10.3	46.8	1.000047
51000.0	119.6	-70.0			205.1	555.3	9.3	48.8	1.000046
51500.0	116.6	-69.9			199.8	555.5	8.7	49.7	1.000044

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TABLE 11 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TH)	WIND DATA SPEED: KNOTS	INDEX OF REFRACTION
52000.0	113.7	-69.7			194.7	555.6	9.7	45.2	1.000043
52500.0	110.8	-69.6			189.7	555.8	10.8	40.7	1.000042
53000.0	108.0	-69.5			184.8	555.9	7.5	36.2	1.000041
53500.0	105.3	-69.9			180.5	555.4	3.3	31.9	1.000040
54000.0	102.7	-70.4			176.4	554.7	358.7	30.6	1.000039
54500.0	100.1	-71.0			172.5	553.9	354.0	29.9	1.000038
55000.0	97.5	-71.6			168.6	553.0	349.3	29.5	1.000038
55500.0	95.1	-72.3			164.8	552.2	344.8	29.4	1.000037
56000.0	92.6	-72.9			161.2	551.3	345.2	30.0	1.000036
56500.0	90.3	-73.6			157.6	550.4	349.7	31.3	1.000035
57000.0	88.0	-74.4			152.7	551.9	355.1	32.7	1.000034
57500.0	85.8	-70.8			147.7	554.1	2.3	34.3	1.000033
58000.0	83.6	-69.2			142.8	556.3	8.3	36.0	1.000032
58500.0	81.5	-67.7			138.2	558.4	11.4	35.7	1.000031
59000.0	79.5	-67.1			134.4	559.2	14.5	35.6	1.000030
59500.0	77.5	-66.5			130.7	560.0	17.6	33.6	1.000029
60000.0	75.6	-66.0			127.2	560.8	21.1	31.5	1.000028
60500.0	73.8	-65.4			123.7	561.5	23.9	29.3	1.000028
61000.0	71.9	-64.8			120.3	562.3	26.3	27.0	1.000027
61500.0	70.2	-64.3			117.0	563.1	27.5	25.3	1.000026
62000.0	68.5	-64.5			114.3	562.8	24.1	25.3	1.000025
62500.0	66.8	-64.7			111.6	562.4	20.7	25.4	1.000025
63000.0	65.2	-63.8			108.4	563.7	21.9	23.5	1.000024
63500.0	63.6	-61.1			104.5	567.3	23.8	21.4	1.000023
64000.0	62.0	-60.9			101.8	567.6	28.1	18.3	1.000023
64500.0	60.5	-61.4			99.6	566.9	36.9	14.5	1.000022
65000.0	59.1	-61.9			97.4	566.2	51.2	11.3	1.000022
65500.0	57.6	-62.4			95.3	565.6	49.4	11.2	1.000021
66000.0	56.3	-62.9			93.2	564.9	46.6	11.2	1.000021
66500.0	54.9	-62.5			90.8	565.5	44.0	11.6	1.000020
67000.0	53.6	-61.8			88.3	566.3	41.9	12.5	1.000020
67500.0	52.3	-61.2			85.9	567.2	40.0	13.4	1.000019

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TABLE 11 (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
						DEWPOINT CENTIGRADE	DIRECTION DEGREES(TN)	
68000.0	51.0	-60.5		83.6	568.1	38.2	13.3	1.000019
68500.0	49.8	-59.9		81.3	568.9	36.3	12.9	1.000018
69000.0	48.6	-59.5		79.3	569.5	35.3	12.6	1.000018
69500.0	47.5	-59.0		77.2	570.1	37.1	12.4	1.000017
70000.0	46.3	-58.6		75.2	570.7	39.0	12.3	1.000017
70500.0	45.2	-58.1		73.3	571.3	45.3	11.1	1.000016
71000.0	44.2	-57.7		71.4	571.9	57.2	9.7	1.000016
71500.0	43.1	-57.2		69.6	572.5	72.3	8.8	1.000015
72000.0	42.1	-56.8		67.8	573.1	92.7	7.7	1.000015
72500.0	41.1	-56.3		66.0	573.6	116.1	7.8	1.000015
73000.0	40.1	-56.2		64.4	573.8	129.4	7.8	1.000014
73500.0	39.2	-56.2		62.9	573.8	122.2	5.4	1.000014
74000.0	38.3	-56.2		61.4	573.8	104.3	3.1	1.000014
74500.0	37.4	-56.2		60.0	573.8	44.5	1.9	1.000013
75000.0	36.5	-56.2		58.6	573.8	351.5	3.6	1.000013
75500.0	35.6	-56.2		57.2	573.8	337.2	6.2	1.000013
76000.0	34.8	-56.2		55.8	573.8	336.2	7.1	1.000012
76500.0	34.0	-56.2		54.5	573.8	337.1	7.4	1.000012
77000.0	33.2	-55.9		53.2	574.2	337.9	7.7	1.000012
77500.0	32.4	-54.9		51.7	575.5	330.3	7.4	1.000012
78000.0	31.6	-54.0		50.3	576.7	321.4	7.2	1.000011
78500.0	30.9	-53.0		48.9	578.0	313.0	7.2	1.000011
79000.0	30.2	-52.0		47.6	579.3	317.3	7.9	1.000011
79500.0	29.5	-51.6		46.4	579.8	320.9	8.6	1.000010
80000.0	28.8	-51.4		45.3	580.1			1.000010
80500.0	28.1	-51.2		44.2	580.4			1.000010
81000.0	27.5	-50.9		43.1	580.7			1.000010
81500.0	26.9	-50.7		42.1	581.0			1.000009
82000.0	26.3	-50.5		41.1	581.3			1.000009

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TABLE 12

PRESSURE GEOPOTENTIAL		TEMPERATURE	REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5140.	13.7	50.	183.8	6.6
800.0	6812.	11.6	69.	179.8	9.2
750.0	8586.	11.0	71.	241.2	10.8
700.0	10476.	9.8	51.	285.7	10.4
650.0	12482.	5.5	40.	287.3	7.5
600.0	14609.	.6	24.	335.0	16.2
550.0	16889.	-2.5	12.	349.2	14.2
500.0	19348.	-7.2	16.	336.3	14.4
450.0	22007.	-14.1	18.	324.0	14.7
400.0	24904.	-20.2	15.	351.4	19.4
350.0	28109.	-26.7	14.	3.6	22.9
300.0	31690.	-35.7		353.0	23.6
250.0	35754.	-46.7		345.8	27.3
200.0	40515.	-55.3		331.7	30.7
175.0	43276.	-60.7		345.5	36.0
150.0	46382.	-65.6		12.9	45.3
125.0	49992.	-69.7		12.0	45.3
100.0	54350.	-71.0		354.0	29.9
80.0	58680.	-67.2		13.5	35.6
70.0	61342.	-64.2		27.3	25.3
60.0	64457.	-61.6		40.7	13.4
50.0	68160.	-60.0		36.8	13.0
40.0	72775.	-56.2		129.1	7.6
30.0	78796.	-51.8		318.0	8.0

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