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ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2  
12815C LANCE MISSILE NUMBER 2473, ROUND NUMBER 289 RST (7 OCTOB--ETC(U)  
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METEOROLOGICAL DATA REPORT

12815C LANCE  
MISSILE NO. 2473, ROUND NO. 289 RST  
(7 October 1976)

BY

WSMR METEOROLOGICAL TEAM

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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 12815C Lance, Missile Number 2473, Round Number 289 RST, are presented in tabular form. <i>A</i>		

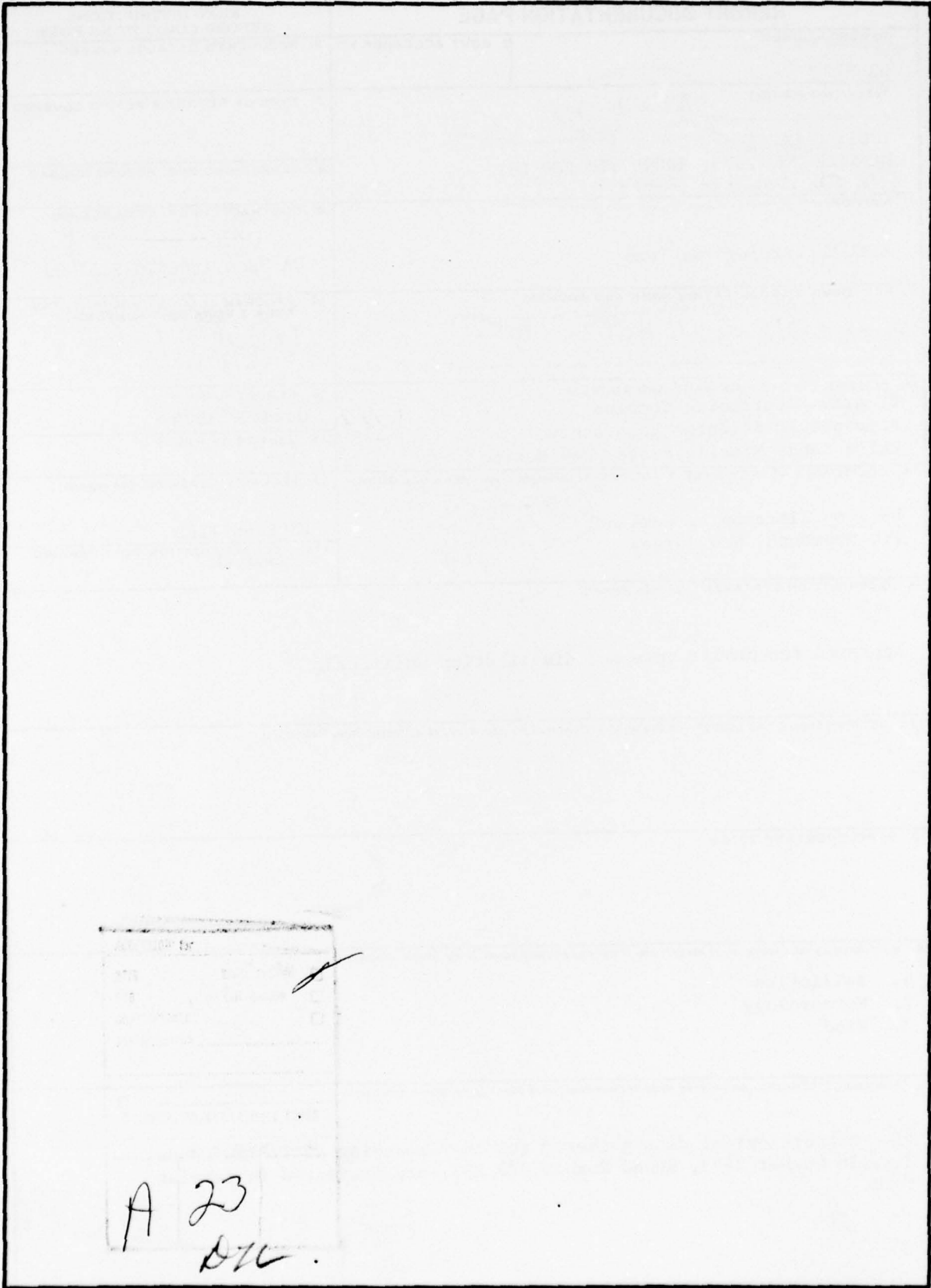
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## INTRODUCTION

12815C Lance, Missile Number 2473, Round Number 289 RST, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0816 HRS MDT, 7 October 1976. The scheduled launch time was 0815 HRS MDT.

## 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	3,990.0	FEET/MSL
PRESSURE	885.4	MBS
TEMPERATURE	9.8	°C
RELATIVE HUMIDITY	49	%
DEW POINT	-0.4	°C
DENSITY	1,086.6	GM/M <sup>3</sup>
WIND SPEED	012	MPH
WIND DIRECTION	200	DEGREES
CLOUD COVER	2 4	Sc Ci

TABLE I. SURFACE OBSERVATIONS TAKEN AT WSD,  
0817 HRS MDT/7 OCTOBER 1976.



ELEVATION	3,986.67	FEET/MSL
PRESSURE	885.3	MBS
TEMPERATURE	11.0	°C
RELATIVE HUMIDITY	44	%
DEW POINT	-0.7	°C
DENSITY	1,080.0	GM/M <sup>3</sup>
WIND SPEED	030	MPH
WIND DIRECTION	018	DEGREES
CLOUD COVER	.4 .2	Sc Ci

TABLE II. SURFACE OBSERVATIONS TAKEN AT LC-33,  
0820 HRS MDT/7 OCTOBER 1976.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	030	18.0	2100	345	12.0
100	025	18.0	2200	335	16.0
200	025	18.0	2300	325	17.0
300	020	17.0	2400	325	18.0
400	015	17.0	2500	335	17.0
500	020	15.0	2600	335	15.0
600	010	17.0	2700	340	18.0
700	005	18.0	2800	345	17.0
800	360	18.0	2900	350	19.0
900	005	17.0	3000	350	22.0
1000	360	18.0	3100	355	19.0
1100	345	19.0	3200	055	20.0
1200	345	19.0	3300	010	21.0
1300	350	15.0	3400	015	
1400	350	15.0	3500	015	
1500	340	14.0	3600	015	
1600	345	19.0	3700	020	21.0
1700	340	17.0	3800	360	16.0
1800	325	13.0	3900	355	16.0
1900	320	13.0	4000	355	15.0
2000	335	13.0	4100	350	14.0

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1  
RELEASED FROM LC-33, AT 0810 MDT/7 OCTOBER 1976  
12815C LANCE, MISSILE NO. 2473, ROUND NO. 289 RST

PIBAL RELEASE POINT WSTM COORDINATES:

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

APPROXIMATELY: 815 FEET SOUTH SOUTHEAST OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	350	13.0
4300	355	12.0
4400	350	12.0
4500	350	13.0
4600	335	10.0
4700	330	12.0
4800	345	10.0
4900	340	8.0
5000	335	9.0
5100	330	12.0
5200	345	7.0
5300	350	7.0
5400	010	12.0
5500	355	12.0
5600	340	12.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
5700	345	11.0
5800	360	10.0
5900	355	12.0
6000	360	14.0
6100	350	16.0
6200	350	16.0
6300	355	18.0
6400	355	18.0
6500	350	16.0
6600	335	18.0
6700	335	18.0
6800	340	16.0
6900	345	18.0
7000	340	22.0
7100	340	22.0

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.



HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	340	10.0
100	339	11.0
200	339	10.0
300	339	10.0
400	339	10.0
500	338	9.0
600	334	9.0
700	334	9.0
800	331	8.0
900	330	8.0
1000	328	7.0
1100	329	7.0
1200	331	7.0
1300	325	8.0
1400	332	7.0
1500	315	5.0
1600	323	4.0
1700	322	5.0
1800	328	8.0
1900	329	10.0
2000	339	9.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2100	329	10.0
2200	320	11.0
2300	328	10.0
2400	340	12.0
2500	347	12.0
2600	344	11.0
2700	332	12.0
2800	332	12.0
2900	344	11.0
3000	346	11.0
3100	339	10.0
3200	324	8.0
3300	330	10.0
3400	334	12.0
3500	338	13.0
3600	354	12.0
3700	360	10.0
3800	020	8.0
3900	032	5.0
4000	042	7.0
4100	049	8.0

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 2  
RELEASED FROM LC-33, AT 0820 MDT/7 OCTOBER 1976  
12815C LANCE, MISSILE NO. 2473, ROUND NO. 289 RST

PIBAL RELEASE POINT WSTM COORDINATES:

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

APPROXIMATELY: 815 FEET SOUTH SOUTHEAST OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	042	10.0
4300	031	9.0
4400	032	10.0
4500	025	11.0
4600	024	9.0
4700	027	8.0
4800	018	9.0
4900	028	8.0
5000	021	8.0
5100	013	8.0
5200	014	8.0
5300	009	8.0
5400	012	9.0
5500	008	
5600	016	
5700	011	
5800	025	
5900	008	9.0
6000	005	11.0
6100	360	10.0
6200	347	11.0
6300	346	12.0
6400	345	14.0
6500	347	13.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
6600	352	15.0
6700	354	16.0
6800	356	17.0
6900	351	17.0
7000	346	18.0
7100	343	19.0
7200	342	18.0
7300	338	18.0
7400	332	20.0
7500	334	20.0
7600	334	23.0
7700	332	24.0
7800	334	26.0
7900	334	27.0
8000	338	28.0
8100	338	28.0
8200	338	28.0
8300	334	28.0
8400	331	29.0
8500	332	30.0
8600	331	31.0
8700	330	31.0
8800	324	31.0
8900	324	28.0

TABLE IV. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9000	323	29.0
9100	325	32.0
9200	323	29.0
9300	324	31.0
9400	324	32.0
9500	323	31.0
9600	324	32.0
9700	324	33.0
9800	324	33.0
9900	321	35.0
10000	321	37.0
10100	324	38.0
10200	323	41.0
10300	321	44.0
10400	324	44.0
10500	322	45.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
10600	318	46.0
10700	315	47.0
10800	313	49.0
10900	309	50.0
11000	315	52.0
11100	310	51.0
11200	312	52.0
11300	311	52.0
11400	312	52.0
11500	312	54.0
11600	310	55.0
11700	313	58.0
11800	307	55.0
11900	305	57.0
12000	304	57.0

TABLE IV. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.



STATION ALTITUDE 3939.00 FEET MSL  
 7 OCT. 76  
 ACCESSION NO. 67.

SIGNIFICANT LEVEL DATA  
 26102267H  
 WHITE SANDS

WESTM SITE COORDINATES  
 489969.00 FEET E  
 195445.00 FEET N

TABLE V

PRESSURE	GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM. PERCENT
	BARIBARS	MSL FEET	AIR DEGREES	DEWPOINT CENTIGRADE	
805.3	3939.0	9.8	-1.6	45.0	
690.0	5075.5	3.1	-0.7	53.0	
729.8	7173.1	.2	-0.6	74.0	
710.8	9467.5	-0.9	-1.6	95.0	
700.0	10269.3	-1.3	-4.0	82.0	
680.0	11029.0	-1.4	-7.5	54.0	
671.2	11370.4	-1.1	-10.4	49.0	
667.0	13936.7	-4.3	-26.8	16.0	
578.6	14348.2	-2.6	-25.6	15.0	
530.6	17444.7	-10.4	-30.1	18.0	
500.0	18944.6	-11.6	-32.3	16.0	
458.0	20576.0	-16.1	-38.0	16.0	
431.0	22630.6	-17.5	-37.2	16.0	
400.0	24455.3	-21.4	-40.4	16.0	
325.0	29382.5	-32.4	-49.6	16.0	
300.0	31222.5	-37.0			
250.0	35271.7	-46.6			
200.0	39997.1	-58.6			
191.8	40353.4	-58.8			
163.6	41770.9	-57.1			
178.6	42346.9	-56.9			
150.0	45918.6	-65.3			
138.0	47583.5	-67.4			
128.2	49050.2	-66.5			
107.4	52172.3	-69.5			
100.0	53978.1	-65.0			
96.6	54681.0	-60.4			
77.0	59322.3	-62.3			
70.0	61243.6	-60.3			
50.0	66320.8	-56.4			

STATION ALTITUDE 3949.00 FEET MSL  
 7 OCT. 73  
 ASCENSION NO. 073

SIGNIFICANT LEVEL DATA  
 2915020078  
 WHITE SANDS

EASTH SITE COORDINATES  
 486560.00 FEET E  
 165045.00 FEET N

TABLE V (CONT)

PRESSURE GEOMETRIC MILLIBARS MSL FEET	TEMPERATURE AIR TEMP DEGREES CENTIGRADE	REL. HUM. PERCENT
36.0 74392.3	-56.2	

STATION ALTITUDE 3909.00 FEET MSL  
 7 OCT. 75  
 ASCENSION 10. 675

UPPER AIR DATA  
 2810020078  
 WHITE SPIES

0805 HRS MDT  
 45TH SITE COORDINATES  
 488580.00 FEET E  
 185545.00 FEET N

TABLE VI

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GR/CUBIC CM	SPEED OF SOUND KNOTS	SPEED OF WIND (TYP) KNOTS	DIRECTION DEGREES (TYP)	WIND DATA	INDEX OF REFRACTION
3909.0	685.3	7.8	-1.0	45.0	1.087.4	656.1	30.0		8.0	1.000268
4000.0	671.0	9.8	-1.5	45.1	1.087.1	656.1	29.6		8.0	1.000268
4500.0	656.1	9.0	-1.2	45.7	1.070.0	655.2	14.6		10.4	1.000265
5000.0	653.3	6.2	-0.9	52.3	1.053.3	654.3	5.5		13.2	1.000262
5500.0	637.2	7.3	-0.6	57.1	1.037.2	653.3	359.8		18.2	1.000259
6000.0	621.7	6.0	-0.4	62.1	1.021.4	652.2	356.2		19.1	1.000256
6500.0	606.5	5.4	-0.2	67.1	1.005.9	651.1	359.7		18.5	1.000253
7000.0	791.6	4.4	-0.2	72.1	991.6	650.0	4.9		14.0	1.000250
7500.0	776.7	3.4	-0.2	77.2	975.6	648.9	8.3		11.7	1.000247
8000.0	762.5	2.5	-0.2	82.2	960.9	647.7	13.1		9.4	1.000244
8500.0	748.4	1.5	-0.4	87.2	946.4	646.6	14.8		9.0	1.000241
9000.0	734.5	.5	-0.6	92.3	932.1	645.5	15.5		9.0	1.000237
9500.0	720.8	-0.3	-1.1	94.5	917.6	644.4	5.3		9.7	1.000233
10000.0	707.2	-1.0	-2.4	90.7	902.9	643.5	353.6		11.0	1.000227
10500.0	693.9	-1.3	-5.4	73.5	887.3	643.0	343.0		13.5	1.000219
11000.0	680.8	-1.4	-9.2	55.1	871.2	642.8	335.3		16.8	1.000210
11500.0	667.9	-1.3	-11.0	47.4	854.5	642.8	330.3		19.2	1.000204
12000.0	655.2	-2.0	-13.5	41.1	840.7	641.9	326.5		21.2	1.000198
12500.0	642.7	-2.7	-16.1	34.8	827.1	641.0	323.4		24.1	1.000193
13000.0	630.5	-3.5	-19.1	28.4	813.7	640.0	321.1		27.2	1.000188
13500.0	618.5	-4.2	-22.6	22.1	800.6	639.1	315.4		31.8	1.000184
14000.0	606.7	-4.8	-26.7	16.0	787.3	638.3	310.0		37.4	1.000179
14500.0	595.1	-3.0	-25.8	15.1	767.0	640.5	303.5		41.5	1.000175
15000.0	583.6	-4.2	-26.5	15.6	755.7	639.0	297.1		45.6	1.000172
15500.0	572.3	-5.5	-27.2	16.1	744.6	637.5	295.1		47.6	1.000169
16000.0	561.3	-6.8	-27.9	16.6	733.7	636.0	294.3		48.8	1.000167
16500.0	550.5	-6.0	-26.0	17.1	723.0	634.5	296.4		49.6	1.000164
17000.0	539.9	-9.3	-29.4	17.6	712.5	633.0	299.2		50.4	1.000162
17500.0	529.4	-10.4	-30.2	17.8	702.8	631.5	303.6		49.8	1.000159
18000.0	519.1	-11.6	-31.9	17.5	693.1	631.1	309.5		48.9	1.000156



STATION ALTITUDE 5909.00 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 670

UPPER AIR DATA  
 2010040678  
 WHITE SANDS

WSTM SITE COORDINATES  
 488580.00 FEET E  
 185045.00 FEET N

TABLE VI (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GR./CM <sup>3</sup> DETER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
18500.0	508.9	-11.2	-31.6	16.6	674.7	630.6	315.8	48.8	1.000153
19000.0	498.9	-11.6	-32.4	16.0	664.7	630.0	322.7	49.5	1.000150
19500.0	489.0	-13.1	-33.5	16.0	654.9	628.3	328.8	51.0	1.000148
20000.0	479.3	-14.5	-34.7	16.0	645.3	626.7	333.6	55.4	1.000146
20500.0	469.8	-15.6	-35.8	16.0	635.9	625.0	336.9	60.2	1.000143
21000.0	460.4	-16.4	-36.2	16.0	624.5	624.3	337.6	66.5	1.000141
21500.0	451.2	-16.7	-36.5	16.0	612.8	623.9	335.7	72.3	1.000138
22000.0	442.1	-17.1	-36.8	16.0	601.3	623.5	332.1	77.8	1.000135
22500.0	433.3	-17.4	-37.1	16.0	590.1	623.1	328.4	78.1	1.000133
23000.0	424.5	-18.3	-37.8	16.0	580.2	622.0	325.1	77.2	1.000131
23500.0	415.9	-19.4	-38.7	16.0	571.8	620.7	324.4	73.5	1.000128
24000.0	407.5	-20.4	-39.6	16.0	561.6	619.4	324.2	71.7	1.000126
24500.0	399.2	-21.5	-40.5	16.0	552.6	618.1	324.6	71.8	1.000124
25000.0	390.9	-22.6	-41.4	16.0	543.5	616.7	324.5	73.4	1.000122
25500.0	382.8	-23.7	-42.4	16.0	534.5	615.3	324.1	75.6	1.000120
26000.0	374.8	-24.8	-43.3	16.0	525.8	613.9	323.7	77.2	1.000118
26500.0	367.0	-26.0	-44.2	16.0	517.1	612.5	323.2	78.6	1.000116
27000.0	359.3	-27.1	-45.1	16.0	508.6	611.1	322.8	79.7	1.000114
27500.0	351.8	-28.2	-46.1	16.0	500.3	609.8	322.5	80.7	1.000112
28000.0	344.5	-29.3	-47.0	16.0	492.1	608.4	322.2	81.9	1.000110
28500.0	337.3	-30.4	-47.9	16.0	484.1	607.0	322.1	83.2	1.000108
29000.0	330.3	-31.5	-48.9	16.0	476.2	605.6	322.1	84.4	1.000107
29500.0	323.3	-32.7	-50.4	15.0*	468.4	604.1	322.2	85.4	1.000105
30000.0	316.4	-33.9	-51.3	10.0**	460.7	602.5	322.2	85.9	1.000103
30500.0	309.6	-35.2	-52.5	7.0**	453.2	601.0	322.0	85.6	1.000101
31000.0	302.9	-36.4	-53.0	1.9**	445.8	599.4	321.7	84.8	1.000099
31500.0	296.3	-37.6	-53.0		438.5	597.7	320.9	83.0	1.000098
32000.0	289.7	-38.2	-53.0		431.0	595.9	320.0	81.7	1.000096
32500.0	283.2	-40.7	-53.0		424.4	594.0	319.1	81.6	1.000095
33000.0	276.9	-42.1	-53.0		417.5	592.2	318.4	82.4	1.000093

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

UPPER AIR DATA  
 281002Z678  
 0805 HRS MDT

STATION ALTITUDE 3509.00 FEET MSI  
 7 OCT. 76  
 ASCENSION NO. 678

\*STM SITE COORDINATES  
 488980.00 FEET E  
 165045.00 FEET N

TABLE VI (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUMID. PERCENT	DENSITY G/CM <sup>3</sup>	SPEED OF SOUND KNOTS	DIRECTION (ALGEEES(TN))	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
33500.0	270.8	-43.5		410.8	590.3	318.1	84.9	1.000091
34000.0	264.7	-45.0		404.1	586.5	318.0	87.0	1.000090
34500.0	258.6	-46.4		397.6	582.7	318.0	87.4	1.000089
35000.0	253.1	-47.8		391.3	584.8	318.8	89.3	1.000087
35500.0	247.0	-49.1		384.5	583.2	319.9	86.8	1.000086
36000.0	241.5	-50.1		377.3	581.6	321.6	87.6	1.000084
36500.0	235.9	-51.2		370.3	580.4	323.6	85.1	1.000082
37000.0	230.4	-52.3		363.4	579.0	325.8	83.4	1.000081
37500.0	225.0	-53.3		356.6	577.6	327.7	82.9	1.000079
38000.0	219.8	-54.4		350.0	576.2	329.1	83.5	1.000078
38500.0	214.7	-55.4		343.5	574.8	329.1	86.8	1.000077
39000.0	209.6	-56.5		337.1	573.4	329.0	89.9	1.000075
39500.0	204.8	-57.5		330.8	572.0	328.4	89.7	1.000074
40000.0	200.0	-58.6		324.7	570.6	327.9	89.5	1.000072
40500.0	195.2	-58.7		317.1	570.5	328.2	85.0	1.000071
41000.0	190.5	-58.5		309.3	570.7	328.6	79.8	1.000069
41500.0	186.0	-57.6		300.6	572.0	330.4	75.0	1.000067
42000.0	181.5	-57.0		292.7	572.7	332.9	70.3	1.000065
42500.0	177.3	-57.3		286.0	572.4	335.3	66.9	1.000064
43000.0	173.0	-58.4		280.7	570.9	337.8	64.5	1.000063
43500.0	168.8	-59.6		275.4	569.3	339.5	62.8	1.000061
44000.0	164.7	-60.8		270.2	567.7	338.9	62.5	1.000060
44500.0	160.8	-62.0		265.2	566.1	338.3	62.2	1.000059
45000.0	156.9	-63.1		260.2	564.6	338.2	55.2	1.000058
45500.0	153.1	-64.3		255.4	563.0	333.6	55.9	1.000057
46000.0	149.4	-65.4		250.5	561.5	330.7	52.7	1.000056
46500.0	145.7	-66.0		245.1	560.7	326.9	48.9	1.000055
47000.0	142.1	-66.7		239.7	559.8	322.6	45.4	1.000053
47500.0	138.6	-67.3		234.5	559.0	319.1	44.1	1.000052
48000.0	135.1	-67.1		228.5	559.2	317.2	45.0	1.000051

UPPER AIR DATA  
 201120078  
 100 FT SANDS

STATION ALTITUDE 3289-00 FEET MSL  
 7 OCT. 76  
 0805 HRS MDT

WSTM SITE COORDINATES  
 488500.00 FEET E  
 185245.00 FEET N

TABLE VI (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND METERS	WIND DATA			INDEX OF REFRACTION
						WIND DIRECTION DEGREES (TN)	SPEED KNOTS	OF REFRACTION	
48500.0	131.0	-66.8		222.5	559.6	315.3	45.9	1.000050	
49000.0	129.5	-66.5		216.7	560.0	315.0	47.1	1.000048	
49500.0	128.3	-66.4		211.7	559.5	314.8	48.2	1.000047	
50000.0	127.2	-67.4		206.9	558.8	314.8	49.0	1.000046	
50500.0	119.2	-67.9		202.2	558.2	315.2	48.7	1.000045	
51000.0	116.2	-68.4		197.6	557.5	315.6	48.4	1.000044	
51500.0	113.3	-68.6		193.2	556.9	316.8	47.8	1.000043	
52000.0	110.5	-69.3		188.8	556.2	318.8	47.0	1.000042	
52500.0	107.7	-68.6		183.6	556.9	320.8	46.3	1.000041	
53000.0	105.0	-67.6		178.0	558.5	323.1	44.5	1.000040	
53500.0	102.4	-66.4		172.6	560.1	325.6	42.5	1.000038	
54000.0	99.9	-65.1		167.3	561.9	328.4	40.6	1.000037	
54500.0	97.5	-61.7		160.5	560.6	329.4	36.1	1.000036	
55000.0	95.1	-60.5		155.8	568.1	330.4	31.4	1.000035	
55500.0	92.8	-60.7		152.2	567.8	331.7	26.6	1.000034	
56000.0	90.6	-60.9		148.7	567.5	328.9	22.2	1.000033	
56500.0	88.4	-61.1		145.2	567.2	324.9	17.8	1.000032	
57000.0	86.3	-61.3		141.5	567.0	318.6	14.1	1.000032	
57500.0	84.2	-61.6		138.6	566.7	312.6	13.6	1.000031	
58000.0	82.1	-61.6		135.4	566.4	306.2	13.1	1.000030	
58500.0	80.2	-62.0		132.2	566.1	301.2	13.1	1.000029	
59000.0	78.2	-62.2		129.2	565.9	302.5	13.6	1.000029	
59500.0	76.3	-61.9		125.9	566.2	303.8	14.2	1.000028	
60000.0	74.5	-60.5		122.3	567.5	305.1	14.5	1.000027	
60500.0	72.7	-59.5		118.6	568.9	307.4	13.6	1.000026	
61000.0	71.0	-58.9		115.4	570.3	309.9	12.7	1.000026	
61500.0	69.3	-58.2		112.3	571.2	312.6	11.7	1.000025	
62000.0	67.6	-58.0		109.5	571.4	314.1	10.3	1.000024	
62500.0	66.0	-57.8		106.8	571.7	316.1	8.7	1.000024	
63000.0	64.5	-57.6		104.2	572.0	318.1	7.8	1.000023	

STATION ALTITUDE 5909.00 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 576

CLEAR AIR DATA  
 261020676  
 WHITE SANDS

WSTM SITE COORDINATES  
 488560.0J FEET E  
 185445.0J FEET N

TABLE VI (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TM)	SPEED KNOTS	
6500.0	63.0	-57.4		141.7	572.2	317.5	7.9	1.000023
6400.0	61.5	-57.2		144.2	572.5	316.9	8.0	1.000022
6300.0	60.0	-57.0		146.7	572.6	315.2	8.2	1.000022
6200.0	58.6	-56.8		149.3	573.1	311.4	8.6	1.000021
61500.0	57.2	-56.6		152.0	573.3	308.0	8.7	1.000020
6000.0	55.9	-56.4		154.8	573.6	303.4	8.5	1.000020
6500.0	54.5	-56.2		157.6	573.9	295.5	7.4	1.000020
67000.0	53.3	-55.9		160.4	574.2	286.0	6.5	1.000019
67500.0	52.0	-55.7		163.3	574.4	278.9	5.8	1.000019
68000.0	50.8	-55.5		166.3	574.7	274.1	5.2	1.000018
68500.0	49.6	-55.4		169.3	574.8	268.1	4.7	1.000016
69000.0	48.4	-55.5		171.5	574.8	260.2	4.6	1.000017
69500.0	47.3	-55.6		175.7	574.7	257.4	5.2	1.000017
70000.0	46.2	-55.6		179.9	574.6	310.3	6.1	1.000016
70500.0	45.1	-55.7		172.2	574.5	320.3	7.3	1.000016
71000.0	44.0	-55.8		170.5	574.4	327.6	8.6	1.000016
71500.0	43.0	-55.8		168.9	574.3	332.9	10.0	1.000015
72000.0	42.0	-55.9		167.3	574.2			1.000015
72500.0	41.0	-56.0		165.6	574.1			1.000015
73000.0	40.0	-56.0		164.2	574.0			1.000014
73500.0	39.1	-56.1		162.7	573.9			1.000014
74000.0	38.2	-56.2		161.3	573.8			1.000014



STATION ALTITUDE 3989.00 FEET MSL  
 7 OCT. 78  
 CONVERSION NO. 678

LABORATORY LEVELS  
 2810020678  
 WHITE SANDS

0805 HRS MDT

TABLE VII

PRESSURE (MILLIBARS)	GEOPOTENTIAL (FEET)	AIR TEMPERATURE (DEGREES CELSIUS)	DEWPOINT (DEGREES CELSIUS)	REL. HUM. PERCENT	WIND DIRECTION (DEGREES (TN))	WIND SPEED (KNOTS)
850.0	5094.	6.7	-0.9	53.	4.3	13.8
800.0	6728.	5.0	-0.2	69.	2.0	15.4
750.0	8437.	1.6	0.4	87.	14.7	9.0
700.0	10200.	-1.3	-4.0	62.	347.9	12.2
650.0	12201.	-2.3	-14.5	38.	325.0	22.2
600.0	14276.	-3.0	-25.8	15.	306.6	40.0
550.0	16517.	-8.1	-28.7	17.	296.6	49.6
500.0	18925.	-11.6	-32.3	16.	321.9	49.4
450.0	21541.	-16.8	-36.6	19.	335.2	73.0
400.0	24423.	-21.4	-40.4	16.	324.5	71.6
350.0	27608.	-28.5	-46.3	10.	322.4	81.0
300.0	31171.	-37.0			321.3	84.0
250.0	35207.	-48.6			319.4	89.0
200.0	39915.	-58.0			327.9	69.5
175.0	42677.	-57.9			336.6	65.6
150.0	45811.	-65.3			331.3	53.3
125.0	49425.	-67.0			314.8	40.3
100.0	53831.	-65.3			328.2	40.7
60.0	59370.	-62.0			301.3	13.1
70.0	61075.	-58.3			311.5	12.2
60.0	64286.	-57.0			315.3	8.2
50.0	68089.	-55.4			270.5	4.9
40.0	72751.	-56.1				

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

STATION ALTITUDE 4160.59 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 374  
 0815 HRS MDT

SIGNIFICANT LEVEL DATA  
 2610010574  
 HULLMAN

WSTN 3112 COORDINATES  
 571737.24 FEET E  
 302745.21 FEET N

TABLE VIII

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE WETBULB DEGREES CENTIGRADE	RELATIVE HUMIDITY PERCENT
878.4	4120.6	10.1	6.5	59.0
850.0	5021.1	8.0	5.3	50.0
762.8	7922.6	1.8	-5.6	58.0
700.0	10183.5	-2.1	-8.6	71.0
680.0	10938.6	-3.9	-8.4	83.0
642.2	12420.2	-5.0	-10.0	60.0
603.4	14019.5	-8.8	-14.5	63.0
587.6	14695.2	-8.8	-27.1	21.0
582.9	14900.3	-7.2	-26.7	16.0
550.6	16348.5	-8.1	-28.2	18.0
500.0	18795.9	-13.0	-31.7	19.0
400.0	24282.4	-22.8	-39.0	21.0
357.2	26970.6	-30.5	-45.2	22.0
338.2	28245.6	-31.7	-46.6	21.0
313.4	30003.3	-35.8	-50.2	21.0
300.0	31000.7	-37.0		
294.4	31429.4	-37.4		
250.0	35061.0	-48.1		
214.0	38369.3	-57.0		
200.0	39775.4	-58.3		
197.6	40025.3	-58.7		
195.0	40301.5	-55.4		
190.8	40760.4	-54.1		
162.2	44129.9	-62.4		
150.0	45712.0	-64.7		
135.4	47755.2	-68.1		
113.4	51273.1	-67.3		
106.2	52204.0	-68.4		
100.0	53770.2	-66.3		
71.0	55693.9	-57.8		

STATION ALTITUDE 4126.59 FEET MSL  
 7 OCT. 76 0815 HRS MDT  
 ASCENSION NO. 374

SIGNIFICANT LEVEL DATA  
 2810010574  
 HULLMAN

NOTE SLIC COORDINATES  
 371739.24 FEET E  
 362743.21 FEET N

TABLE VIII (CONT)

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT
75.9	54426.2	-63.0	
72.8	60280.2	-59.0	
70.0	61089.5	-59.4	
64.0	62939.4	-57.5	
63.2	63240.6	-56.0	
50.0	66103.7	-58.0	
46.2	69753.7	-57.0	
38.8	73369.8	-51.9	
35.4	75331.4	-51.3	
30.0	76861.6	-46.0	
20.0	87647.3	-47.1	
13.2	96722.1	-42.0	
10.0	102879.6	-40.9	
7.8	106466.2		

STATION ALTITUDE 11000.54 FEET MSL  
 / OCT. 70  
 ASCENSION NO. 374

UPPER AIR DATA  
 28100105/4  
 HULLUMAN

0815 HRS MDT

0815 HRS MDT

0815 HRS MDT

0815 HRS MDT

0815 HRS MDT

0815 HRS MDT

0815 HRS MDT

0815 HRS MDT

0815 HRS MDT

0815 HRS MDT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEVIATION POINTS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
4120.0	870.4	10.1	2.5	59.0	1076.7	650.7	0.0	0.0	1.0000274
4500.0	866.4	9.2	1.5	58.6	1065.7	653.6	0.0	0.0	1.0000270
5000.0	850.7	0.0	.3	58.0	1050.9	654.2	0.0	0.0	1.0000264
5500.0	835.0	7.0	-.7	58.0	1035.6	652.9	0.0	0.0	1.0000259
6000.0	819.5	5.9	-1.7	58.0	1020.3	651.6	0.0	0.0	1.0000254
6500.0	804.4	4.8	-2.7	58.0	1005.0	650.3	0.0	0.0	1.0000249
7000.0	789.5	3.0	-3.7	58.0	991.0	649.0	0.0	0.0	1.0000244
7500.0	774.9	2.7	-4.7	58.0	976.6	647.7	0.0	0.0	1.0000239
8000.0	760.6	1.7	-5.6	58.4	962.2	646.5	0.0	0.0	1.0000235
8500.0	746.2	.8	-5.0	61.3	947.0	645.5	0.0	0.0	1.0000231
9000.0	732.2	-.1	-6.0	64.2	932.1	644.4	18.0	12.7	1.0000228
9500.0	718.4	-.9	-6.2	67.1	917.5	643.4	0.0	13.0	1.0000224
10000.0	704.9	-1.8	-6.5	69.9	903.1	642.4	353.1	11.9	1.0000220
10500.0	691.5	-2.9	-6.5	76.0	889.5	641.2	335.9	11.7	1.0000218
11000.0	678.4	-3.9	-6.5	82.4	876.0	639.9	320.7	13.8	1.0000215
11500.0	665.4	-4.3	-7.7	77.3	860.6	639.4	320.9	16.2	1.0000210
12000.0	652.7	-4.7	-8.9	72.3	845.4	638.9	318.9	18.9	1.0000205
12500.0	640.2	-5.2	-10.2	67.8	830.9	638.3	317.7	21.0	1.0000200
13000.0	627.9	-6.4	-11.0	66.2	818.6	636.8	316.8	22.6	1.0000196
13500.0	615.7	-7.6	-13.1	64.6	806.6	635.3	316.4	26.9	1.0000192
14000.0	603.9	-8.6	-14.5	63.1	794.6	633.9	316.1	31.8	1.0000188
14500.0	592.1	-9.8	-22.1	33.1	779.8	633.6	314.4	38.5	1.0000179
15000.0	580.6	-7.3	-28.0	16.1	760.5	632.4	312.9	44.3	1.0000172
15500.0	569.4	-7.6	-28.4	16.8	746.6	632.0	310.4	47.0	1.0000169
16000.0	558.4	-7.9	-28.3	17.5	733.0	634.6	308.0	49.0	1.0000166
16500.0	547.5	-8.4	-28.4	18.1	720.2	634.0	304.6	48.4	1.0000164
17000.0	536.8	-9.4	-29.1	18.3	708.7	632.8	301.8	47.0	1.0000161
17500.0	526.3	-10.4	-29.8	18.5	697.5	631.6	302.2	47.0	1.0000158
18000.0	516.0	-11.4	-30.5	18.7	686.5	630.4	303.5	46.4	1.0000156
18500.0	505.9	-12.4	-31.3	18.9	675.7	629.2	308.9	46.8	1.0000153

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



UPPER AIR DATA  
 2810010574  
 MULLUHAN

STATION ALTITUDE 4160.59 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 574

WSTM SITE COORDINATES  
 571739.24 FEET E  
 362745.21 FEET N

TABLE IX (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CELSIUS	TEMPERATURE DEWPOINT DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (T)	WIND SPEED KNOTS	INDEX OF REFRACTION
17000.0	495.9	-13.4	-32.0	19.1	064.7	020.0	314.4	47.7	1.000150
17500.0	485.9	-14.3	-32.6	19.3	653.0	026.9	321.2	49.3	1.000148
20000.0	476.1	-15.2	-33.3	19.4	642.7	023.0	327.7	52.3	1.000145
20500.0	466.5	-16.0	-33.9	19.6	631.9	024.8	333.7	58.1	1.000143
21000.0	457.1	-16.9	-34.6	19.8	621.4	023.7	337.5	64.5	1.000140
21500.0	447.9	-17.8	-35.3	20.0	611.0	022.0	338.5	71.7	1.000138
22000.0	438.9	-18.7	-35.9	20.2	600.8	021.5	338.4	77.4	1.000135
22500.0	430.1	-19.6	-36.6	20.4	590.8	020.4	336.7	80.3	1.000133
23000.0	421.4	-20.5	-37.3	20.5	581.0	019.3	334.7	81.9	1.000131
23500.0	412.9	-21.4	-37.9	20.7	571.3	018.2	332.0	81.3	1.000129
24000.0	404.6	-22.3	-38.6	20.9	561.8	017.1	329.6	81.2	1.000126
24500.0	396.4	-23.4	-39.5	21.1	552.8	015.7	327.9	81.6	1.000124
25000.0	388.1	-24.9	-40.6	21.3	544.4	013.9	326.6	82.1	1.000122
25500.0	380.0	-26.3	-41.6	21.5	536.2	012.1	326.3	82.5	1.000120
26000.0	372.1	-27.7	-42.9	21.6	528.1	010.4	325.8	83.3	1.000118
26500.0	364.3	-29.2	-44.1	21.8	520.1	008.6	325.1	85.3	1.000117
27000.0	356.8	-30.5	-45.2	22.0	512.2	006.9	324.4	87.9	1.000115
27500.0	349.2	-31.0	-45.8	21.6	502.3	006.3	323.8	91.2	1.000113
28000.0	341.8	-31.5	-46.3	21.2	492.6	005.7	323.7	92.5	1.000110
28500.0	334.5	-32.3	-47.1	21.0	483.8	004.6	323.8	93.0	1.000108
29000.0	327.3	-33.5	-48.1	21.0	475.7	003.2	324.3	92.5	1.000106
29500.0	320.3	-34.8	-49.1	21.0	467.8	001.7	324.9	92.1	1.000105
30000.0	313.4	-35.8	-50.2	21.0	460.0	000.2	325.3	93.7	1.000103
30500.0	306.7	-36.4	-56.4	10.5	451.2	577.1	325.7	95.4	1.000101
31000.0	300.0	-37.0	-97.2	0.0	442.6	570.7	325.7	97.4	1.000099
31500.0	293.5	-37.6			434.0	571.9	325.5	98.8	1.000097
32000.0	286.9	-38.1			427.0	570.0	325.2	99.3	1.000095
32500.0	280.5	-40.6			420.2	574.1	325.0	98.9	1.000094
33000.0	274.3	-42.0			413.5	572.3	324.7	97.9	1.000092
33500.0	268.2	-43.5			406.8	570.1	324.5	97.3	1.000091

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

STATION ALTITUDE 41200 SY FLEET MSL  
 / OCT. 76  
 ASCENSION NO. 574  
 0815 HRS MDI

UPPER AIR DATA  
 ZBTJ0010574  
 MULLUMAIN

MAIN SITE COORDINATES  
 3/1/37.24 FEET E  
 362/45.21 FEET N

TABLE IX (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REF. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION, DEGREES (T.M.)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
34000.0	262.2	-45.0		700.4	560.2	324.3	57.4	1.000009
34500.0	256.4	-46.4		394.0	566.6	324.2	57.7	1.000000
35000.0	250.7	-47.9		387.7	584.7	324.1	58.3	1.000006
35500.0	244.9	-49.3		381.1	582.9	324.3	58.9	1.000008
36000.0	239.2	-50.6		374.5	581.1	324.8	59.6	1.000008
36500.0	233.7	-52.0		368.0	579.4	325.8	100.0	1.000002
37000.0	228.2	-53.3		361.7	577.6	327.4	100.0	1.000001
37500.0	222.9	-54.7		355.4	575.9	329.0	100.8	1.000007
38000.0	217.7	-56.0		349.3	574.1	330.3	103.4	1.000007
38500.0	212.7	-57.1		343.0	572.6	331.3	105.4	1.000007
39000.0	207.6	-57.7		335.6	571.9	331.6	106.2	1.000005
39500.0	202.7	-58.2		328.5	571.2	332.2	102.1	1.000007
40000.0	197.8	-58.7		321.4	570.5	333.2	92.5	1.000007
40500.0	193.2	-54.8		308.2	575.6	334.4	82.7	1.000009
41000.0	188.6	-54.7		300.7	575.8	335.9	72.7	1.000007
41500.0	184.1	-55.9		295.2	574.2	337.3	64.7	1.000006
42000.0	179.7	-57.1		289.8	572.7	338.5	58.1	1.000005
42500.0	175.5	-58.3		284.5	571.1	339.4	52.6	1.000006
43000.0	171.3	-59.5		279.3	569.5	339.0	49.4	1.000006
43500.0	167.2	-60.7		274.1	567.9	338.7	46.3	1.000006
44000.0	163.2	-61.7		269.1	566.2	335.7	47.9	1.000006
44500.0	159.3	-62.8		263.8	565.0	332.4	51.1	1.000005
45000.0	155.4	-63.7		258.4	563.8	329.5	54.6	1.000005
45500.0	151.6	-64.5		253.1	562.7	326.6	58.5	1.000006
46000.0	147.9	-65.4		247.9	561.6	324.1	62.5	1.000005
46500.0	144.2	-66.1		242.6	560.5	322.6	65.5	1.000005
47000.0	140.6	-66.9		237.5	559.5	322.1	67.3	1.000005
47500.0	137.1	-67.7		232.5	558.4	321.6	69.1	1.000005
48000.0	133.7	-68.0		227.2	557.9	321.9	66.9	1.000005
48500.0	130.4	-67.7		221.4	556.1	322.5	68.1	1.000004

UPPER AIR DATA  
 2810010574  
 HULLUMAN

STATION ALTITUDE 4120.59 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 574

WSTM SITE COORDINATES  
 2/1/39.24 FEET E  
 362/45.21 FEET N

TABLE IX (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DIRECTION DEGREES (T.M.)	WIND SPEED KNOTS	INDEX OF REFRACTION
49000.0	127.2	-67.0		215.7	558.2	323.1	07.2	1.000040
49500.0	124.0	-67.7		210.3	550.4	323.6	01.1	1.000047
50000.0	120.9	-67.0		204.9	550.0	324.3	54.7	1.000046
50500.0	117.9	-67.5		199.7	558.7	325.1	48.6	1.000044
51000.0	115.0	-67.4		194.6	558.9	326.2	42.3	1.000043
51500.0	112.1	-67.6		190.0	550.0	327.7	36.0	1.000042
52000.0	109.3	-68.2		185.0	557.8	328.4	31.9	1.000041
52500.0	106.6	-68.0		181.1	557.9	328.7	26.3	1.000040
53000.0	104.0	-67.4		176.0	558.0	329.1	24.7	1.000039
53500.0	101.4	-66.8		171.2	559.0	328.2	22.8	1.000038
54000.0	98.9	-65.4		165.8	561.5	327.1	20.7	1.000037
54500.0	96.5	-63.1		160.0	564.6	326.0	19.6	1.000036
55000.0	94.1	-60.8		154.3	567.7	325.0	19.7	1.000034
55500.0	91.9	-58.5		149.1	570.8	324.1	19.0	1.000033
56000.0	89.7	-58.0		145.2	571.4	323.1	19.7	1.000032
56500.0	87.5	-58.8		142.2	570.4	322.0	19.6	1.000032
57000.0	85.4	-57.5		139.2	567.5	321.0	19.4	1.000031
57500.0	83.4	-60.2		136.4	568.3	321.6	19.4	1.000030
58000.0	81.3	-60.9		133.3	567.5	322.1	19.4	1.000030
58500.0	79.4	-61.7		130.8	568.6	322.8	19.2	1.000029
59000.0	77.5	-62.4		128.1	565.6	323.8	18.6	1.000029
59500.0	75.6	-62.7		125.2	565.2	324.9	18.1	1.000028
60000.0	73.8	-60.7		121.0	567.8	325.5	16.2	1.000027
60500.0	72.0	-59.7		117.5	569.2	325.7	13.3	1.000026
61000.0	70.3	-57.9		114.8	568.7	326.0	10.7	1.000026
61500.0	68.6	-59.8		112.0	567.1	326.1	8.0	1.000025
62000.0	67.0	-59.7		109.3	567.2	326.0	5.3	1.000024
62500.0	65.4	-59.5		105.8	567.4	326.0	3.0	1.000024
63000.0	63.8	-57.0		103.8	570.2	325.7	1.8	1.000023
63500.0	62.3	-57.4		100.6	572.2	324.7	.6	1.000022

STATION ALTITUDE 4160.55 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 574

UPPER AIR DATA  
 28100105/4  
 HULLMAN

0815 HRS MDT

57M JBL CORDONATED  
 5/1/59.24 FEET C  
 362/45.21 FEET N

TABLE IX (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
67000.0	90.8	-37.3	78.6	572.4	332.1	10.9	1.000022	
67500.0	89.4	-37.1	95.8	572.6	333.5	2.4	1.000021	
68000.0	88.0	-36.9	93.4	572.8	333.9	3.4	1.000021	
68500.0	86.6	-36.8	91.2	573.0	333.9	5.3	1.000020	
69000.0	85.3	-36.6	89.0	573.2	333.9	7.1	1.000020	
69500.0	84.0	-36.5	86.8	573.4	333.5	8.6	1.000019	
70000.0	82.7	-36.3	84.7	573.6	332.6	9.4	1.000019	
70500.0	81.5	-36.2	82.6	573.8	331.8	10.2	1.000018	
71000.0	80.2	-36.0	80.6	574.0	330.8	10.2	1.000018	
71500.0	78.9	-35.7	78.7	573.2	329.7	10.0	1.000018	
72000.0	77.6	-35.5	77.4	572.1	328.6	9.7	1.000017	
72500.0	76.8	-35.4	75.9	570.9	327.9	7.7	1.000017	
73000.0	75.7	-35.2	74.2	570.3	326.8	5.8	1.000017	
73500.0	74.6	-35.4	72.3	570.9	324.4	3.8	1.000016	
74000.0	73.5	-35.2	70.5	571.2	316.1	1.8	1.000016	
74500.0	72.5	-34.9	68.8	571.5	211.5	0.6	1.000015	
75000.0	71.5	-34.7	67.1	571.6	171.3	1.6	1.000015	
75500.0	70.5	-34.4	65.4	572.2	164.9	2.5	1.000015	
76000.0	69.5	-34.2	63.8	572.5	161.6	3.4	1.000014	
76500.0	68.6	-34.0	62.1	573.1	158.7	3.9	1.000014	
77000.0	67.7	-33.8	60.3	574.9	156.2	4.3	1.000013	
77500.0	66.8	-33.6	58.5	576.6	154.0	4.8	1.000013	
78000.0	66.0	-33.4	56.8	578.3	151.6	5.3	1.000013	
78500.0	65.1	-33.2	55.3	579.5	150.0	5.8	1.000012	
79000.0	64.3	-33.0	54.0	579.6	147.3	6.3	1.000012	
79500.0	63.5	-32.8	52.7	579.7	144.2	6.7	1.000012	
80000.0	62.8	-32.6	51.5	579.8	141.5	7.2	1.000011	
80500.0	62.0	-32.4	50.3	580.0	138.2	7.2	1.000011	
81000.0	61.3	-32.2	49.1	580.1	134.6	7.1	1.000011	
81500.0	60.5	-32.0	48.0	580.2	130.9	7.1	1.000011	



UPPER AIR DATA  
 2010010574  
 HULLUMAN

MS-M SITE COUNUMINATED  
 5/11/59.24 FEET E  
 362/45.21 FEET W

STATION ALTITUDE 4120.57 FEET MSL  
 / OCT. 76  
 ASCENSION NO. 574

TABLE IX (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	WIND SPEED UFT KNOTS	WIND DIRECTION DEGREES (T)	WIND DATA SPEED UFT KNOTS	INDEX OF REFRACTION
77000.0	29.8	-51.3		40.8	500.3	128.6	5.7	1.000000
77500.0	29.2	-51.1		45.7	580.5	125.0	4.4	1.000000
80000.0	28.5	-51.0		44.7	500.7	118.9	3.1	1.000000
80500.0	27.8	-50.8		43.6	500.9	110.0	1.9	1.000000
81000.0	27.2	-50.6		42.6	581.1	75.7	.8	1.000000
81500.0	26.6	-50.5		41.6	501.3	350.4	1.0	1.000000
82000.0	26.0	-50.3		40.6	501.5	345.3	1.2	1.000000
82500.0	25.4	-50.2		39.6	501.7	337.8	1.5	1.000000
83000.0	24.8	-50.0		39.7	501.9	332.6	1.8	1.000000
83500.0	24.2	-49.9		37.8	582.1	330.2	2.5	1.000000
84000.0	23.7	-49.7		36.9	582.3	328.8	3.1	1.000000
84500.0	23.1	-49.6		36.0	582.5	328.0	3.8	1.000000
85000.0	22.6	-49.4		35.2	582.7	327.6	5.1	1.000000
85500.0	22.1	-49.3		34.4	582.9	327.4	6.4	1.000000
86000.0	21.6	-49.1		33.6	583.1	327.3	7.7	1.000000
86500.0	21.1	-49.0		32.8	583.3	327.2	8.2	1.000000
87000.0	20.6	-48.8		32.0	583.5	327.2	8.4	1.000000
87500.0	20.1	-48.6		31.2	583.7	327.2	8.8	1.000000
88000.0	19.7	-48.5		30.5	583.9	329.6	8.5	1.000000
88500.0	19.2	-48.5		29.8	584.0	333.7	8.1	1.000000
89000.0	18.8	-48.4		29.1	584.1	337.9	7.8	1.000000
89500.0	18.4	-48.3		28.5	584.2	342.0	7.7	1.000000
90000.0	18.0	-48.2		27.8	584.3	345.6	7.8	1.000000
90500.0	17.6	-48.1		27.2	584.4	349.3	7.9	1.000000
91000.0	17.2	-48.0		26.5	584.5	350.3	8.4	1.000000
91500.0	16.8	-48.0		25.9	584.6	348.9	9.1	1.000000
92000.0	16.4	-47.9		25.3	584.7	347.6	9.9	1.000000
92500.0	16.0	-47.8		24.8	584.8	346.9	10.8	1.000000
93000.0	15.7	-47.7		24.2	584.9	347.0	11.6	1.000000
93500.0	15.3	-47.6		23.6	585.0	347.1	12.3	1.000000

UPPER AIR DATA  
 28JULIUS74  
 HULLUMAN

STATION ALTITUDE 4160.59 FEET MSL  
 7 OCT. 70  
 ASCENSION NO. 574

0815 HRS MDT  
 57M SITE COORDINATES  
 571139.24 FEET E  
 302745.21 FEET N

TABLE IX (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED WIND KNOTS	DIRECTION DEGREES (T.M.)	WIND DATA		INDEX OF REFRACTION
							SPEED KNOTS	DIRECTION DEGREES (T.M.)	
94000.0	12.0	-47.5		23.1	285.1	347.0	13.4	1.000005	
94500.0	14.0	-47.5		22.0	285.3	347.2	13.9	1.000005	
95000.0	14.3	-47.4		22.0	285.4	347.3	14.4	1.000005	
95500.0	14.0	-47.3		21.5	285.5	347.5	14.9	1.000005	
96000.0	13.6	-47.2		21.0	285.6	347.6	15.1	1.000005	
96500.0	13.3	-47.1		20.6	285.7	349.3	14.1	1.000005	
97000.0	13.0	-46.9		20.1	286.0	351.1	13.1	1.000004	
97500.0	12.7	-46.5		19.6	286.6	353.1	12.2	1.000004	
98000.0	12.5	-46.0		19.1	287.1	354.7	10.8	1.000004	
98500.0	12.2	-45.6		18.7	287.6	355.9	8.9	1.000004	
99000.0	11.9	-45.2		18.2	288.2	357.8	7.0	1.000004	
99500.0	11.6	-44.8		17.6	288.7	1.1	5.1	1.000004	
100000.0	11.4	-44.4		17.3	289.2	353.0	4.9	1.000004	
100500.0	11.1	-44.0		16.9	289.8	342.3	5.5	1.000004	
101000.0	10.9	-43.6		16.5	290.3	334.0	6.3	1.000004	
101500.0	10.6	-43.1		16.1	290.8	327.6	7.1	1.000004	
102000.0	10.4	-42.7		15.7	291.4	327.6	5.0	1.000004	
102500.0	10.2	-42.3		15.4	291.9	327.6	2.9	1.000003	
103000.0	9.9	-42.0		15.0	292.3	327.6	.8	1.000003	
103500.0	9.7	-41.9		14.7	292.5	159.1	.9	1.000003	
104000.0	9.5	-41.8		14.3	292.6	173.1	2.1	1.000003	
104500.0	9.3	-41.7		14.0	292.7	177.2	3.2	1.000003	
105000.0	9.1	-41.6		13.7	292.8	179.2	4.4	1.000003	
105500.0	8.9	-41.5		13.4	293.0			1.000003	
106000.0	8.7	-41.4		13.1	293.1			1.000003	
106500.0	8.5	-41.3		12.8	293.2			1.000003	
107000.0	8.3	-41.2		12.5	293.3			1.000003	
107500.0	8.1	-41.1		12.2	293.5			1.000003	
108000.0	8.0	-41.0		12.0	293.6			1.000003	

STATION ALTITUDE 1120.59 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 574

MANUALLY LEVELLED  
 2810010574  
 MULLOMAN

WIND DATA  
 271/39.64 FEET L  
 304/13.61 FEET M

TABLE X

PRESSURE MILLIBARS	POTENTIAL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEPOINT CENTIGRADE	RELATIVE HUMIDITY PERCENT	WIND DIRECTION DEGREES(TM)	WIND SPEED KNOTS
850.0	5020.	8.0	0.3	58.	9999.00	9999.00XA
800.0	6652.	4.5	-3.0	50.	9999.00	9999.00XA
750.0	8360.	1.0	-5.7	61.	9999.00	9999.00XA
700.0	10177.	-2.1	-8.6	71.	346.8	11.7
650.0	12099.	-4.8	-9.2	71.	318.6	19.4
600.0	14152.	-8.8	-16.4	54.	315.5	37.0
550.0	16370.	-8.2	-28.2	18.	305.4	48.5
500.0	18776.	-13.0	-31.7	19.	311.9	47.2
450.0	21387.	-17.8	-35.1	20.	338.4	70.4
400.0	24251.	-22.8	-39.0	21.	328.8	81.4
350.0	27406.	-30.7	-43.7	22.	323.8	90.9
300.0	30950.	-37.0			325.7	97.4
250.0	34997.	-48.1			324.1	98.4
200.0	39693.	-58.5			332.7	96.9
175.0	42476.	-58.4			339.3	52.2
150.0	45605.	-64.7			345.5	80.1
125.0	49215.	-67.7			343.5	83.1
100.0	53623.	-66.5			347.8	21.7
80.0	58181.	-61.4			322.5	19.3
70.0	60901.	-59.9			346.1	10.3
60.0	64077.	-57.2			333.1	1.0
50.0	67871.	-56.0			330.6	10.2
40.0	72489.	-57.3			103.2	2.9
30.0	78572.	-51.3			149.3	8.1
25.0	82470.	-50.1			334.5	1.7
20.0	87269.	-48.6			327.1	8.7
15.0	93491.	-47.8			347.1	13.2
10.0	102365.	-42.0			327.8	1.4

00 AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATIONS

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

STATION ALTITUDE 4051.00 FEET MSL  
 7 OCT. 76  
 ASCENSION. 10. 303

SIGNIFICANT LEVEL DATA  
 20100 30303  
 JALLEN

WSTM SITE COORDINATES  
 440491.00 FEET E  
 44023.05 FEET N

TABLE XI

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEW POINT	
883.5	4051.0	10.2	-1.5	44.0
850.0	5099.6	6.5	-5.8	41.0
811.0	6357.5	3.2	-7.0	47.0
797.2	6615.1	4.0	-7.7	42.0
768.6	7778.8	1.2	-8.6	48.0
726.4	9273.6	-0.6	-8.5	55.0
700.0	10241.8	-3.0	-8.4	66.0
656.4	11905.2	-6.7	-8.8	39.0
644.2	12385.9	-8.2	-8.3	99.0
638.0	12633.5	-7.2	-8.6	90.0
629.0	12997.5	-7.5	-11.1	75.0
615.3	13560.3	-8.6	-10.1	70.0
605.4	13973.6	-8.8	-10.3	46.0
597.3	14316.3	-9.4	-10.6	47.0
591.2	14577.0	-9.4	-10.7	19.0
570.4	15490.0	-7.5	-7.1	19.0
556.2	16135.6	-6.9	-5.5	21.0
500.0	18842.9	-11.7	-29.1	22.0
465.0	20659.7	-14.9	-30.5	25.0
435.0	22281.1	-16.1	-32.4	23.0
400.0	24368.7	-22.0	-37.4	23.0
376.8	25803.7	-25.9	-40.4	24.0
351.6	27443.5	-28.8	-42.9	24.0
320.4	29500.9	-34.0	-47.4	24.0
300.0	31115.0	-37.4	-50.4	24.0
290.2	31867.2	-39.1	-50.4	24.0
283.4	32401.5	-39.6		
250.0	35173.5	-48.0		
212.0	38679.3	-57.4		
206.2	39256.4	-57.6		



STATION ALTITUDE 4051.00 FEET MSL  
 7 OCT. 70  
 ASCENSION NO. 303

SIGNIFICANT LEVEL DATA  
 2810030303  
 JALLEN

STATION ALTITUDE 4051.00 FEET MSL  
 0840 HRS MDT

4051.00 FEET E  
 404023.05 FEET N

TABLE XI (CONT)

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEW POINT CENTIGRADE	
200.0	39089.2	-59.1	
191.1	40327.2	-60.1	
187.4	41231.4	-57.8	
172.8	42915.1	-58.3	
150.0	45503.1	-65.1	
138.4	47414.5	-66.5	
130.4	46612.7	-63.0	
122.0	49963.5	-63.2	
104.2	53128.9	-67.5	
100.0	53949.3	-66.0	
92.4	55527.6	-67.0	
87.7	56576.5	-63.5	
85.8	57026.8	-57.4	
74.3	59991.6	-62.6	
71.2	60866.4	-58.1	
70.0	61221.0	-59.1	
64.2	63010.3	-59.3	
56.8	64843.5	-55.5	
50.0	66237.7	-57.9	
42.2	71778.2	-56.9	
38.0	73986.2	-54.2	
35.6	75377.9	-51.4	
30.0	79058.4	-50.7	
20.0	87825.9	-49.1	
17.8	90358.0	-48.9	
13.4	96573.3	-45.9	
10.0	103074.2	-42.5	

STATION ALTITUDE 4051.00 FEET MSL  
 7 OCT. 70  
 ASCENSION NO. 303  
 0840 HRS MDT

UPPER AIR DATA  
 281000Z000  
 JALLEN

WSJM SITE COORDINATES  
 450491.00 FEET E  
 444023.05 FEET N

TABLE XII

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND METERS PER SECOND	WIND DATA DIRECTION SPEED KNOTS	INDEX OF REFRACTION
4051.0	603.5	10.2	44.0	1053.7	650.5	20.0	1.000207
4500.0	609.0	9.6	42.7	1072.2	654.0	25.2	1.000202
5000.0	653.1	9.9	41.3	1052.5	652.5	29.2	1.000256
5500.0	637.4	9.4	42.9	1043.3	650.8	32.0	1.000252
6000.0	621.9	8.1	45.3	1030.8	649.3	36.6	1.000248
6500.0	606.7	6.4	45.4	1014.3	648.5	45.0	1.000244
7000.0	591.7	5.5	43.2	993.4	648.5	53.3	1.000238
7500.0	576.9	2.0	46.3	982.0	646.7	62.0	1.000235
8000.0	562.4	0.9	49.0	967.5	645.5	61.4	1.000232
8500.0	548.0	0.3	51.4	951.5	644.8	52.2	1.000228
9000.0	534.0	-0.3	53.7	933.5	644.1	34.8	1.000225
9500.0	520.1	-1.2	57.6	920.8	643.0	16.6	1.000222
10000.0	506.5	-2.4	63.3	907.5	641.0	3.1	1.000219
10500.0	493.0	-3.6	71.1	894.0	640.2	52.5	1.000217
11000.0	479.5	-4.7	81.0	880.4	638.9	344.1	1.000215
11500.0	466.8	-5.8	91.0	867.0	637.6	336.3	1.000212
12000.0	454.0	-7.0	99.0	854.2	636.2	331.7	1.000209
12500.0	441.3	-7.7	94.9	840.2	635.3	329.2	1.000205
13000.0	428.9	-7.5	75.0	825.5	635.5	327.1	1.000197
13500.0	416.8	-6.5	70.5	810.7	634.2	325.0	1.000193
14000.0	404.8	-6.8	46.1	796.4	633.0	323.5	1.000195
14500.0	393.0	-9.4	27.3	782.8	632.9	322.6	1.000179
15000.0	381.5	-6.5	19.0	769.2	633.9	321.4	1.000174
15500.0	370.2	-7.5	19.0	747.4	635.1	319.3	1.000170
16000.0	359.2	-7.0	20.6	731.6	635.7	318.1	1.000167
16500.0	348.3	-7.5	21.1	716.8	635.1	320.7	1.000164
17000.0	337.6	-6.4	21.3	707.1	634.0	323.3	1.000161
17500.0	327.1	-9.3	21.5	693.7	632.9	330.0	1.000158
18000.0	316.9	-10.2	21.7	684.5	631.9	336.4	1.000156
18500.0	306.8	-11.1	21.9	673.4	630.6	341.1	1.000153

STATION ALTITUDE 4051.00 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 303

UPPER AIR DATA  
 261000Z  
 JALLEN

WSTM SITE COORDINATES  
 450491.00 FEET E  
 444023.00 FEET N

TABLE XII (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	DEWPOINT TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND METERS PER SECOND	WIND DIRECTION DEGREES (TR)	WIND SPEED KNOTS	INDEX OF REFRACTION
19000.0	496.9	-12.0	-29.2	22.3	062.5	609.7	345.0	61.1	1.000151
19500.0	487.0	-12.9	-29.5	23.1	651.6	608.7	346.1	67.2	1.000148
20000.0	477.4	-13.7	-29.9	23.0	640.9	607.6	346.2	74.4	1.000146
20500.0	468.0	-14.6	-30.3	24.7	630.3	606.5	343.3	78.7	1.000143
21000.0	458.7	-15.2	-30.9	24.6	619.1	605.9	339.8	82.4	1.000141
21500.0	449.5	-15.5	-31.4	24.0	607.6	605.4	335.6	82.4	1.000138
22000.0	440.6	-15.9	-32.0	23.5	590.4	605.0	331.0	82.2	1.000135
22500.0	431.7	-16.7	-32.9	23.0	580.3	604.0	328.9	82.3	1.000133
23000.0	423.0	-18.1	-34.1	23.0	577.7	602.2	327.2	81.9	1.000131
23500.0	414.4	-19.5	-35.3	23.0	569.2	600.5	327.0	80.0	1.000129
24000.0	406.1	-21.0	-36.5	23.0	560.8	618.7	326.8	78.4	1.000126
24500.0	397.8	-22.4	-37.7	23.1	552.5	617.0	327.2	77.6	1.000124
25000.0	389.6	-23.7	-38.7	23.4	544.0	615.3	327.6	76.0	1.000122
25500.0	381.6	-25.1	-39.8	23.8	535.8	613.7	327.7	79.4	1.000120
26000.0	373.7	-26.2	-40.7	24.0	527.2	612.2	327.8	82.2	1.000118
26500.0	365.9	-27.1	-41.5	24.0	515.0	611.1	327.7	85.0	1.000116
27000.0	358.2	-28.0	-42.2	24.0	509.0	610.0	327.4	87.6	1.000114
27500.0	350.7	-28.9	-43.0	24.0	500.3	608.9	327.0	90.3	1.000112
28000.0	343.3	-30.1	-44.1	24.0	492.1	607.3	326.7	92.0	1.000110
28500.0	336.0	-31.3	-45.1	24.0	484.0	605.8	326.5	93.7	1.000108
29000.0	328.9	-32.5	-46.2	24.0	476.1	604.3	326.6	95.3	1.000107
29500.0	321.9	-33.7	-47.2	24.0	466.3	602.8	327.0	97.1	1.000105
30000.0	315.0	-34.9	-48.2	24.0	460.5	601.4	327.5	98.3	1.000103
30500.0	308.2	-36.0	-49.2	24.0	452.7	599.9	328.4	100.8	1.000101
31000.0	301.5	-37.1	-50.2	24.0	445.0	598.5	329.3	102.7	1.000100
31500.0	294.9	-38.3	-51.0	11.7**	437.4	597.1	329.5	104.3	1.000098
32000.0	288.5	-39.3	-51.7		429.7	595.6	329.7	105.7	1.000096
32500.0	282.1	-40.1	-52.4		421.7	594.7	329.2	106.5	1.000094
33000.0	275.8	-41.6	-53.0		414.9	592.9	328.5	107.1	1.000092
33500.0	269.7	-43.0	-53.7		408.3	591.0	328.1	108.5	1.000091

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

STATION ALTITUDE 4051.00 FEET MSL  
 7 OCT. 76 0840 HRS MDT  
 ASCENSION NO. 303

UPPER AIR DATA  
 2010000300  
 JALLEN

WSTM SITE COORDINATES  
 450491.60 FEET E  
 444023.05 FEET N

TABLE XII (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(TM)	SPEED KNOTS	
34000.0	263.6	-44.5			401.7	569.1	327.6	105.7	1.000089
34500.0	257.7	-40.0			393.3	567.1	327.7	104.3	1.000088
35000.0	252.0	-47.5			387.0	565.2	327.7	103.6	1.000097
35500.0	246.2	-46.9			382.4	563.4	328.0	103.7	1.000085
36000.0	240.5	-50.2			373.8	561.7	328.5	103.5	1.000084
36500.0	234.9	-51.6			367.3	579.9	329.1	103.0	1.000082
37000.0	229.4	-52.9			362.9	578.2	329.6	101.1	1.000081
37500.0	224.1	-54.2			356.6	576.4	330.3	100.9	1.000079
38000.0	218.9	-55.6			350.5	574.6	330.6	102.7	1.000078
38500.0	213.8	-56.9			344.4	572.9	330.7	104.1	1.000077
39000.0	208.8	-57.5			337.2	572.1	330.6	105.3	1.000075
39500.0	203.8	-58.2			330.2	571.2	331.0	104.1	1.000074
40000.0	198.9	-59.2			323.9	569.6	331.9	101.0	1.000072
40500.0	194.2	-59.8			317.0	569.1	333.6	101.3	1.000071
41000.0	189.5	-59.1			300.4	569.9	334.5	106.7	1.000069
41500.0	185.0	-57.9			293.4	571.6	335.8	112.2	1.000067
42000.0	180.6	-58.0			292.4	571.4	336.8	110.8	1.000065
42500.0	176.3	-58.2			283.7	571.2	337.8	108.4	1.000064
43000.0	172.1	-58.5			273.3	570.6	338.9	106.1	1.000062
43500.0	167.9	-59.7			274.0	569.2	340.9	94.1	1.000061
44000.0	163.9	-60.9			268.9	567.6	344.7	74.2	1.000060
44500.0	159.9	-62.0			263.8	566.1	347.4	62.7	1.000059
45000.0	156.0	-63.2			253.9	564.5	349.0	54.4	1.000058
45500.0	152.2	-64.4			254.0	562.9	345.9	50.1	1.000057
46000.0	148.5	-65.3			243.9	561.7	341.0	46.6	1.000055
46500.0	144.9	-65.7			243.3	561.1	334.5	44.1	1.000054
47000.0	141.3	-66.1			237.8	560.5	329.6	42.0	1.000053
47500.0	137.8	-66.3			232.0	560.4	325.9	41.6	1.000052
48000.0	134.4	-64.8			224.8	562.3	324.7	41.1	1.000050
48500.0	131.1	-65.3			217.7	564.3	325.1	41.5	1.000048



STATION ALTITUDE 4051.00 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 303  
 0840 HRS MDT

UPPER AIR DATA  
 281000Z0303  
 JALLEN

ASTM SITE COORDINATES  
 430491.60 FEET E  
 44023.05 FEET N

TABLE XII (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 (TR)	SPEED KNOTS	
49000.0	127.9	-03.1			212.1	564.7	324.9	41.1	1.000047
49500.0	124.8	-03.1			207.0	564.6	324.2	40.2	1.000046
50000.0	121.8	-03.2			202.1	564.4	322.9	39.4	1.000045
50500.0	118.8	-03.9			197.8	563.5	320.1	38.7	1.000044
51000.0	115.9	-04.6			193.5	562.6	317.4	38.3	1.000043
51500.0	113.0	-05.3			189.4	561.7	317.3	39.1	1.000042
52000.0	110.2	-06.0			185.3	560.8	317.3	39.9	1.000041
52500.0	107.5	-06.6			181.4	559.8	320.0	40.1	1.000040
53000.0	104.9	-07.3			177.5	558.9	323.7	40.3	1.000040
53500.0	102.3	-06.8			172.7	559.6	327.2	40.3	1.000038
54000.0	99.7	-06.0			167.8	560.7	330.4	41.7	1.000037
54500.0	97.3	-06.3			163.9	560.2	333.5	42.7	1.000036
55000.0	94.9	-06.7			160.1	559.8	334.2	42.5	1.000036
55500.0	92.5	-07.0			156.3	559.4	334.7	42.2	1.000035
56000.0	90.3	-05.4			151.4	561.5	335.0	40.5	1.000034
56500.0	88.0	-03.8			146.5	563.7	334.7	36.3	1.000033
57000.0	85.9	-07.6			139.0	571.7	334.3	32.2	1.000031
57500.0	83.9	-06.2			135.9	571.1	334.1	27.7	1.000030
58000.0	81.8	-09.1			133.2	570.0	333.9	23.1	1.000030
58500.0	79.9	-09.0			130.5	568.8	333.7	19.3	1.000029
59000.0	78.0	-09.9			127.9	567.6	333.8	16.7	1.000028
59500.0	76.1	-01.7			125.4	566.4	333.9	14.0	1.000028
60000.0	74.3	-02.6			122.9	565.4	334.0	11.4	1.000027
60500.0	72.5	-00.0			119.5	568.8	334.1	8.9	1.000026
61000.0	70.7	-06.5			114.8	570.6	334.1	7.5	1.000026
61500.0	69.1	-09.1			112.4	569.9	334.0	6.5	1.000025
62000.0	67.4	-09.2			109.8	569.9	333.9	6.0	1.000024
62500.0	65.8	-09.2			107.2	569.8	333.9	6.3	1.000024
63000.0	64.2	-09.3			104.6	569.7	333.8	6.6	1.000023
63500.0	62.7	-08.3			101.7	571.1	333.8	6.7	1.000023

STATION ALTITUDE 4951.00 FEET MSL  
 7 OCT. 76 0840 HRS MDT  
 ASCENSION 110. 303

UPPER AIR DATA  
 2810030303  
 JALLEN

WSTM SITE COORDINATES  
 440491.60 FEET E  
 444023.05 FEET N

TABLE XII (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
6400.00	61.2	-57.2		90.8	572.4	333.8		1.000022
6450.00	59.8	-56.2		93.0	573.6	333.1		1.000021
6500.00	58.4	-55.6		93.5	574.6	331.8		1.000021
6550.00	57.0	-55.0		91.4	574.1	330.4		1.000020
6600.00	55.6	-56.3		83.4	573.7	326.7		1.000020
6650.00	54.3	-56.7		87.4	573.2	322.8		1.000019
6700.00	53.0	-57.0		80.5	572.7	317.9		1.000019
6750.00	51.8	-57.4		80.6	572.3	310.4		1.000019
6800.00	50.6	-57.7		81.8	571.8	301.8		1.000018
6850.00	49.4	-57.8		79.9	571.7	290.6		1.000018
6900.00	48.2	-57.7		77.9	571.9	276.6		1.000017
6950.00	47.1	-57.5		70.0	572.0	260.6		1.000017
7000.00	46.0	-57.4		74.2	572.2	241.0		1.000017
7050.00	44.9	-57.3		72.4	572.4	222.0		1.000016
7100.00	43.8	-57.1		70.6	572.6	212.1		1.000016
7150.00	42.8	-57.0		60.9	572.8	211.7		1.000015
7200.00	41.8	-56.6		67.2	573.3	211.1		1.000015
7250.00	40.8	-56.0		60.4	574.1	198.7		1.000015
7300.00	39.8	-55.4		60.7	574.9	183.9		1.000014
7350.00	38.9	-54.8		62.0	575.7	169.3		1.000014
7400.00	38.0	-54.2		60.4	576.5	161.0		1.000013
7450.00	37.1	-53.2		50.7	577.8	157.6		1.000013
7500.00	36.2	-52.2		57.1	579.1	156.4		1.000013
7550.00	35.4	-51.4		50.6	580.2	155.9		1.000012
7600.00	34.6	-51.3		54.3	580.3	155.4		1.000012
7650.00	33.8	-51.2		50.0	580.4	154.5		1.000012
7700.00	33.0	-51.1		51.8	580.5	153.7		1.000012
7750.00	32.3	-51.0		50.6	580.7	152.2		1.000011
7800.00	31.5	-50.9		49.4	580.6	150.1		1.000011
7850.00	30.8	-50.8		40.2	580.9	147.4		1.000011

UPPER AIR DATA  
281000000  
JALLEN

STATION ALTITUDE 4051.00 FEET MSL  
7 OCT. 76  
ASCENSION IS. 003  
0840 HRS MDT

STN SITE COORDINATES  
4 0491.60 FEET E  
4 4023.05 FEET N

TABLE XII (CONT)

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
79000.0	30.1	-50.7		47.1	581.0	143.4	7.7	1.000010
79500.0	29.4	-50.6		46.0	581.2	135.1	5.4	1.000010
80000.0	28.7	-50.5		44.9	581.3	116.1	3.4	1.000010
80500.0	28.1	-50.4		43.9	581.4	76.6	2.2	1.000010
81000.0	27.4	-50.3		42.9	581.5	27.0	2.0	1.000010
81500.0	26.8	-50.3		41.9	581.6	1.0	3.9	1.000009
82000.0	26.2	-50.2		40.9	581.7	32.5	4.6	1.000009
82500.0	25.6	-50.1		40.0	581.9	347.9	4.4	1.000009
83000.0	25.0	-50.0		39.0	582.0	343.1	4.4	1.000009
83500.0	24.4	-49.9		38.1	582.1	340.8	3.9	1.000008
84000.0	23.9	-49.8		37.2	582.2	340.1	3.2	1.000008
84500.0	23.3	-49.7		36.4	582.3	339.0	2.5	1.000008
85000.0	22.8	-49.6		35.5	582.5	342.7	2.7	1.000008
85500.0	22.3	-49.5		34.7	582.6	348.6	2.5	1.000008
86000.0	21.8	-49.4		33.9	582.7	353.6	2.7	1.000008
86500.0	21.3	-49.3		33.1	582.8	355.0	3.7	1.000007
87000.0	20.8	-49.3		32.3	582.9	355.0	5.2	1.000007
87500.0	20.3	-49.2		31.6	583.1	355.0	6.7	1.000007
88000.0	19.8	-49.1		30.8	583.2	354.8	7.6	1.000007
88500.0	19.4	-49.0		30.1	583.2	354.4	8.2	1.000007
89000.0	18.9	-49.0		29.4	583.3	354.1	8.8	1.000007
89500.0	18.5	-49.0		28.8	583.5	353.6	9.3	1.000006
90000.0	18.1	-48.9		28.1	583.4	354.0	9.1	1.000006
90500.0	17.7	-48.8		27.5	583.5	354.3	8.7	1.000006
91000.0	17.3	-48.6		26.8	583.6	354.7	8.3	1.000006
91500.0	16.9	-48.3		26.2	584.1	355.1	6.8	1.000006
92000.0	16.5	-48.1		25.6	584.4	355.6	7.7	1.000006
92500.0	16.1	-47.9		25.0	584.7	356.3	7.4	1.000006
93000.0	15.8	-47.6		24.4	585.0	356.9	7.2	1.000005
93500.0	15.4	-47.4		23.8	585.4	358.3	6.8	1.000005

STATION ALTITUDE 4051.00 FEET MSL  
 7 OCT. 76  
 ASCENDS 1011.0. 303  
 0840 HRS MDT

UPPER AIR DATA  
 2810030303  
 JALLEN

WSTN SITE COORDINATES  
 450491.60 FEET E  
 44023.05 FEET N

TABLE XII (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TR)	SPEED KNOTS	INDEX OF REFRACTION
94000.0	15.1	-47.1		20.2	505.7	05	6.3	1.000005
94500.0	14.7	-46.9		22.7	506.0	3.1	5.0	1.000005
95000.0	14.4	-46.7		22.1	506.3	6.1	5.0	1.000005
95500.0	14.1	-46.4		21.6	506.6	24.6	4.2	1.000005
96000.0	13.8	-46.2		21.1	506.9	56.4	3.7	1.000005
96500.0	13.4	-45.9		20.6	507.2	86.9	4.7	1.000005
97000.0	13.1	-45.7		20.1	507.6	105.4	5.7	1.000004
97500.0	12.9	-45.4		19.7	507.9	118.0	6.5	1.000004
98000.0	12.6	-45.2		19.2	508.2	127.3	7.7	1.000004
98500.0	12.3	-44.9		18.8	508.6	134.1	9.0	1.000004
99000.0	12.0	-44.6		18.3	508.9	140.0	9.0	1.000004
99500.0	11.7	-44.4		17.9	509.3	148.9	7.7	1.000004
100000.0	11.5	-44.1		17.5	509.6	162.2	6.0	1.000004
100500.0	11.2	-43.8		17.1	509.9	161.3	5.2	1.000004
101000.0	11.0	-43.6		16.7	500.3			1.000004
101500.0	10.7	-43.3		16.3	500.6			1.000004
102000.0	10.5	-43.1		15.9	500.9			1.000004
102500.0	10.3	-42.8		15.5	501.3			1.000003
103000.0	10.0	-42.5		15.2	501.6			1.000003



STATION ALTITUDE 4051.00 FEET MSL  
 7 OCT. 76  
 ASCENSION NO. 303

WIND DATA LEVELS  
 2810000000  
 JALLEN

STIM SITE COORDINATES  
 400491.60 FEET E  
 404023.05 FEET N

TABLE XIII

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUMIDITY PERCENT	WIND DATA	
				DIRECTION DEGREES (T)	SPEED KNOTS
650.0	5098.	6.5	41.	29.8	29.8
600.0	6719.	3.0	43.	49.2	30.8
750.0	6428.	0.4	51.	53.8	17.4
700.0	10235.	-3.0	46.	357.0	9.6
650.0	12140.	-7.5	29.	330.8	17.3
600.0	14109.	-9.2	47.	323.1	34.7
550.0	16407.	-7.4	21.	320.2	51.0
500.0	18622.	-11.7	22.	343.8	59.7
450.0	21446.	-15.5	34.	335.8	82.4
400.0	24335.	-22.0	23.	327.1	77.8
350.0	27509.	-29.1	24.	327.0	90.5
300.0	31062.	-37.4	24.	329.4	103.1
250.0	35107.	-48.0	24.	327.8	103.7
200.0	39205.	-59.1		331.7	101.7
175.0	42557.	-58.2		336.2	107.7
150.0	45954.	-65.1		343.5	47.7
125.0	49344.	-63.1		324.3	40.3
100.0	53799.	-66.0		330.1	41.6
80.0	58302.	-59.9		333.7	19.5
70.0	61030.	-59.1		334.1	7.1
60.0	64208.	-56.4		333.4	6.7
50.0	68002.	-57.0		297.4	5.0
40.0	72634.	-55.5		167.2	2.9
30.0	78745.	-50.7		142.9	7.5
25.0	82649.	-50.0		343.3	4.4
20.0	87444.	-49.1		354.9	7.4
15.0	93657.	-47.1		.9	
10.0	102553.	-42.5			6.2