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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
12828F LANCE, MISSILE NUMBER 2222, ROUND NUMBER 337-DSL, 11 OCT--ETC(U)
OCT 79

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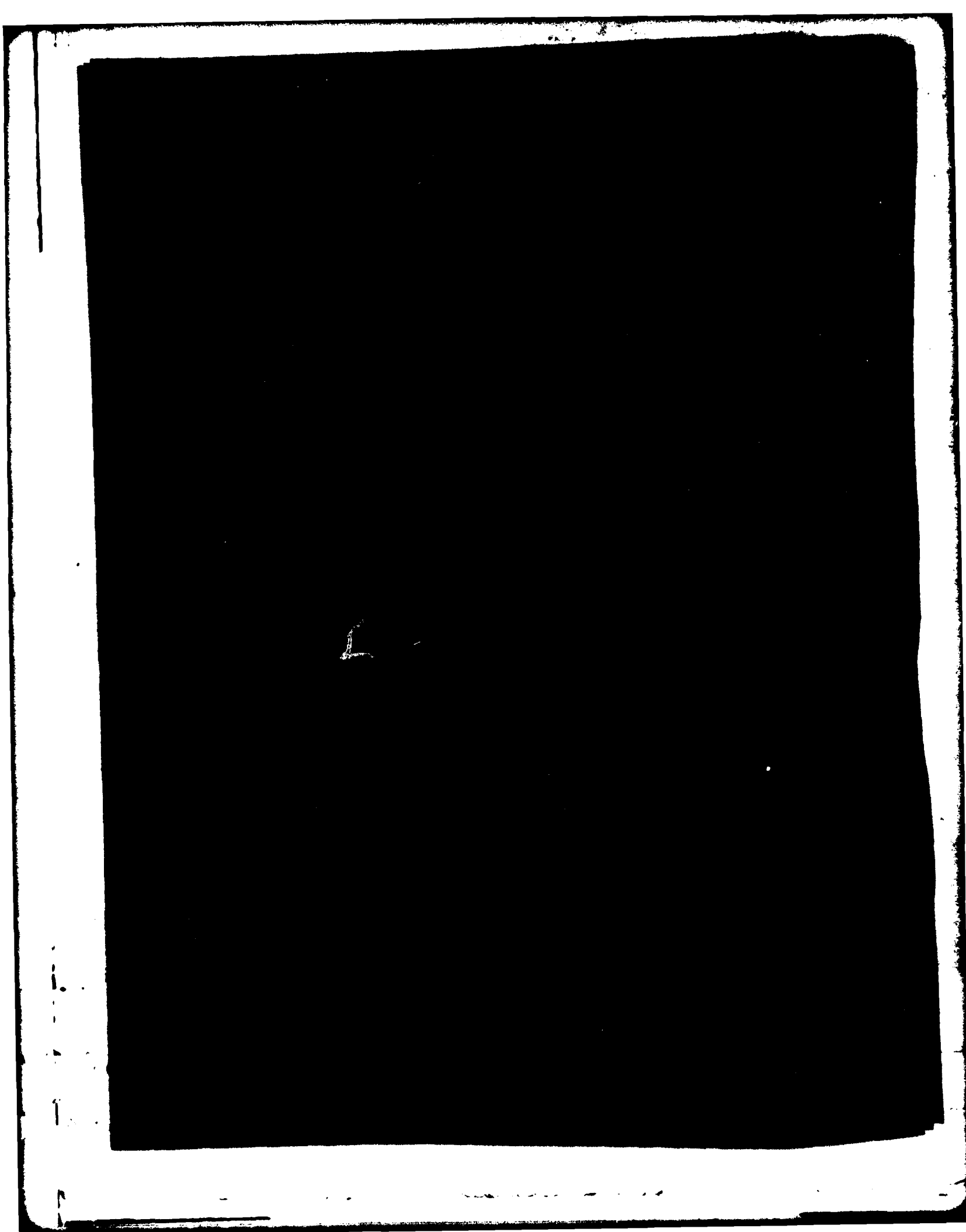
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number) 1. Ballistics 2. Meteorology 3. Wind		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of 12828F LANCE, Missile Number 2222, Round Number 337-DSL are presented in tabular form.		

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CONTENTS	PAGE
INTRODUCTION-----	1
DISCUSSION-----	1
MAP-----	2

TABLES:

1. Surface Observations taken at 0800 MDT at LC-33-----	3
2. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 0800 MDT-----	4
3. Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3 and 4, taken at 0800 MDT-----	5
4. LC-33 Pilot Balloon Measured Wind Data at 0750 MDT-----	6
5. LC-33 Pilot Balloon Measured Wind Data at 0800 MDT-----	8
6. WSD Significant Level Data at 0650 MST-----	10
7. WSD Upper Air Data at 0650 MST-----	11
8. WSD Mandatory Levels at 0650 MST-----	15
9. APA Significant Level Data at 0600 MST-----	16
10. APA Upper Air Data at 0600 MST-----	18
11. APA Mandatory Levels at 0600 MST-----	22
12. NW30 Significant Level Data at 0650 MST-----	23
13. NW30 Upper Air Data at 0650 MST-----	24
14. NW30 Mandatory Levels at 0650 MST-----	29

INTRODUCTION

12828F LANCE, Missile Number 2222, Round Number 337-DSL, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0800 MDT, 11 October 1979. 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 (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

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

SITE AND ALTITUDE

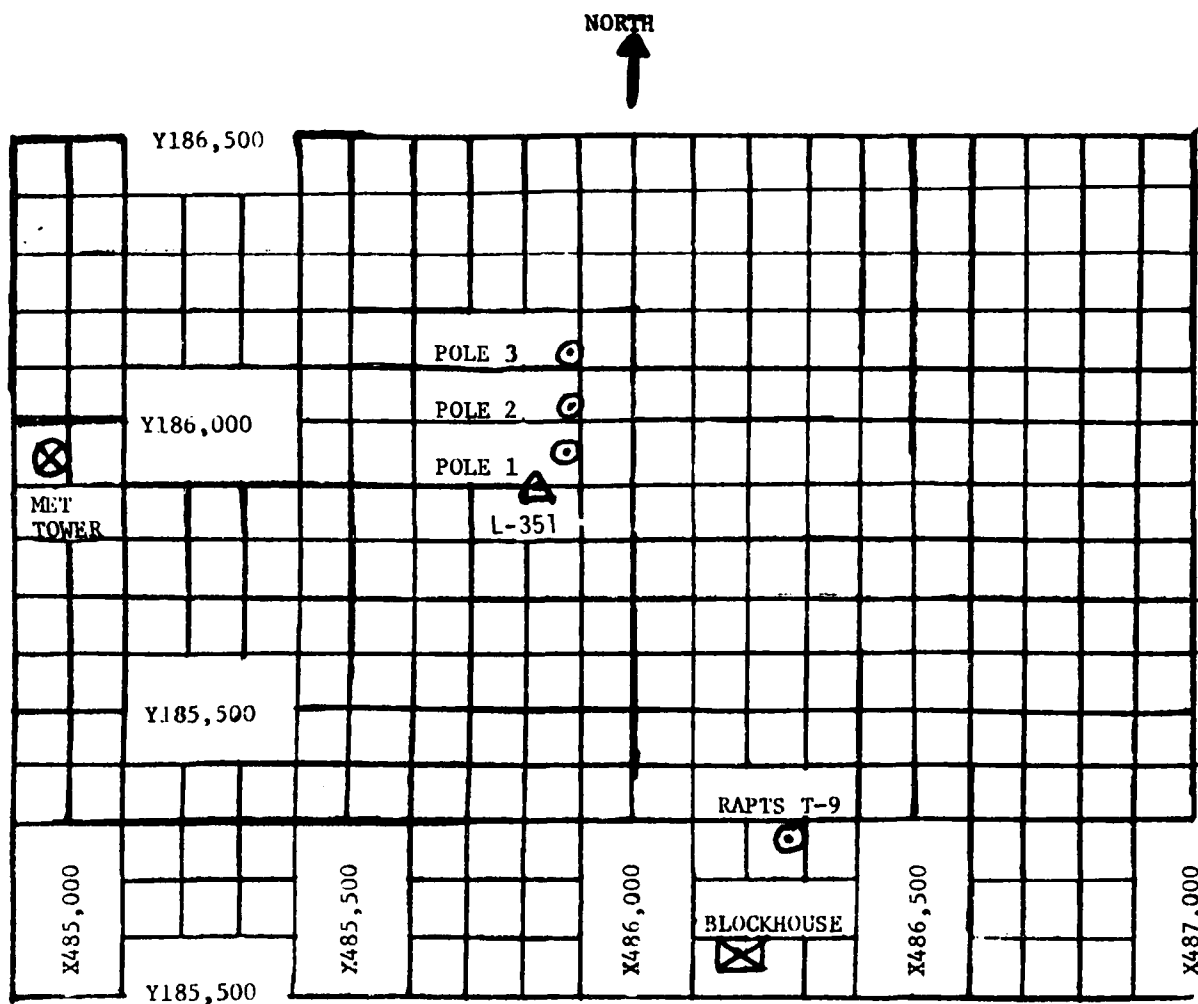
LC-33 3000 Meters

(2) 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 0650 MST
APA 0600 MST
NW30 0650 MST

Accession For	WIS 08441
DOC TAB	Unannounced
Justification	
By	
Distribution	
Availability Codes	
Avail and/or	
Special	
Dist	923 KIF



1. MET TOWER - 4 Bendix Model T-20 Anemometers at 12 ft, 62 ft, 102 ft, and 202 ft with E/A recorders.
2. POLE ANEMOMETER - Bendix Model T-120 with E/A recorders.
 - (a) Pole #1 - 38.7 ft
 - (b) Pole #2 - 53.0 ft
 - (c) Pole #3 - 83.6 ft
3. RAPTS T-9 Radar Automatic Pilot-Balloon Tracking System T-9 Radar.

TABLE 1. Surface Observations taken at 0800 MDT,
11 October 1979, at LC-33, 12828F LANCE,
Missile No. 2222, Round No. 337-DSL.

ELEVATION	3977.30	FT/MSL
PRESSURE	881.6	MBS
TEMPERATURE	8.5	°C
RELATIVE HUMIDITY	61	%
DEW POINT	1.4	°C
DENSITY	1086.5	GM/M ³
WIND SPEED	CALM	KTS
WIND DIRECTION		DEGREES
CLOUD COVER	CLEAR	

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1			POLE #2			POLE #3		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	185	04	-30	187	03	-30	180	04
-20	185	04	-20	183	02	-20	180	04
-10	185	04	-10	183	03	-10	180	04
0.0	185	04	0.0	184	03	0.0	180	04
+10	186	04	+10	184	03	+10	180	04

POLE #1 = X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL

POLE #2 = X485,874.93 Y186,012.00 H4033.57 53.0 ft AGL

POLE #3 = X485,877.29 Y186,116.06 H4063.92 83.6 ft AGL

TABLE 2

TYPE 12828F LANCE MISSILE NO. 2222 ROUND NO. 337-DSL

LAUNCHED FROM LC-33 DATE 11 October 1979 TIME 0800 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1 12 Feet			LEVEL #2 62 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	MISG	03	-30	190	01
-20	MISG	02	-20	190	01
-10	MISG	03	-10	190	01
0.0	MISG	02	0.0	190	01
+10	MISG	02	+10	190	01
LEVEL #3 102 Feet			LEVEL #4 202 Feet		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
-30	180	02	-30	185	02
-20	182	02	-20	185	02
-10	182	02	-10	185	02
0.0	182	02	0.0	185	02
+10	182	02	+10	180	02

WTSM COORDINATES: X484,982.64 Y185,057.73 H3983.00 (base)

TABLE 3

TYPE 12828F LANCE MISSILE NO. 2222 ROUND NO. 337-DSL

LAUNCHED FROM LC-33 DATE 11 October 1979 TIME 0800 MDT

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

PILOT BALLOON MEASURED WIND DATA
(30 meter increments)

TABLE 4

RELEASED FROM LC-33 DATE 11 October 1979 TIME 0750 MDT
 RELEASE POINT COORDINATES (WSTM) X=486,037.24 Y=182,350.16 H=3977.30
 MISSILE TYPE 12828F LANCE MISSILE NO. 2222 ROUND NO. 337-DSL
 MISSILE LAUNCHED FROM LC-33 DATE 11 October 1979 TIME 0800 MDT

NOTE: WIND DIRECTION ARE REFERENCED TO TRUE NORTH

HEIGHT mtrs AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM
30		CALM
60		CALM
90		CALM
120		CALM
150	020	02
180	355	03
210	001	05
240	007	07
270	002	07
300	356	07
330	014	06
360	031	05
390	028	05
420	025	04
450	014	04
480	002	03
510	008	03

HEIGHT mtrs AGL	DIRECTION DEGREES	SPEED KTS
540	013	03
570	019	03
600	024	02
630	342	02
660	300	01
690	323	05
720	346	08
750	352	08
780	357	09
810	349	09
840	341	10
870	343	11
900	344	11
930	352	11
960	360	11
990	352	14
1020	344	16
1050	346	16

[illegible]

PILOT BALLOON MEASURED WIND DATA
(30 meter increments)

TABLE 5

RELEASED FROM LC-33 DATE 11 October 1979 TIME 0800 MDT

RELEASE POINT COORDINATES (WSTM) X=486,037.24 Y=182,350.16 H=3977.30

MISSILE TYPE 12828F LANCE MISSILE NO. 2222 ROUND NO. 337-DSL

MISSILE LAUNCHED FROM LC-33 DATE 11 October 1979 TIME 0800 MDT

NOTE: WIND DIRECTION ARE REFERENCED TO TRUE NORTH.

HEIGHT mtrs AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM
30		CALM
60		CALM
90		CALM
120		CALM
150	355	03
180	017	05
210	015	06
240	013	07
270	008	06
300	002	06
330	328	06
360	294	05
390	316	05
420	337	06
450	336	04
480	335	03
510	308	02

HEIGHT mtrs AGL	DIRECTION DEGREES	SPEED KTS
540	281	01
570	273	02
600	265	02
630	335	01
660		CALM
690	022	02
720	359	04
750	350	07
780	340	10
810	351	10
840	001	10
870	002	10
900	003	10
930	355	11
960	347	11
990	349	13
1020	350	14
1050	353	16

RELEASED FROM LC-33

DATE 11 October 1979

TIME 0800 MDT

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
1080	356	18
1110	357	19
1140	358	19
1170	357	21
1200	356	22
1230	356	22
1260	357	21
1290	355	21
1320	352	20
1350	351	19
1380	350	18
1410	346	16
1440	341	15
1470	343	16
1500	345	16
1530	340	16
1560	335	16
1590	334	15
1620	333	15
1650	329	17
1680	324	17
1710	325	17
1740	326	16
1770	322	15
1800	317	16
1830	317	16
1860	316	16
1890	316	16
1920	315	15
1950	315	15
1980	314	15
2010	315	16
2040	315	17
2070	314	18
2100	312	20
2130	310	20

[illegible][illegible]

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
2840020410
WHITE SANDS
TABLE 6

STATION ALTITUDE 3989.00 FEET MSL
11 OCT. 79 0650 HRS MST
ASCENDING 110. 416

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEW POINT DEGREES CENTIGRADE	REL. HUM. PERCENT
681.5 3989.0	7.8 1.2	65.0
656.9 4775.1	22.0 -3.4	18.0
650.0 5005.1	22.0 -5.0	15.0
611.0 6337.7	20.6 -6.7	13.0
712.2 9902.4	12.3 -13.0	15.0
700.0 10436.5	11.0 -15.4	14.0
654.8 12250.2	6.8 -19.7	13.0
617.6 13824.4	5.7 -22.4	11.0
500.0 19379.3	-6.1 -31.7	11.0
464.4 21263.3	-10.8 -34.0	12.0
433.2 23009.2	-14.5 -36.4	11.0
400.0 24977.3	-19.5 -42.4	11.0
339.8 28894.7	-28.6 -46.9	12.0
300.0 31705.6	-36.4	
276.2 33658.6	-40.0	
250.0 35874.3	-45.4	
225.4 38122.6	-51.0	
209.8 39653.3	-53.0	
200.0 40604.7	-55.2	
162.8 44898.5	-64.9	
154.0 46017.6	-64.3	
150.0 46546.4	-65.9	
137.0 48253.6	-69.5	
126.2 49954.1	-70.9	
118.6 51170.5	-70.0	
108.0 52998.8	-72.1	
100.0 54494.2	-72.1	
94.4 55611.3	-73.1	
84.8 57637.9	-72.6	
70.0 61459.4	-67.0	
61.8 63967.3	-63.1	
53.8 66800.3	-63.1	
50.0 68205.0	-59.7	
42.4 71709.8	-57.4	
34.5 76019.3	-57.2	
30.0 78970.5	-53.1	
27.0 81232.1	-50.1	
25.0 82895.6	-50.1	

UPPER AIR DATA
2040020410
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
11 OCT. 79 0650 HRS MST
ASCENSION NO. 416

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, SPEED DEGREES (T), KNOTS	INDEX OF REFRACTION
3989.0	881.5	7.8	63.0	1089.9	653.9	.0	1.000275
4000.0	881.2	8.0	62.4	1080.7	654.2	.0	1.000275
4500.0	835.4	17.0	33.7	1036.0	664.6	1.9	1.000260
5000.0	830.2	22.0	15.1	1001.7	669.9	3.7	1.000241
5500.0	835.3	21.5	-6.9	980.0	669.3	5.5	1.000236
6000.0	820.7	21.0	-8.0	970.6	668.8	7.4	1.000231
6500.0	806.3	20.2	-9.0	950.0	667.8	9.8	1.000227
7000.0	792.0	19.1	-9.6	942.8	666.4	12.7	1.000223
7500.0	777.9	17.9	-10.2	929.7	665.1	15.6	1.000220
8000.0	764.1	16.8	-10.9	910.0	663.8	15.6	1.000216
8500.0	750.5	15.6	-11.6	904.2	662.5	15.6	1.000213
9000.0	737.2	14.5	-12.2	891.7	661.1	15.6	1.000210
9500.0	724.1	13.4	-12.9	879.4	659.8	15.5	1.000206
10000.0	711.2	12.2	-13.7	867.3	658.5	15.8	1.000203
10500.0	698.4	10.9	-15.6	853.8	656.9	17.5	1.000199
11000.0	685.6	9.7	-16.7	843.7	655.5	19.2	1.000196
11500.0	673.1	8.5	-17.9	831.8	654.1	19.4	1.000192
12000.0	660.9	7.4	-19.1	820.0	652.8	18.2	1.000189
12500.0	648.8	6.6	-20.1	807.2	651.9	16.9	1.000186
13000.0	636.8	6.3	-20.9	793.4	651.4	14.0	1.000182
13500.0	625.1	5.9	-21.8	779.8	651.0	11.0	1.000179
14000.0	613.5	5.3	-22.7	767.0	650.3	8.7	1.000176
14500.0	601.9	4.3	-23.5	755.5	649.1	6.9	1.000173
15000.0	590.6	3.2	-24.4	744.1	647.8	5.0	1.000170
15500.0	579.5	2.1	-25.2	732.9	646.5	4.4	1.000167
16000.0	568.6	1.1	-26.0	721.9	645.3	4.6	1.000164
16500.0	557.9	.0	-26.9	711.1	644.0	5.7	1.000162
17000.0	547.3	-1.0	-27.7	700.5	642.8	7.7	1.000159
17500.0	537.0	-2.1	-28.6	690.0	641.5	9.7	1.000157
18000.0	526.9	-3.2	-29.4	679.7	640.2	10.3	1.000154
18500.0	517.0	-4.2	-30.2	669.5	639.0	11.0	1.000152
19000.0	507.3	-5.3	-31.1	659.5	637.7	11.9	1.000149
19500.0	497.6	-6.4	-31.9	649.7	636.4	12.0	1.000147
20000.0	488.0	-7.6	-32.6	640.1	634.9	12.3	1.000145
20500.0	478.5	-8.9	-33.4	630.6	633.4	12.4	1.000142
21000.0	469.2	-10.1	-34.2	621.3	631.9	12.1	1.000140
21500.0	460.0	-11.3	-35.1	611.9	630.5	11.9	1.000138
22000.0	451.0	-12.4	-36.2	602.3	629.2	11.4	1.000136
22500.0	442.1	-13.4	-37.3	592.8	627.9	10.7	1.000133
23000.0	433.4	-14.5	-38.4	583.5	626.6	10.1	1.000131

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

UPPER AIR DATA
2840020410
WHITE SANDS

TABLE 7 (CONT)

STATION ALTITUDE 3909.00 FEET MSL
11 OCT. 79 0650 HRS MST
ASCENSION NO. 416

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TUL) SPEED KNOTS	INDEX OF REFRACTION
23500.0	424.7	-15.7	11.0	574.0	625.1	209.0	1.000129
24000.0	410.2	-17.0	11.0	565.9	623.5	209.3	1.000127
24500.0	407.8	-18.3	11.0	557.4	622.0	209.0	1.000125
25000.0	399.6	-19.0	11.0	548.9	620.4	252.0	1.000123
25500.0	391.4	-20.7	11.1	540.1	619.0	239.3	1.000121
26000.0	383.3	-21.9	11.3	531.4	617.0	230.9	1.000119
26500.0	375.4	-23.0	11.4	522.9	616.2	227.0	1.000117
27000.0	367.7	-24.2	11.5	514.5	614.7	224.2	1.000115
27500.0	360.1	-25.4	11.6	506.2	613.3	224.1	1.000113
28000.0	352.7	-26.5	11.8	498.1	611.8	224.9	1.000111
28500.0	345.4	-27.7	11.9	490.2	610.4	226.0	1.000110
29000.0	338.3	-28.9	11.6**	482.4	608.9	231.3	1.000108
29500.0	331.1	-30.2	9.5**	474.7	607.2	236.2	1.000106
30000.0	324.0	-31.6	7.4**	467.2	605.5	241.0	1.000104
30500.0	317.1	-32.9	5.3**	459.6	603.8	249.2	1.000103
31000.0	310.3	-34.3	3.3**	452.0	602.1	257.1	1.000101
31500.0	303.7	-35.6	1.2**	445.4	600.4	266.7	1.000099
32000.0	297.2	-36.8		438.0	598.9	278.5	1.000098
32500.0	290.7	-37.8		430.2	597.7	290.0	1.000096
33000.0	284.3	-38.7		422.0	596.5	300.5	1.000094
33500.0	278.1	-39.7		415.0	595.2	308.3	1.000092
34000.0	272.0	-40.8		407.9	593.8	313.9	1.000091
34500.0	265.9	-42.1		400.9	592.2	316.0	1.000089
35000.0	260.0	-43.3		394.0	590.7	318.2	1.000088
35500.0	254.2	-44.5		387.3	589.1	319.7	1.000086
36000.0	248.6	-45.7		380.7	587.5	320.9	1.000085
36500.0	242.9	-47.0		374.1	585.9	322.0	1.000083
37000.0	237.4	-48.2		367.6	584.3	323.1	1.000082
37500.0	232.0	-49.4		361.2	582.7	322.4	1.000080
38000.0	226.7	-50.7		355.0	581.1	321.0	1.000079
38500.0	221.4	-51.5		348.0	580.0	319.0	1.000078
39000.0	216.3	-52.1		341.0	579.2	317.0	1.000076
39500.0	211.3	-52.8		334.1	578.3	316.1	1.000074
40000.0	206.4	-53.8		327.7	577.0	314.0	1.000073
40500.0	201.6	-54.8		321.0	575.6	315.1	1.000072
41000.0	196.8	-56.0		315.6	574.1	315.4	1.000070
41500.0	192.1	-57.1		309.7	572.6	315.7	1.000069
42000.0	187.4	-58.3		303.0	571.1	314.5	1.000068
42500.0	182.9	-59.4		296.1	569.6	313.2	1.000066
43000.0	178.5	-60.6		292.0	568.0	311.9	1.000065

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

UPPER AIR DATA
2840020410
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
11 OCT. 79 0650 HRS MST
ASCENSION NO. 410

GEODETIC COORDINATES
32.40043 LAT DEG
108.37033 LON DEG

TABLE 7 (CONT)

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(T.I.)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	174.3	-61.7		287.1	500.5	310.0	44.0	1.000064
44000.0	170.1	-62.8		281.7	505.0	310.7	42.0	1.000063
44500.0	166.0	-64.0		276.4	509.4	310.9	39.7	1.000062
45000.0	162.0	-64.8		270.9	512.3	311.1	37.4	1.000060
45500.0	158.0	-64.6		265.9	516.6	311.3	35.1	1.000059
46000.0	154.1	-64.3		257.1	521.0	312.4	33.2	1.000057
46500.0	150.3	-65.8		252.5	525.0	314.0	31.5	1.000056
47000.0	146.6	-66.9		247.6	529.6	315.7	29.6	1.000055
47500.0	143.0	-67.9		242.7	534.1	317.7	28.1	1.000054
48000.0	139.4	-69.0		237.8	538.7	318.6	27.5	1.000053
48500.0	135.9	-69.7		232.7	543.7	319.2	27.3	1.000052
49000.0	132.5	-70.1		227.3	548.1	319.7	27.1	1.000051
49500.0	129.2	-70.5		222.1	552.6	320.7	26.3	1.000049
50000.0	125.9	-70.9		216.8	557.1	322.4	24.6	1.000048
50500.0	122.7	-70.5		211.0	561.6	324.4	23.0	1.000047
51000.0	119.6	-70.1		205.3	566.1	325.9	21.3	1.000046
51500.0	116.6	-70.4		200.3	570.8	326.3	19.3	1.000045
52000.0	113.7	-71.0		195.8	575.0	326.8	17.3	1.000044
52500.0	110.8	-71.5		191.4	579.2	328.9	16.1	1.000043
53000.0	108.0	-72.1		187.1	583.4	332.9	16.1	1.000042
53500.0	105.3	-72.1		182.4	587.4	336.9	16.1	1.000041
54000.0	102.6	-72.1		177.7	592.4	347.2	14.8	1.000040
54500.0	100.0	-72.1		173.2	596.4	3.0	13.6	1.000039
55000.0	97.4	-72.6		169.2	601.8	21.5	13.7	1.000038
55500.0	94.9	-73.0		165.3	607.2	31.0	13.8	1.000037
56000.0	92.5	-73.0		161.0	611.1	41.3	14.3	1.000036
56500.0	90.2	-72.9		156.8	615.3	46.5	14.2	1.000035
57000.0	87.9	-72.8		152.8	619.5	42.8	12.0	1.000034
57500.0	85.8	-72.6		148.8	624.0	37.5	9.9	1.000033
58000.0	83.5	-72.1		144.8	628.3	29.8	8.1	1.000032
58500.0	81.4	-71.4		140.5	633.4	17.4	6.5	1.000031
59000.0	79.3	-70.7		136.5	638.4	10.5	6.2	1.000030
59500.0	77.3	-69.9		132.8	643.4	4.5	6.1	1.000030
60000.0	75.4	-69.2		128.8	648.4	4.0	6.0	1.000029
60500.0	73.5	-68.4		125.1	653.4	8.4	5.8	1.000028
61000.0	71.7	-67.7		121.5	658.4	7.7	6.2	1.000027
61500.0	69.9	-66.9		118.0	663.4	7.1	7.1	1.000026
62000.0	68.1	-66.2		114.7	668.4	8.9	7.9	1.000026
62500.0	66.5	-65.4		111.5	673.4	12.4	8.5	1.000025
63000.0	64.8	-64.6		108.3	678.6	15.3	8.9	1.000024

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

UPPER AIR DATA
2040020410
WHITE SANDS

TABLE 7 (CONT)

STATION ALTITUDE 3989.00 FEET MSL
11 OCT. 79 0630 HRS MST
ASLENSION NO. 416

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TT)	SPEED KNOTS	INDEX OF REFRACTION
0350.0	03.3	-63.8		103.3	503.6	13.7	7.5	1.000023
0400.0	01.7	-63.1		102.3	504.0	11.5	6.0	1.000023
0450.0	00.2	-63.1		99.8	504.6	13.0	4.4	1.000022
0500.0	08.7	-63.1		97.4	504.6	19.0	2.9	1.000022
0550.0	07.3	-63.1		95.0	504.6	16.4	1.2	1.000021
0600.0	05.9	-63.1		92.7	504.0	240.5	.8	1.000021
0650.0	04.6	-63.1		90.5	504.6	235.0	2.3	1.000020
0700.0	03.2	-62.8		88.2	503.1	257.3	3.5	1.000020
0750.0	02.0	-61.6		85.5	500.7	268.4	4.9	1.000019
0800.0	00.7	-60.4		83.0	500.3	323.4	6.0	1.000018
0850.0	49.5	-59.6		80.7	509.4	347.3	10.0	1.000018
0900.0	48.3	-59.2		78.7	509.0	359.7	11.7	1.000018
0950.0	47.2	-58.9		76.7	509.3	10.6	12.7	1.000017
1000.0	40.0	-58.5		74.7	509.7	20.0	13.0	1.000017
1050.0	44.9	-58.2		72.8	571.2	34.0	11.3	1.000016
1100.0	43.9	-57.9		71.0	571.0	50.5	10.4	1.000016
1150.0	42.8	-57.5		69.2	572.0	54.2	10.0	1.000015
1200.0	41.8	-57.4		67.5	572.2	55.0	9.6	1.000015
1250.0	40.8	-57.4		65.9	572.3	55.0	8.4	1.000015
1300.0	39.9	-57.3		64.3	572.3	53.5	6.2	1.000014
1350.0	38.9	-57.3		62.8	572.3	48.5	3.9	1.000014
1400.0	38.0	-57.3		61.3	572.4	71.4	3.2	1.000014
1450.0	37.1	-57.3		59.9	572.4	100.4	3.3	1.000013
1500.0	36.2	-57.2		58.4	572.4	100.5	3.6	1.000013
1550.0	35.4	-57.2		57.1	572.5	93.4	3.6	1.000013
1600.0	34.5	-57.2		55.7	572.5	62.4	3.7	1.000012
1650.0	33.7	-56.5		54.2	573.4	77.6	1.7	1.000012
1700.0	32.9	-55.8		52.8	574.3	303.9	.4	1.000012
1750.0	32.2	-55.1		51.4	575.2	257.5	3.3	1.000011
1800.0	31.4	-54.4		50.0	576.1	253.1	6.7	1.000011
1850.0	30.0	-53.8		48.7	577.0	250.0	9.0	1.000011
1900.0	29.3	-53.1		47.4	578.0	267.0	9.7	1.000011
1950.0	28.6	-52.4		46.2	578.8	277.3	10.7	1.000010
2000.0	27.9	-51.7		45.0	579.7	270.7	6.8	1.000010
2050.0	27.3	-51.1		43.6	580.0	247.0	3.2	1.000010
2100.0	26.7	-50.4		42.7	581.4			1.000010
2150.0	26.1	-50.1		41.6	581.8			1.000009
2200.0	25.5	-50.1		40.7	581.0			1.000009
2250.0		-50.1		39.8	581.8			1.000009

STATION ALTITUDE 3989.00 FEET MSL
 11 OCT. 79 0650 HRS MST
 ASCENSION NO. 416

MANDATORY LEVELS
 2340020410
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 8

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEGREES CELSIUS	TEMPERATURE DEW POINT CELSIUS	RELATIVE HUMIDITY PERCENT	WIND DATA	
					DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	5061.	22.0	-5.0	13.	350.2	3.7
800.0	6718.	19.7	-9.2	13.	348.7	11.1
750.0	8524.	15.6	-11.0	14.	330.2	15.6
700.0	10426.	11.0	-15.4	14.	311.5	17.3
650.0	12435.	6.7	-20.0	13.	308.7	17.1
600.0	14581.	4.1	-23.7	11.	291.0	0.5
550.0	16880.	-6.8	-27.5	11.	339.7	7.2
500.0	19352.	-12.5	-31.7	11.	296.5	12.0
450.0	22023.	-19.5	-36.3	12.	273.5	11.3
400.0	24936.	-26.9	-42.4	11.	253.0	7.2
350.0	28143.	-36.4	-47.7	12.	225.2	15.4
300.0	31721.	-45.4			275.0	15.7
250.0	35793.	-55.2			320.6	33.0
200.0	40565.	-61.5			315.2	30.5
175.0	43322.	-65.9			310.0	43.9
150.0	46420.	-70.8			314.0	31.4
125.0	49990.	-72.1			322.9	24.3
100.0	54325.	-70.9			2.5	13.6
80.0	58628.	-67.0			12.9	0.2
70.0	61248.	-63.1			7.7	7.0
60.0	64337.	-59.7			13.9	4.3
50.0	68020.	-57.3			338.4	7.8
40.0	72637.	-53.1			54.1	0.7
30.0	78633.	-50.1			200.4	9.5
25.0	82526.					

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

GEODETIC COORDINATES
 32.62700 LAT DEG
 106.39352 LONG DEG

SIGNIFICANT LEVEL DATA
 28400-50000
 APACHE

TABLE 9

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
881.7	3951.4	8.0	2.7
866.4	4370.0	16.6	1.9
858.4	4694.8	18.3	2.0
850.0	4971.0	17.6	1.2
828.0	5708.5	19.4	-4.0
808.0	6397.5	19.0	-5.8
700.0	10375.5	10.1	-13.1
666.4	11709.2	6.4	-16.2
604.6	14306.2	3.1	-20.2
579.2	15452.0	.5	-21.7
500.0	19277.6	-6.8	-28.3
453.2	21770.7	-13.0	-32.8
431.4	23001.6	-15.2	-35.3
400.0	24861.5	-20.4	-40.2
344.2	28466.0	-27.9	-45.8
319.6	30204.4	-32.7	-49.3
300.0	31659.4	-36.8	
273.4	33757.5	-40.9	
250.0	35757.9	-46.5	
221.6	38340.1	-52.5	
200.0	40504.2	-56.5	
172.2	43564.4	-63.4	
160.0	45059.1	-67.2	
155.0	45590.3	-65.5	
150.0	46347.6	-67.4	
133.4	48650.5	-72.3	
122.8	50248.5	-74.4	
116.2	51315.0	-72.3	
109.6	52443.3	-74.0	
106.4	53011.2	-75.0	
100.0	54200.7	-72.5	
94.2	55350.5	-75.0	
88.2	56617.0	-74.4	
85.4	57233.6	-76.3	
70.0	61089.6	-68.7	
60.0	63974.0	-64.0	
53.0	66608.8	-63.5	
50.0	67678.2	-60.9	
42.8	71094.9	-57.9	
32.0	76641.3	-57.3	

STATION ALTITUDE 3951.40 FEET MSL
 11 OCT. 79 0600 HRS MST
 ASCENSION 110. 66

GEODETIC COORDINATES
 32.62700 LAT DEG
 106.39352 LON DEG

SIGNIFICANT LEVEL DATA
 28400.0000
 APACHE

STATION ALTITUDE 3951.40 FEET MSL
 11 OCT. 79 0600 HRS MST
 ASCENSION NO. 66

TABLE 9 (CONT)

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR	DEWPOINT DEGREES CENTIGRADE	
30.0 78512.5	-55.4		
26.2 81400.6	-50.7		

STATION ALTITUDE 3951.40 FEET MSL
11 OCT. 79 0600 HRS MST
ASCENDING NO. 66

UPPER AIR DATA
20400J0060
APACHE
TABLE 10

GEODETTIC COORDINATES
32.62700 LAT UEG
106.39352 LONG UEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (T.O.)	INDEX OF REFRACTION
3951.4	861.7	8.0	69.0	1089.0	654.3	340.0	1.000278
4000.0	860.1	9.0	65.3	1083.2	655.4	340.2	1.000277
4500.0	864.4	17.3	36.2	1033.6	665.0	341.9	1.000262
5000.0	849.1	17.7	32.4	1014.2	665.3	343.1	1.000255
5500.0	834.2	18.9	23.0	992.6	666.5	343.9	1.000243
6000.0	819.5	19.2	18.6	974.5	666.8	344.5	1.000235
6500.0	805.0	18.8	18.0	953.9	666.2	345.1	1.000231
7000.0	790.6	17.7	18.0	943.5	664.9	345.5	1.000227
7500.0	776.5	16.5	18.0	932.3	663.6	346.9	1.000223
8000.0	762.6	15.4	18.0	919.2	662.3	348.3	1.000219
8500.0	749.0	14.3	18.0	906.4	661.0	346.5	1.000215
9000.0	735.6	13.2	18.0	893.7	659.7	343.4	1.000212
9500.0	722.5	12.1	18.0	881.3	658.4	334.4	1.000208
10000.0	709.5	10.9	18.0	869.0	657.0	322.6	1.000205
10500.0	696.8	9.8	18.0	857.0	655.6	313.3	1.000201
11000.0	684.1	8.4	18.0	845.6	654.0	305.0	1.000198
11500.0	671.6	7.0	18.0	834.3	652.4	305.0	1.000195
12000.0	659.2	6.0	17.8	821.8	651.2	307.5	1.000191
12500.0	647.0	5.4	17.4	809.5	650.5	314.5	1.000188
13000.0	635.0	4.8	17.0	793.3	649.7	319.3	1.000184
13500.0	623.3	4.1	16.6	782.4	649.0	308.7	1.000181
14000.0	611.8	3.5	16.2	769.8	648.2	298.3	1.000178
14500.0	600.4	2.7	16.2	757.8	647.2	295.0	1.000175
15000.0	589.2	1.5	16.6	746.7	645.9	281.2	1.000172
15500.0	576.1	.4	17.0	735.7	644.6	300.3	1.000169
16000.0	567.1	-0.5	16.9	724.3	643.4	341.3	1.000166
16500.0	558.3	-1.5	16.7	713.0	642.3	5.3	1.000164
17000.0	545.7	-2.5	16.6	701.9	641.2	8.8	1.000161
17500.0	535.4	-3.4	16.5	691.0	640.0	349.2	1.000158
18000.0	525.2	-4.4	16.3	680.3	638.9	333.4	1.000155
18500.0	515.2	-5.3	16.2	669.7	637.7	316.4	1.000153
19000.0	505.4	-6.3	16.1	659.4	636.6	305.4	1.000150
19500.0	495.6	-7.4	16.1	649.3	635.3	297.2	1.000148
20000.0	486.0	-8.6	16.3	639.7	633.8	293.6	1.000145
20500.0	476.5	-9.8	16.5	630.2	632.3	293.5	1.000143
21000.0	467.2	-11.1	16.7	620.8	630.8	292.3	1.000141
21500.0	458.1	-12.3	16.9	611.6	629.3	290.0	1.000138
22000.0	449.1	-13.4	16.8	602.1	628.0	286.4	1.000136
22500.0	440.2	-14.3	16.4	592.2	626.9	282.4	1.000134
23000.0	431.4	-15.2	16.0	582.5	625.8	279.7	1.000131

STATION ALTITUDE 3951.40 FEET MSL
11 OCT. 79 0600 HRS MSL
ASCENSION NO. 06

UPPER AIR DATA
2340050000
APACHE

GEODETIC COORDINATES
32°02'70" LAT DEG
106°59'52" LON DEG

TABLE 10 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (T) SPEED KNOTS	INDEX OF REFRACTION
23500.0	422.8	-16.6	15.7	573.9	624.1	277.9	1.000129
24000.0	414.2	-18.0	15.5	565.5	622.4	278.7	1.000127
24500.0	405.7	-19.4	15.2	557.1	620.7	275.5	1.000125
25000.0	397.7	-20.7	15.0	548.7	619.1	267.0	1.000123
25500.0	389.5	-21.7	15.2	539.0	617.8	258.7	1.000121
26000.0	381.5	-22.8	15.3	530.7	616.5	240.9	1.000119
26500.0	373.6	-23.8	15.5	521.9	615.2	229.9	1.000117
27000.0	365.9	-24.8	15.6	513.3	613.9	220.0	1.000115
27500.0	358.4	-25.9	15.7	504.8	612.6	220.0	1.000113
28000.0	351.0	-26.9	15.9	496.5	611.3	227.1	1.000111
28500.0	343.7	-28.0	16.0	488.0	610.0	229.0	1.000109
29000.0	336.5	-29.4	16.3	480.6	608.3	231.4	1.000108
29500.0	329.4	-30.8	16.6	473.3	606.6	237.3	1.000106
30000.0	322.4	-32.1	16.9	466.0	604.8	244.0	1.000104
30500.0	315.5	-33.5	13.5**	458.7	603.1	249.0	1.000102
31000.0	308.7	-34.9	7.7**	451.5	601.3	252.0	1.000101
31500.0	302.1	-36.4	1.9**	444.4	599.5	258.2	1.000099
32000.0	295.5	-37.5		436.8	598.1	261.0	1.000097
32500.0	289.0	-38.4		429.0	596.8	270.3	1.000096
33000.0	282.7	-39.4		421.4	595.6	281.7	1.000094
33500.0	276.5	-40.4		413.9	594.4	290.2	1.000092
34000.0	270.4	-41.6		406.6	592.8	296.0	1.000091
34500.0	264.4	-43.0		400.2	591.0	303.7	1.000089
35000.0	258.5	-44.4		393.7	589.2	310.1	1.000088
35500.0	252.7	-45.8		387.3	587.4	315.0	1.000086
36000.0	247.0	-47.1		380.6	585.7	319.1	1.000085
36500.0	241.3	-48.3		373.8	584.2	321.0	1.000083
37000.0	235.8	-49.4		367.1	582.7	322.3	1.000082
37500.0	230.4	-50.6		360.6	581.2	321.4	1.000080
38000.0	225.1	-51.7		354.2	579.7	319.4	1.000079
38500.0	219.9	-52.8		347.7	578.3	317.1	1.000077
39000.0	214.8	-53.7		341.0	577.1	314.6	1.000076
39500.0	209.7	-54.6		334.4	575.9	312.0	1.000074
40000.0	204.8	-55.6		328.0	574.7	309.0	1.000073
40500.0	200.0	-56.5		321.6	573.4	306.0	1.000072
41000.0	195.2	-57.6		315.6	572.0	303.0	1.000070
41500.0	190.6	-58.7		309.6	570.5	300.0	1.000069
42000.0	186.0	-59.9		303.7	569.0	308.0	1.000068
42500.0	181.5	-61.0		298.0	567.5	312.2	1.000066
43000.0	177.2	-62.1		292.4	566.0	311.2	1.000065

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

GEODETIC COORDINATES
32.62700 LAT DEG
106.39352 LON DEG

UPPER AIR DATA
2040030000
APACHE

STATION ALTITUDE 3951.40 FEET MSL
11 OCT. 79 0600 HRS MST
ASUSATION NO. 06

TABLE 10 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPLD OF SOUND METERS	WIND DATA DIRECTION, DEGREES(T.)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	172.9	-63.2		280.9	504.5	309.7	47.3	1.000064
44000.0	168.7	-64.5		281.0	502.8	308.0	47.4	1.000063
44500.0	164.5	-65.8		276.4	501.0	307.4	45.5	1.000062
45000.0	160.5	-67.0		271.2	500.3	306.6	42.2	1.000060
45500.0	156.5	-68.3		262.9	501.0	306.1	37.2	1.000059
46000.0	152.6	-69.5		257.3	500.0	306.5	32.8	1.000057
46500.0	148.8	-67.7		252.4	500.4	308.0	29.6	1.000056
47000.0	145.1	-68.8		247.3	500.9	311.3	26.9	1.000055
47500.0	141.4	-69.9		242.4	500.5	314.3	26.5	1.000054
48000.0	137.9	-70.9		237.5	504.0	317.4	26.1	1.000053
48500.0	134.4	-72.0		232.8	502.6	320.4	26.7	1.000052
49000.0	131.0	-72.8		227.7	501.5	323.4	27.4	1.000051
49500.0	127.7	-73.4		222.6	500.6	322.3	27.0	1.000050
50000.0	124.4	-74.1		217.7	500.7	320.6	26.5	1.000048
50500.0	121.2	-73.9		211.9	500.9	321.0	23.4	1.000047
51000.0	118.1	-72.9		205.5	501.3	321.3	20.1	1.000046
51500.0	115.1	-72.7		200.0	501.6	322.2	18.1	1.000045
52000.0	112.1	-73.7		195.9	500.2	323.3	16.2	1.000044
52500.0	109.3	-74.6		191.8	500.9	323.9	16.0	1.000043
53000.0	106.5	-75.0		187.2	500.4	324.4	16.0	1.000042
53500.0	103.7	-74.0		181.4	500.8	340.7	14.1	1.000040
54000.0	101.1	-72.9		175.9	501.2	1.0	13.7	1.000039
54500.0	98.5	-73.3		171.7	500.8	14.7	13.9	1.000038
55000.0	96.0	-74.6		168.4	500.9	20.1	14.5	1.000038
55500.0	93.5	-75.5		164.8	507.8	30.5	14.7	1.000037
56000.0	91.1	-75.0		160.1	500.4	31.1	14.4	1.000036
56500.0	88.7	-74.5		155.6	500.1	30.9	13.5	1.000035
57000.0	86.5	-75.7		152.5	507.4	28.6	11.6	1.000034
57500.0	84.2	-76.0		148.8	507.1	24.9	9.8	1.000033
58000.0	82.1	-74.9		144.3	508.5	14.0	8.7	1.000032
58500.0	80.0	-73.9		139.9	500.9	0	8.0	1.000031
59000.0	78.0	-72.9		135.0	501.3	354.3	8.5	1.000030
59500.0	76.0	-71.9		131.5	502.6	350.3	9.3	1.000029
60000.0	74.0	-70.9		127.5	504.0	351.7	9.1	1.000028
60500.0	72.2	-69.9		123.7	503.4	357.1	8.3	1.000028
61000.0	70.3	-68.9		119.9	508.8	5.6	7.5	1.000027
61500.0	68.6	-68.0		116.5	506.0	19.7	7.0	1.000026
62000.0	66.9	-67.2		113.1	500.1	33.0	7.0	1.000025
62500.0	65.2	-66.4		109.9	500.2	30.0	7.7	1.000024
63000.0	63.6	-65.0		106.8	501.3	28.7	8.5	1.000024

STATION ALTITUDE 3951.40 FEET MSL
11 OCT. 79 0000 HRS MST
ASCENSION IS. 06

UPPER AIR DATA
2040030000
APACHE

GEODETIC COORDINATES
32.02700 LAT DEG
106.39352 LONG DEG

TABLE 10 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC MLR	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (T) DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
6330.0	62.1	-64.8		103.7	562.4	21.7	7.4	1.000023
6400.0	60.5	-64.0		100.8	563.4	10.7	6.2	1.000022
6450.0	59.0	-63.9		98.3	563.5	2.5	4.5	1.000022
6500.0	57.6	-63.8		95.9	563.7	33.0	2.4	1.000021
6550.0	56.2	-63.7		93.5	563.8	305.2	.9	1.000021
6600.0	54.8	-63.6		91.2	563.9	255.4	.9	1.000020
6650.0	53.5	-63.5		88.9	564.0	225.6	1.3	1.000020
6700.0	52.2	-62.8		86.5	565.0	113.7	.4	1.000019
6750.0	50.9	-61.7		83.9	565.5	60.6	2.6	1.000019
6800.0	49.7	-60.8		81.5	567.7	55.0	4.9	1.000018
6850.0	48.5	-60.3		79.4	568.3	48.1	6.3	1.000018
6900.0	47.4	-59.9		77.4	569.0	43.2	7.8	1.000017
6950.0	46.2	-59.4		75.3	569.6	35.2	9.2	1.000017
7000.0	45.1	-58.9		73.4	570.2	26.0	10.8	1.000016
7050.0	44.0	-58.5		71.5	570.8	20.3	12.5	1.000016
7100.0	43.0	-58.0		69.6	571.4	18.0	13.6	1.000015
7150.0	42.0	-57.9		67.9	571.6	13.5	14.7	1.000015
7200.0	41.0	-57.9		66.3	571.6	9.0	14.3	1.000015
7250.0	40.0	-57.9		64.8	571.6	350.1	11.1	1.000014
7300.0	39.1	-57.9		63.2	571.6	339.5	8.5	1.000014
7350.0	38.1	-57.9		61.7	571.6	333.9	5.7	1.000014
7400.0	37.2	-57.9		60.3	571.6	347.3	2.5	1.000013
7450.0	36.3	-57.9		58.8	571.6	102.5	1.5	1.000013
7500.0	35.5	-57.9		57.4	571.6	144.6	6.6	1.000013
7550.0	34.6	-57.9		56.1	571.6	149.5	12.2	1.000012
7600.0	33.8	-57.9		54.7	571.6	151.9	13.8	1.000012
7650.0	33.0	-57.9		53.4	571.6	159.7	7.2	1.000012
7700.0	32.2	-57.4		52.1	572.2	230.1	2.0	1.000012
7750.0	31.5	-56.8		50.7	573.1	308.0	5.1	1.000011
7800.0	30.7	-56.1		49.3	574.0	321.4	8.6	1.000011
7850.0	30.0	-55.4		48.0	574.9	326.7	12.7	1.000011
7900.0	29.3	-54.6		46.7	575.9	314.4	9.1	1.000010
7950.0	28.6	-53.8		45.5	577.0	275.6	5.7	1.000010
8000.0	28.0	-53.0		44.3	578.1			1.000010
8050.0	27.3	-52.2		43.1	579.1			1.000010
8100.0	26.7	-51.4		41.9	580.2			1.000009

GEODETIC COORDINATES
32.62700 LAT DEG
106.39352 LONG DEG

MANDATORY LEVELS
2040030000
APACHE

STATION ALTITUDE 3951.40 FEET MSL
11 OCT. 79 0600 HRS MST
ASCENSION NO. 06

TABLE 11

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(IN)	SPEED KNOTS	
850.0	4967.	17.6	1.2	33.	343.0	6.3	
800.0	6672.	18.4	-6.3	18.	343.2	11.9	
750.0	8471.	14.4	-9.0	18.	340.6	18.4	
700.0	10365.	10.1	-13.1	18.	315.5	15.9	
650.0	12360.	5.6	-17.2	17.	312.5	13.4	
600.0	14501.	2.6	-20.5	16.	285.5	8.4	
550.0	16780.	-2.1	-24.0	17.	14.4	5.7	
500.0	19251.	-6.8	-28.3	16.	300.8	13.6	
450.0	21915.	-13.3	-33.2	17.	287.3	14.0	
400.0	24620.	-20.4	-40.2	15.	269.0	10.3	
350.0	28021.	-27.1	-45.2	16.	227.3	14.0	
300.0	31590.	-36.8			257.7	16.9	
250.0	35060.	-46.5			310.9	20.0	
200.0	40400.	-56.5			308.0	34.9	
175.0	43147.	-62.7			310.5	45.5	
150.0	46223.	-67.4			307.7	30.7	
125.0	49764.	-73.9			321.2	20.6	
100.0	54040.	-72.5			7.1	13.8	
80.0	58292.	-73.9			1.6	8.0	
70.0	60682.	-68.7			7.2	7.4	
60.0	63948.	-64.0			6.7	5.9	
50.0	67620.	-60.9			57.7	4.3	
40.0	72219.	-57.9			358.9	11.2	
30.0	78180.	-55.4			320.5	12.5	

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

STATION ALTITUDE 4010.40 FEET MSL
11 OCT. 79 0650 HRS MST
ASCENSION NO. 8

SIGNIFICANT LEVEL DATA
2840220008
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 12

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
880.6	11.4	.8	48.0
871.6	15.6	1.3	38.0
856.0	18.1	.7	31.0
850.0	18.1	.3	30.0
840.2	18.8	-.7	27.0
825.6	21.3	-4.7	17.0
749.2	16.0	-6.3	18.0
700.0	11.5	-12.0	18.0
664.2	7.9	-15.6	17.0
622.6	4.5	-19.1	16.0
616.3	5.0	-18.7	16.0
500.0	-6.0	-26.4	15.0
447.4	-13.5	-34.5	15.0
439.8	-14.0	-34.9	15.0
400.0	-20.0	-39.9	15.0
389.0	-20.8	-40.5	15.0
323.8	-31.5	-46.8	16.0
300.0	-35.9		
250.0	-45.4		
226.6	-50.6		
200.0	-55.4		
161.4	-65.4		
159.7	-63.8		
153.0	-64.0		
150.0	-65.1		
141.2	-68.0		
125.8	-71.7		
100.0	-71.7		
82.4	-71.7		
70.0	-67.4		
62.4	-66.2		
56.8	-63.2		
51.6	-63.5		
50.0	-60.6		
30.0	-55.8		
25.8	-51.2		
20.0	-48.0		
13.0	-47.5		
10.2	-44.7		

STATION ALTITUDE 4010.40 FEET MSL
11 OCT. 79 0650 HRS MST
ASCENSION I.O. 8

UPPER AIR DATA
2640220008
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 13

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)	SPEED KNOTS	INDEX OF REFRACTION
4010.4	840.6	11.4	48.0	1075.1	658.1	.0	.0	1.000270
4500.0	805.2	16.6	35.2	1037.2	664.1	359.2	2.1	1.000261
5000.0	849.9	18.1	30.0	1013.8	665.8	359.2	4.3	1.000254
5500.0	835.0	19.6	23.4	991.3	667.3	359.2	6.5	1.000244
6000.0	820.3	20.9	17.1	969.8	668.8	357.2	8.7	1.000235
6500.0	805.8	20.0	17.2	955.9	667.6	353.5	10.9	1.000231
7000.0	791.6	19.0	17.4	942.2	666.5	350.4	12.8	1.000227
7500.0	777.7	18.0	17.6	928.6	665.4	347.5	14.5	1.000223
8000.0	764.0	17.1	17.8	915.5	664.2	343.8	14.3	1.000220
8500.0	750.5	16.1	18.0	902.4	663.1	338.7	13.0	1.000216
9000.0	737.1	14.9	18.0	890.0	661.7	331.1	11.7	1.000212
9500.0	723.9	13.7	18.0	877.8	660.3	321.3	10.7	1.000209
10000.0	710.9	12.5	18.0	865.7	658.9	308.4	12.5	1.000205
10500.0	698.1	11.3	17.9	853.9	657.5	298.1	14.6	1.000201
11000.0	685.5	10.1	17.6	842.1	656.0	297.9	15.8	1.000198
11500.0	673.0	8.8	17.3	830.6	654.5	298.7	16.5	1.000194
12000.0	660.7	7.6	16.9	818.9	653.1	302.0	16.1	1.000191
12500.0	648.6	6.6	16.6	806.7	652.0	303.2	15.4	1.000188
13000.0	636.6	5.7	16.3	794.7	650.8	299.4	14.1	1.000184
13500.0	624.9	4.7	16.1	782.9	649.6	296.7	12.5	1.000181
14000.0	613.3	4.7	16.0	760.2	649.7	295.1	10.7	1.000178
14500.0	601.7	3.7	15.9	750.5	648.5	294.8	8.7	1.000175
15000.0	590.4	2.7	15.8	744.9	647.3	293.5	6.4	1.000172
15500.0	579.3	1.7	15.7	733.6	646.1	301.2	3.4	1.000169
16000.0	568.3	.7	15.6	722.4	645.0	358.7	.8	1.000166
16500.0	557.6	-.3	15.5	711.4	643.8	6.1	1.8	1.000163
17000.0	547.1	-1.3	15.4	700.6	642.6	1.6	3.0	1.000160
17500.0	536.8	-2.3	15.3	690.0	641.4	336.4	5.4	1.000158
18000.0	526.7	-3.3	15.2	679.5	640.2	325.3	8.0	1.000155
18500.0	516.8	-4.3	15.2	669.2	639.0	313.3	10.2	1.000153
19000.0	507.0	-5.3	15.1	659.0	637.8	304.3	12.1	1.000150
19500.0	497.4	-6.4	15.0	649.2	636.5	294.6	13.3	1.000148
20000.0	487.7	-7.7	15.0	639.7	634.9	288.3	14.1	1.000145
20500.0	478.2	-9.0	15.0	630.4	633.3	284.2	14.2	1.000143
21000.0	468.8	-10.3	15.0	621.2	631.7	282.6	14.1	1.000141
21500.0	459.7	-11.7	15.0	612.2	630.1	282.2	13.9	1.000138
22000.0	450.7	-13.0	15.0	603.4	628.4	281.9	13.6	1.000136
22500.0	441.8	-13.9	15.0	593.5	627.4	281.4	13.2	1.000134
23000.0	433.0	-15.0	15.0	584.2	626.0	279.0	13.0	1.000132
23500.0	424.3	-16.3	15.0	575.3	624.5	276.4	12.5	1.000130

GEODETIC COORDINATES
32.86497 LAT DEG
106.49714 LON DEG

UPPER AIR DATA
2840220000
NW 30

STATION ALTITUDE 4010.40 FEET MSL
11 OCT. 79 0650 HRS MST
ASCENSION NO. 8

TABLE 13 (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
24000.0	415.8	-17.5	-37.8	15.0	560.6	622.9	273.6	11.0	1.000128
24500.0	407.5	-18.8	-38.9	15.0	558.1	621.3	271.0	9.9	1.000126
25000.0	399.3	-20.1	-39.9	15.0	549.5	619.8	269.6	9.1	1.000124
25500.0	391.2	-20.7	-40.4	15.0	539.7	619.1	262.6	8.8	1.000121
26000.0	383.1	-21.8	-41.3	15.1	530.9	617.7	250.9	9.3	1.000119
26500.0	375.1	-23.0	-42.2	15.2	522.4	616.2	239.4	10.7	1.000117
27000.0	367.3	-24.2	-43.2	15.3	514.0	614.7	230.4	12.7	1.000115
27500.0	359.7	-25.4	-44.1	15.4	505.8	613.2	229.4	15.0	1.000113
28000.0	352.2	-26.6	-45.0	15.5	497.7	611.7	230.6	17.4	1.000112
28500.0	344.9	-27.9	-46.0	15.7	489.8	610.2	232.8	19.0	1.000110
29000.0	337.8	-29.1	-46.9	15.8	482.0	608.7	234.8	20.2	1.000108
29500.0	330.7	-30.3	-47.9	15.9	474.3	607.2	237.9	20.0	1.000106
30000.0	323.9	-31.5	-48.8	16.0	466.8	605.6	241.9	19.2	1.000104
30500.0	318.9	-32.7	-52.7	11.5**	459.2	604.1	245.9	17.9	1.000103
31000.0	310.1	-34.0	-57.7	7.0**	451.7	602.5	250.4	16.5	1.000101
31500.0	303.5	-35.2	-66.5	2.4**	444.4	600.9	260.2	16.0	1.000099
32000.0	296.9	-36.4			437.0	599.4	271.4	16.2	1.000097
32500.0	290.4	-37.6			429.4	597.9	280.3	18.1	1.000096
33000.0	284.0	-38.8			422.0	596.4	301.3	21.2	1.000094
33500.0	277.7	-39.9			414.3	595.0	309.9	24.0	1.000092
34000.0	271.6	-41.1			407.7	593.5	316.1	27.0	1.000091
34500.0	265.6	-42.2			400.7	592.0	318.5	28.5	1.000089
35000.0	259.7	-43.4			393.8	590.5	320.7	30.0	1.000088
35500.0	254.0	-44.6			387.1	589.0	322.7	29.6	1.000086
36000.0	248.3	-45.8			380.5	587.5	324.7	29.2	1.000085
36500.0	242.7	-47.0			373.8	585.9	324.6	28.9	1.000083
37000.0	237.2	-48.2			367.3	584.3	324.2	28.7	1.000082
37500.0	231.8	-49.4			360.9	582.7	321.1	28.8	1.000080
38000.0	226.5	-50.6			354.6	581.2	319.0	28.5	1.000079
38500.0	221.2	-51.5			347.7	580.0	314.5	27.7	1.000077
39000.0	216.1	-52.4			341.0	578.8	311.9	27.8	1.000076
39500.0	211.1	-53.3			334.5	577.6	310.6	28.8	1.000074
40000.0	206.2	-54.2			328.1	576.4	310.6	31.2	1.000073
40500.0	201.4	-55.1			321.8	575.2	311.6	35.0	1.000072
41000.0	196.6	-56.2			315.6	573.8	311.9	39.3	1.000070
41500.0	191.8	-57.3			309.7	572.3	311.7	44.1	1.000069
42000.0	187.2	-58.5			303.8	570.8	311.5	48.4	1.000068
42500.0	182.7	-59.6			298.1	569.3	311.3	52.1	1.000066
43000.0	178.3	-60.9			292.5	567.8	310.7	53.6	1.000065
43500.0	174.0	-61.9			287.0	566.3	309.7	52.9	1.000064

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

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

UPPER AIR DATA
2340220000
NW 30

TABLE 13 (CONT)

STATION ALTITUDE 4010.40 FEET MSL
11 OCT. 79 0650 HRS MSI
ASCENSION NO. 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KILOTS	WIND DATA DIRECTION, DEGREES (TN)	SPEED KILOTS	INDEX OF REFRACTION
4400.0	109.8	-63.0		281.6	504.7	307.8	50.7	1.000063
4450.0	105.8	-64.2		270.3	503.2	304.3	46.6	1.000062
4500.0	101.8	-65.3		271.1	501.7	301.8	42.5	1.000060
4550.0	107.8	-63.9		262.7	503.6	302.8	37.9	1.000059
4600.0	104.0	-64.0		250.4	503.4	304.7	33.5	1.000057
4650.0	100.2	-65.0		251.4	502.0	309.2	29.8	1.000056
4700.0	146.5	-66.2		240.6	500.4	314.1	26.6	1.000055
4750.0	142.9	-67.4		241.9	500.8	311.0	25.7	1.000054
4800.0	139.3	-68.4		237.0	507.4	307.9	25.0	1.000053
4850.0	135.8	-69.3		232.0	500.3	310.3	25.3	1.000052
4900.0	132.4	-70.1		227.1	505.2	313.1	25.6	1.000051
4950.0	129.0	-70.9		222.3	504.1	313.2	24.3	1.000050
5000.0	125.8	-71.7		217.5	502.9	326.0	23.3	1.000048
5050.0	122.6	-71.7		212.0	502.9	325.1	22.9	1.000047
5100.0	119.5	-71.7		203.7	502.9	324.0	22.6	1.000046
5150.0	116.5	-71.7		201.4	502.9	322.2	21.6	1.000045
5200.0	113.5	-71.7		190.3	502.9	320.3	20.5	1.000044
5250.0	110.6	-71.7		191.3	502.9	321.2	18.2	1.000043
5300.0	107.8	-71.7		186.5	502.9	322.7	15.8	1.000042
5350.0	105.1	-71.7		181.7	502.9	331.2	14.8	1.000040
5400.0	102.4	-71.7		177.1	502.9	341.0	14.4	1.000039
5450.0	99.8	-71.7		172.8	502.9	359.9	14.0	1.000038
5500.0	97.3	-71.7		168.3	502.9	19.3	15.0	1.000037
5550.0	94.8	-71.7		164.0	502.9	26.7	14.6	1.000037
5600.0	92.4	-71.7		159.8	502.9	29.6	13.1	1.000036
5650.0	90.1	-71.7		155.8	502.9	31.0	11.3	1.000035
5700.0	87.8	-71.7		151.8	502.9	29.4	9.5	1.000034
5750.0	85.6	-71.7		143.0	502.9	28.6	8.1	1.000033
5800.0	83.4	-71.7		144.2	502.9	30.7	7.7	1.000032
5850.0	81.3	-71.3		140.4	503.4	27.4	7.4	1.000031
5900.0	79.3	-70.7		130.4	504.3	6.1	8.2	1.000030
5950.0	77.3	-70.0		132.5	503.3	351.1	9.8	1.000030
6000.0	75.3	-69.3		125.8	506.2	350.1	10.6	1.000029
6050.0	73.5	-68.7		125.1	507.1	349.3	11.4	1.000028
6100.0	71.6	-68.0		121.6	508.0	353.1	10.7	1.000027
6150.0	69.8	-67.4		118.2	500.8	357.8	9.9	1.000026
6200.0	68.4	-67.1		115.1	509.2	2.3	9.4	1.000025
6250.0	66.4	-66.8		112.1	509.6	6.9	9.0	1.000025
6300.0	64.8	-66.6		109.2	509.9	12.7	8.9	1.000024
6350.0	63.2	-66.3		100.4	500.3	19.2	9.3	1.000024

STATION ALTITUDE 4010.40 FEET MSL
11 OCT. 79 0050 HRS MST
ASCENSION NO. 8

UPPER AIR DATA
2040220000
NW 30

GEODETIC COORDINATES
32.60497 LAT UEG
106.49714 LONG UEG

TABLE 13 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND METERS PER SECOND	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
04000.0	61.6	-65.8		103.5	561.0	24.1	9.4	1.000023
04500.0	60.1	-65.0		100.6	562.1	24.7	7.8	1.000022
05000.0	58.6	-64.2		97.7	563.1	25.5	6.3	1.000022
05500.0	57.2	-63.4		95.0	564.2	33.6	3.3	1.000021
06000.0	55.8	-63.3		92.6	564.4	117.5	1.0	1.000021
06500.0	54.4	-63.3		90.4	564.3	170.0	2.1	1.000020
07000.0	53.1	-63.4		88.2	564.2	177.4	2.9	1.000020
07500.0	51.8	-63.5		86.1	564.1	200.2	2.4	1.000019
08000.0	50.6	-61.6		83.3	566.6	274.1	3.3	1.000019
08500.0	49.4	-60.5		80.9	568.1	303.0	5.5	1.000018
09000.0	48.2	-60.3		78.6	568.4	332.3	7.9	1.000018
09500.0	47.0	-60.0		76.9	568.7	340.2	10.9	1.000017
10000.0	45.9	-59.8		75.0	569.0	34	11.9	1.000017
10500.0	44.8	-59.6		73.1	569.3	17.0	13.8	1.000016
11000.0	43.8	-59.3		71.3	569.6	20.9	12.3	1.000016
11500.0	42.7	-59.1		69.6	569.9	39.6	10.8	1.000015
12000.0	41.7	-58.9		67.8	570.2	49.2	10.5	1.000015
12500.0	40.7	-58.7		66.2	570.5	51.7	10.9	1.000015
13000.0	39.8	-58.4		64.5	570.8	54.1	11.3	1.000014
13500.0	38.8	-58.2		62.9	571.1	53.6	10.6	1.000014
14000.0	37.9	-58.0		61.4	571.4	52.6	9.5	1.000014
14500.0	37.0	-57.8		59.8	571.7	52.0	8.5	1.000013
15000.0	36.1	-57.5		58.4	572.0	59.9	7.2	1.000013
15500.0	35.3	-57.3		56.9	572.3	71.1	6.1	1.000013
16000.0	34.4	-57.1		55.5	572.6	77.5	5.2	1.000012
16500.0	33.6	-56.9		54.1	572.9	72.6	4.5	1.000012
17000.0	32.8	-56.6		52.8	573.2	80.3	3.8	1.000012
17500.0	32.0	-56.4		51.5	573.5	48.8	1.4	1.000011
18000.0	31.3	-56.2		50.2	573.8	272.7	1.8	1.000011
18500.0	30.5	-56.0		49.0	574.1	261.6	4.6	1.000011
19000.0	29.8	-55.6		47.7	574.6	262.6	5.8	1.000011
19500.0	29.1	-54.9		46.5	575.6	263.3	7.0	1.000010
20000.0	28.4	-54.2		45.2	576.5	264.4	7.8	1.000010
20500.0	27.8	-53.5		44.0	577.4	267.0	7.8	1.000010
21000.0	27.1	-52.7		42.9	578.4	269.6	7.8	1.000010
21500.0	26.5	-52.0		41.8	579.3	263.2	7.9	1.000009
22000.0	25.9	-51.3		40.7	580.3	249.2	8.4	1.000009
22500.0	25.3	-51.0		39.7	580.7	237.5	9.3	1.000009
23000.0	24.7	-50.7		38.7	581.1	230.7	10.0	1.000009
23500.0	24.2	-50.4		37.8	581.5	223.8	10.5	1.000008

GEODETIC COORDINATES
32.68497 LAT DEG
106.49714 LONG DEG

UPPER AIR DATA
2340220000
NW 30

STATION ALTITUDE 4010.40 FEET MSL
11 OCT 79 0050 HRS MST
ASCENDING NO. 8

TABLE 13 (CONT)

GEODETIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DATA DIRECTION, DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION
04000.0	23.6	-50.1		30.9	501.9	221.4	11.1	1.000008
04500.0	23.1	-49.0		30.0	502.2	222.4	10.2	1.000008
05000.0	22.5	-49.5		30.1	502.6	224.0	9.0	1.000008
05500.0	22.0	-49.2		34.3	503.0	228.0	7.8	1.000008
06000.0	21.5	-48.9		33.4	503.4	235.0	6.4	1.000007
06500.0	21.0	-48.6		32.6	503.7	240.3	5.2	1.000007
07000.0	20.6	-48.3		31.0	504.1	252.9	4.2	1.000007
07500.0	20.1	-48.1		31.1	504.5	292.3	3.1	1.000007
08000.0	19.6	-48.0		30.4	504.6	350.0	3.3	1.000007
08500.0	19.2	-48.0		29.7	504.6	350.4	3.7	1.000007
09000.0	18.8	-47.9		29.0	504.7	353.4	2.2	1.000006
09500.0	18.3	-47.9		26.3	504.7	10.0	.7	1.000006
10000.0	17.9	-47.9		27.7	504.7	187.7	1.1	1.000006
10500.0	17.5	-47.8		27.1	504.8	205.9	3.6	1.000006
11000.0	17.1	-47.8		26.5	504.8	209.1	6.1	1.000006
11500.0	16.7	-47.8		25.9	504.8	210.4	8.7	1.000006
12000.0	16.3	-47.8		25.3	504.9	208.0	10.5	1.000006
12500.0	16.0	-47.7		24.7	504.9	207.2	12.4	1.000005
13000.0	15.6	-47.7		24.1	504.9	206.2	14.2	1.000005
13500.0	15.3	-47.7		23.6	505.0	207.3	14.9	1.000005
14000.0	14.9	-47.7		23.0	505.0	210.5	14.5	1.000005
14500.0	14.6	-47.6		22.5	505.0	213.0	14.2	1.000005
15000.0	14.3	-47.6		22.0	505.1	217.5	13.8	1.000005
15500.0	13.9	-47.6		21.5	505.1	224.4	13.1	1.000005
16000.0	13.6	-47.6		21.0	505.1	231.9	12.6	1.000005
16500.0	13.3	-47.5		20.5	505.2	239.9	12.3	1.000005
17000.0	13.0	-47.5		20.1	505.2	240.5	12.1	1.000004
17500.0	12.7	-47.2		19.6	505.5	237.3	11.9	1.000004
18000.0	12.4	-47.0		19.1	505.9	234.0	11.7	1.000004
18500.0	12.1	-46.7		18.7	506.2	230.0	11.5	1.000004
19000.0	11.9	-46.5		18.3	506.6	227.1	11.4	1.000004
19500.0	11.6	-46.2		17.8	506.9	223.4	11.3	1.000004
100000.0	11.3	-45.9		17.4	507.2	219.7	11.3	1.000004
100500.0	11.1	-45.7		17.0	507.0			1.000004
101000.0	10.8	-45.4		16.0	507.9			1.000004
101500.0	10.6	-45.1		16.2	508.3			1.000004
102000.0	10.4	-44.9		15.6	508.0			1.000004

STATION ALTITUDE 4010.40 FEET MSL
11 OCT. 79 0650 HRS MST
ASCENSION 110. 8

MANDATORY LEVELS
2040220000
11W 30

GEODETTIC COORDINATES
32.08497 LAT DEG
106.49714 LONG DEG

TABLE 14

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUMID. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEW POINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4994.	18.1	5	30.	359.2	4.3
800.0	6705.	19.6	-5.9	17.	352.4	11.8
750.0	8513.	16.1	-8.2	18.	338.5	13.0
700.0	10418.	11.5	-12.0	18.	298.1	14.4
650.0	12430.	6.8	-16.8	17.	303.0	15.5
600.0	14571.	3.6	-19.9	18.	294.9	8.3
550.0	18060.	-1.0	-24.0	15.	8.4	2.6
500.0	19339.	-5.0	-28.4	15.	297.2	12.9
450.0	22009.	-13.1	-34.2	15.	281.9	13.6
400.0	24910.	-20.0	-39.9	15.	269.8	9.2
350.0	28124.	-27.0	-45.3	16.	231.3	18.2
300.0	31705.	-35.9			265.9	10.0
250.0	35778.	-45.4			324.2	29.3
200.0	40546.	-55.4			311.8	35.9
175.0	43300.	-61.6			309.9	55.1
150.0	46401.	-65.1			309.3	29.8
125.0	49931.	-71.7			348.0	23.2
100.0	54301.	-71.7			357.5	15.9
80.0	58822.	-70.9			14.6	7.7
70.0	61240.	-67.4			337.0	10.1
60.0	64301.	-64.9			24.7	7.8
50.0	67977.	-60.6			280.1	4.3
40.0	72558.	-58.5			53.2	11.1
30.0	78529.	-55.8			202.3	5.4
25.0	82335.	-50.8			233.8	9.7
20.0	87133.	-48.0			298.0	3.1
15.0	93412.	-47.7			209.4	14.6

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