

AD-A102 787 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/8 4/2
14818C LANCE MISSILE NUMBER 4575, ROUND NUMBER 364-APT. 12 JUN --ETC(U)
UNCLASSIFIED JUN 81 D C KELLER
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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)			
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 14818-C LANCE, Missile No. 4575, Round No. 364-APT presented in tabular form.			

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INTRODUCTION

14818-C LANCE, Missile Number 4575, Round Number 364-APT, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 1245 MDT, 12 June 1981. The scheduled launch time was 1230 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 ($^{\circ}$ C), relative humidity, dew point ($^{\circ}$ C), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-36 Met Site at T-0 minutes.

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

b. Upper Air:

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

SITE AND ALTITUDE

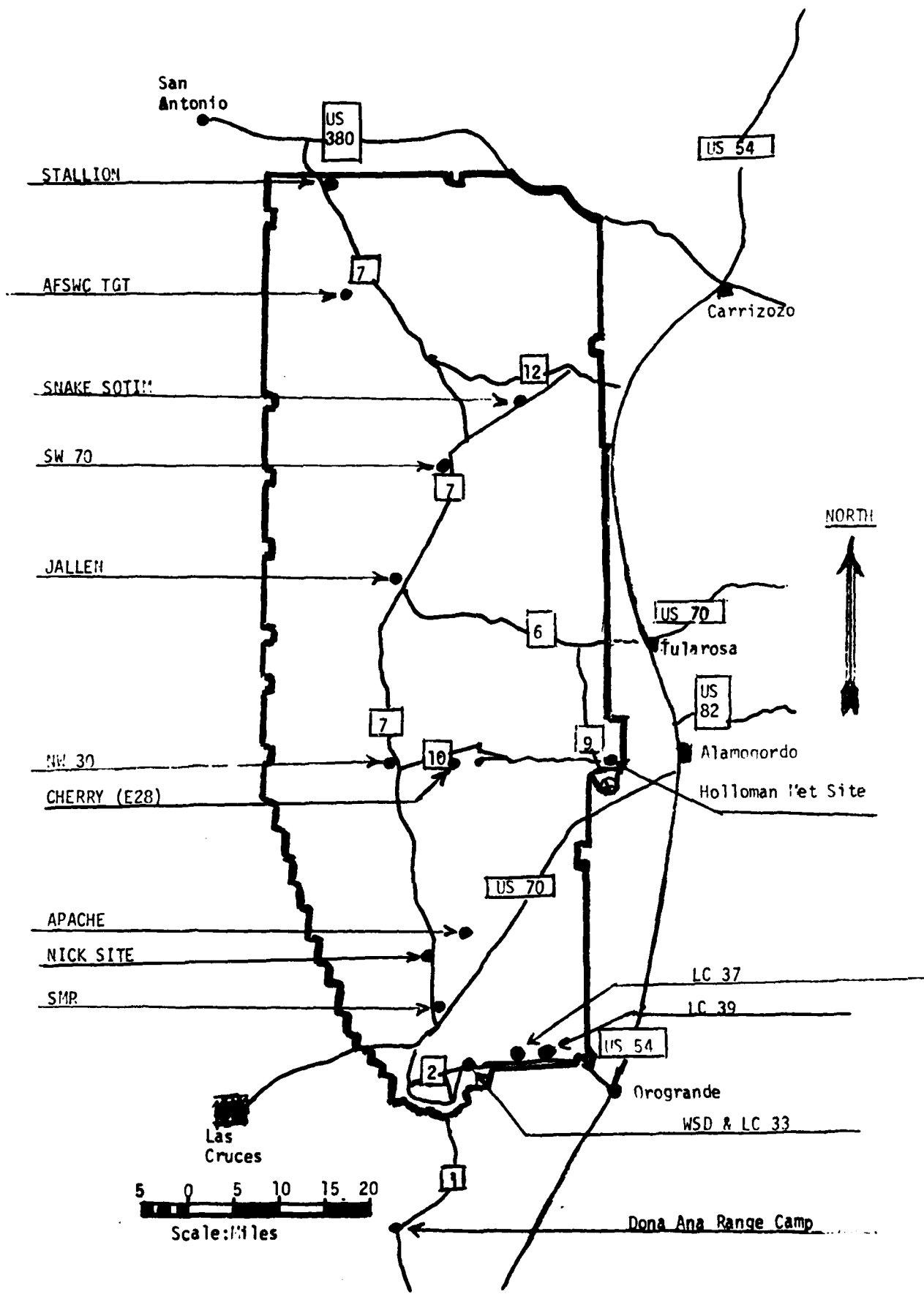
LC-36 2760 Meters

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

SITE AND TIME

WSD 1235 MDT
NW-30 1236 MDT

Accession For	
HTIS GRA&I	<input checked="" type="checkbox"/>
ERIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	



PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-36

DATE 12 DAY June MONTH 1981 YEAR

X= 504,465.52 Y= 190,780.55 H= 4040.71

TIME M D J	PRESSURE mbs	TEMPERATURE of °C	DEW POINT of °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	WIND		VISIBIL- ITY
						DIRECTION degs Tr	SPEED kts	
1245	874.1	38.3	11.9	21	971	180	01	40

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	AMT	TYPE	AMT	TYPE	
	0	CU	7000				

PSYCHROMETRIC COMPUTATION

TIME: MDT	1245
DRY BULB TEMP.	38.3
WET BULB TEMP.	20.5
WET BULB DEPR.	17.8
DEW POINT	11.9
RELATIVE HUMID.	21

T-TIME AND COMPUTER MET MESSAGES

WSD 1235 MDT
METCM1324064
121850122875
00320005 31080875
01322010 30850865
02294005 30470841
03296006 30090804
04392006 29640759
05423010 29210717
06430011 28780676
07447013 28320637
08446013 27850599
09468021 27390563
10479016 26960529
11466006 26760497
12001007 26390451
13567016 25640396
14496018 25030346
15512022 24160301
16508023 23410261
17501029 22750225
18493025 22070194
19495028 21380166
20496027 20960141
21408016 20530120
22356022 20190101
23329015 20270086
24256022 20710073
25333019 21090062
26188015 21370053

NW-30 1235 MDT
METCM1329065
121850122873
00160008 31260873
01183013 31060863
02241010 30680839
03261012 30250803
04337014 29700758
05367013 29240716
06426022 28820675
07447025 28350636
08443029 27920598
09479014 27510563
10423003 27080529
11430007 26830496
12581005 26430451
13544015 25620396
14468016 25020346
15486022 24170301
16498030 23400261
17487026 22750225
18468029 22040194
19463026 21390165
20478029 20940141
21381019 20530120
22374024 20240101
23305012 20360086
24272020 20800073
25315011 21260062
26169018 21370053

STATION ALTITUDE 3989.00 FEET MSL
 12 JUNE 81
 ASCENSION NO. J91

SIGNIFICANT LEVEL DATA
 1630020391
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
 12 JUNE 81
 ASCENSION NO. J91

TABLE 5

GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
874.5	36.3	17.0
860.5	33.1	18.0
850.0	31.2	17.0
776.6	23.7	23.0
700.0	16.3	28.0
626.6	8.0	40.0
582.4	2.6	45.0
548.4	-1.8	54.0
523.4	-4.9	61.0
515.2	-5.0	15.0
505.8	-5.2	15.0
500.0	-6.1	15.0
494.8	-6.2	15.0
482.8	-5.7	14.0
427.4	-12.4	19.0
400.0	-16.8	22.0
384.3	-19.0	20.0
376.6	-19.0	17.0
369.6	-19.1	17.0
300.0	-32.1	18.0
289.8	-34.3	18.0
250.0	-41.3	18.0
200.0	-51.0	18.0
167.2	-59.5	18.0
154.4	-61.6	18.0
150.0	-61.4	18.0
130.4	-66.5	18.0
123.0	-67.3	18.0
119.6	-67.5	18.0
109.2	-70.9	18.0
102.6	-72.1	18.0
100.0	-71.7	18.0
96.4	-71.4	18.0
90.0	-71.4	18.0
84.4	-69.7	18.0
81.6	-70.9	18.0
76.4	-68.6	18.0
70.0	-64.3	18.0
65.8	-62.6	18.0
57.6	-62.1	18.0

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

SIGNIFICANT LEVEL DATA
 1630020391
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET NSL
 12 JUNE 81 1235 HRS MDT
 ASCENSION NO. 591

TABLE 5 CON'T

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
55.0	66996.6	-60.4		
52.6	67913.5	-61.2		
50.0	68964.3	-56.7		
38.8	74320.7	-52.6		
36.4	75702.1	-49.5		
31.6	78759.3	-50.4		
30.0	79884.4	-48.9		
27.0	82177.8	-48.1		
24.8	84044.0	-45.1		
22.4	86302.3	-43.4		
20.0	88836.7	-41.6		
17.6	91711.7	-40.9		
15.0	95312.5	-41.0		
12.4	99655.6	-35.1		
10.0	104639.9	-33.9		
7.0	112932.2	-33.8		
5.0	120801.7	-31.4		

STATION ALTITUDE 3989.00 FEET MSL
 12 JUNE 81
 ASCENSION NO. 591

UPPER AIR DATA
 1630020391
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA		INDEX OF REFRACTION
								SPEED KNOTS	REFRACTION	
3989.0	874.5	36.3	7.4	17.0	980.1	686.8	180.0	5.1	1.000259	
4000.0	874.2	36.2	7.3	17.0	980.0	686.8	179.9	5.1	1.000259	
4500.0	859.6	32.9	5.4	17.9	974.5	682.9	174.3	5.2	1.000254	
5000.0	845.1	30.7	3.2	17.4	965.5	680.3	169.1	5.4	1.000247	
5500.0	830.6	29.3	2.9	18.5	953.5	678.7	164.3	5.6	1.000244	
6000.0	816.4	27.9	2.6	19.7	941.7	677.1	165.9	5.9	1.000241	
6500.0	802.5	26.4	2.2	20.8	930.0	675.4	174.1	6.1	1.000238	
7000.0	788.8	25.0	1.8	22.0	918.6	673.8	185.8	6.2	1.000234	
7500.0	775.3	23.6	1.3	23.1	907.2	672.2	200.0	6.6	1.000231	
8000.0	761.7	22.3	.8	23.9	895.2	670.7	214.5	6.7	1.000227	
8500.0	748.3	21.1	.2	24.8	883.3	669.3	230.7	6.8	1.000224	
9000.0	735.2	19.8	-.4	25.6	871.7	667.8	236.1	7.8	1.000220	
9500.0	722.4	18.5	-1.1	26.5	860.2	666.3	237.2	9.1	1.000217	
10000.0	709.7	17.3	-1.7	27.3	848.8	664.9	238.9	9.9	1.000213	
10500.0	697.2	16.0	-2.3	28.4	837.6	663.4	240.5	10.6	1.000210	
11000.0	684.7	14.6	-2.5	30.4	826.4	661.8	242.6	10.5	1.000207	
11500.0	672.3	13.3	-2.9	32.4	815.4	660.2	245.1	10.8	1.000205	
12000.0	660.2	11.9	-3.3	34.3	804.6	658.7	247.8	11.8	1.000202	
12500.0	648.4	10.6	-3.8	36.3	794.0	657.1	249.8	12.6	1.000199	
13000.0	636.7	9.2	-4.3	38.3	783.5	655.5	251.1	13.1	1.000196	
13500.0	625.2	7.8	-4.9	40.2	773.1	653.9	252.4	13.3	1.000193	
14000.0	613.7	6.5	-5.7	41.4	762.7	652.2	253.5	13.2	1.000189	
14500.0	602.4	5.1	-6.5	42.7	752.4	650.6	255.5	13.7	1.000186	
15000.0	591.3	3.7	-7.4	44.0	742.3	649.0	257.8	15.0	1.000183	
15500.0	580.3	2.3	-8.2	45.5	732.3	647.3	258.3	16.8	1.000180	
16000.0	569.4	1.0	-8.7	48.4	722.2	645.7	258.1	18.9	1.000177	
16500.0	558.7	-.4	-9.3	51.2	712.3	644.0	260.4	19.2	1.000174	
17000.0	548.3	-1.8	-9.9	54.0	702.5	642.4	262.9	19.1	1.000171	
17500.0	537.8	-3.1	-10.4	56.9	692.4	640.8	265.5	17.1	1.000169	
18000.0	527.6	-4.4	-11.0	59.8	682.5	639.3	269.1	15.0	1.000166	
18500.0	517.5	-5.0	-20.6	28.1	671.7	638.3	266.5	12.1	1.000156	
19000.0	507.6	-5.2	-27.7	15.0	659.5	637.9	264.0	9.5	1.000150	
19500.0	497.9	-6.1	-28.5	15.0	649.3	636.7	263.0	7.2	1.000148	
20000.0	488.3	-5.9	-28.7	14.5	636.3	637.0	267.0	4.9	1.000145	
20500.0	478.8	-6.2	-29.0	14.3	624.5	636.7	285.9	2.9	1.000142	
21000.0	469.5	-7.2	-29.3	15.1	614.8	635.4	342.6	2.7	1.000140	
21500.0	460.4	-8.3	-29.6	15.9	605.3	634.1	13.1	4.8	1.000138	
22000.0	451.4	-9.4	-30.0	16.8	596.0	632.8	11.9	7.3	1.000135	
22500.0	442.7	-10.5	-30.4	17.6	586.8	631.5	10.4	9.7	1.000133	
23000.0	434.1	-11.6	-30.8	18.4	577.8	630.2	.6	11.3	1.000131	

STATION ALTITUDE 3989.00 FEET MSL
 12 JUNE 81
 ASCENSION NO. 591

UPPER AIR DATA
 1630020391
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 6 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 (TN) SPEED KNOTS	INDEX OF REFRACTION
23500.0	425.6	-12.7	-31.3	19.2	569.0	628.9	352.7	1.000129
24000.0	417.1	-14.0	-32.0	20.1	560.5	627.2	341.9	1.000127
24500.0	408.8	-15.3	-32.6	21.0	552.3	625.6	333.4	1.000125
25000.0	400.7	-16.7	-33.3	21.9	544.1	624.0	324.4	1.000123
25500.0	392.7	-17.8	-34.7	21.1	535.6	622.6	315.4	1.000121
26000.0	384.8	-18.9	-36.2	20.1	527.1	621.2	305.1	1.000119
26500.0	377.0	-19.0	-37.7	17.2	516.6	621.1	295.4	1.000116
27000.0	369.4	-19.1	-37.9	17.0	506.5	621.0	287.6	1.000114
27500.0	361.7	-20.4	-39.0	17.1	490.5	619.4	280.5	1.000112
28000.0	354.2	-21.7	-40.0	17.2	490.8	617.8	278.9	1.000110
28500.0	346.9	-23.1	-41.1	17.3	483.1	616.2	277.8	1.000109
29000.0	339.7	-24.4	-42.1	17.4	475.6	614.5	278.3	1.000107
29500.0	332.7	-25.7	-43.1	17.5	468.2	612.9	278.7	1.000105
30000.0	325.8	-27.0	-44.2	17.6	460.9	611.3	279.3	1.000103
30500.0	319.0	-28.3	-45.2	17.7	453.8	609.7	279.9	1.000102
31000.0	312.4	-29.6	-46.3	17.8	446.7	608.0	281.3	1.000100
31500.0	305.9	-30.9	-47.3	17.9	439.8	606.4	282.9	1.000098
32000.0	299.6	-32.2	-48.4	18.0	433.1	604.8	286.3	1.000097
32500.0	293.2	-33.6	-49.6	18.0	426.2	603.0	290.2	1.000095
33000.0	286.8	-34.8	-51.2	16.7**	419.2	601.5	291.6	1.000094
33500.0	280.6	-35.8	-53.5	14.1**	411.9	600.2	292.1	1.000092
34000.0	274.5	-36.9	-56.1	11.4**	404.7	598.8	289.7	1.000090
34500.0	268.5	-37.9	-59.1	8.7**	397.6	597.5	286.3	1.000089
35000.0	262.7	-39.0	-62.7	6.0**	390.7	596.2	285.2	1.000087
35500.0	256.9	-40.0	-67.8	3.3**	383.9	594.9	284.7	1.000086
36000.0	251.3	-41.0	-79.2	.6**	377.2	593.5	284.6	1.000084
36500.0	245.7	-42.1			370.4	592.2	284.6	1.000082
37000.0	240.2	-43.0			363.6	591.0	284.9	1.000081
37500.0	234.7	-44.0			356.9	589.7	285.3	1.000079
38000.0	229.5	-45.0			350.4	588.4	283.3	1.000078
38500.0	224.3	-46.0			344.0	587.1	280.5	1.000077
39000.0	219.2	-47.0			337.7	585.8	279.7	1.000075
39500.0	214.3	-48.0			331.5	584.6	279.9	1.000074
40000.0	209.4	-49.0			325.5	583.3	279.9	1.000072
40500.0	204.7	-50.0			319.6	582.0	279.6	1.000071
41000.0	200.1	-51.0			313.7	580.7	278.8	1.000070
41500.0	195.4	-52.1			307.9	579.2	276.6	1.000069
42000.0	190.8	-53.2			302.2	577.7	274.5	1.000067
42500.0	186.3	-54.4			296.7	576.2	274.7	1.000066
43000.0	181.9	-55.5			291.2	574.8	275.1	1.000065

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

UPPER AIR DATA
 1630020391
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
 12 JUNE 81 1235 HRS PDT
 ASCENSION NO. 391

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 6 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
43500.0	177.7	-56.6		285.8	573.3	276.1	27.3	1.000064
44000.0	173.5	-57.7		280.6	571.8	277.4	27.1	1.000062
44500.0	169.4	-58.9		275.4	570.3	278.5	27.1	1.000061
45000.0	165.4	-59.8		270.0	569.1	279.0	27.3	1.000060
45500.0	161.4	-60.4		264.3	568.2	279.5	27.6	1.000059
46000.0	157.5	-61.1		258.8	567.3	279.1	28.2	1.000058
46500.0	153.7	-61.6		253.1	566.7	278.7	28.9	1.000056
47000.0	150.0	-61.4		246.8	566.9	278.6	28.5	1.000055
47500.0	146.4	-62.3		241.8	565.7	278.6	27.5	1.000054
48000.0	142.8	-63.2		236.9	564.5	278.7	26.4	1.000053
48500.0	139.3	-64.1		232.1	563.3	278.8	24.9	1.000052
49000.0	135.9	-65.0		227.4	562.1	279.0	23.3	1.000051
49500.0	132.6	-65.9		222.8	560.8	276.1	22.1	1.000050
50000.0	129.3	-66.6		218.1	559.9	272.0	21.1	1.000049
50500.0	126.1	-67.0		213.1	559.4	265.4	19.6	1.000047
51000.0	123.0	-67.3		208.1	558.9	247.5	17.0	1.000046
51500.0	119.9	-67.5		203.1	558.7	226.2	16.5	1.000045
52000.0	116.9	-68.3		198.9	557.5	212.0	17.6	1.000044
52500.0	114.0	-69.3		194.8	556.2	202.7	19.0	1.000043
53000.0	111.1	-70.2		190.8	554.9	196.1	20.7	1.000042
53500.0	108.3	-71.1		186.8	553.8	198.8	21.0	1.000042
54000.0	105.6	-71.5		182.5	553.2	201.4	21.4	1.000041
54500.0	102.9	-72.0		178.3	552.5	201.8	21.9	1.000040
55000.0	100.3	-71.7		173.5	552.9	201.0	22.5	1.000039
55500.0	97.8	-71.5		168.9	553.2	200.2	23.0	1.000038
56000.0	95.3	-71.4		164.6	553.4	199.5	23.1	1.000037
56500.0	92.9	-71.4		160.4	553.4	198.9	23.2	1.000036
57000.0	90.5	-71.4		156.3	553.4	197.0	21.9	1.000035
57500.0	88.3	-70.9		152.0	554.1	192.9	19.0	1.000034
58000.0	86.0	-70.2		147.7	555.0	187.4	16.3	1.000033
58500.0	83.9	-69.9		143.8	555.4	177.6	13.1	1.000032
59000.0	81.8	-70.8		140.8	554.1	161.4	10.4	1.000031
59500.0	79.7	-70.1		136.7	555.2	143.9	10.3	1.000030
60000.0	77.7	-69.2		132.7	556.4	140.1	13.7	1.000030
60500.0	75.8	-68.2		128.8	557.7	137.8	17.1	1.000029
61000.0	73.9	-67.0		124.8	559.4	141.7	20.6	1.000028
61500.0	72.1	-65.7		121.0	561.1	145.1	24.1	1.000027
62000.0	70.3	-64.5		117.3	562.7	149.8	25.9	1.000026
62500.0	68.6	-63.7		114.1	563.8	157.5	25.4	1.000025
63000.0	66.9	-63.1		110.9	564.7	165.4	25.4	1.000025

STATION ALTITUDE 3989.00 FEET MSL
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UPPER AIR DATA
 1630020391
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT UEG
 106.37033 LON UEG

TABLE 6 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
63500.0	63.3	-62.6		108.0	565.3	172.4	23.8	1.000024
64000.0	63.7	-62.5		105.3	565.5	180.2	22.1	1.000023
64500.0	62.1	-62.4		102.7	565.6	187.8	20.5	1.000023
65000.0	60.6	-62.3		100.2	565.7	185.3	16.9	1.000022
65500.0	59.2	-62.2		97.7	565.8	181.5	13.4	1.000022
66000.0	57.7	-62.1		95.3	566.0	169.3	10.6	1.000021
66500.0	56.3	-61.3		92.7	567.0	144.6	9.9	1.000021
67000.0	55.0	-60.4		90.0	568.2	121.0	11.1	1.000020
67500.0	53.7	-60.8		88.1	567.7	115.3	11.6	1.000020
68000.0	52.4	-60.8		85.9	567.7	113.2	11.7	1.000019
68500.0	51.1	-58.7		83.1	570.5	111.9	11.8	1.000018
69000.0	49.9	-56.7		80.3	573.2	115.1	11.9	1.000018
69500.0	48.7	-56.3		78.3	573.7	118.3	12.0	1.000017
70000.0	47.6	-55.9		76.3	574.2	118.4	12.6	1.000017
70500.0	46.5	-55.5		74.4	574.7	115.1	13.8	1.000017
71000.0	45.4	-55.1		72.6	575.2	112.4	15.0	1.000016
71500.0	44.4	-54.8		70.7	575.7	105.4	15.4	1.000016
72000.0	43.3	-54.4		69.0	576.2	96.9	15.7	1.000015
72500.0	42.3	-54.0		67.2	576.7	88.8	16.4	1.000015
73000.0	41.3	-53.6		65.6	577.2	88.3	16.2	1.000015
73500.0	40.4	-53.2		63.9	577.7	88.2	15.9	1.000014
74000.0	39.4	-52.9		62.3	578.2	80.1	15.6	1.000014
74500.0	38.5	-52.2		60.7	579.1	87.9	15.9	1.000014
75000.0	37.6	-51.1		59.0	580.5	87.6	16.1	1.000013
75500.0	36.7	-50.0		57.3	582.0	86.8	17.2	1.000013
76000.0	35.9	-49.6		55.9	582.5	85.2	19.9	1.000012
76500.0	35.1	-49.7		54.7	582.3	84.0	22.6	1.000012
77000.0	34.3	-49.9		53.5	582.1	86.7	24.0	1.000012
77500.0	33.5	-50.0		52.3	581.9	92.7	24.5	1.000012
78000.0	32.7	-50.2		51.1	581.7	98.4	25.1	1.000011
78500.0	32.0	-50.3		50.0	581.5	102.3	25.0	1.000011
79000.0	31.3	-50.1		48.8	581.9	105.3	24.3	1.000011
79500.0	30.5	-49.4		47.5	582.7	108.4	23.6	1.000011
80000.0	29.8	-48.9		46.3	583.4	109.5	22.9	1.000010
80500.0	29.2	-48.7		45.3	583.7	108.8	22.3	1.000010
81000.0	28.5	-48.5		44.2	583.9	108.0	21.6	1.000010
81500.0	27.9	-48.3		43.2	584.1	107.4	21.4	1.000010
82000.0	27.2	-48.2		42.1	584.4	106.9	21.5	1.000009
82500.0	26.6	-47.6		41.1	585.1	106.3	21.6	1.000009
83000.0	26.0	-46.8		40.0	586.1	105.6	22.2	1.000009

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

UPPLR AIR DATA
1630020391
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
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TABLE 6 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
83500.0	25.4	-46.0			39.0	587.2	104.6	23.3	1.000009
84000.0	24.8	-45.2			38.0	588.2	103.7	24.5	1.000008
84500.0	24.3	-44.8			37.1	588.8	101.9	26.1	1.000008
85000.0	23.8	-44.4			36.2	589.2	99.0	28.5	1.000008
85500.0	23.2	-44.0			35.3	589.7	96.6	30.9	1.000008
86000.0	22.7	-43.6			34.5	590.2	95.0	32.8	1.000008
86500.0	22.2	-43.3			33.6	590.7	94.6	33.5	1.000007
87000.0	21.7	-42.9			32.9	591.1	94.3	34.2	1.000007
87500.0	21.2	-42.5			32.1	591.6	94.2	34.7	1.000007
88000.0	20.8	-42.2			31.3	592.1	95.4	33.8	1.000007
88500.0	20.3	-41.8			30.6	592.5	96.6	32.9	1.000007
89000.0	19.9	-41.6			29.9	592.9	97.9	32.0	1.000007
89500.0	19.4	-41.4			29.2	593.0	99.0	32.3	1.000006
90000.0	19.0	-41.3			28.5	593.2	100.0	32.8	1.000006
90500.0	18.6	-41.2			27.9	593.3	100.9	33.3	1.000006
91000.0	18.2	-41.1			27.3	593.5	102.3	33.6	1.000006
91500.0	17.8	-41.0			26.7	593.6	104.0	33.8	1.000006
92000.0	17.4	-40.9			26.1	593.7	105.6	34.0	1.000006
92500.0	17.0	-40.9			25.5	593.7	106.8	33.9	1.000006
93000.0	16.6	-40.9			24.9	593.7	107.4	33.0	1.000006
93500.0	16.3	-40.9			24.4	593.6	107.9	32.1	1.000005
94000.0	15.9	-41.0			23.9	593.6	108.2	31.3	1.000005
94500.0	15.6	-41.0			23.3	593.6	105.7	31.1	1.000005
95000.0	15.2	-41.0			22.8	593.6	103.1	30.8	1.000005
95500.0	14.9	-40.7			22.3	593.9	100.5	30.7	1.000005
96000.0	14.6	-40.1			21.8	594.8	97.9	31.3	1.000005
96500.0	14.2	-39.4			21.2	595.6	95.3	32.1	1.000005
97000.0	13.9	-38.7			20.7	596.5	92.9	33.0	1.000005
97500.0	13.6	-38.0			20.2	597.4	91.0	34.0	1.000004
98000.0	13.3	-37.3			19.7	598.2	89.5	35.1	1.000004
98500.0	13.0	-36.7			19.2	599.1	88.1	36.3	1.000004
99000.0	12.8	-36.0			18.7	599.9	86.9	37.1	1.000004
99500.0	12.5	-35.3			18.3	600.8	86.2	36.5	1.000004
100000.0	12.2	-35.0			17.9	601.2	85.5	35.9	1.000004
100500.0	12.0	-34.9			17.5	601.3	84.8	35.3	1.000004
101000.0	11.7	-34.8			17.1	601.5	86.8	34.7	1.000004
101500.0	11.5	-34.7			16.7	601.6	89.4	34.1	1.000004
102000.0	11.2	-34.5			16.4	601.8	92.0	33.6	1.000004
102500.0	11.0	-34.4			16.0	601.9	95.0	33.6	1.000004
103000.0	10.7	-34.3			15.7	602.1	98.3	34.2	1.000003

STATION ALTITUDE 3989.00 FEET MSL
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UPPER AIR DATA
 1630020391
 WHITE SANDS
 TABLE 6 CON'T

GEODETIC COORDINATES
 32.40043 LAT UEG
 106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
103500.0	10.5	-34.2			15.3	602.2	101.5	34.8	1.000003
104000.0	10.3	-34.1			15.0	602.4	104.2	35.5	1.000003
104500.0	10.1	-33.9			14.7	602.5	105.5	35.5	1.000003
105000.0	9.8	-33.9			14.3	602.6	106.7	35.4	1.000003
105500.0	9.6	-33.9			14.0	602.6	107.9	35.4	1.000003
106000.0	9.4	-33.9			13.7	602.6	108.4	35.2	1.000003
106500.0	9.2	-33.9			13.4	602.6	108.2	34.7	1.000003
107000.0	9.0	-33.9			13.2	602.6	108.0	34.3	1.000003
107500.0	8.8	-33.9			12.9	602.6	107.8	33.9	1.000003
108000.0	8.7	-33.9			12.6	602.6	107.6	33.4	1.000003
108500.0	8.5	-33.9			12.3	602.6	107.7	33.7	1.000003
109000.0	8.3	-33.8			12.1	602.7	107.8	33.9	1.000003
109500.0	8.1	-33.8			11.8	602.7	107.9	34.2	1.000003
110000.0	7.9	-33.8			11.6	602.7	108.0	34.4	1.000003
110500.0	7.8	-33.8			11.3	602.7	107.7	34.4	1.000003
111000.0	7.6	-33.8			11.1	602.7	107.1	34.4	1.000002
111500.0	7.4	-33.8			10.8	602.7	106.4	34.3	1.000002
112000.0	7.3	-33.8			10.6	602.7	105.8	34.2	1.000002
112500.0	7.1	-33.8			10.4	602.7	105.1	34.4	1.000002
113000.0	7.0	-33.8			10.2	602.7	104.2	35.3	1.000002
113500.0	6.8	-33.6			9.9	602.9	103.3	36.1	1.000002
114000.0	6.7	-33.5			9.7	603.1	102.5	37.0	1.000002
114500.0	6.5	-33.3			9.5	603.3	101.7	38.0	1.000002
115000.0	6.4	-33.2			9.3	603.5	100.7	39.4	1.000002
115500.0	6.3	-33.0			9.1	603.7	99.7	41.0	1.000002
116000.0	6.1	-32.9			8.9	603.9	98.7	42.6	1.000002
116500.0	6.0	-32.7			8.7	604.1	97.9	44.2	1.000002
117000.0	5.9	-32.6			8.5	604.3			1.000002
117500.0	5.8	-32.4			8.3	604.5			1.000002
118000.0	5.6	-32.3			8.2	604.7			1.000002
118500.0	5.5	-32.1			8.0	604.8			1.000002
119000.0	5.4	-31.9			7.8	605.0			1.000002
119500.0	5.3	-31.8			7.6	605.2			1.000002
120000.0	5.2	-31.6			7.5	605.4			1.000002
120500.0	5.1	-31.5			7.3	605.6			1.000002

STATION ALTITUDE 3989.00 FEET MSL
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MANDATORY LEVELS
 1630020391
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON UEG

TABLE 7

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	AIR TEMPERATURE DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4827.	31.2	3.3	17.	170.8	5.3
800.0	6592.	26.2	2.2	21.	175.6	6.2
750.0	8438.	21.2	.2	25.	228.8	6.7
700.0	10379.	16.3	-2.2	28.	240.1	10.5
650.0	12427.	10.7	-3.7	36.	249.6	12.6
600.0	14593.	4.8	-6.7	43.	256.0	14.0
550.0	16895.	-1.6	-9.8	54.	262.3	19.3
500.0	19362.	-6.1	-28.5	15.	263.3	7.8
450.0	22057.	-9.6	-30.1	17.	11.6	7.7
400.0	25002.	-16.8	-33.4	22.	323.8	17.0
350.0	28259.	-22.5	-40.6	17.	277.9	16.5
300.0	31902.	-32.1	-48.3	18.	285.9	21.7
250.0	36041.	-41.3			284.6	26.1
200.0	40908.	-51.0			278.8	24.9
175.0	43719.	-57.3			276.9	27.2
150.0	46875.	-61.4			278.6	28.5
125.0	50528.	-67.1			260.6	18.6
100.0	54889.	-71.7			200.9	22.5
80.0	59226.	-70.2			145.1	9.6
70.0	61865.	-64.3			150.5	25.8
60.0	64981.	-62.3			184.1	15.6
50.0	68703.	-56.7			114.7	11.9
40.0	73383.	-53.1			88.2	15.8
30.0	79540.	-48.9			109.7	23.1
25.0	83489.	-45.4			104.0	24.1
20.0	88416.	-41.6			97.4	32.3
15.0	94831.	-41.0			101.8	30.8
10.0	104065.	-33.9			105.7	35.4
7.0	112268.	-33.8			104.4	35.0
5.0	120046.	-31.4				

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

STATION ALTITUDE 4010.40 FEET MSL
 12 JUNE 81 1236 HRS MDT
 ASCENSION NO. 40

SIGNIFICANT LEVEL DATA
 1630220040
 NW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
872.7	4010.4	38.0	7.8	16.0
850.0	4797.0	33.4	8.1	21.0
790.2	6934.7	26.8	5.1	25.0
751.8	8366.0	21.9	1.0	25.0
742.2	8732.0	21.5	4.1	32.0
714.0	9828.3	18.1	2.0	34.0
700.0	10383.8	16.4	.9	35.0
677.0	11315.1	14.6	-.3	36.0
650.2	12431.0	11.4	-2.8	37.0
614.6	13967.4	7.7	-6.4	36.0
579.8	15534.7	3.2	-6.2	50.0
562.8	16325.9	1.5	-9.7	43.0
509.6	18925.5	-5.0	-15.9	42.0
504.8	19170.5	-4.4	-17.9	34.0
500.0	19417.9	-4.7	-23.1	22.0
496.6	19594.6	-4.4	-25.1	18.0
465.0	21288.5	-7.3	-27.5	18.0
454.0	21901.2	-8.0	-28.1	18.0
400.0	25086.8	-16.4	-30.6	28.0
380.0	26348.0	-19.9	-33.3	29.0
361.8	27545.7	-20.2	-38.3	18.0
355.0	28007.7	-21.0	-38.4	19.0
315.0	30869.5	-28.8	-45.0	19.0
300.0	32012.8	-31.6	-47.0	20.0
283.8	33296.7	-35.1	-48.8	23.0
250.0	36175.8	-40.5		
232.2	37819.5	-44.5		
216.2	39387.6	-46.6		
200.0	41074.0	-51.0		
173.6	44064.8	-57.6		
150.0	47072.3	-62.4		
140.4	48416.7	-63.0		
129.0	50119.4	-67.0		
121.8	51265.2	-66.3		
118.4	51829.3	-67.6		
107.2	53783.8	-71.6		
100.0	55141.5	-70.6		
78.4	59926.6	-68.9		
70.0	62195.2	-63.4		
66.6	63212.8	-60.3		

STATION ALTITUDE 4010.40 FEET MSL
12 JUNE 81 1236 HRS MDT
ASCENSION NO. 40

SIGNIFICANT LEVEL DATA
1630220040
NW 30

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 8 CON'T

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT PERCENT	
52.8	67991.1	-60.6		
50.0	69121.6	-56.9		
41.2	73231.1	-50.8		
34.6	77000.4	-49.6		
30.0	80117.3	-45.6		
25.0	84170.2	-41.9		
20.0	89174.8	-41.7		
14.4	96655.3	-35.1		
10.2	104682.6	-31.6		

STATION ALTITUDE 4010.40 FEET MSL
 12 JUNE 81 1236 HRS MDT
 ASCENSION NO. 40

UPPER AIR DATA
 1630220040
 NW 30

GEODETTIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
4010.4	872.7	38.0	7.8	16.0	972.6	688.8	90.0	8.0	1.000258
4500.0	858.5	35.1	8.1	19.1	965.5	685.7			1.000258
5000.0	844.1	32.8	7.8	21.4	956.7	683.0			1.000256
5500.0	829.9	31.2	7.2	22.3	945.4	681.3			1.000252
6000.0	815.8	29.7	6.5	23.3	934.2	679.5			1.000248
6500.0	802.0	28.1	5.8	24.2	923.3	677.7			1.000244
7000.0	788.4	26.6	5.0	25.0	912.5	675.9			1.000240
7500.0	774.8	24.9	3.5	25.0	902.2	673.8			1.000235
8000.0	761.4	23.2	2.1	25.0	892.1	671.8	183.2	13.0	1.000229
8500.0	748.3	21.8	2.2	27.6	880.7	670.2	185.5	13.7	1.000228
9000.0	735.2	20.7	3.6	32.5	868.1	669.1	189.0	13.3	1.000228
9500.0	722.3	19.1	2.7	33.4	857.6	667.3	197.9	13.2	1.000224
10000.0	709.6	17.6	1.7	34.3	847.2	665.5	213.0	14.0	1.000220
10500.0	697.1	16.2	.8	35.1	836.4	663.8	227.5	16.5	1.000216
11000.0	684.7	15.2	.1	35.7	824.4	662.7	238.2	20.1	1.000212
11500.0	672.5	14.1	-.7	36.2	813.0	661.3	246.8	23.2	1.000208
12000.0	660.4	12.6	-1.8	36.6	802.6	659.6	250.1	25.1	1.000204
12500.0	648.6	11.2	-2.9	37.0	792.2	657.9	248.7	24.7	1.000200
13000.0	636.8	10.0	-4.1	36.6	781.3	656.5	244.7	24.0	1.000195
13500.0	625.2	8.8	-5.3	36.3	770.5	655.0	243.4	24.5	1.000191
14000.0	613.9	7.6	-6.4	36.3	759.9	653.5	248.0	27.5	1.000188
14500.0	602.5	6.2	-6.2	40.8	749.7	651.9	249.8	31.1	1.000186
15000.0	591.4	4.7	-6.1	45.2	739.6	650.2	252.5	31.0	1.000184
15500.0	580.5	3.3	-6.2	49.7	729.7	648.6	257.2	27.5	1.000182
16000.0	569.7	2.2	-8.2	45.9	719.2	647.2	264.9	19.8	1.000177
16500.0	559.1	1.1	-10.1	42.9	708.9	645.7	273.7	12.9	1.000172
17000.0	548.5	-.2	-11.3	42.7	698.8	644.2	273.9	6.6	1.000169
17500.0	538.1	-1.4	-12.5	42.5	688.8	642.7	256.1	3.9	1.000165
18000.0	527.9	-2.7	-13.7	42.4	679.0	641.2	227.8	3.6	1.000162
18500.0	518.0	-3.9	-14.9	42.2	669.3	639.7	220.5	4.1	1.000159
19000.0	508.1	-4.8	-16.4	39.6	658.9	638.6	228.4	4.0	1.000156
19500.0	498.4	-4.6	-24.0	20.1	646.0	630.7	240.8	3.9	1.000149
20000.0	488.8	-5.1	-25.7	18.0	634.9	638.0	254.0	4.1	1.000145
20500.0	479.5	-6.0	-26.4	18.0	624.7	637.0	267.8	4.4	1.000143
21000.0	470.2	-6.8	-27.1	18.0	614.7	636.0	281.3	4.9	1.000140
21500.0	461.2	-7.5	-27.7	18.0	604.6	635.1	298.1	5.6	1.000138
22000.0	452.2	-8.3	-28.1	18.3	594.4	634.2	312.0	6.6	1.000136
22500.0	443.3	-9.6	-28.3	19.9	585.7	632.6	327.9	6.8	1.000134
23000.0	434.6	-10.9	-28.6	21.4	577.0	631.0	335.5	7.7	1.000132
23500.0	426.0	-12.2	-29.0	23.0	568.5	629.5	333.3	9.2	1.000130

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

UPPER AIR DATA
 1630/20040
 NW 30

STATION ALTITUDE 4010.40 FEET MSL
 12 JUNE 81
 ASCENSION NO. 40

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	417.7	-13.5	-29.5	24.6	560.2	627.9	323.5	11.4	1.000128
24500.0	409.4	-14.9	-29.9	26.2	552.0	626.3	314.7	14.1	1.000126
25000.0	401.4	-16.2	-30.5	27.7	543.9	624.7	310.3	16.1	1.000124
25500.0	393.3	-17.5	-31.5	28.3	535.9	623.0	306.1	17.5	1.000122
26000.0	385.4	-18.9	-32.5	28.7	528.0	621.3	299.8	17.2	1.000120
26500.0	377.6	-19.9	-33.8	27.6	519.4	620.0	290.8	16.7	1.000118
27000.0	370.0	-20.1	-35.8	23.0	509.1	619.9	278.5	16.5	1.000115
27500.0	362.5	-20.2	-38.0	18.4	499.1	619.7	269.7	16.5	1.000113
28000.0	355.1	-21.0	-38.4	19.0	490.5	618.7	263.0	16.6	1.000111
28500.0	347.8	-22.3	-39.6	19.0	482.9	617.0	261.2	16.3	1.000109
29000.0	340.6	-23.7	-40.7	19.0	475.6	615.4	260.7	15.9	1.000107
29500.0	333.5	-25.1	-41.9	19.0	468.3	613.7	262.6	15.8	1.000105
30000.0	326.7	-26.4	-43.0	19.0	461.2	612.0	263.7	16.0	1.000104
30500.0	319.9	-27.8	-44.2	19.0	454.1	610.3	263.8	16.8	1.000102
31000.0	313.3	-29.1	-45.3	19.1	447.1	608.6	265.9	18.8	1.000100
31500.0	306.6	-30.3	-46.1	19.6	439.9	607.1	268.3	21.2	1.000099
32000.0	300.2	-31.6	-47.0	20.0	432.8	605.5	273.4	23.6	1.000097
32500.0	293.7	-32.9	-47.6	21.1	425.9	603.8	277.2	25.5	1.000095
33000.0	287.5	-34.3	-48.3	22.3	419.2	602.1	279.9	26.0	1.000094
33500.0	281.3	-35.5	-49.7	21.4**	412.2	600.6	281.4	26.5	1.000092
34000.0	275.1	-36.4	-52.3	17.4**	404.9	599.4	282.2	27.1	1.000090
34500.0	269.2	-37.4	-55.2	13.4**	397.6	598.2	282.4	28.4	1.000089
35000.0	263.3	-38.3	-58.8	9.4**	390.5	597.0	281.4	29.5	1.000087
35500.0	257.6	-39.2	-63.7	5.4**	383.6	595.8	279.7	30.5	1.000086
36000.0	251.9	-40.2	-73.7	1.4**	376.7	594.6	278.8	30.8	1.000084
36500.0	246.4	-41.3			370.2	593.2	278.9	30.2	1.000082
37000.0	240.9	-42.5			363.9	591.7	280.6	28.6	1.000081
37500.0	235.6	-43.7			357.7	590.1	277.3	27.5	1.000080
38000.0	230.3	-44.7			351.2	588.8	273.8	27.2	1.000078
38500.0	225.1	-45.4			344.4	587.9	271.1	27.8	1.000077
39000.0	220.0	-46.1			337.6	587.0	270.4	27.5	1.000075
39500.0	215.1	-46.9			331.2	586.0	271.0	26.6	1.000074
40000.0	210.2	-48.2			325.5	584.3	269.4	26.3	1.000072
40500.0	205.4	-49.5			319.9	582.6	267.2	26.3	1.000071
41000.0	200.7	-50.8			314.4	580.9	263.8	26.5	1.000070
41500.0	196.0	-51.9			308.7	579.4	261.6	26.7	1.000069
42000.0	191.4	-53.0			303.0	578.0	260.5	26.6	1.000067
42500.0	186.9	-54.1			297.4	576.5	261.4	27.9	1.000066
43000.0	182.6	-55.3			291.9	575.1	262.3	29.2	1.000065
43500.0	178.3	-56.4			286.5	573.6	261.7	28.2	1.000064

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

UPPER AIR DATA
1630220040
NW 30

STATION ALTITUDE 4010.40 FEET NSL
12 JUNE 81 1236 HRS MDT
ASCENSION NO. 40

GEODETTIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
44000.0	174.1	-57.5			281.2	572.2	261.1	26.4	1.000063
44500.0	170.0	-58.3			275.6	571.0	260.6	23.6	1.000061
45000.0	165.9	-59.1			270.0	570.0	260.4	22.8	1.000060
45500.0	161.9	-59.9			264.5	568.9	260.5	23.0	1.000059
46000.0	158.0	-60.7			259.1	567.9	261.7	26.5	1.000058
46500.0	154.2	-61.5			253.8	566.8	263.9	30.0	1.000057
47000.0	150.5	-62.3			248.7	565.7	266.9	33.7	1.000055
47500.0	146.9	-62.6			243.0	565.3	268.3	33.7	1.000054
48000.0	143.3	-62.8			237.4	565.0	269.4	32.2	1.000053
48500.0	139.8	-63.2			232.0	564.5	269.3	29.6	1.000052
49000.0	136.4	-64.4			227.6	562.9	269.3	27.3	1.000051
49500.0	133.0	-65.5			223.2	561.3	269.7	25.6	1.000050
50000.0	129.8	-66.7			219.0	559.7	265.6	22.8	1.000049
50500.0	126.6	-66.8			213.6	559.7	255.8	19.6	1.000048
51000.0	123.4	-66.5			208.0	560.1	234.0	16.9	1.000046
51500.0	120.4	-66.8			203.3	559.6	208.6	17.4	1.000045
52000.0	117.4	-67.9			199.3	558.1	196.2	20.4	1.000044
52500.0	114.4	-69.0			195.2	556.7	192.7	22.9	1.000043
53000.0	111.6	-70.0			191.3	555.3	199.5	23.6	1.000043
53500.0	108.8	-71.0			187.4	553.9	205.2	23.7	1.000042
54000.0	106.0	-71.4			183.1	553.3	210.5	23.4	1.000041
54500.0	103.3	-71.1			178.1	553.8	212.8	24.1	1.000040
55000.0	100.7	-70.7			173.3	554.3	213.5	24.7	1.000039
55500.0	98.2	-70.5			168.8	554.6	209.7	24.7	1.000038
56000.0	95.7	-70.3			164.4	554.9	204.6	23.9	1.000037
56500.0	93.3	-70.1			160.1	555.1	197.4	22.4	1.000036
57000.0	91.0	-69.9			156.0	555.4	194.3	18.2	1.000035
57500.0	88.7	-69.8			151.9	555.6	191.4	13.2	1.000034
58000.0	86.5	-69.6			148.0	555.8	173.6	9.5	1.000033
58500.0	84.3	-69.4			144.1	556.1	149.6	8.2	1.000032
59000.0	82.2	-69.2			140.4	556.3	146.0	10.0	1.000031
59500.0	80.1	-69.1			136.8	556.6	142.1	12.7	1.000030
60000.0	78.1	-68.7			133.1	557.0	138.7	16.4	1.000030
60500.0	76.2	-67.5			129.1	558.7	137.7	19.5	1.000029
61000.0	74.3	-66.3			125.1	560.3	137.4	22.4	1.000028
61500.0	72.5	-65.1			121.3	561.9	149.4	21.9	1.000027
62000.0	70.7	-63.9			117.7	563.6	161.9	21.8	1.000026
62500.0	69.0	-62.5			114.0	565.5	169.6	20.9	1.000025
63000.0	67.3	-60.9			110.5	567.5	173.9	19.9	1.000025
63500.0	65.7	-60.3			107.5	568.3	174.0	18.4	1.000024

UPPER AIR DATA
 1630220040
 NW 30

STATION ALTITUDE 4010.40 FEET MSL
 12 JUNE 81 1236 HRS MDT
 ASCENSION NO. 40

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
6400.0	64.1	-60.3		104.9	568.3	172.0	15.5	1.000023
6450.0	62.6	-60.4		102.4	568.3	167.7	12.0	1.000023
6500.0	61.1	-60.4		100.0	568.2	146.2	9.2	1.000022
6550.0	59.6	-60.4		97.6	568.2	109.7	12.3	1.000022
6600.0	58.2	-60.5		95.3	568.1	95.5	17.8	1.000021
6650.0	56.8	-60.5		93.0	568.1	92.4	18.9	1.000021
6700.0	55.4	-60.5		90.8	568.1	96.6	15.2	1.000020
6750.0	54.1	-60.6		88.6	568.0	96.7	14.1	1.000020
6800.0	52.8	-60.6		86.5	568.0	94.4	14.2	1.000019
6850.0	51.5	-58.9		83.8	570.2	95.6	12.7	1.000019
6900.0	50.3	-57.3		81.2	572.4	99.8	10.6	1.000018
6950.0	49.1	-56.3		78.9	573.6	103.2	9.2	1.000018
7000.0	48.0	-55.6		76.8	574.6	101.4	9.2	1.000017
7050.0	46.9	-54.9		74.8	575.6	95.9	10.0	1.000017
7100.0	45.8	-54.1		72.8	576.6	88.3	11.8	1.000016
7150.0	44.7	-53.4		70.9	577.6	81.7	12.9	1.000016
7200.0	43.7	-52.6		69.0	578.5	75.0	13.4	1.000015
7250.0	42.6	-51.9		67.1	579.5	75.7	15.0	1.000015
7300.0	41.7	-51.1		65.4	580.5	78.7	17.2	1.000015
7350.0	40.7	-50.7		63.7	581.0	89.5	19.2	1.000014
7400.0	39.8	-50.6		62.2	581.2	99.8	21.9	1.000014
7450.0	38.8	-50.4		60.8	581.4	104.8	22.7	1.000014
7500.0	38.0	-50.2		59.3	581.7	109.1	23.4	1.000013
7550.0	37.1	-50.1		57.9	581.9	107.9	23.1	1.000013
7600.0	36.2	-49.9		56.6	582.1	106.3	22.7	1.000013
7650.0	35.4	-49.8		55.2	582.3	105.0	23.4	1.000012
7700.0	34.6	-49.6		53.9	582.5	103.8	24.0	1.000012
7750.0	33.8	-49.0		52.5	583.3	101.4	24.9	1.000012
7800.0	33.1	-48.3		51.2	584.2	99.3	25.7	1.000011
7850.0	32.3	-47.7		49.9	585.0	101.4	24.1	1.000011
7900.0	31.6	-47.0		48.6	585.8	103.9	22.7	1.000011
7950.0	30.9	-46.4		47.4	586.6	103.5	22.9	1.000011
8000.0	30.2	-45.8		46.2	587.5	103.2	23.2	1.000010
8050.0	29.5	-45.3		45.1	588.1	98.7	25.1	1.000010
8100.0	28.8	-44.8		44.0	588.7	94.9	27.2	1.000010
8150.0	28.2	-44.3		42.9	589.3	93.0	27.9	1.000010
8200.0	27.6	-43.9		41.9	589.9	91.3	28.6	1.000009
8250.0	27.0	-43.4		40.9	590.5	92.2	28.6	1.000009
8300.0	26.4	-43.0		39.9	591.1	93.3	28.7	1.000009
8350.0	25.8	-42.5		38.9	591.6	94.0	28.2	1.000009

STATION ALTITUDE 4010.40 FEET MSL
 12 JUNE 81 1236 HRS MST
 ASCENSION NO. 40

UPPER AIR DATA
 1630220040
 NW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 9 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
84000.0	25.2	-42.1			38.0	592.2	94.6	27.5	1.000008
84500.0	24.6	-41.9			37.1	592.4	94.7	27.2	1.000008
85000.0	24.1	-41.9			36.3	592.5	94.2	27.2	1.000008
85500.0	23.6	-41.8			35.5	592.5	95.6	27.6	1.000008
86000.0	23.0	-41.8			34.7	592.5	100.4	29.1	1.000008
86500.0	22.5	-41.8			33.9	592.5	104.5	30.6	1.000008
87000.0	22.0	-41.8			33.2	592.6	106.0	30.4	1.000007
87500.0	21.6	-41.7			32.4	592.6	107.5	30.2	1.000007
88000.0	21.1	-41.7			31.7	592.6	105.2	29.3	1.000007
88500.0	20.6	-41.7			31.0	592.6	102.3	28.3	1.000007
89000.0	20.2	-41.7			30.3	592.7	98.4	27.8	1.000007
89500.0	19.7	-41.4			29.6	593.1	94.0	27.6	1.000007
90000.0	19.3	-41.0			28.9	593.6	87.1	28.1	1.000006
90500.0	18.9	-40.5			28.3	594.2	77.8	30.0	1.000006
91000.0	18.5	-40.1			27.6	594.7	70.1	32.7	1.000006
91500.0	18.1	-39.6			26.9	595.3	65.6	36.2	1.000006
92000.0	17.7	-39.2			26.3	595.9	62.0	40.0	1.000006
92500.0	17.3	-38.8			25.7	596.4	64.2	37.1	1.000006
93000.0	16.9	-38.3			25.1	597.0	67.4	33.7	1.000006
93500.0	16.5	-37.9			24.5	597.6	71.4	29.7	1.000005
94000.0	16.2	-37.4			23.9	598.1	76.9	25.5	1.000005
94500.0	15.8	-37.0			23.4	598.7	83.9	22.8	1.000005
95000.0	15.5	-36.6			22.8	599.2	91.4	22.2	1.000005
95500.0	15.1	-36.1			22.3	599.8	98.6	22.3	1.000005
96000.0	14.8	-35.7			21.7	600.3	101.4	24.4	1.000005
96500.0	14.5	-35.2			21.2	600.9	103.8	26.7	1.000005
97000.0	14.2	-34.9			20.8	601.3	105.2	28.2	1.000005
97500.0	13.9	-34.7			20.3	601.5	106.4	29.8	1.000005
98000.0	13.6	-34.5			19.8	601.8	107.4	30.1	1.000004
98500.0	13.3	-34.3			19.4	602.1	108.2	29.8	1.000004
99000.0	13.0	-34.1			19.0	602.4	107.7	29.1	1.000004
99500.0	12.7	-33.9			18.6	602.6	104.2	27.7	1.000004
100000.0	12.5	-33.6			18.1	602.9	100.7	26.5	1.000004
100500.0	12.2	-33.4			17.7	603.2	102.7	27.9	1.000004
101000.0	11.9	-33.2			17.3	603.5	104.6	29.3	1.000004
101500.0	11.7	-33.0			17.0	603.7	104.0	28.7	1.000004
102000.0	11.4	-32.8			16.6	604.0	102.6	27.3	1.000004
102500.0	11.2	-32.6			16.2	604.3	100.1	26.0	1.000004
103000.0	11.0	-32.3			15.9	604.6	100.0	26.4	1.000004
103500.0	10.7	-32.1			15.5	604.8	100.0	26.4	1.000003

STATION ALTITUDE 4010.40 FEET MSL
 12 JUNE 81 126 HRS MOT
 ASCENSION NO. 40

UPPER AIR DATA
 1630220040
 NW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 9 CON'T

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
10400.0	10.5	-31.9		15.2	605.1			1.000003
10450.0	10.3	-31.7		14.8	605.4			1.000003

STATION ALTITUDE 4010.40 FEET MSL
 12 JUNE 81
 2 36 HRS MDT
 ASCENSION NO. 40

MANDATORY LEVELS
 1630220040
 NW 30

GEODETTIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 10

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4794.	33.4	8.1	21.	9999.0	9999.0XX
800.0	6572.	27.9	5.7	24.	9999.0	9999.0XX
750.0	8427.	21.8	1.6	26.	185.1	13.6
700.0	10374.	16.4	.9	35.	224.2	15.8
650.0	12426.	11.4	-2.0	37.	248.9	24.7
600.0	14600.	5.0	-6.1	42.	250.1	31.9
550.0	16912.	-.0	-11.1	43.	273.9	7.5
500.0	19391.	-4.7	-23.1	22.	238.3	3.9
450.0	22094.	-8.6	-28.2	19.	315.8	6.6
400.0	25045.	-16.4	-30.6	28.	309.7	16.4
350.0	28301.	-21.9	-39.2	19.	261.4	16.4
300.0	31949.	-31.6	-47.0	20.	273.4	23.6
250.0	36097.	-40.5			278.5	30.9
200.0	40975.	-51.0			263.4	26.6
175.0	43785.	-57.2			261.2	27.1
150.0	46945.	-62.4			267.1	34.1
125.0	50601.	-66.6			247.7	18.2
100.0	54971.	-70.6			212.6	24.7
80.0	59331.	-69.0			142.1	12.7
70.0	61982.	-63.4			164.4	21.5
60.0	65127.	-60.4			120.9	10.2
50.0	68862.	-56.9			100.8	10.2
40.0	73573.	-50.6			96.7	20.9
30.0	79774.	-45.6			102.4	23.5
25.0	83793.	-41.9			94.8	27.4
20.0	88754.	-41.7			97.2	27.8
15.0	95233.	-35.9			99.6	23.0

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

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

