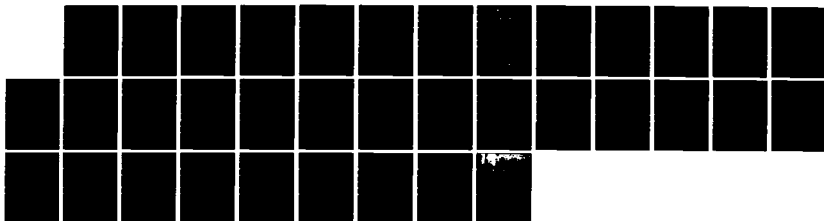
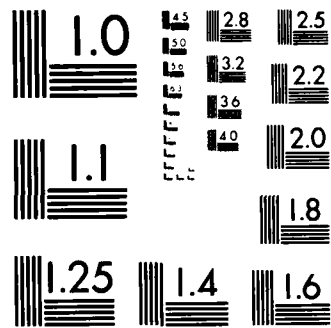


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19310 MLR MISSILE NUMBERS BN-324 BN-327 BN-325 BN-328 1/1
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METEOROLOGICAL DATA REPORT

19310A MLRS
Missile Number BN-324, BN-327,
BN-325, BN-328, BN-326, BN-329
Round Number 491/DL-31 thru 496/DL-36
29 July 83

by

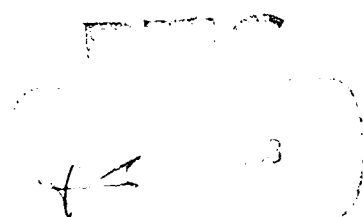
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Phone Number (505) 679-9568
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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND



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4. TITLE (and Subtitle) 19310A MLRS Missile Number BN-324, BN-327, BN-325, BN-328, BN-326, BN-329 Round Number 491/DL-31 thru 496/DL-36	5. TYPE OF REPORT & PERIOD COVERED	
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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 19310A MLRS, Missile Number BN-324, BN-327, BN-325, BN-328, BN-326, BN-329, Round Number 491/DL-31 thru 496/DL-36 are presented in tabular form.		

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INTRODUCTION

19310A MLRS, Missile Numbers BN-324, BN-327, BN-325, BN-328, BN-326 and BN-329 Round Numbers 491/DL-31 thru 496/DL-36, were launched from Brillo, White Sands Missile Range (WSMR), New Mexico, at 1047:25, 1047:29, 1047:34, 1047:38, 1047:43 and 1047:47 MDT, 29 JUL 83. The scheduled launch times were 1045 MDT with a 4.5 second separation.

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 Brillo Met Site at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at Brillo. 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 pilot-balloon observations at:

SITE AND ALTITUDE

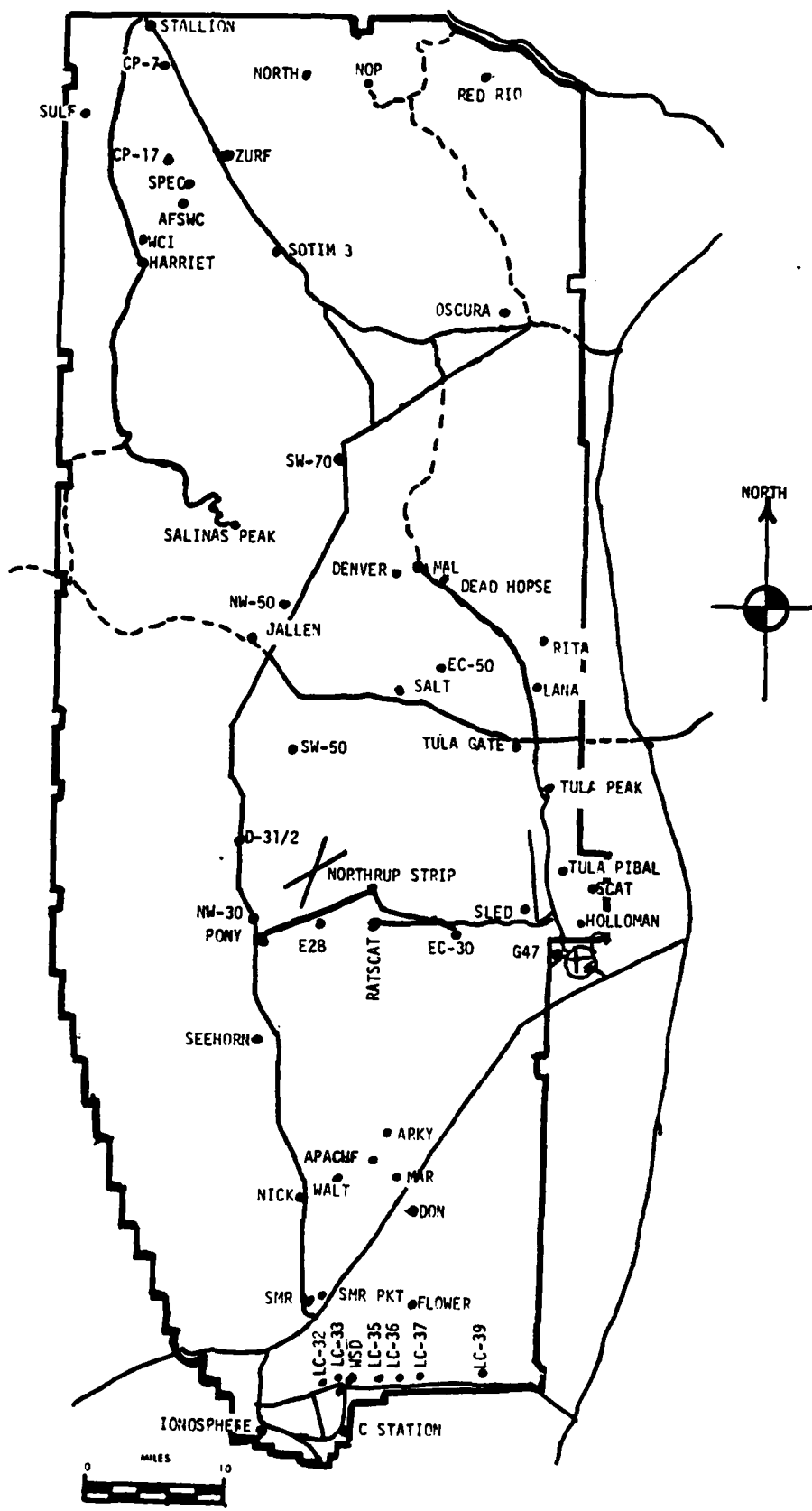
D 3 $\frac{1}{2}$	2 Km
MAL	2 Km

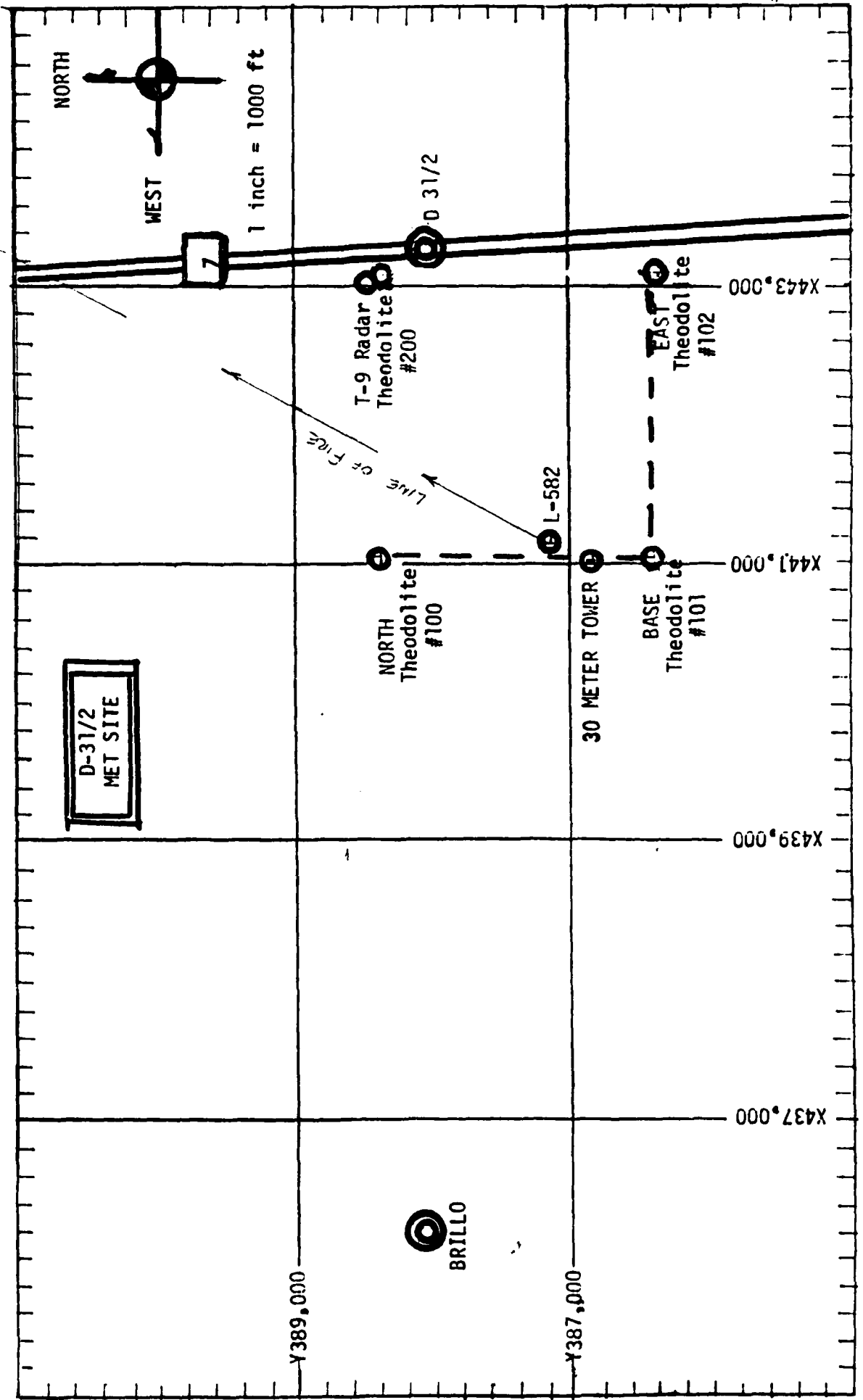
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

JALLEN	0800 MDT
E-28	0915 MDT
JALLEN	1045 MDT

WSMR METEOROLOGICAL SITES





PERFECT SURFACE OBSERVATION

TABLE <u>1</u>		STATION <u>BRILLO</u>								
DATE	TIME	MO	YEAR							
<u>29</u>	<u>1047</u>	<u>JUL</u>	<u>83</u>							
		<u>093.12</u>	<u>Y = 386, 316.94</u>							
		<u>H = 3962.25</u>								
TIME	MDT	PRESSURE	TEMPERATURE	DEW POINT	RELATIVE	DENSITY	DIRECTION	WIND	CHARACTER	VISIBIL-
		mb	°C	°C	%	gm/m ³	degs	speed	kts	ITY
<u>1047</u>		<u>881.0</u>	<u>32.8</u>	<u>13.9</u>	<u>32</u>		<u>340</u>	<u>02</u>		<u>20</u>

OBSERVATIONS TO VISIBILITY	CLOUDS						REMARKS		
	1st LAYER		2nd LAYER		3rd LAYER				
	AMT	TYPE	HGT	AMT	TYPE	HGT	AMT	TYPE	HGT
	<u>1</u>	<u>SC</u>	<u>6000</u>	<u>3</u>	<u>AC</u>	<u>12500</u>	<u>1</u>	<u>CI</u>	<u>25500</u>

PSYCHROMETRIC COMPUTATION

TIME: MDT	<u>1047</u>
DRY BULB TEMP.	<u>32.8</u>
WET BULB TEMP.	<u>19.9</u>
WET BULB DEPR.	<u>12.9</u>
DEW POINT	<u>13.9</u>
RELATIVE HUMID.	<u>32</u>

TABLE 2

Anemometer Data - 30 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 386,349.19 H= 4,004.80 (BASE)

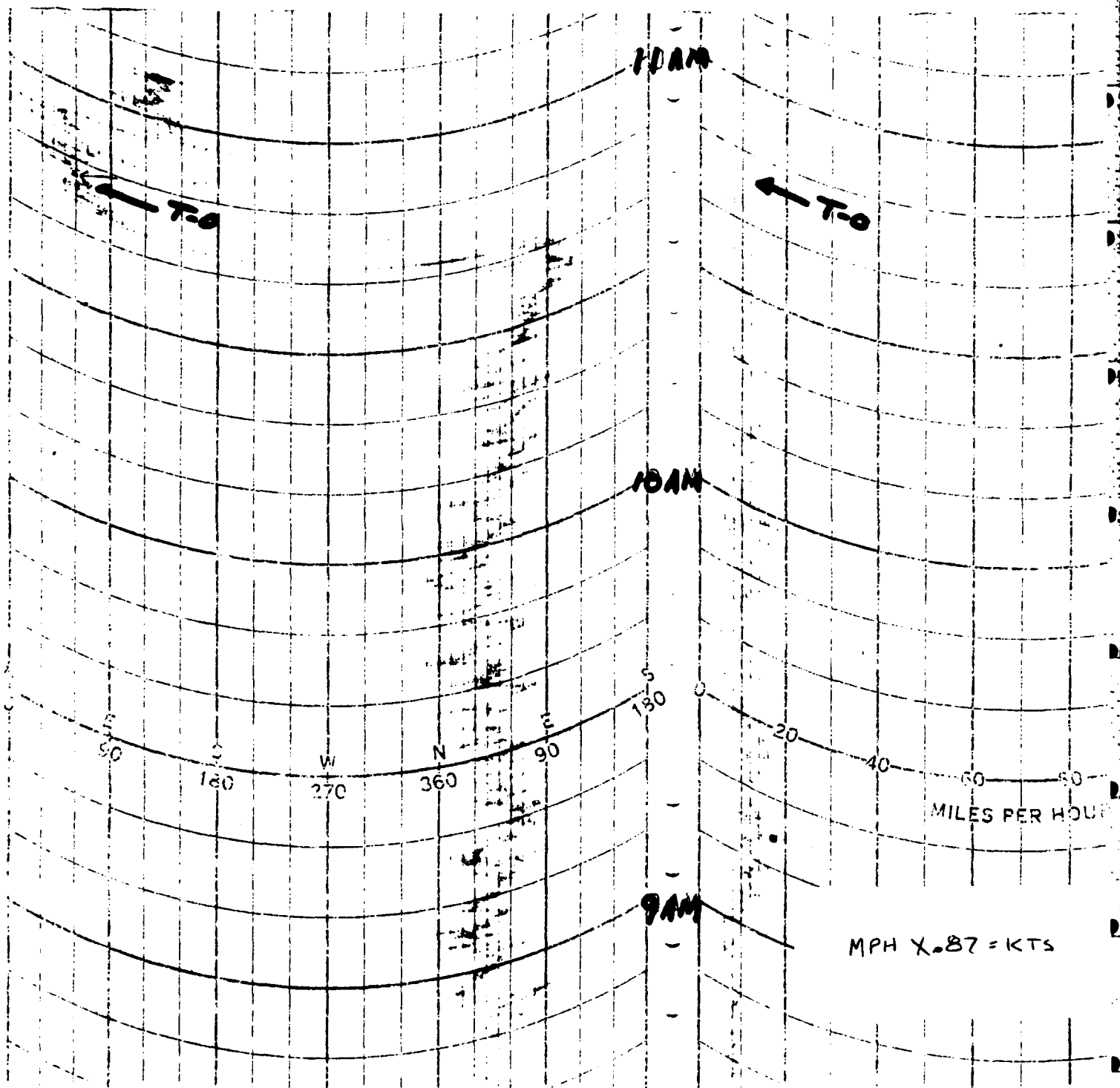


TABLE 3

Anemometer Data - 60 Ft. Level of 30 Meter Tower

X= 441,018.71 Y= 396,349.19 H= 4,064.80 (BASE)

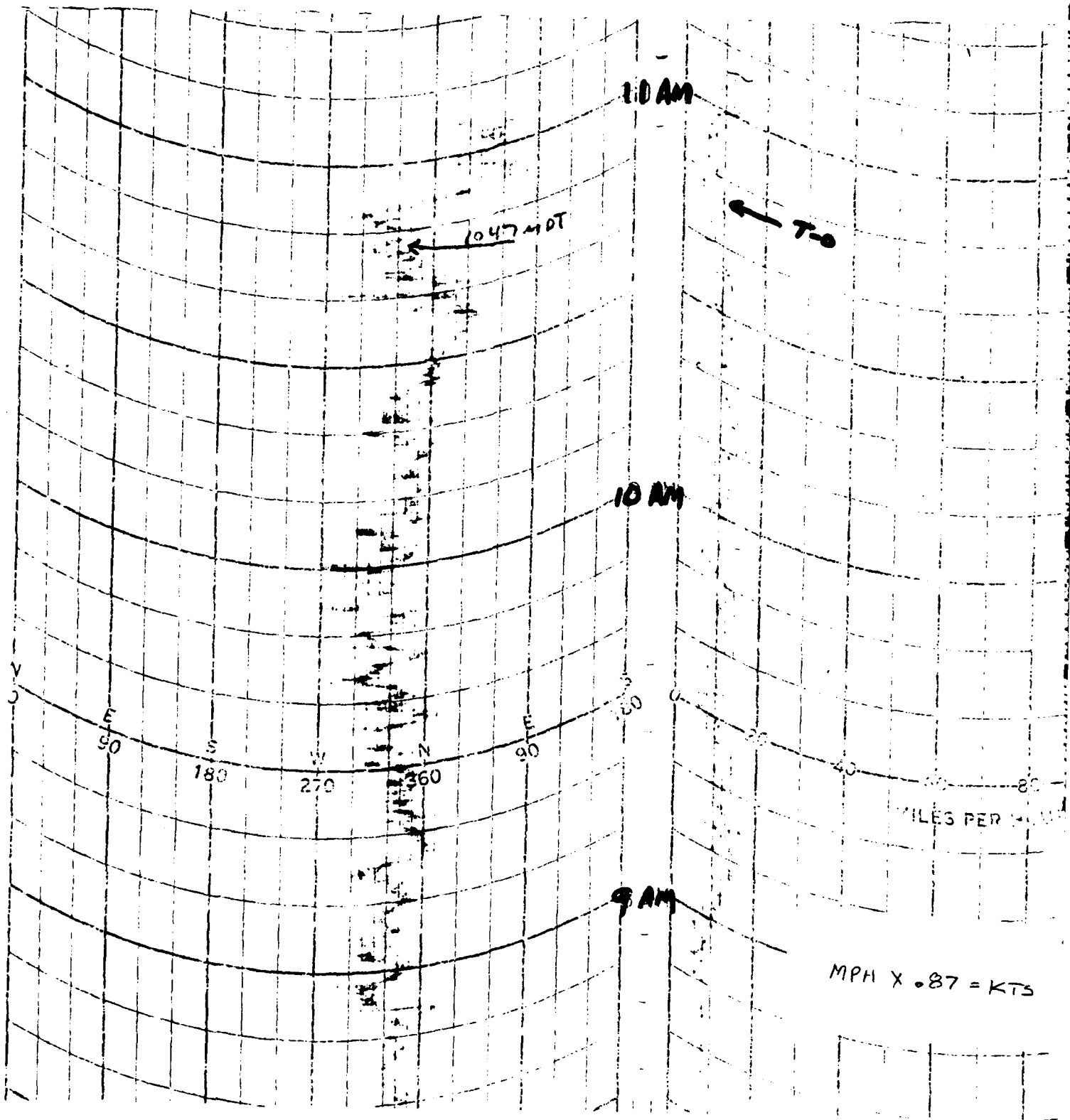
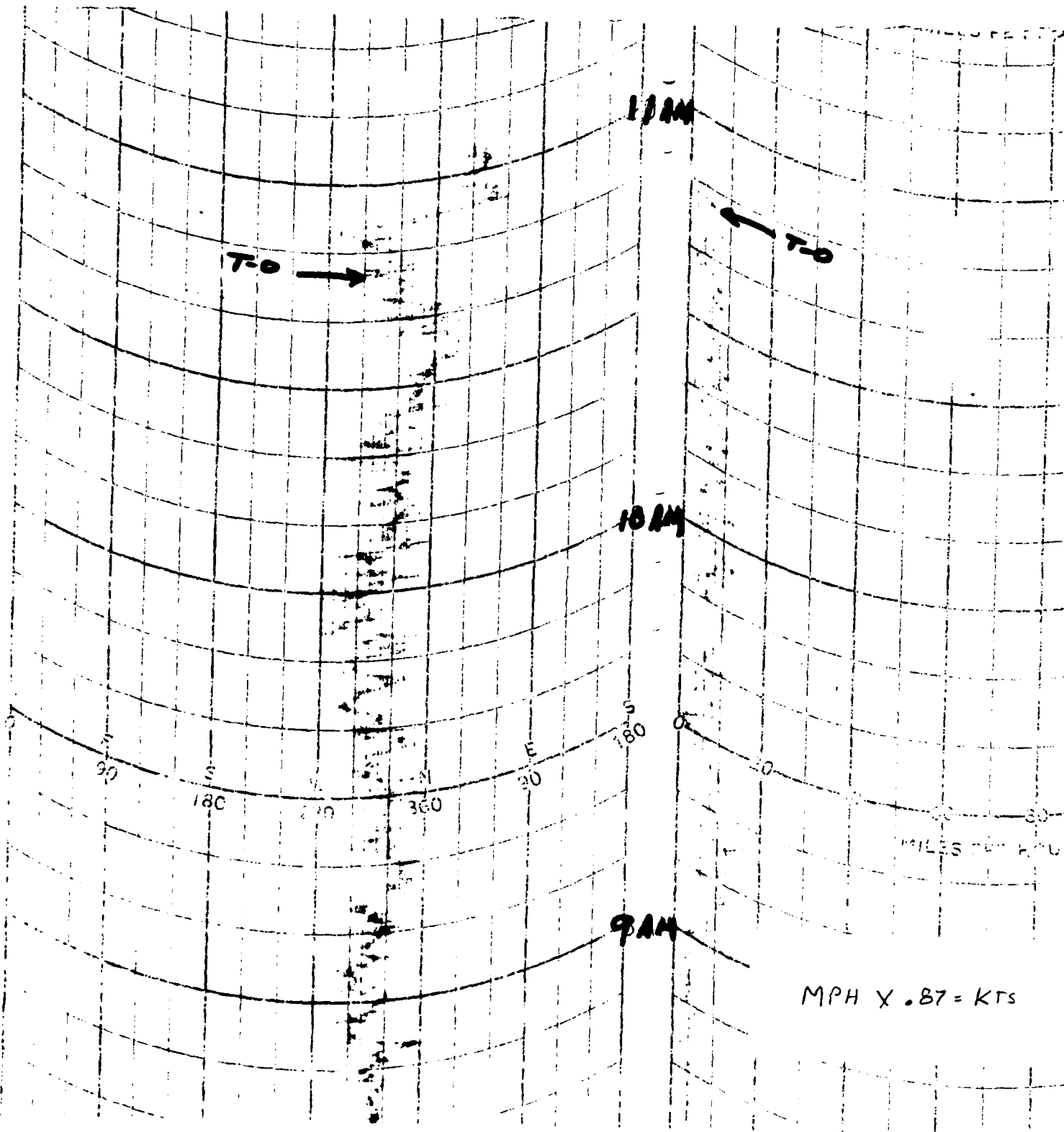


TABLE 4

Anemometer Data - 90 FT Level of 30 Meter Tower

X= 441,018.71 Y= 306,849.19 H= 4,004.80 (BASE)



T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 29 JULY 83

SITE: D 3½

TIME: 1047 MDT

WSTM COORDINATES:

X= 443,093.12

Y= 386,316.94

H= 3,962.25

SITE: MAL

TIME 1045 MDT

WSTM COORDINATES:

X= 509,421.05

Y= 495,563.18

H= 4,126.81

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	340	02
150	020	07
210	027	07
270	040	06
330	057	05
390	054	04
500	024	03
650	024	03
800	031	04
950	028	05
1150	053	04
1350	086	04
1550	109	04
1750	126	05
2000	118	09

Data obtained from a Single Theodolite tracked Pilot-Balloon observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	350	03
150	041	05
210	049	05
270	056	05
330	062	05
390	068	05
500	071	05
650	056	05
800	039	06
950	023	06
1150	121	02
1350	093	09
1550	086	10
1750	092	14
2000	090	16

Data obtained from a Double Theodolite tracked Pilot-Balloon observation.

AIMING AND T-TIME COMPUTER MET MESSAGES

29 July 1983

JALLEN 0800 MDT	E-28 0915 MDT	JALLEN 1045 MDT
METCMI332065	METCMI329065	METCMI332065
291400124880	291530119885	291680124880
00018002 29940880	00604003 30140885	00071007 30700880
01006004 29950870	01606008 30130875	01010009 30410870
02048012 29920845	02080002 29940851	02078014 30100846
03084007 29700807	03118003 29730812	03108009 29780809
04173005 29440762	04219004 29440767	04202008 29410763
05196012 29030719	05203007 29070724	05193011 29060720
06197011 28600678	06171011 28670682	06180017 28650679
07192014 28150638	07176014 28250642	07199017 28200639
08200017 27700600	08186016 27780605	08211017 27770601
09213014 27260564	09202015 27330568	09201015 27370565
10144005 26910530	10180012 26980534	10157014 27000531
11201004 26610497	11143009 26690501	11136013 26640498
12210006 26090451	12183008 26190455	12179006 26200452
13231010 25490395	13265015 24670399	13282012 25660397
14244013 24820345	14234014 25000349	14236014 27970347
15232011 24070300	15214014 24220304	15218018 24180302
16256012 23270260	16214013 23390263	16218018 23340262
17322016 22470224	17242014 22560227	17252021 22610226
18298013 21670192	18265016 21920195	18270018 21850194
19271010 21140164	19306013 21280166	19304016 21190165
20348017 20590139	20347015 20670142	20367015 20650141
21330018 20220118	21308019 20340120	21297022 20310119
22193015 20080100	22269011 20250101	22244011 20270101
23197015 20550084	23170021 20470086	23199022 20660085
24181017 21290072	24234016 21160073	24194013 21130073
25185018 21430061	25169016 21310062	25165021 21280062
26177018 21510052	26161022 21400053	26174027 21470053

STATION ALTITUDE 6451.00 F
 29 JULY 63
 ASCENSION NO. 10

0800 MDT

SIGNIFICANT LEVEL DATA
 2100030103
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LONG DEG

TABLE 7

GEOMETRIC ALTITUDE MILLI-METERS MSL FEET	TEMPERATURE AIR DEGREE'S CENTIGRADE	REL. HUM. PERCENT
879.5	24.5	42.0
875.5	24.8	30.0
856.7	25.5	32.0
856.0	25.0	30.0
801.2	21.9	40.0
774.9	21.2	39.0
716.1	15.7	40.0
700.0	14.2	42.0
614.9	4.7	59.0
576.1	.1	69.0
553.7	-2.9	94.0
500.0	-7.4	96.0
463.8	-10.9	83.0
440.6	-14.4	97.0
423.0	-16.1	98.0
414.8	-16.4	97.0
400.0	-17.7	56.0
379.2	-20.4	42.0
337.5	-26.2	34.0
300.0	-32.3	39.0
286.5	-35.6	45.0
267.5	-38.9	42.0
250.0	-42.6	
230.4	-46.9	
200.0	-54.9	
189.7	-57.6	
170.9	-60.0	
150.0	-65.4	
125.1	-70.0	
111.4	-72.2	
104.4	-71.6	
100.0	-73.5	
93.6	-73.5	
93.3	-69.6	
79.2	-66.2	
73.2	-59.2	
70.0	-58.9	
57.6	-58.9	
50.0	-57.7	
42.4	-53.9	

STATION ALTITUDE 4051.00 FEET MSL
29 JULY 83
ASCENSION NO. 103

SIGNIFICANT LEVEL DATA
2100030103
JALLEN

GEODLTIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 7 CONT

PRESSURE GEOMETRIC MILLIBARS MSL FEET	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT.
35.9 75042.2		-52.5

STATION ALTITUDE 4051.00 FEET MSL
 29 JULY 83
 ASCENSION NO. 103

UPPER AIR DATA
 2100030103
 JALLEN
 TABLE 8

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
4051.0	879.5	24.5	42.0	1023.6	674.0	10.0	1.9	1.000283
4500.0	863.9	25.2	31.0	1006.8	674.3	26.0	4.3	1.000267
5000.0	851.0	25.1	30.3	989.8	674.2	30.9	7.0	1.000262
5500.0	836.3	24.1	32.7	975.6	673.2	33.0	9.7	1.000260
6000.0	821.8	23.2	35.7	961.4	672.3	36.4	10.5	1.000258
6500.0	807.6	22.3	38.7	947.6	671.3	40.8	8.1	1.000256
7000.0	793.6	21.7	39.7	933.0	670.6	60.4	6.5	1.000253
7500.0	779.8	21.3	39.2	918.0	670.2	76.2	5.6	1.000248
8000.0	765.1	20.4	39.1	905.0	669.0	94.4	5.5	1.000243
8500.0	752.7	19.2	39.4	893.0	667.5	110.3	6.1	1.000238
9000.0	739.4	17.9	39.6	881.3	666.1	115.1	7.7	1.000233
9500.0	726.4	16.7	39.8	869.6	664.6	112.7	10.3	1.000228
10000.0	713.6	15.5	40.3	858.1	663.1	109.4	12.3	1.000223
10500.0	700.9	14.3	41.9	846.4	661.7	106.3	14.1	1.000220
11000.0	688.2	13.0	44.2	834.9	660.2	107.5	13.1	1.000217
11500.0	675.7	11.6	46.6	823.7	658.6	108.7	12.1	1.000213
12000.0	663.4	10.3	49.0	812.6	657.0	109.2	11.7	1.000210
12500.0	651.4	8.9	51.4	801.7	655.4	109.3	12.2	1.000207
13000.0	639.6	7.6	53.8	791.0	653.8	109.2	13.5	1.000203
13500.0	628.0	6.2	56.2	780.5	652.2	109.4	14.7	1.000200
14000.0	616.6	4.9	58.6	770.1	650.6	109.8	15.7	1.000197
14500.0	605.1	3.6	61.5	759.5	649.0	112.4	16.4	1.000193
15000.0	593.9	2.2	64.3	749.0	647.5	115.8	17.0	1.000190
15500.0	582.8	.9	67.2	738.7	645.9	117.9	16.5	1.000187
16000.0	571.9	-0.5	73.6	728.5	644.3	120.0	15.7	1.000184
16500.0	561.1	-1.9	85.6	718.4	642.6	116.8	13.6	1.000184
17000.0	550.5	-3.2	94.1	708.1	641.1	111.7	11.4	1.000181
17500.0	540.0	-4.0	94.5	696.8	640.1	103.4	8.2	1.000178
18000.0	529.6	-4.9	94.9	685.7	639.0	84.5	5.2	1.000174
18500.0	519.5	-5.7	95.3	674.6	638.0	75.7	3.2	1.000170
19000.0	509.6	-6.6	95.6	664.1	636.9	63.1	1.6	1.000167
19500.0	499.8	-7.4	95.9	653.6	635.9	106.3	3.3	1.000164
20000.0	490.1	-8.3	92.5	643.2	634.7	110.0	5.3	1.000160
20500.0	480.6	-9.2	89.1	633.0	633.5	116.7	6.8	1.000156
21000.0	471.2	-10.2	85.8	623.0	632.4	117.6	7.6	1.000152
21500.0	462.1	-11.2	84.0	613.3	631.1	119.1	6.9	1.000149
22000.0	453.0	-12.5	89.5	604.4	629.5	119.3	6.3	1.000146
22500.0	444.0	-13.9	94.9	595.6	627.8	117.2	5.8	1.000144
23000.0	435.2	-14.9	97.3	586.2	626.6	116.1	6.0	1.000141
23500.0	426.6	-15.7	97.8	576.4	625.5	116.1	6.6	1.000138

STATION ALTITUDE 451.00 F ET MSL
 29 JULY 83 0800 MDT
 ASCENSION NO. 103

UPPER AIR DATA
 2100030103
 JALLFN

GEODETTIC COORDINATES
 33.1,712 LAT DEG
 106.49511 LON DEG

TABLE 8 CONT'

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	SPEED OF WIND INFLATION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	410.1	-16.3	97.4	560.1	624.9	122.7	7.2	1.000136
24500.0	409.7	-16.8	83.1	556.2	624.1	126.9	8.2	1.000132
25000.0	401.5	-17.6	60.2	546.8	623.1	128.7	9.3	1.000127
25500.0	395.4	-18.5	51.6	537.9	621.8	129.7	10.1	1.000124
26000.0	383.5	-19.6	46.3	529.2	620.6	129.8	10.1	1.000121
26500.0	377.7	-20.6	41.7	520.7	619.3	131.4	10.3	1.000119
27000.0	369.9	-21.6	40.3	512.1	618.0	138.5	11.1	1.000117
27500.0	362.3	-22.7	38.9	503.7	616.7	143.5	12.0	1.000115
28000.0	354.9	-23.7	37.4	495.4	615.4	143.9	12.7	1.000112
28500.0	347.6	-24.7	36.0	487.3	614.1	143.3	13.0	1.000110
29000.0	340.4	-25.8	34.6	479.3	612.8	139.7	12.2	1.000108
29500.0	333.3	-26.8	34.5	471.3	611.5	137.0	11.7	1.000106
30000.0	326.3	-27.9	35.4	463.5	610.1	137.5	11.8	1.000105
30500.0	319.5	-29.0	36.3	455.8	608.7	136.7	11.9	1.000103
31000.0	312.8	-30.1	37.2	448.3	607.4	133.1	11.9	1.000101
31500.0	306.2	-31.2	38.1	440.6	606.0	129.3	11.9	1.000099
32000.0	299.7	-32.4	39.1	433.6	604.6	125.1	11.9	1.000098
32500.0	293.3	-33.9	41.9	427.0	602.6	122.7	11.9	1.000096
33000.0	287.0	-35.5	44.8	420.8	600.7	124.7	12.0	1.000095
33500.0	280.8	-36.6	44.1	413.4	599.3	127.4	12.2	1.000093
34000.0	274.7	-37.6	43.2	406.2	597.9	132.1	12.4	1.000091
34500.0	268.7	-38.7	42.2	399.2	596.6	136.0	12.6	1.000090
35000.0	262.8	-39.9	41.0**	392.4	595.0	138.5	12.5	1.000088
35500.0	257.0	-41.1	41.2**	385.8	593.5	143.3	12.3	1.000086
36000.0	251.3	-42.3	33.3**	379.3	591.9	152.6	12.3	1.000085
36500.0	245.7	-43.5		372.8	590.4	163.2	12.6	1.000083
37000.0	240.2	-44.7		366.3	588.8	174.7	13.3	1.000082
37500.0	234.8	-45.9		360.0	587.3	180.7	14.2	1.000080
38000.0	229.5	-47.1		353.8	585.7	182.2	14.8	1.000079
38500.0	224.2	-48.4		347.6	584.0	181.6	15.8	1.000077
39000.0	219.1	-49.7		341.6	582.3	179.6	17.1	1.000076
39500.0	214.0	-51.1		335.7	580.6	178.5	17.4	1.000075
40000.0	209.1	-52.4		330.0	578.8	177.8	16.9	1.000073
40500.0	204.3	-53.7		324.3	577.1	176.2	15.8	1.000072
41000.0	199.6	-55.0		318.7	575.4	173.7	14.2	1.000071
41500.0	194.9	-56.2		312.9	573.8	170.4	13.0	1.000070
42000.0	190.3	-57.5		307.3	572.2	168.5	12.1	1.000068
42500.0	185.7	-58.1		300.8	571.3	161.4	11.6	1.000067
43000.0	181.3	-58.6		294.4	570.6	155.4	11.3	1.000066
43500.0	177.0	-59.2		288.1	569.8	151.1	10.6	1.000064

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

STATION ALTITUDE 4051.00 FEET MSL
 29 JULY 83 0800 MDT
 ASCENSION NO. 103

UPPER AIR DATA
 2100030103
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 8 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		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
4400.0	172.7	-59.8		282.0	569.1	147.1	9.8	1.000063
4450.0	168.6	-60.6		276.2	568.0	148.6	9.5	1.000062
4500.0	164.5	-61.6		270.8	566.7	147.3	9.4	1.000060
4550.0	160.5	-62.6		265.5	565.3	155.5	9.3	1.000059
4600.0	156.6	-63.6		260.3	563.9	165.7	9.4	1.000058
4650.0	152.8	-64.6		255.2	562.5	190.6	12.4	1.000057
4700.0	149.0	-65.6		250.1	561.3	205.9	17.5	1.000056
4750.0	145.3	-66.2		244.6	560.4	207.2	19.4	1.000054
4800.0	141.7	-66.8		239.3	559.6	206.8	20.5	1.000053
4850.0	138.2	-67.5		234.1	558.7	198.4	18.5	1.000052
4900.0	134.7	-68.1		228.9	557.8	182.2	16.0	1.000051
4950.0	131.4	-68.8		223.9	557.0	175.1	15.9	1.000050
5000.0	128.1	-69.4		219.1	556.1	179.3	17.1	1.000049
5050.0	124.9	-70.0		214.3	555.2	162.7	18.1	1.000048
5100.0	121.8	-70.5		209.3	554.6	185.1	18.6	1.000047
5150.0	118.7	-71.0		204.5	553.9	185.6	18.7	1.000046
5200.0	115.7	-71.5		199.8	553.2	182.9	18.1	1.000045
5250.0	112.8	-72.0		195.3	552.6			1.000043
5300.0	109.9	-72.1		190.4	552.4			1.000042
5350.0	107.1	-71.8		185.4	552.8			1.000041
5400.0	104.4	-71.6		180.4	553.1			1.000040
5450.0	101.7	-72.7		176.9	551.5			1.000039
5500.0	99.1	-73.5		173.0	550.5			1.000039
5550.0	96.6	-73.5		168.6	550.5			1.000038
5600.0	94.1	-73.5		164.3	550.5			1.000037
5650.0	91.8	-69.3		156.8	556.2			1.000035
5700.0	89.5	-68.8		152.6	556.9			1.000034
5750.0	87.3	-68.3		148.4	557.6			1.000033
5800.0	85.1	-67.8		144.4	558.2			1.000032
5850.0	83.0	-67.3		140.5	558.9			1.000031
5900.0	80.9	-66.9		136.6	559.5			1.000030
5950.0	78.9	-66.4		132.9	560.2			1.000030
6000.0	77.0	-64.5		128.5	562.7			1.000029
6050.0	75.1	-61.9		123.9	566.2			1.000028
6100.0	73.3	-59.3		119.4	569.7			1.000027
6150.0	71.5	-59.0		116.4	570.0			1.000026
6200.0	69.8	-58.9		113.5	570.2			1.000025
6250.0	68.2	-58.9		110.8	570.2			1.000025
6300.0	66.5	-58.9		108.2	570.2			1.000024
6350.0	64.9	-58.9		105.6	570.2			1.000024

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

UPPER AIR DATA
 2100030103
 JALLEN

STATION ALTITUDE 4051.00 FEET MSL
 29 JULY 53
 ASCENSION NO. 103

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 8 CONT'

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
64000.0	63.4	-53.9	103.1	570.2				1.000023
64500.0	61.9	-58.9	100.6	570.2				1.000022
65000.0	60.4	-58.9	98.2	570.2				1.000022
65500.0	59.0	-58.9	95.9	570.2				1.000021
66000.0	57.6	-53.9	93.6	570.2				1.000021
66500.0	56.2	-58.7	91.3	570.5				1.000020
67000.0	54.9	-58.5	89.0	570.8				1.000020
67500.0	53.6	-58.3	86.8	571.1				1.000019
68000.0	52.3	-58.1	84.7	571.3				1.000019
68500.0	51.0	-57.9	82.6	571.6				1.000018
69000.0	49.8	-57.6	80.5	571.9				1.000018
69500.0	48.7	-57.1	78.5	572.7				1.000017
70000.0	47.5	-56.5	76.4	573.4				1.000017
70500.0	46.4	-56.0	74.4	574.1		96.1	24.2	1.000017
71000.0	45.3	-55.4	72.5	574.8		95.3	25.1	1.000016
71500.0	44.2	-54.9	70.6	575.6		94.5	26.0	1.000016
72000.0	43.2	-54.3	68.8	576.3		93.9	27.2	1.000015
72500.0	42.2	-53.9	67.0	576.9		93.4	28.4	1.000015
73000.0	41.2	-53.7	65.4	577.2		92.1	28.9	1.000015
73500.0	40.3	-53.5	63.8	577.4		88.6	27.5	1.000014
74000.0	39.3	-53.3	62.3	577.7		84.7	26.3	1.000014
74500.0	38.4	-53.1	60.8	577.9				1.000014
75000.0	37.5	-52.9	59.3	578.2				1.000013
75500.0	36.7	-52.7	57.9	578.5				1.000013

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

STATION ALTITUDE 4051.00 FEET MSL
 29 JULY 83
 ASCENSION NO. 103 0800 MDT

MANDATORY LEVELS
 2100030103
 JALLEN
 TABLE 9

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5031.	25.0	6.2	30.	31.1	7.1	
800.0	6766.	21.9	7.7	40.	54.0	7.0	
750.0	8598.	18.9	4.8	39.	113.1	6.2	
700.0	10526.	14.2	1.5	42.	106.3	14.1	
650.0	12561.	8.8	-6	52.	109.3	12.4	
600.0	14713.	3.0	-3.4	63.	113.9	16.7	
550.0	17003.	-3.2	-4.0	94.	111.5	11.3	
500.0	19463.	-7.4	-7.9	96.	105.6	3.2	
450.0	22134.	-13.0	-14.1	91.	110.7	0.1	
400.0	25052.	-17.7	-24.3	56.	129.0	9.5	
350.0	28289.	-24.4	-35.0	36.	144.1	13.1	
300.0	31916.	-32.3	-41.5	39.	125.4	11.9	
250.0	36042.	-42.6			154.5	12.3	
200.0	40856.	-54.9			174.0	14.4	
175.0	43622.	-59.5			149.5	10.2	
150.0	46746.	-65.4			202.4	15.9	
125.0	50346.	-70.0			182.5	10.0	
100.0	54667.	-73.5			9999.0XX	9999.0XX	
80.0	59029.	-66.6			9999.0	9999.0XX	
70.0	61737.	-58.9			9999.0	9999.0XX	
60.0	64911.	-58.9			9999.0	9999.0XX	
50.0	68673.	-57.7			9999.0	9999.0XX	
40.0	73345.	-53.4			87.8	27.3	

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

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

STATION ALTITUDE 3912.75 FEET MSL
 29 JULY 83
 ASCENSION NO. 4, 0915 MDT

SIGNIFICANT LEVEL DATA
 2100290042
 EAST-28/CHERRY

GEODLTIC COORDINATES
 32.89927 LAT DEG
 136.40591 LON DEG

TABLE 10

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
485.0	26.8	34.0
881.0	27.4	27.0
850.0	24.5	40.0
812.4	22.5	42.0
802.8	22.0	42.0
765.2	19.8	42.0
700.0	14.2	45.0
643.2	8.5	52.0
569.4	-0.8	88.0
517.2	-5.7	91.0
500.0	-7.0	96.0
472.3	-9.7	97.0
432.6	-14.4	87.0
413.3	-15.0	29.0
400.0	-16.2	38.0
384.2	-18.1	43.0
361.1	-21.2	25.0
327.8	-26.7	32.0
300.0	-31.6	43.0
264.4	-39.0	40.0
250.0	-42.4	
210.9	-51.5	
209.7	-51.2	
200.0	-53.4	
184.9	-55.6	
156.1	-63.2	
150.0	-64.7	
133.5	-68.3	
129.1	-68.5	
116.7	-70.5	
112.9	-70.5	
108.7	-69.8	
100.0	-70.9	
95.3	-71.7	
91.5	-68.7	
82.3	-68.7	
75.3	-62.0	
70.0	-59.9	
55.5	-60.3	
50.0	-57.9	

STATION ALTITUDE 3912.75 FEET MSL
29 JULY 83
ASCENSION NO. 42

SIGNIFICANT LEVEL DATA
2100290042
EAST-28/CHERRY

GEODETTIC COORDINATES
32.89927 LAT DEG
136.40591 LON DEG

TABLE 10 CON'T

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
47.3 73655.9	-52.5	

STATION ALTITUDE 3912.75 FEET MSL
 29 JULY 83
 ASCENSION NO. 42

UPPER AIR DATA
 2100290042
 EAST-28/CHERRY

GEODETTIC COORDINATES
 32.89927 LAT DEG
 136.40591 LONG DEG

TABLE 11

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KIOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KIOTS	
3912.7	885.0	26.8	34.0	1022.6	676.4	340.0	2.9	1.000278
4000.0	882.3	27.2	29.4	1018.6	676.7	342.0	2.8	1.000272
4500.0	867.2	28.1	32.7	1004.6	675.6	356.2	2.4	1.000271
5000.0	852.3	24.7	39.0	991.4	674.2	14.4	2.2	1.000273
5500.0	837.6	23.9	40.6	977.2	673.2	34.0	2.3	1.000269
6000.0	823.2	23.1	41.4	962.8	672.3	55.5	2.2	1.000265
6500.0	808.9	22.3	42.0	948.7	671.4	78.3	2.4	1.000261
7000.0	794.9	21.5	42.0	934.8	670.5	99.6	3.1	1.000256
7500.0	781.0	20.7	42.0	921.2	669.5	111.9	3.8	1.000250
8000.0	767.4	19.9	42.0	907.7	668.6	120.8	4.3	1.000245
8500.0	753.9	18.9	42.5	895.2	667.3	124.9	4.9	1.000241
9000.0	740.5	17.7	43.1	882.9	665.9	127.0	5.5	1.000236
9500.0	727.5	16.6	43.7	870.8	664.6	115.3	6.6	1.000231
10000.0	714.6	15.5	44.3	858.9	663.3	106.0	8.0	1.000227
10500.0	702.0	14.4	44.9	847.1	661.9	99.2	9.7	1.000223
11000.0	689.4	13.2	46.3	835.5	660.5	96.0	11.1	1.000219
11500.0	676.9	11.9	47.8	824.1	659.0	95.4	11.8	1.000215
12000.0	664.7	10.7	49.3	812.8	657.6	96.2	12.5	1.000211
12500.0	652.7	9.5	50.8	801.7	656.1	97.5	13.3	1.000207
13000.0	640.4	8.2	53.1	790.8	654.6	99.2	14.1	1.000204
13500.0	629.0	6.8	58.6	780.0	653.0	100.9	14.9	1.000202
14000.0	617.4	5.4	64.1	769.5	651.3	102.8	15.3	1.000200
14500.0	606.0	4.0	69.6	759.1	649.7	104.5	15.5	1.000197
15000.0	594.8	2.5	75.1	749.0	648.0	106.2	15.0	1.000194
15500.0	583.7	1.1	80.7	738.9	646.3	108.8	14.7	1.000192
16000.0	572.9	-0.3	86.2	729.1	644.6	112.4	14.4	1.000189
16500.0	562.1	-1.5	88.4	718.4	643.2	112.8	14.0	1.000185
17000.0	551.5	-2.4	89.0	707.4	642.0	111.4	13.4	1.000181
17500.0	541.0	-3.4	89.6	696.6	640.8	105.9	12.6	1.000177
18000.0	530.7	-4.4	90.2	685.9	639.6	99.3	11.8	1.000174
18500.0	520.6	-5.4	90.8	675.5	638.4	91.5	10.8	1.000170
19000.0	510.7	-6.2	92.9	664.6	637.4	83.5	10.0	1.000167
19500.0	500.9	-6.9	95.7	653.7	636.5	82.1	9.1	1.000164
20000.0	491.2	-7.8	96.3	643.3	635.4	84.0	8.5	1.000161
20500.0	481.7	-8.8	96.7	633.1	634.2	93.5	8.4	1.000158
21000.0	472.3	-9.7	97.0	623.1	633.1	97.5	8.5	1.000154
21500.0	463.0	-10.8	94.7	613.5	631.7	96.9	8.6	1.000151
22000.0	454.0	-11.8	92.5	604.0	630.4	97.7	8.5	1.000147
22500.0	445.0	-12.9	90.2	594.6	629.0	94.3	8.3	1.000144
23000.0	436.3	-13.9	88.0	585.4	627.7	118.5	8.6	1.000141

UPPER AIR DATA
2100290042
EAST-200/CHERRY

STATION ALTITUDE 3912.75 FEET MSL
29 JULY 83 0915 MDT
ASCENSION ISL. 42

GEODETIC COORDINATES
32.89927 LAT DEG
136.40591 LONG DEG

TABLE II CONT'

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GN/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT DEGREE				DIRECTION ULGDEES(TN)	SPEED KNOTS	
23500.0	427.7	-14.6	-18.4	72.4	575.4	626.9	134.7	10.1	1.000136
24000.0	419.2	-14.8	-23.0	47.0	564.8	626.4	145.9	12.9	1.000131
24500.0	410.8	-15.2	-28.6	30.6	554.0	625.8	150.3	15.0	1.000127
25000.0	402.7	-16.0	-27.5	36.2	545.1	625.0	149.1	15.5	1.000125
25500.0	394.6	-16.8	-27.5	39.7	536.0	623.9	148.2	15.4	1.000123
26000.0	386.7	-17.8	-27.5	42.2	527.2	622.7	147.5	14.6	1.000121
26500.0	378.9	-18.8	-29.3	39.0	518.6	621.5	144.6	13.8	1.000119
27000.0	371.2	-19.8	-31.9	33.0	510.3	620.2	139.7	13.1	1.000116
27500.0	363.7	-20.8	-34.8	27.1	502.0	618.9	136.0	13.1	1.000114
28000.0	356.3	-22.0	-36.2	26.0	493.9	617.5	133.0	13.4	1.000112
28500.0	348.9	-23.2	-36.7	27.5	486.1	616.1	133.5	13.6	1.000110
29000.0	341.7	-24.5	-37.2	29.0	478.3	614.6	133.8	13.7	1.000108
29500.0	334.7	-25.5	-37.8	30.5	470.7	613.1	129.1	13.6	1.000106
30000.0	327.8	-26.7	-38.3	32.0	463.2	611.7	124.8	13.6	1.000105
30500.0	320.9	-27.9	-38.0	34.6	455.7	610.2	122.1	13.5	1.000103
31000.0	314.2	-29.0	-39.0	37.3	448.3	608.7	119.9	13.5	1.000101
31500.0	307.6	-30.2	-39.4	39.9	441.0	607.3	119.3	13.5	1.000099
32000.0	301.1	-31.4	-39.9	42.5	433.8	605.8	118.9	13.7	1.000098
32500.0	294.6	-32.7	-41.0	42.6	426.7	604.2	119.0	14.8	1.000096
33000.0	288.3	-33.9	-42.3	42.1	419.7	602.6	120.3	15.7	1.000094
33500.0	282.1	-35.2	-43.6	41.5	412.9	601.0	119.5	15.7	1.000093
34000.0	276.0	-36.5	-44.9	41.0	406.2	599.4	119.0	15.5	1.000091
34500.0	270.0	-37.8	-46.2	40.5	399.6	597.7	119.2	13.8	1.000090
35000.0	264.2	-39.0	-47.6	39.5**	393.1	596.1	119.7	12.1	1.000088
35500.0	258.4	-40.4	-53.2	23.6**	386.7	594.4	122.1	10.9	1.000086
36000.0	252.7	-41.7	-63.1	7.7**	380.4	592.6	125.1	9.7	1.000085
36500.0	247.0	-43.0			374.0	591.0	128.6	10.1	1.000083
37000.0	241.4	-44.3			367.5	589.4	131.8	10.6	1.000082
37500.0	235.0	-45.5			361.1	587.8	133.0	12.1	1.000080
38000.0	230.6	-46.7			354.8	586.2	133.9	13.7	1.000079
38500.0	225.4	-47.9			348.7	584.6	136.1	15.3	1.000078
39000.0	220.3	-49.2			342.6	583.0	138.2	16.7	1.000076
39500.0	215.3	-50.4			336.7	581.5	140.1	17.8	1.000075
40000.0	210.4	-51.4			330.6	580.1	142.2	17.6	1.000074
40500.0	205.6	-52.0			323.8	579.4	144.3	17.5	1.000072
41000.0	200.8	-53.2			318.0	577.8	146.5	16.3	1.000071
41500.0	196.1	-54.0			311.7	576.8	149.0	15.0	1.000069
42000.0	191.5	-54.6			305.3	575.9	151.4	14.5	1.000068
2500.0	187.0	-55.3			299.0	575.0	153.7	14.4	1.000067
43000.0	182.6	-56.2			293.2	573.9	156.4	14.3	1.000065

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

STATION ALTITUDE 3412.75 FEET MSL
 29 JULY 83 0915 MDT
 ASCENSION NO. 42

UPPER AIR DATA
 2100290042
 EAST-26/CHEMRY

GEODETIC COORDINATES
 32.89927 LAT DEG
 136.40591 LON DEG

TABLE 11 CONT'D

GEOGRAPHIC 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(TI)	SPEED KNOTS	
43500.0	170.2	-57.2			277.0	572.4	159.2	14.4	1.000064
44000.0	174.0	-58.3			282.1	571.0	163.1	14.2	1.000063
44500.0	169.8	-59.4			276.8	569.5	167.8	13.8	1.000062
45000.0	165.7	-60.5			271.5	568.1	172.4	13.3	1.000060
45500.0	161.8	-61.6			266.4	566.6	177.1	12.7	1.000059
46000.0	157.9	-62.7			261.4	565.2	182.4	12.7	1.000058
46500.0	154.1	-63.7			256.3	563.8	187.6	13.1	1.000057
47000.0	150.3	-64.6			251.1	562.6	192.1	13.7	1.000056
47500.0	146.6	-65.4			245.8	561.5	195.8	14.5	1.000055
48000.0	143.0	-66.2			240.6	560.5	198.1	15.0	1.000054
48500.0	139.4	-67.0			235.6	559.4	198.1	15.0	1.000052
49000.0	136.0	-67.7			230.6	558.4	197.4	15.0	1.000051
49500.0	132.6	-68.3			225.6	557.5	192.5	15.1	1.000050
50000.0	129.3	-68.5			220.1	557.3	187.6	15.4	1.000049
50500.0	126.1	-69.0			215.1	556.7	181.6	16.9	1.000048
51000.0	122.9	-69.5			210.2	556.0	176.7	18.6	1.000047
51500.0	119.6	-70.0			205.4	555.3	172.0	20.3	1.000046
52000.0	116.8	-70.5			200.8	554.6	168.3	21.8	1.000045
52500.0	113.9	-70.5			195.7	554.6	167.1	21.6	1.000044
53000.0	111.0	-70.2			190.5	555.0	166.1	21.2	1.000042
53500.0	108.2	-69.9			185.4	555.5	167.6	18.4	1.000041
54000.0	105.5	-70.2			181.0	555.0	169.5	15.6	1.000040
54500.0	102.8	-70.5			176.8	554.5	163.8	12.0	1.000039
55000.0	100.2	-70.9			172.6	554.1	153.2	8.5	1.000038
55500.0	97.7	-71.3			168.6	553.5	126.5	8.8	1.000038
56000.0	95.2	-71.6			164.6	553.0	105.8	10.9	1.000037
56500.0	92.8	-69.8			159.0	555.6	95.7	13.9	1.000035
57000.0	90.5	-68.7			154.2	557.0	89.7	17.3	1.000034
57500.0	88.2	-68.7			150.3	557.0	88.9	19.6	1.000033
58000.0	86.0	-68.7			146.6	557.0	89.2	21.5	1.000033
58500.0	83.9	-68.7			142.9	557.0	95.3	22.3	1.000032
59000.0	81.8	-68.2			139.1	557.7	104.2	23.0	1.000031
59500.0	79.8	-66.4			134.4	560.2	114.1	23.0	1.000030
60000.0	77.8	-64.5			129.9	562.8	125.8	22.8	1.000029
60500.0	75.9	-62.6			125.0	565.3	133.8	21.8	1.000028
61000.0	74.1	-61.5			121.9	566.7	136.7	18.0	1.000027
61500.0	72.3	-60.8			118.6	567.7	138.5	14.6	1.000026
62000.0	70.5	-60.1			115.4	568.6	130.1	12.3	1.000026
62500.0	68.9	-59.9			112.5	568.9	118.4	10.4	1.000025
63000.0	67.2	-60.0			109.8	568.8	110.6	11.2	1.000024

STATION ALTITUDE 3,912.75 FEET MSL
 29 JULY 83 0915 MDT
 ASCENSION NO. 42

UPPER AIR DATA
 2100290042
 EAST-28/CHERRY
 TABLE 11 CONT

GEODETTIC COORDINATES
 32.89927 LAT DEG
 136.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INFLX OF REFRACTION
						DIRECTION DEGREES(TW)	SPEED KNOTS	
63500.0	63.0	-60.0		107.2	568.0	104.0	12.2	1.000024
64000.0	64.0	-60.1		104.7	568.7	96.1	13.5	1.000023
64500.0	62.5	-60.1		102.2	568.6	89.3	15.1	1.000023
65000.0	61.0	-60.1		99.7	568.6	89.1	17.3	1.000022
65500.0	59.5	-60.2		97.4	568.5	91.2	19.9	1.000022
66000.0	58.1	-60.2		95.1	568.5	92.6	21.4	1.000021
66500.0	56.7	-60.3		92.8	568.4	93.6	21.8	1.000021
67000.0	55.0	-60.2		90.6	568.5	94.1	22.0	1.000020
67500.0	54.0	-59.7		88.2	569.2	92.7	21.6	1.000020
68000.0	52.7	-59.1		85.8	569.9	91.2	21.2	1.000019
68500.0	51.5	-58.6		83.6	570.7	90.5	21.8	1.000019
69000.0	50.5	-58.0		81.4	571.4	89.8	22.5	1.000018
69500.0	49.1	-57.4		79.3	572.2	90.7	23.4	1.000018
70000.0	47.9	-56.8		77.2	573.0	92.2	24.4	1.000017
70500.0	46.8	-56.2		75.2	573.8	93.6	25.6	1.000017
71000.0	45.7	-55.7		73.2	574.5	94.8	27.1	1.000016
71500.0	44.6	-55.1		71.3	575.3	95.8	28.7	1.000016
72000.0	43.6	-54.5		69.4	576.1			1.000015
72500.0	42.6	-53.9		67.6	576.9			1.000015
73000.0	41.6	-53.3		65.9	577.7			1.000015
73500.0	40.6	-52.7		64.2	578.4			1.000014

STATION ALTITUDE 1912.75 F. LT MSL
 29 JULY 83 0915 EDT
 ASCENSION NO. 42

MANDATORY LEVELS
 2100290042
 EAST-20/CHERRY

GEODETIC COORDINATES
 32.89927 LAT DEG
 136.40591 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5076.	24.5	10.0	40.	17.5	2.2
800.0	4812.	21.8	8.4	42.	93.0	2.8
750.0	8641.	18.5	5.6	43.	125.6	5.1
700.0	10569.	14.2	2.5	45.	98.4	10.0
650.0	12605.	9.2	-4	51.	97.8	13.5
600.0	14761.	3.2	-1.3	73.	105.4	15.2
550.0	17053.	-2.6	-4.1	89.	110.9	13.3
500.0	19517.	-7.0	-7.5	96.	82.0	9.1
450.0	22192.	-12.3	-13.4	91.	98.3	8.4
400.0	25123.	-16.2	-27.2	38.	148.8	15.7
350.0	28380.	-23.0	-36.6	27.	133.4	13.5
300.0	32022.	-31.6	-40.0	43.	119.1	13.8
250.0	36161.	-42.4			126.7	9.9
200.0	40985.	-53.4			146.8	16.1
175.0	43779.	-58.1			162.0	14.3
150.0	46914.	-64.7			192.3	13.7
125.0	50522.	-69.1			180.1	17.4
100.0	54874.	-70.9			152.7	8.4
80.0	59243.	-66.6			112.1	23.1
70.0	61947.	-59.9			127.4	11.7
60.0	65104.	-60.2			90.5	14.9
50.0	68846.	-57.9			89.7	22.6

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

STATION ALTITUDE 4051.00 FEET MSL
 29 JULY 83
 ASCENSION NO. 194

SIGNIFICANT LEVEL DATA
 2100030104
 JALLEN

GEODLTIC COORDINATES
 33.10712 LAT DEG
 100.49511 LON DEG

TABLE 13

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
880.3	4051.0	31.8	12.6	31.0
869.4	4416.6	28.5	10.2	32.0
850.0	5072.7	26.5	9.4	34.0
775.1	7717.2	20.1	8.1	46.0
752.0	8573.4	18.8	6.9	46.0
700.0	10581.0	14.6	2.2	43.0
626.3	13628.9	6.3	-1.1	59.0
607.6	14444.3	4.3	-1.1	60.0
583.6	15519.4	1.6	-1.3	81.0
535.3	17790.1	-3.8	-4.3	96.0
504.5	19324.8	-6.3	-6.8	96.0
500.0	19555.0	-7.8	-8.2	97.0
484.5	20360.3	-8.8	-10.3	89.0
467.4	21275.3	-9.8	-14.6	68.0
446.4	22438.1	-12.2	-16.5	70.0
433.2	23191.4	-13.9	-16.4	81.0
423.1	23781.0	-14.3	-19.6	64.0
411.6	24467.6	-15.3	-29.3	29.0
400.0	25170.7	-16.5	-28.0	36.0
382.8	26262.0	-17.7	-27.7	41.0
360.1	27757.0	-21.4	-35.3	27.0
334.1	29561.1	-25.6	-39.7	25.0
327.1	30064.8	-27.4	-35.0	48.0
316.3	30958.5	-28.7	-39.8	33.0
300.0	32093.3	-31.5	-39.9	43.0
276.8	33954.1	-36.9	-44.8	43.0
263.5	35071.1	-39.1	-40.9	43.0
250.0	36249.8	-42.6		
239.4	37210.8	-43.9		
200.0	41100.5	-53.4		
150.0	47040.2	-65.2		
118.8	51668.5	-70.7		
107.6	53607.9	-70.2		
100.0	55033.0	-71.8		
91.4	56000.5	-67.8		
77.0	60235.0	-64.8		
70.0	62100.3	-59.4		
64.8	63770.2	-61.0		
50.0	69131.3	-57.9		
45.4	71158.8	-54.3		

STATION ALTITUDE 4951.00 FEET MSL
29 JULY 83
ASCENDING NO. 104

SIGNIFICANT LEVEL DATA
2100030104
JALLEN

GEODELTIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 13 CONT

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
35.7 76281.0		-51.8

UPPER AIR DATA
2100050104
JALLEN

STATION ALTITUDE 4051.00 FEET MSL
29 JULY 83 1045 MDT
ASCENSION IS. 104

6 FODL TIC COORDINATES
53.16712 LAT DEG
106.49511 LONG DEG

TABLE 14

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.0	800.5	31.8	31.0	999.5	682.5	40.0	7.0	1.000242
4500.0	860.9	28.2	32.3	996.6	678.2	44.4	7.5	1.000274
5000.0	852.1	26.7	33.8	984.7	676.4	48.7	8.0	1.000269
5500.0	837.4	25.5	35.9	971.8	675.0	52.3	8.6	1.000266
6000.0	822.9	24.3	38.2	958.8	673.6	55.5	9.3	1.000263
6500.0	808.7	23.0	40.5	946.1	672.3	62.3	9.1	1.000260
7000.0	794.7	21.8	42.7	933.5	670.9	76.6	8.2	1.000257
7500.0	781.6	20.6	45.0	921.2	669.5	92.6	7.9	1.000253
8000.0	767.4	19.7	46.0	908.2	668.4	104.8	8.1	1.000249
8500.0	754.0	18.9	46.0	894.8	667.5	115.9	8.6	1.000244
9000.0	740.6	17.9	45.4	882.2	666.2	114.7	9.6	1.000238
9500.0	727.5	16.9	44.6	870.0	664.9	113.2	10.7	1.000233
10000.0	714.7	15.8	43.9	858.0	663.6	107.8	12.3	1.000227
10500.0	702.0	14.8	43.1	846.1	662.3	103.6	14.0	1.000222
11000.0	689.4	13.5	45.2	834.7	660.8	102.2	15.5	1.000218
11500.0	676.9	12.1	47.8	823.6	659.2	101.5	16.9	1.000215
12000.0	664.7	10.7	50.4	812.6	657.6	103.6	17.3	1.000212
12500.0	652.6	9.4	53.1	801.8	656.0	106.0	17.5	1.000208
13000.0	640.8	8.0	55.7	791.2	654.4	110.6	17.0	1.000205
13500.0	629.3	6.7	58.3	780.8	652.8	115.3	16.7	1.000202
14000.0	617.7	5.4	63.1	769.9	651.3	117.9	16.7	1.000199
14500.0	606.3	4.2	68.7	759.0	649.9	119.5	16.7	1.000197
15000.0	595.1	2.9	74.7	748.3	648.4	118.3	16.2	1.000195
15500.0	584.0	1.6	80.8	737.7	647.0	116.7	15.5	1.000192
16000.0	573.0	.5	84.2	727.0	645.5	114.2	14.7	1.000189
16500.0	562.2	-.7	87.5	716.5	644.1	109.6	14.0	1.000186
17000.0	551.6	-1.9	90.8	706.2	642.7	102.3	13.5	1.000182
17500.0	541.2	-3.1	94.1	696.0	641.2	95.7	13.5	1.000179
18000.0	531.0	-4.1	96.0	685.5	640.0	90.3	14.0	1.000175
18500.0	520.8	-5.0	96.0	674.5	638.9	85.6	13.9	1.000172
19000.0	510.9	-5.8	96.0	663.7	637.9	80.9	13.4	1.000168
19500.0	501.1	-7.4	96.8	655.3	635.8	78.3	12.2	1.000164
20000.0	491.4	-8.4	92.6	644.9	634.7	76.5	10.6	1.000160
20500.0	481.8	-9.0	85.8	634.0	633.9	79.2	9.3	1.000156
21000.0	472.5	-9.5	74.3	623.2	633.1	65.4	8.2	1.000151
21500.0	463.3	-10.3	68.4	612.9	632.1	88.8	7.4	1.000147
22000.0	454.2	-11.3	69.2	603.4	630.9	90.8	6.7	1.000144
22500.0	445.3	-12.3	70.9	593.9	629.6	107.1	5.8	1.000142
23000.0	436.5	-13.5	78.2	584.7	628.3	132.5	5.9	1.000140
23500.0	427.9	-14.1	72.1	574.7	627.4	156.7	7.6	1.000136

STATION ALTITUDE 4151.00 FEET MSL
 29 JULY 83 1045 MDT
 ASCENSION NO. 104

UPPER AIR DATA
 2100030104
 JALLEN
 TABLE 14 CONT

GEODETTIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMP DEWPOINT CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TR)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	413.4	-14.0	-22.1	52.8	564.6	626.7	171.0	10.5	1.000132
24500.0	411.1	-15.4	-20.2	29.3	555.2	625.7	170.5	12.2	1.000127
25000.0	402.9	-16.2	-23.3	34.3	545.9	624.7	164.7	13.0	1.000125
25500.0	394.8	-16.9	-27.9	37.5	536.3	623.9	150.8	12.9	1.000123
26000.0	386.4	-17.4	-27.8	39.8	526.7	623.2	145.5	12.1	1.000121
26500.0	379.1	-18.3	-28.8	38.8	517.9	622.1	137.3	12.0	1.000119
27000.0	371.4	-19.5	-31.3	34.1	509.9	620.6	135.2	12.2	1.000116
27500.0	363.9	-20.8	-33.9	29.4	502.1	619.0	134.0	12.6	1.000114
28000.0	356.5	-22.0	-35.9	26.7	494.3	617.5	133.4	13.4	1.000112
28500.0	349.2	-23.1	-37.1	26.2	486.4	616.1	135.9	14.2	1.000110
29000.0	342.0	-24.3	-38.4	25.6	478.6	614.6	132.8	15.0	1.000108
29500.0	334.9	-25.5	-38.0	25.1	471.0	613.2	129.6	15.7	1.000106
30000.0	328.0	-27.2	-35.4	45.0	464.4	611.1	124.9	16.6	1.000105
30500.0	321.1	-28.1	-37.5	39.8	456.4	609.9	122.1	17.4	1.000103
31000.0	314.4	-29.0	-39.0	34.1	448.5	608.8	122.9	18.3	1.000101
31500.0	307.8	-30.1	-39.8	38.2	441.1	607.4	123.6	18.8	1.000099
32000.0	301.3	-31.3	-39.8	42.2	433.8	606.0	124.4	18.6	1.000098
32500.0	294.8	-32.7	-40.9	43.0	427.0	604.2	124.4	18.1	1.000096
33000.0	288.5	-34.1	-42.3	43.0	420.4	602.4	123.1	17.0	1.000095
33500.0	282.3	-35.6	-43.6	43.0	413.9	600.5	122.0	16.5	1.000093
34000.0	276.2	-37.0	-44.9	43.0	407.4	598.7	121.7	16.9	1.000091
34500.0	270.2	-38.0	-45.8	43.0	400.2	597.5	121.3	17.5	1.000090
35000.0	264.3	-39.0	-46.7	43.0	393.1	596.2	120.9	18.2	1.000088
35500.0	258.5	-40.4	-51.9	27.4**	386.8	594.4	121.6	18.7	1.000087
36000.0	252.8	-41.9	-61.9	9.1**	380.8	592.5	124.2	19.0	1.000085
36500.0	247.2	-42.9			374.1	591.1	127.5	19.4	1.000083
37000.0	241.7	-43.6			366.8	590.2	131.9	20.1	1.000082
37500.0	236.2	-44.0			360.1	589.0	135.9	20.7	1.000080
38000.0	230.8	-45.8			353.7	587.4	139.5	21.2	1.000079
38500.0	225.6	-47.0			347.5	585.8	142.3	21.1	1.000077
39000.0	220.4	-48.3			341.4	584.2	144.6	20.2	1.000076
39500.0	215.4	-49.5			335.5	582.6	146.0	19.8	1.000075
40000.0	210.5	-50.7			329.6	581.0	146.1	19.9	1.000073
40500.0	205.7	-51.9			323.9	579.5	147.5	19.7	1.000072
41000.0	201.0	-53.1			318.2	577.9	150.3	19.2	1.000071
41500.0	196.2	-54.2			312.2	576.5	153.2	18.5	1.000070
42000.0	191.5	-55.2			306.1	575.2	156.1	17.5	1.000068
42500.0	186.9	-56.2			300.1	573.9	156.9	16.8	1.000067
43000.0	182.5	-57.2			294.3	572.5	161.2	16.8	1.000066
43500.0	178.1	-58.2			288.6	571.2	164.7	16.7	1.000064

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

STATION ALTITUDE 4051.00 F ET MSL
 29 JULY 83
 WASHINGTON NO. 144

UPPER AIR DATA
 2100030104
 JALLFN

GEOMETRIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 14 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
44000.0	173.8	-59.1			283.0	569.9	170.0	16.8	1.000063
44500.0	169.7	-60.1			277.5	568.6	173.0	17.2	1.000062
45000.0	165.6	-61.1			272.1	567.3	171.4	18.0	1.000061
45500.0	161.7	-62.1			266.9	565.9	173.1	17.7	1.000059
46000.0	157.8	-63.1			261.7	564.6	184.1	14.7	1.000058
46500.0	154.0	-64.1			256.7	563.3	207.6	13.1	1.000057
47000.0	150.3	-65.1			251.7	561.9	221.5	13.1	1.000056
47500.0	146.6	-65.7			246.2	561.1	234.6	13.9	1.000055
48000.0	143.0	-66.3			240.8	560.3	212.5	13.4	1.000054
48500.0	139.4	-66.9			235.5	559.5	191.1	14.9	1.000052
49000.0	135.9	-67.5			230.3	558.6	183.6	16.4	1.000051
49500.0	132.5	-68.1			225.2	557.8	178.3	17.8	1.000050
50000.0	129.2	-68.7			220.2	557.0	173.2	19.9	1.000049
50500.0	126.0	-69.3			215.4	556.2	169.0	22.3	1.000048
51000.0	122.9	-69.9			210.6	555.4	165.9	24.5	1.000047
51500.0	119.8	-70.5			206.0	554.6	163.7	26.4	1.000046
52000.0	116.8	-70.6			200.9	554.4	164.2	25.9	1.000045
52500.0	113.9	-70.5			195.7	554.6	171.2	21.0	1.000044
53000.0	111.0	-70.4			190.7	554.8	181.2	16.7	1.000042
53500.0	108.2	-70.2			185.7	555.0	181.9	12.6	1.000041
54000.0	105.5	-70.6			181.4	554.4	183.2	8.5	1.000040
54500.0	102.8	-71.2			177.3	553.6	156.0	6.5	1.000039
55000.0	100.2	-71.8			173.3	552.9	120.0	7.5	1.000039
55500.0	97.7	-70.8			168.1	554.2	99.5	10.0	1.000037
56000.0	95.2	-69.6			163.0	555.8	88.3	12.7	1.000036
56500.0	92.8	-68.5			158.0	557.3	87.0	16.4	1.000035
57000.0	90.5	-67.6			153.4	558.5	96.3	22.3	1.000034
57500.0	88.3	-67.2			149.3	559.1	101.7	28.5	1.000033
58000.0	86.1	-66.8			145.3	559.7	110.9	30.5	1.000032
58500.0	84.0	-66.3			141.4	560.3	118.9	33.1	1.000032
59000.0	81.9	-65.9			137.7	560.9	123.4	30.8	1.000031
59500.0	79.9	-65.4			134.0	561.5	127.5	26.1	1.000030
60000.0	77.9	-65.0			130.4	562.1	130.1	21.2	1.000029
60500.0	76.0	-64.1			126.6	563.3	123.0	15.9	1.000028
61000.0	74.2	-62.7			122.8	565.2	109.1	10.9	1.000027
61500.0	72.4	-61.3			119.0	567.1	100.6	10.9	1.000026
62000.0	70.6	-59.9			115.4	568.9	94.8	11.7	1.000026
62500.0	68.9	-59.7			112.5	569.1	93.5	13.6	1.000025
63000.0	67.3	-60.2			110.1	568.5	90.3	17.2	1.000025
63500.0	65.7	-60.7			107.7	567.8	90.1	20.7	1.000024

STATION ALTITUDE 4551.00 F LT MSL
 29 JULY 83 1045 MDY
 ASCENSION NO. 104

UPPER AIR DATA
 2100030104
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 14 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
04000.0	64.1	-60.9			105.2	567.6	97.2	21.6	1.000023
04500.0	62.6	-60.6			102.5	568.0	90.3	22.4	1.000023
05000.0	61.1	-60.3			99.9	568.4	92.4	22.9	1.000022
05500.0	59.6	-60.0			97.4	568.8	85.4	23.4	1.000022
60000.0	58.2	-59.7			95.0	569.2	78.9	24.2	1.000021
06500.0	56.8	-59.4			92.6	569.5	81.2	24.4	1.000021
67000.0	55.4	-59.1			90.2	569.9	83.6	24.6	1.000020
07500.0	54.1	-58.8			87.9	570.3	91.0	24.9	1.000020
08000.0	52.8	-58.6			85.7	570.7	102.0	26.2	1.000019
68500.0	51.6	-58.3			83.6	571.1	111.3	28.3	1.000019
69000.0	50.3	-58.0			81.5	571.5	108.5	28.5	1.000018
69500.0	49.1	-57.2			79.3	572.4	105.8	28.7	1.000018
70000.0	48.0	-56.4			77.1	573.6	100.9	29.4	1.000017
70500.0	46.8	-55.5			75.0	574.8	94.2	31.0	1.000017
71000.0	45.7	-54.6			72.9	576.0	88.2	33.0	1.000016
71500.0	44.7	-54.1			71.1	576.5	87.1	34.8	1.000016
72000.0	43.6	-53.9			69.3	576.9	80.5	36.6	1.000015
72500.0	42.6	-53.6			67.7	577.2	87.2	38.1	1.000015
73000.0	41.6	-53.4			66.0	577.5	90.5	39.3	1.000015
73500.0	40.7	-53.2			64.4	577.8	93.6	40.6	1.000014
74000.0	39.7	-52.9			62.8	578.1			1.000014
74500.0	38.8	-52.7			61.3	578.5			1.000014
75000.0	37.9	-52.4			59.8	578.8			1.000013
75500.0	37.0	-52.2			58.4	579.1			1.000013
76000.0	36.2	-51.9			57.0	579.4			1.000013

STATION ALTITUDE 4051.00 FEET MSL
 29 JULY 83
 ASCENSION NO. 194

MANDATORY LEVELS
 21000 JUL 104
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 15

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DWPOINT DEGREES		DIRECTION (DEGREES(TN))	SPEED KNOTS
850.0	5069.	26.5	9.4	34.	49.2	8.1
800.0	6812.	22.3	8.7	42.	71.0	8.5
750.0	8641.	18.6	6.8	46.	116.0	8.9
700.0	10571.	14.6	2.2	43.	103.4	14.2
650.0	12608.	9.1	.2	54.	107.1	17.4
600.0	14764.	3.5	-1.1	72.	118.9	16.4
550.0	17062.	-2.1	-3.3	91.	101.1	13.4
500.0	19528.	-7.8	-8.2	97.	78.2	12.1
450.0	22202.	-11.8	-16.2	70.	94.4	6.3
400.0	25136.	-16.5	-28.0	36.	162.9	13.3
350.0	28394.	-23.0	-37.0	26.	136.3	14.1
300.0	32036.	-31.5	-39.9	43.	124.5	18.6
250.0	36171.	-42.6			125.3	19.1
200.0	41008.	-53.4			150.9	19.1
175.0	43793.	-58.9			168.7	16.8
150.0	46920.	-65.2			222.2	13.2
125.0	50526.	-69.5			167.9	23.1
100.0	54870.	-71.8			119.1	7.6
80.0	59271.	-65.5			126.9	26.6
70.0	61969.	-59.4			93.2	11.9
60.0	65121.	-60.1			87.8	23.2
50.0	68873.	-57.9			108.0	28.5
40.0	73557.	-53.0				

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

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