

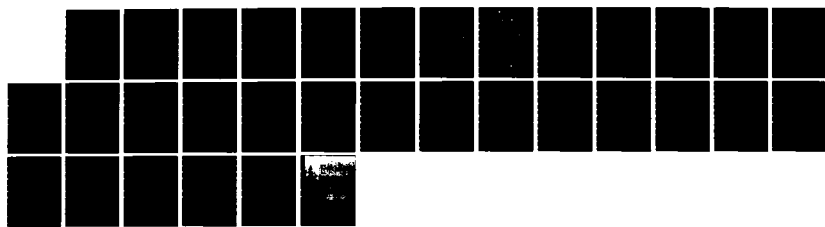
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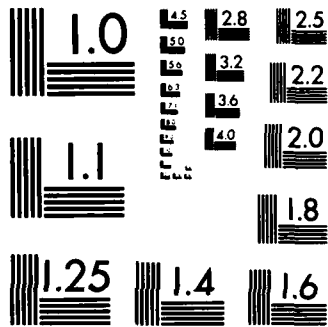
19316B MLRS MISSILE NUMBER FV3-21 FV3-18 FV3-22 ROUND  
NUMBER 500/AT2-52 5. (U) ARMY ELECTRONICS RESEARCH AND  
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER AUG 83  
ERADCOM/ASL-DR-1315 F/G 4/2

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MICROCOPY RESOLUTION TEST CHART  
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METEOROLOGICAL DATA REPORT

19316B MLRS

Missile Number FV3-21, FV3-10, FV3-22  
Round Number 500/AT2-52, 501/AT2-53, 502/AT2-54  
5 August 1983

by

DONALD C. KELLER  
Program Support Coordinator  
Phone Number (505) 679-9568  
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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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 19316B MLRS, Missile Number FV3-21, FV3-10, and FV3-22, Round Number 500/AT2-52, 501/AT2-53 and 502/AT2-54 are presented in tabular form.		

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## INTRODUCTION

19316B MLRS, Missile Numbers FV3-21, FV3-10 and FV3-22, Round Numbers 500/AT2-52 501/AT2-53 and 502/AT2-54, were launched from Brillo, White Sands Missile Range (WSMR), New Mexico, at 1245:01, 1245:06 and 1245:11 MDT, 5 Aug 83. The scheduled launch times were 1245:00, 1245:04.5 and 1245:09 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 (°C), relative humidity, dew point (°C), density (gm/m<sup>3</sup>), 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:

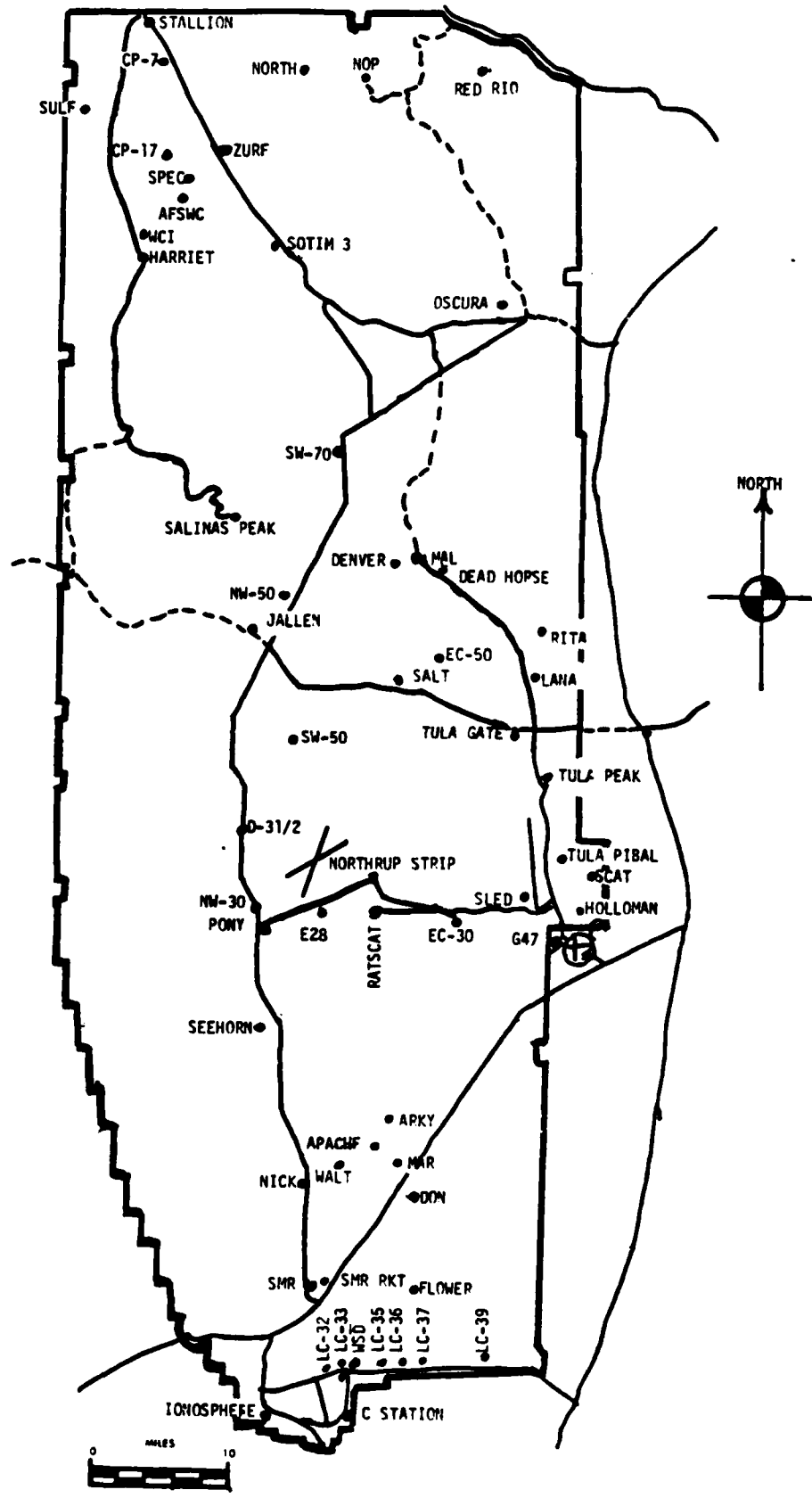
#### SITE AND ALTITUDE

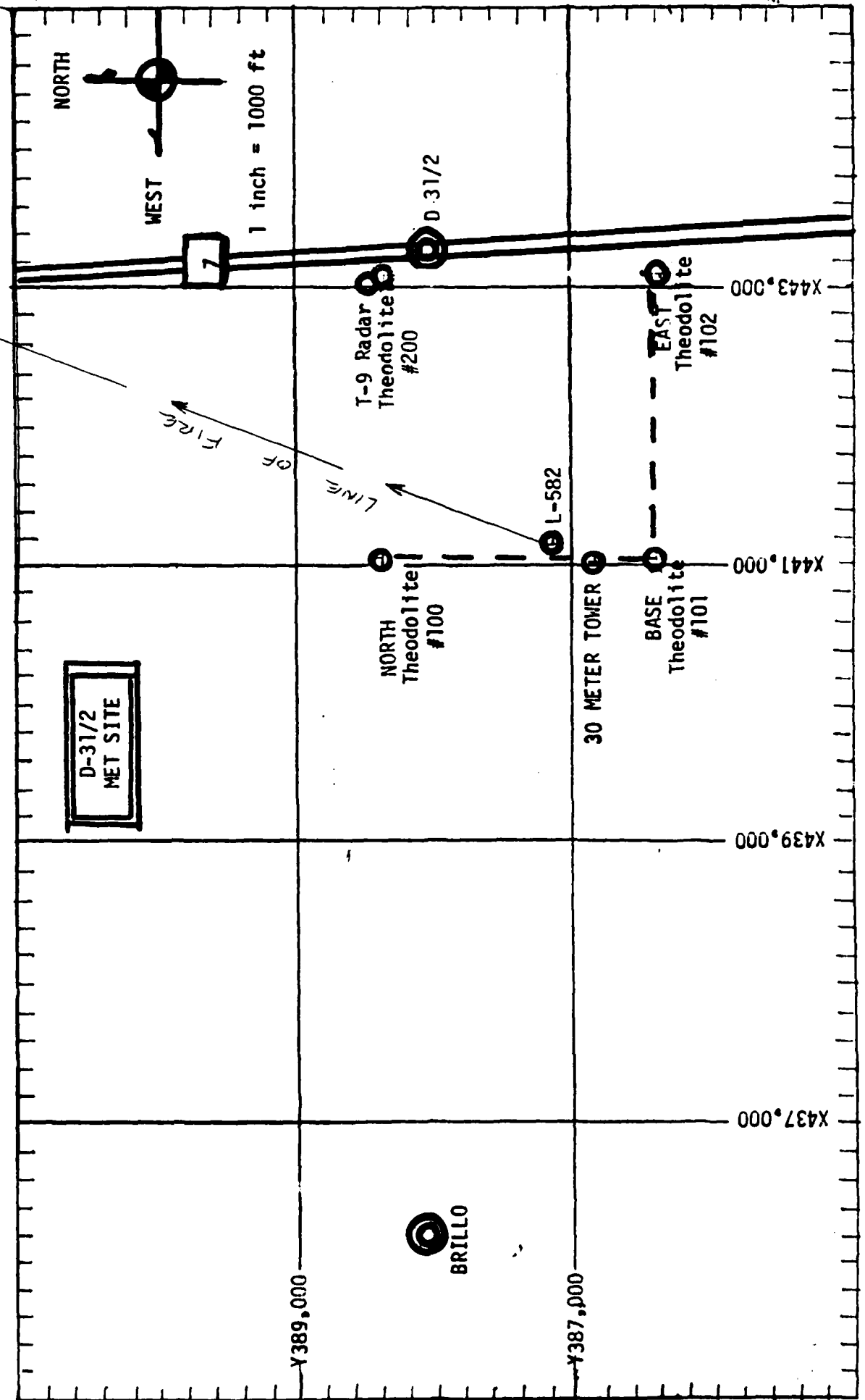
D3 $\frac{1}{2}$  1550 Meters  
MAL 2000 Meters

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

E-28 0845 MDT  
Jallen 0945 MDT  
E-28 1245 MDT

# WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1 STATION Brillo  
 DATE 05 08 83 X= 443.093.12 Y= 386.316.94 H= 3962.25  
DAY MONTH YEAR

TIME M D J	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	WIND		VISIBIL- ITY
						DIRECTION degs Tn	SPEED kts	
1245	884.5	35.0	13.3	27		080	06	50

OBSERVATIONS TO VISIBILITY	CLOUDS						REMARKS	
	1st LAYER		2nd LAYER		3rd LAYER			
	AMT	TYPE	AMT	TYPE	HGT	AMT	TYPE	HGT
	1	CU			6500			

PSYCHROMETRIC COMPUTATION

TIME:	MDT	1245	
DRY BULB TEMP.		35.0	
WET BULB TEMP.		20.2	
WET BULB DEPR.		14.8	
DEW POINT		13.3	
RELATIVE HUMID.		27	

TABLE 2

Anemometer Data - 30 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 386,849.19 H= 4,004.80 (BASE)

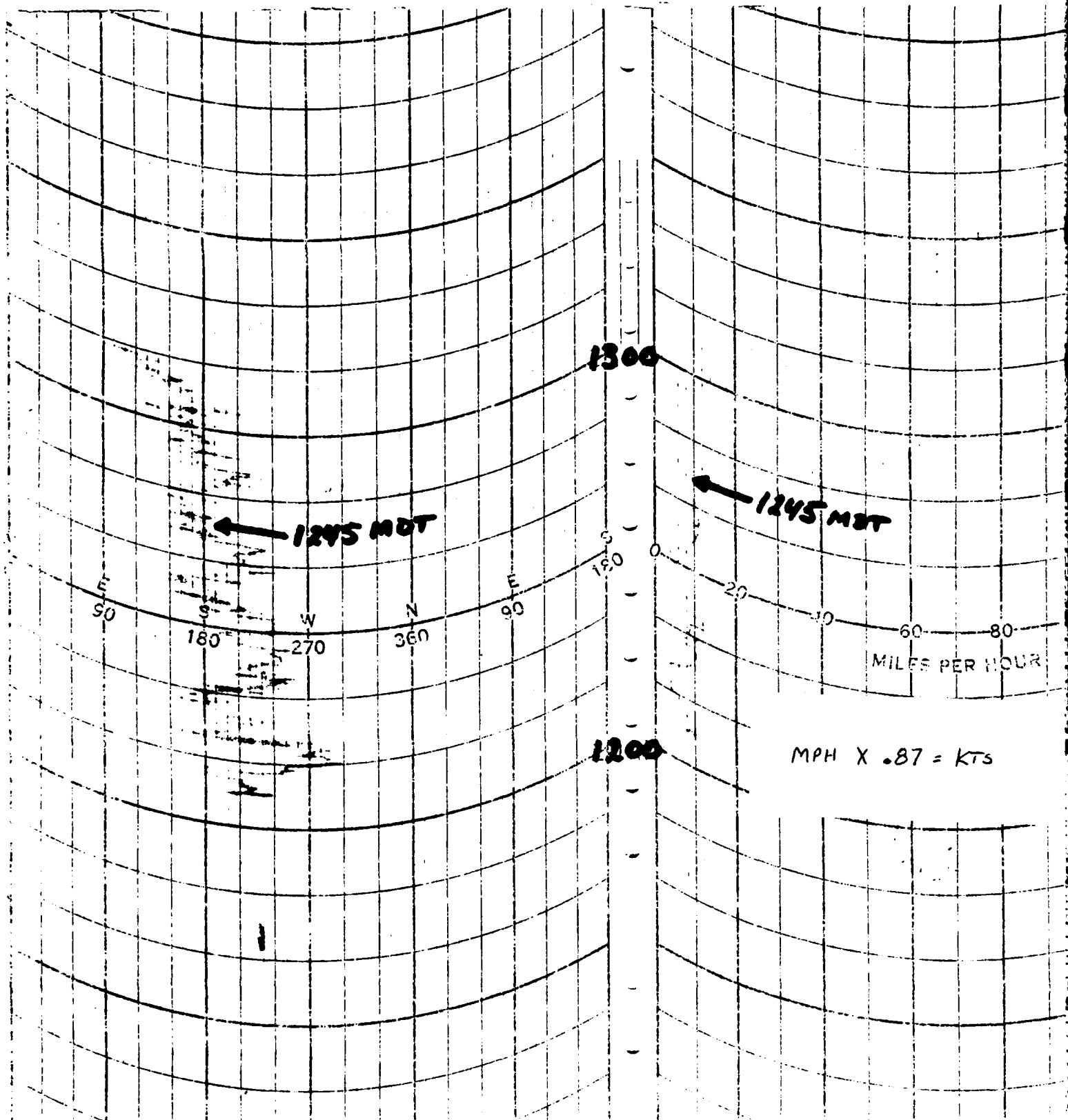


TABLE 3

Anemometer Data = 60 Ft. Level of 30 Meter Tower

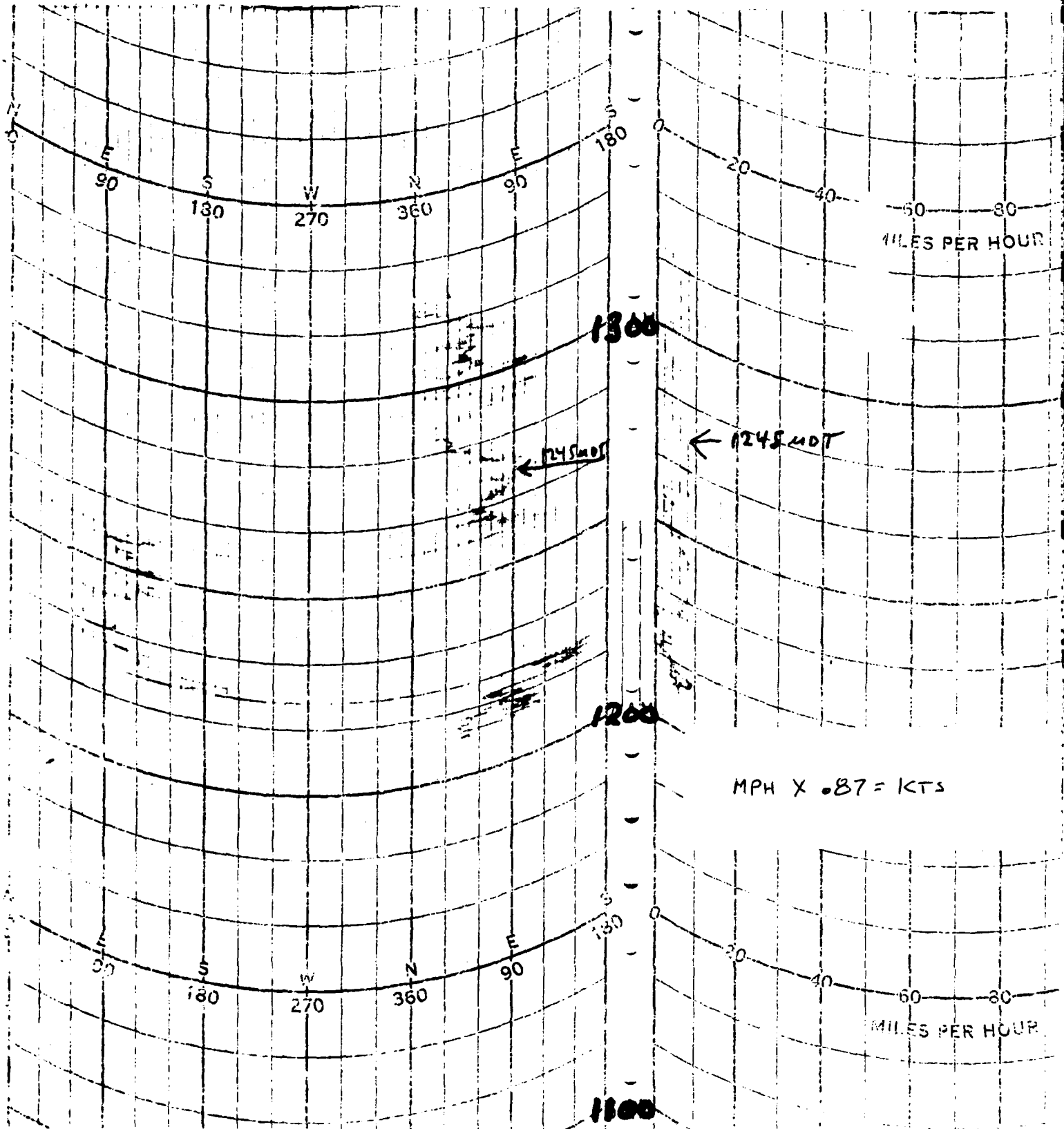
X= 441,018.71 Y= 386,349.19 H= 4,004.80 (BASE)

DATA MISSING

TABLE . 4

Anemometer Data - 90 FT Level of 30 Meter Tower

X= 441,018.71 Y= 336,849.19 H= 4,004.80 (BASE)



## T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 5 August 1983

SITE: D3½

TIME: 1245 MDT

WSTM COORDINATES:

X= 443,093.12

Y= 386,316.94

H= 3,962.25

SITE: MAL

TIME 1255 MDT

WSTM COORDINATES:

X= 509,421.05

Y= 495,563.18

H= 4,126.81

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	080	03
150	147	03
210	142	04
270	139	05
330	140	06
390	142	06
500	147	06
650	146	06
800	130	05
950	123	04
1150	087	10
1350	089	13
1550	072	16
1750	MISG	
2000	MISG	

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	180	04
150	168	07
210	165	08
270	153	06
330	105	04
390	144	06
500	161	13
650	163	16
800	162	14
950	160	12
1150	157	09
1350	317	07
1550	302	04
1750	276	02
2000	229	02

All data obtained from double theodolite tracked pilot-balloon observations.

TABLE 6

AIMING AND T-TIME COMPUTER MET MESSAGES  
5 August 1983

E-28 0845 MDT

METCM1329065

051480119888

00196004 30340888  
01327006 29840878  
02305009 29770853  
03115006 29520815  
04019007 29170769  
05058016 28900725  
06080021 28500683  
07091028 28050643  
08097027 27600605  
09104022 27250568  
10137025 27060534  
11146021 26740501  
12112022 26380455  
13186034 25680399  
14163034 24980349  
15144032 24210304  
16163036 23430263  
17174043 22630227  
18144050 21880195  
19160055 21220167  
20192045 20830142  
21155031 20810120  
22101028 20780102  
23135024 20540087  
24139021 21070074  
25199026 21250063  
26135022 21420054

JALLEN 0945 MDT

METCM1332065

051580124883

00284003 29980883  
01270006 29920873  
02309006 29740848  
03358004 29430810  
04039014 29150764  
05073019 28830721  
06095019 28390679  
07102026 27960639  
08106025 27580601  
09125024 27310565  
10141029 27000531  
11146026 26680498  
12136028 26290452  
13146032 25650396  
14160028 24930347  
15153033 24080802  
16166037 23200261  
17159049 22510225  
18155054 21750193  
19167065 21150165  
20189049 20810140  
21138027 20750119  
22113028 20480101  
23152034 20680086  
24191024 21330073  
25135022 21410062  
26139022 21480053

E-28 1245 MDT

METCM1329065

051880119888

00071003 30710888  
01210005 30490878  
02259004 30060853  
03206004 29700815  
04124011 29310769  
05121012 28910726  
06108013 28490684  
07087016 28040644  
08095018 27670606  
09119023 27460569  
10122017 27100535  
11153020 26750502  
12139029 26340456  
13131035 25700400  
14140029 24970350  
15148033 24160304  
16174037 23420264  
17182044 22670228  
18176058 21910195  
19172045 21250167  
20195038 20900142  
21156027 20550121  
22153039 20640102

STATION ALTITUDE 3912.75 FTFT MSL  
 5 AUG. 83  
 ASCENSION NO. 45

SIGNIFICANT LEVEL DATA  
 2170290045  
 EAST-28/CHEERY  
 TABLE 7

GEODETTIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM. PERCENT
	MSL	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	
887.8	3912.7		26.5	14.9	49.0
884.6	4016.9		23.2	11.3	47.0
859.0	5160.3		22.9	11.0	47.0
758.7	8377.8		16.5	4.5	45.0
729.7	9460.1		15.1	4.5	49.0
700.0	10618.5		12.4	4.4	58.0
673.5	11678.5		9.5	3.9	68.0
624.5	13722.7		4.4	-3.0	56.0
580.7	15653.0		-7	-0.8	63.0
558.3	1685.0		-1.5	-26.3	13.0
542.0	17460.0		-1.9	-25.0	15.0
500.0	19552.2		-6.1	-22.4	26.0
481.3	20530.4		-7.8	-21.6	32.0
473.3	20959.1		-8.0	-21.1	34.0
457.8	21809.0		-8.8	-24.8	26.0
434.9	23109.8		-11.7	-25.0	32.0
419.8	23997.3		-13.7	-23.0	45.0
408.0	24708.2		-15.5	-27.4	35.0
400.0	25199.2		-16.6	-27.0	40.0
370.2	26513.4		-19.3	-30.5	36.0
365.6	27404.6		-20.9	-30.5	23.0
300.0	32111.3		-31.8	-47.1	20.0
266.4	34838.8		-38.4	-53.2	19.0
250.0	36267.9		-41.6		
213.8	39697.2		-50.3		
200.0	41123.0		-53.2		
167.3	44845.8		-61.1		
150.0	47064.6		-64.2		
130.7	49833.7		-65.8		
124.4	50821.4		-66.6		
119.2	51679.1		-63.9		
111.8	52073.7		-64.3		
106.2	54007.1		-65.8		
104.9	54254.5		-64.8		
100.0	55217.3		-65.0		
89.6	57408.8		-60.4		
81.5	59287.7		-67.7		
75.8	60740.1		-62.0		
70.0	62375.2		-61.6		
55.5	67140.9		-59.7		

STATION ALTITUDE 3912.75 FEET MSL  
5 AUG. 83  
ASCENSION NO. 45 0845 MDT

SIGNIFICANT LEVEL DATA  
2170290045  
EAST-28/CHEKRY  
TABLE 7 CONT'D

GEODETIC COORDINATES  
32.89927 LAT DEG  
136.40591 LON DEG

PRESSURE	GEOMETRIC	TEMPERATURE	REL. HUM.
MILLIBARS	ALTITUDE	AIR	PERCENT
	MSL FEET	DEGREES	
		CENTIGRADE	
50.0	69313.2	-57.6	
44.6	71697.7	-57.6	
39.6	74202.7	-53.5	

STATION ALTITUDE 3,912.75 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 45

UPPER AIR DATA  
 2170290045  
 FAST-28/CHEERY  
 TABLE 8

GEODETIC COORDINATES  
 32.8927 LAT DEG  
 136.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
3912.7	887.8	26.5	14.9	49.0	1024.7	676.8	110.0	4.1	1.000300
4000.0	883.1	23.7	11.9	47.3	1032.4	673.3	111.4	4.1	1.000290
4500.0	869.8	23.1	11.2	47.0	1017.0	672.5	119.6	4.2	1.000284
5000.0	854.8	22.9	11.0	47.0	999.8	672.3	127.2	4.4	1.000280
5500.0	839.9	22.2	10.3	46.8	984.9	671.4	134.1	4.6	1.000274
6000.0	825.2	21.2	9.3	46.5	971.2	670.2	88.7	4.8	1.000268
6500.0	810.7	20.2	8.3	46.2	957.7	669.0	62.5	6.4	1.000262
7000.0	796.5	19.2	7.3	45.9	944.4	667.8	48.8	6.0	1.000256
7500.0	782.6	18.2	6.3	45.5	931.3	666.6	31.6	6.2	1.000250
8000.0	768.9	17.3	5.3	45.2	916.3	665.3	15.7	7.3	1.000245
8500.0	755.4	16.3	4.5	45.4	905.2	664.3	17.3	10.0	1.000240
9000.0	742.0	15.7	4.5	47.3	891.0	663.5	23.3	13.5	1.000237
9500.0	728.8	15.0	4.5	49.3	877.2	662.8	30.0	15.8	1.000234
10000.0	715.8	13.8	4.5	53.2	865.0	661.5	35.5	17.8	1.000232
10500.0	703.0	12.7	4.4	57.1	852.9	660.1	39.2	18.8	1.000229
11000.0	690.3	11.4	4.3	61.6	841.5	658.6	43.4	19.9	1.000226
11500.0	677.9	10.0	4.0	66.3	830.3	657.0	48.3	21.5	1.000224
12000.0	665.5	8.7	2.7	66.1	819.1	655.4	49.7	23.6	1.000218
12500.0	653.4	7.5	.9	63.2	808.1	653.8	50.0	26.0	1.000212
13000.0	641.4	6.2	-.9	60.2	797.2	652.2	51.1	26.8	1.000205
13500.0	629.7	5.0	-2.8	57.3	786.4	650.7	52.1	27.4	1.000200
14000.0	618.0	3.7	-4.0	57.0	775.6	649.1	53.7	26.9	1.000195
14500.0	606.5	2.3	-4.9	58.8	764.9	647.5	54.1	26.2	1.000192
15000.0	595.2	1.0	-5.7	60.6	754.3	645.9	51.8	25.4	1.000188
15500.0	584.1	-.3	-6.6	62.4	743.9	644.3	51.9	24.5	1.000185
16000.0	573.1	-1.0	-11.0	46.2	732.2	643.3	56.4	23.4	1.000177
16500.0	562.3	-1.4	-20.3	22.0	720.1	642.5	62.8	23.4	1.000167
17000.0	551.6	-1.7	-25.7	13.8	707.5	642.1	70.4	24.9	1.000161
17500.0	541.2	-2.0	-24.9	15.2	694.8	641.7	74.6	25.5	1.000159
18000.0	530.8	-3.0	-24.0	17.8	684.1	640.5	77.5	25.5	1.000157
18500.0	520.7	-4.0	-23.3	20.5	673.5	639.4	80.0	23.4	1.000155
19000.0	510.8	-5.0	-22.8	23.1	663.1	638.2	82.5	21.4	1.000153
19500.0	501.0	-6.0	-22.5	25.7	652.8	637.0	82.0	21.2	1.000151
20000.0	491.4	-6.9	-22.0	28.7	642.3	636.0	80.0	21.3	1.000149
20500.0	481.9	-7.7	-21.6	31.8	632.0	634.9	76.0	21.8	1.000147
21000.0	472.5	-8.0	-21.2	33.6	620.4	634.6	73.7	22.2	1.000144
21500.0	463.4	-8.5	-21.3	28.9	609.5	634.0	72.2	22.6	1.000141
22000.0	454.4	-9.2	-24.8	26.9	599.3	633.1	75.5	23.7	1.000138
22500.0	445.5	-10.3	-24.8	29.2	590.1	631.8	78.9	24.9	1.000136
23000.0	436.8	-11.5	-25.0	31.5	581.0	630.4	82.4	26.0	1.000134

UPPER AIR DATA  
 2170290045  
 EAST-20/CHERRY  
 TABLE 8 CONT'D

STATION ALTITUDE 3,12.75 F ET MSL  
 5 AUG. 83  
 ASCLSIUM NO. 45

GEOMETRIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
23500.0	420.2	-12.6	-24.0	37.7	572.0	629.1	85.8	27.2	1.000152
24000.0	419.8	-13.7	-23.1	45.0	563.1	627.8	89.8	28.1	1.000131
24500.0	411.4	-15.0	-26.1	37.9	554.8	626.2	93.5	29.2	1.000128
25000.0	403.2	-16.2	-27.1	38.0	546.2	624.7	96.6	30.1	1.000125
25500.0	395.1	-17.2	-27.8	39.1	537.5	623.4	99.3	30.9	1.000123
26000.0	387.2	-18.2	-29.1	37.6	528.9	622.2	100.5	30.1	1.000121
26500.0	379.4	-19.3	-30.5	36.0	520.4	620.9	101.0	29.6	1.000119
27000.0	371.7	-20.2	-33.6	28.9	511.7	619.7	98.0	30.4	1.000116
27500.0	364.1	-21.1	-36.7	22.9	503.2	618.6	95.4	31.9	1.000114
28000.0	356.6	-22.3	-37.8	22.6	495.0	617.1	93.2	33.7	1.000112
28500.0	349.2	-23.4	-39.0	22.3	487.0	615.7	92.7	33.7	1.000110
29000.0	341.9	-24.6	-40.1	22.0	479.1	614.3	90.7	33.8	1.000108
29500.0	334.8	-25.8	-41.2	21.7	471.3	612.8	87.8	34.0	1.000106
30000.0	327.8	-26.9	-42.4	21.3	463.7	611.4	83.9	34.4	1.000104
30500.0	321.0	-28.1	-43.5	21.0	456.2	609.9	80.3	34.9	1.000102
31000.0	314.3	-29.2	-44.6	20.7	448.9	608.5	79.7	34.5	1.000101
31500.0	307.8	-30.4	-45.8	20.4	441.6	607.0	79.6	33.7	1.000099
32000.0	301.4	-31.5	-46.9	20.1	434.5	605.6	81.0	31.7	1.000097
32500.0	295.0	-32.7	-48.0	19.9	427.4	604.1	82.5	29.9	1.000096
33000.0	288.6	-34.0	-49.1	19.7	420.3	602.6	82.8	30.0	1.000094
33500.0	282.4	-35.2	-50.2	19.5	413.3	601.0	83.1	30.0	1.000092
34000.0	276.3	-36.4	-51.4	19.3	406.3	599.5	85.7	32.1	1.000091
34500.0	270.4	-37.6	-52.5	19.1	399.8	598.0	88.1	34.2	1.000089
35000.0	264.5	-38.8	-54.5	16.9**	393.1	596.5	90.7	36.4	1.000088
35500.0	258.7	-39.9	-59.4	10.2**	386.3	595.0	93.4	38.5	1.000086
36000.0	253.0	-41.0	-69.0	3.6**	379.6	593.6	95.8	40.6	1.000085
36500.0	247.4	-42.2			373.1	592.1	99.3	41.8	1.000083
37000.0	241.8	-43.5			366.7	590.4	102.6	43.2	1.000082
37500.0	236.3	-44.7			360.4	588.8	102.7	43.1	1.000080
38000.0	231.0	-46.0			354.3	587.2	101.6	42.5	1.000079
38500.0	225.8	-47.3			348.2	585.5	99.1	41.8	1.000078
39000.0	220.7	-48.5			342.3	583.9	94.5	41.1	1.000076
39500.0	215.7	-49.8			336.5	582.2	89.1	41.1	1.000075
40000.0	210.8	-50.9			330.4	580.8	82.9	42.4	1.000074
40500.0	205.9	-51.9			324.3	579.4	78.9	44.6	1.000072
41000.0	201.2	-52.9			318.2	578.1	78.1	47.8	1.000071
41500.0	196.4	-54.0			312.2	576.7	79.4	50.2	1.000070
42000.0	191.8	-55.1			306.3	575.3	83.1	51.7	1.000068
42500.0	187.2	-56.1			300.5	573.9	85.2	52.9	1.000067
43000.0	182.8	-57.2			294.8	572.5	84.9	53.1	1.000066

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

UPPER AIR DATA  
 2170290045  
 FAST-28/CHEKRY  
 TABLE 8 CONT'D

STATION ALTITUDE 3912.75 FLT MSL  
 5 AUG. 83  
 ASCENSION NO. 45

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

GEO-METRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES	SPEED KNOTS	
43500.0	170.5	-50.2			289.3	571.1	85.2		1.000064
44000.0	174.2	-59.3			283.8	569.7	86.4		1.000063
44500.0	170.1	-60.4			278.5	568.3	87.8		1.000062
45000.0	160.0	-61.3			273.0	567.0	90.0		1.000061
45500.0	162.0	-62.0			267.3	566.1	92.2		1.000060
46000.0	158.1	-62.7			261.7	565.1	96.0		1.000058
46500.0	154.2	-63.4			256.2	564.2	99.8		1.000057
47000.0	150.5	-64.1			250.8	563.3	103.2		1.000056
47500.0	146.8	-64.5			245.0	562.8	107.0		1.000055
48000.0	143.2	-64.7			239.3	562.4	108.3		1.000053
48500.0	139.7	-65.0			233.8	562.0	109.4		1.000052
49000.0	136.2	-65.3			228.4	561.6	108.9		1.000051
49500.0	132.9	-65.6			223.1	561.2	107.4		1.000050
50000.0	129.6	-65.9			217.9	560.8	103.9		1.000049
50500.0	126.4	-66.3			212.9	560.3	99.3		1.000047
51000.0	123.3	-66.0			207.4	560.7	94.2		1.000046
51500.0	120.3	-64.5			200.8	562.8	88.5		1.000045
52000.0	117.3	-64.0			195.4	563.4	82.8		1.000044
52500.0	114.5	-64.2			190.8	563.2	76.4		1.000042
53000.0	111.7	-64.3			186.3	563.0	68.4		1.000041
53500.0	108.9	-65.1			182.3	562.0	59.7		1.000041
54000.0	106.2	-65.8			178.5	561.0	53.3		1.000040
54500.0	103.6	-64.9			173.3	562.3	50.8		1.000039
55000.0	101.1	-65.0			169.1	562.1	51.6		1.000038
55500.0	98.6	-65.4			165.4	561.5	56.6		1.000037
56000.0	96.2	-66.2			161.9	560.4	61.8		1.000036
56500.0	93.8	-67.0			158.5	559.4	67.3		1.000035
57000.0	91.5	-67.8			155.1	558.3	71.6		1.000035
57500.0	89.2	-68.4			151.7	557.5	74.3		1.000034
58000.0	87.0	-68.2			147.8	557.8	76.7		1.000033
58500.0	84.8	-68.0			144.0	558.0	78.2		1.000032
59000.0	82.7	-67.8			140.3	558.3	80.1		1.000031
59500.0	80.6	-66.9			136.2	559.5	86.6		1.000030
60000.0	78.7	-64.9			131.6	562.2	93.2		1.000029
60500.0	76.7	-63.0			127.2	564.8	100.8		1.000028
61000.0	74.9	-61.9			123.5	566.2	108.0		1.000027
61500.0	73.1	-61.0			120.4	566.3	108.2		1.000027
62000.0	71.3	-61.7			117.5	566.5	106.6		1.000026
62500.0	69.6	-61.6			114.5	566.7	103.4		1.000026
63000.0	67.9	-61.4			111.7	567.0	99.2		1.000025

STATION ALTITUDE 3912.75 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 45 0845 MDT

UPPER AIR DATA  
 2170290045  
 EAST-28/CHEKRY

GEODLTIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 8 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CURL METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	60.3	-61.2			108.9	567.2	95.8	22.6	1.000024
64000.0	64.7	-61.0			106.2	567.5	93.5	22.3	1.000024
64500.0	63.1	-60.8			103.5	567.8	90.8	21.8	1.000023
65000.0	61.6	-60.6			101.0	568.0	87.4	20.7	1.000022
65500.0	60.1	-60.4			98.4	568.3	84.0	19.9	1.000022
66000.0	58.7	-60.2			96.0	568.6	84.0	20.4	1.000021
66500.0	57.3	-60.0			93.6	568.6	84.0	20.9	1.000021
67000.0	55.9	-59.8			91.3	569.1	78.6	21.7	1.000020
67500.0	54.6	-59.4			88.9	569.6	73.3	22.7	1.000020
68000.0	53.3	-58.9			86.6	570.3	72.0	22.9	1.000019
68500.0	52.0	-58.4			84.3	570.9	71.9	22.8	1.000019
69000.0	50.8	-57.9			82.2	571.6	75.8	21.7	1.000018
69500.0	49.6	-57.6			80.1	572.0	83.6	20.2	1.000018
70000.0	48.4	-57.6			78.2	572.0	88.3	20.1	1.000017
70500.0	47.2	-57.6			76.3	572.0	88.0	21.7	1.000017
71000.0	46.1	-57.6			74.5	572.0	88.8	23.6	1.000017
71500.0	45.0	-57.6			72.8	572.0	91.7	26.3	1.000016
72000.0	44.0	-57.1			70.9	572.6	94.0	28.8	1.000016
72500.0	42.9	-56.3			69.0	573.7	95.5	29.2	1.000015
73000.0	41.9	-55.5			67.1	574.8	96.9	29.7	1.000015
73500.0	40.9	-54.7			65.3	575.9			1.000015
74000.0	40.0	-53.8			63.5	576.9			1.000014

STATION ALTITUDE 3912.75 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 45 0845 MDT

MANDATORY LEVELS  
 2170290045  
 EAST-28/CHERRY

GEODETTIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5157.	22.9	11.0	47.	129.5	4.4
800.0	6881.	19.5	7.5	46.	52.2	6.0
750.0	8693.	16.1	4.5	46.	20.1	11.3
700.0	10608.	12.4	4.4	58.	40.0	19.0
650.0	12631.	7.1	.4	62.	50.3	26.2
600.0	14772.	1.6	-5.3	60.	52.8	25.8
550.0	17055.	-1.7	-25.6	14.	71.3	25.1
500.0	19525.	-6.1	-22.4	26.	81.9	21.2
450.0	22212.	-9.8	-24.8	28.	77.1	24.2
400.0	25157.	-16.6	-27.0	40.	97.7	30.5
350.0	28408.	-23.3	-38.8	22.	92.7	33.7
300.0	32047.	-31.8	-47.1	20.	81.3	31.3
250.0	36189.	-41.6			97.6	41.2
200.0	41023.	-53.2			77.9	48.4
175.0	43808.	-59.1			86.2	54.0
150.0	46937.	-64.2			103.5	54.1
125.0	50579.	-66.5			97.4	35.2
100.0	55046.	-65.0			53.5	27.2
80.0	59461.	-66.2			88.3	23.1
70.0	62161.	-61.6			104.6	23.0
60.0	65304.	-60.3			84.0	19.9
50.0	69052.	-57.6			80.0	20.8
40.0	73604.	-53.8				

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

STATION ALTITUDE 4051.00 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 107

SIGNIFICANT LEVEL DATA  
 2170030107  
 JALLEN

GEODLTIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 10

PRESSURE	GEOMETRIC	TEMPERATURE	REL. HUM.
MILLIBARS	ALTITUDE	AIR	PERCENT
	MSL FEET	DEGREEFS	
		CENTIGRADE	
		DEMPUNT	
882.9	4051.0	14.3	53.0
876.8	4250.8	12.8	48.0
856.0	5142.1	11.9	51.0
777.8	7658.1	7.0	51.0
758.5	8363.4	5.0	47.0
700.0	10595.8	5.1	63.0
670.7	11767.4	5.5	82.0
651.7	12547.1	2.9	78.0
601.7	14684.9	-4.6	63.0
589.2	15241.2	1.4	53.0
541.4	17466.0	-24.5	16.0
513.0	18865.2	-27.0	16.0
500.0	19526.5	-26.7	18.0
468.5	21627.5	-22.1	37.0
445.1	22489.4	-23.6	33.0
400.0	25162.6	-29.5	32.0
370.5	26458.6	-35.3	21.0
300.0	32072.3	-47.3	21.0
268.0	34647.5		
250.0	36199.8		
200.0	41040.4		
196.7	42484.8		
171.3	44262.9		
150.0	46062.0		
145.7	47550.6		
141.6	48124.4		
128.4	50088.6		
120.1	51432.1		
107.5	53646.3		
100.0	55078.4		
87.0	57825.9		
80.7	59336.1		
70.0	62267.3		
50.0	69241.8		
44.7	71586.6		
40.5	73684.8		

UPPER AIR DATA  
2170030107  
JALLEN  
TABLE 11

STATION ALTITUDE 4051.00 FEET MSL  
5 AUG. 63  
ASCENSION ISO. 107 0945 MDT

GEODETTIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KILOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE						
4051.0	882.9	24.5	14.3	53.0	1026.1	674.5	120.0	1.9	1.000299
4500.0	869.2	23.9	12.5	48.8	1012.8	673.6	152.0	2.1	1.000288
5000.0	854.2	22.8	12.0	50.5	999.2	672.3	176.2	2.8	1.000284
5500.0	839.3	21.7	11.2	51.0	985.6	671.0	189.1	3.8	1.000278
6000.0	824.7	20.7	10.2	51.0	972.1	669.7	196.4	4.9	1.000271
6500.0	810.2	19.6	9.2	51.0	958.8	668.4	210.4	2.0	1.000265
7000.0	796.1	18.6	8.3	51.0	945.7	667.1	351.6	2.1	1.000259
7500.0	782.2	17.5	7.3	51.0	932.7	665.9	15.7	7.2	1.000254
8000.0	768.4	17.2	6.4	49.1	917.5	665.4	20.4	12.2	1.000248
8500.0	754.8	16.9	5.8	48.0	902.4	665.0	27.5	15.1	1.000243
9000.0	741.3	15.7	5.8	51.6	889.9	663.7	32.7	17.6	1.000240
9500.0	726.1	14.5	5.0	55.1	877.6	662.3	38.5	18.0	1.000237
10000.0	713.2	13.3	5.4	58.7	865.6	660.9	43.7	18.4	1.000234
10500.0	702.4	12.1	5.1	62.3	853.7	659.6	48.0	18.5	1.000231
11000.0	689.8	10.7	5.4	69.6	842.4	658.0	51.7	19.0	1.000230
11500.0	677.3	9.2	5.5	77.7	831.4	656.3	54.2	20.4	1.000228
12000.0	665.0	7.8	4.7	80.8	820.5	654.6	55.5	22.1	1.000224
12500.0	652.8	6.5	3.0	78.2	809.6	652.9	56.1	24.1	1.000217
13000.0	640.8	5.4	1.3	74.8	798.2	651.5	56.4	25.4	1.000211
13500.0	628.9	4.3	-0.4	71.3	786.8	650.1	56.6	26.3	1.000205
14000.0	617.3	3.2	-0.2	67.8	775.6	648.7	57.3	26.2	1.000199
14500.0	605.9	2.1	-3.9	64.3	764.6	647.3	58.5	25.6	1.000193
15000.0	594.6	1.5	-0.8	46.0	752.6	646.3	60.4	25.2	1.000183
15500.0	583.4	1.0	-14.2	31.0	740.4	645.5	62.7	25.0	1.000175
16000.0	572.4	.2	-16.5	27.2	728.7	644.5	66.7	24.9	1.000171
16500.0	561.7	-0.6	-18.9	23.4	717.2	643.5	70.9	24.9	1.000167
17000.0	551.1	-1.4	-21.6	19.6	705.8	642.5	74.9	25.2	1.000163
17500.0	540.7	-2.2	-24.5	16.0	694.7	641.5	78.7	25.6	1.000159
18000.0	530.4	-3.3	-25.5	16.0	684.3	640.2	80.2	26.6	1.000156
18500.0	520.3	-4.4	-26.4	16.0	674.0	638.8	81.5	27.7	1.000154
19000.0	510.3	-5.4	-27.0	16.4	663.8	637.6	81.5	27.3	1.000151
19500.0	500.5	-6.4	-26.8	17.9	653.2	636.5	81.5	26.8	1.000149
20000.0	490.8	-7.3	-25.1	22.3	642.7	635.4	79.9	25.8	1.000147
20500.0	481.3	-8.2	-23.9	26.8	632.3	634.4	78.1	24.9	1.000146
21000.0	472.0	-9.1	-22.9	31.3	622.1	633.3	77.4	25.6	1.000144
21500.0	462.8	-10.0	-22.2	35.8	612.1	632.3	76.8	26.5	1.000142
22000.0	453.8	-10.3	-22.7	35.3	601.0	631.8	76.8	27.9	1.000139
22500.0	444.9	-10.5	-23.6	33.0	589.7	631.6	76.9	29.0	1.000136
23000.0	436.1	-11.7	-24.7	32.8	580.7	630.1	77.4	29.6	1.000134
23500.0	427.5	-12.9	-25.9	32.6	571.8	628.7	78.1	30.8	1.000132

STATION ALTITUDE 1051.00 FT FT MSL  
 5 AUG. 83  
 ASCENSION NO. 107

UPPER AIR DATA  
 2170030107  
 JALLEN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 11 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBAR	TEMPERATURE		REL. HUM. PERCENT	WIND DIRECTION DEGREES(TN)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT			SPEED KNOTS	SPEED KNOTS	
24000.0	419.0	-14.1	-27.0	32.4	78.8	627.3	32.5	1.000129
24500.0	410.7	-15.2	-28.1	32.2	79.5	625.8	33.4	1.000127
25000.0	402.6	-16.4	-29.2	32.1	80.1	624.4	33.7	1.000125
25500.0	394.6	-17.2	-30.9	29.1	81.3	623.3	33.4	1.000122
26000.0	386.6	-17.9	-33.1	24.9	83.7	622.5	32.1	1.000120
26500.0	378.8	-18.6	-35.4	21.0	86.1	621.6	30.8	1.000117
27000.0	371.0	-19.0	-36.5	21.0	87.5	620.1	29.8	1.000115
27500.0	363.3	-21.1	-37.5	21.0	89.1	618.6	28.8	1.000113
28000.0	355.8	-22.3	-38.6	21.0	89.3	617.0	28.0	1.000111
28500.0	348.4	-23.6	-39.7	21.0	89.4	615.5	27.2	1.000109
29000.0	341.2	-24.8	-40.7	21.0	90.1	614.0	27.2	1.000108
29500.0	334.1	-26.1	-41.8	21.0	90.9	612.4	27.3	1.000106
30000.0	327.2	-27.3	-42.9	21.0	90.2	610.9	27.7	1.000104
30500.0	320.4	-28.6	-43.9	21.0	89.2	609.3	28.1	1.000102
31000.0	313.8	-29.8	-45.0	21.0	88.2	607.7	29.3	1.000101
31500.0	307.3	-31.1	-46.1	21.0	87.3	606.2	30.7	1.000099
32000.0	300.9	-32.3	-47.2	21.0	87.2	604.6	32.7	1.000097
32500.0	294.4	-33.8	-50.0	17.5**	87.5	602.7	35.0	1.000096
33000.0	288.1	-35.3	-53.5	13.4**	87.9	600.8	36.4	1.000094
33500.0	281.8	-36.9	-57.7	9.4**	88.4	598.8	37.6	1.000093
34000.0	275.7	-38.4	-61.3	5.3**	89.3	596.9	38.2	1.000091
34500.0	269.7	-39.9	-74.6	1.2**	90.2	594.9	38.6	1.000090
35000.0	263.8	-41.0			90.9	593.6	39.3	1.000088
35500.0	258.0	-41.8			91.7	592.5	40.2	1.000087
36000.0	252.2	-42.7			92.4	591.4	41.0	1.000085
36500.0	246.6	-43.7			93.1	590.2	41.9	1.000083
37000.0	240.9	-44.8			92.2	588.7	42.5	1.000082
37500.0	235.5	-45.9			91.2	587.3	43.2	1.000080
38000.0	230.1	-47.0			90.0	585.9	44.2	1.000079
38500.0	224.8	-48.1			89.0	584.5	45.4	1.000078
39000.0	219.7	-49.2			89.6	583.0	47.2	1.000076
39500.0	214.7	-50.3			90.1	581.6	49.1	1.000075
40000.0	209.6	-51.4			89.5	580.1	50.3	1.000073
40500.0	205.0	-52.5			88.8	578.7	51.5	1.000072
41000.0	200.4	-53.6			89.2	577.2	52.0	1.000071
41500.0	195.7	-55.0			87.6	575.4	52.3	1.000070
42000.0	191.1	-56.4			87.2	573.6	53.5	1.000068
42500.0	186.6	-57.7			86.9	571.8	54.9	1.000067
43000.0	182.1	-58.6			86.4	570.7	58.3	1.000066
43500.0	177.7	-59.4			86.2	569.6	61.7	1.000065

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

UPPER AIR DATA  
 2170030107  
 JALLERH  
 GEODETIC COORDINATES  
 33-16712 LAT DEG  
 106-49511 LON DEG

STATION ALTITUDE 4051.00 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 107  
 TABLE 11 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
44000.0	170.5	-60.3	283.9	568.4	87.8	87.8	65.3	1.000063
44500.0	169.3	-61.0	278.0	567.4	89.9	89.9	67.1	1.000062
45000.0	168.2	-61.6	272.1	566.6	93.4	93.4	65.0	1.000061
45500.0	161.2	-62.3	266.3	565.8	97.9	97.9	62.1	1.000059
46000.0	157.3	-62.9	260.6	564.9	103.6	103.6	58.9	1.000058
46500.0	153.5	-63.5	255.0	564.1	106.8	106.8	56.7	1.000057
47000.0	149.7	-64.2	249.6	563.2	109.3	109.3	54.8	1.000056
47500.0	146.1	-65.2	244.7	561.8	109.9	109.9	51.6	1.000054
48000.0	142.5	-64.8	238.3	562.3	109.8	109.8	48.1	1.000053
48500.0	139.0	-64.9	232.5	562.1	108.0	108.0	44.6	1.000052
49000.0	135.6	-65.3	227.2	561.7	104.6	104.6	41.3	1.000051
49500.0	132.2	-65.6	221.9	561.2	100.2	100.2	38.8	1.000049
50000.0	129.0	-65.9	216.8	560.8	94.8	94.8	37.8	1.000048
50500.0	125.8	-65.4	211.0	561.5	89.4	89.4	36.8	1.000047
51000.0	122.7	-64.7	205.1	562.5	84.0	84.0	36.0	1.000046
51500.0	119.7	-64.2	199.6	563.1	78.7	78.7	34.5	1.000044
52000.0	116.7	-65.3	195.6	561.7	73.0	73.0	32.3	1.000044
52500.0	113.8	-66.3	191.8	560.3	69.4	69.4	29.6	1.000043
53000.0	111.0	-67.4	188.0	558.9	67.2	67.2	26.4	1.000042
53500.0	108.3	-68.4	184.2	557.5	64.0	64.0	24.9	1.000041
54000.0	105.6	-68.5	179.7	557.3	60.4	60.4	24.9	1.000040
54500.0	103.0	-68.2	175.0	557.8	58.7	58.7	25.6	1.000039
55000.0	100.4	-67.8	170.4	558.2	60.1	60.1	27.2	1.000038
55500.0	97.9	-68.2	166.4	557.7	62.2	62.2	28.5	1.000037
56000.0	95.4	-68.6	162.6	557.1	67.7	67.7	28.6	1.000036
56500.0	93.0	-69.1	158.9	556.5	73.0	73.0	28.8	1.000035
57000.0	90.7	-69.5	155.2	555.9	77.0	77.0	28.7	1.000035
57500.0	88.4	-70.0	151.7	555.3	81.0	81.0	28.8	1.000034
58000.0	86.2	-69.2	147.3	556.4	83.8	83.8	31.4	1.000033
58500.0	84.1	-65.9	141.4	560.9	86.2	86.2	34.3	1.000031
59000.0	82.1	-62.6	135.8	565.3	89.6	89.6	32.9	1.000030
59500.0	80.1	-60.4	131.1	568.3	93.9	93.9	30.4	1.000029
60000.0	78.1	-60.2	127.9	568.4	98.8	98.8	27.2	1.000028
60500.0	76.3	-60.1	124.7	568.6	104.8	104.8	23.3	1.000028
61000.0	74.4	-60.0	121.7	568.8	111.8	111.8	20.3	1.000027
61500.0	72.7	-59.9	118.7	568.9	110.1	110.1	21.8	1.000026
62000.0	70.9	-59.8	115.8	569.1	108.6	108.6	23.3	1.000026
62500.0	69.2	-59.6	112.9	569.2	104.4	104.4	22.8	1.000025
63000.0	67.6	-59.5	110.2	569.4	98.4	98.4	21.6	1.000025
63500.0	66.0	-59.4	107.5	569.5	91.2	91.2	20.5	1.000024

STATION ALTITUDE 4053.00 F FT MSL  
 5 AUG. 83 0945 MDT  
 ASCENSION NO. 167

UPPER AIR DATA  
 2170030107  
 JALLEN

GEODLTIC COORDINATES  
 33.16712 LAT UEG  
 106.49511 LON UEG

TABLE 11 CONT'D

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	
6400.0	64.4	-59.3			104.9	569.7	81.7	19.8	1.000023
6500.0	62.9	-59.2			102.3	569.9	71.7	19.6	1.000023
6500.0	61.4	-59.1			99.8	570.0	69.6	20.7	1.000022
65500.0	59.9	-59.0			97.4	570.2	68.6	22.0	1.000022
66000.0	58.5	-58.8			95.0	570.3	68.6	23.3	1.000021
66500.0	57.1	-58.7			92.7	570.5	69.3	24.7	1.000021
67000.0	55.7	-58.6			90.5	570.6	70.5	25.7	1.000020
67500.0	54.4	-58.5			88.3	570.8	74.8	24.7	1.000020
68000.0	53.1	-58.4			86.1	570.9	79.5	23.9	1.000019
68500.0	51.8	-58.3			84.0	571.1	84.6	22.9	1.000019
69000.0	50.6	-58.2			82.0	571.2	90.4	22.0	1.000018
69500.0	49.4	-57.8			79.9	571.6	92.9	23.0	1.000018
70000.0	48.2	-57.4			77.8	572.3	92.0	26.1	1.000017
70500.0	47.1	-56.9			75.8	572.9	91.4	28.9	1.000017
71000.0	46.0	-56.4			73.9	573.6	91.1	30.4	1.000016
71500.0	44.9	-55.9			72.0	574.2	90.9	31.9	1.000016
72000.0	43.8	-54.9			70.0	575.5			1.000016
72500.0	42.8	-53.8			68.0	577.0			1.000015
73000.0	41.8	-52.7			66.1	578.4			1.000015
73500.0	40.9	-51.6			64.2	579.9			1.000014

STATION ALTITUDE 4051.00 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 107

MANDATORY LEVELS  
 2170030107  
 JALLEN  
 TABLE 12

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LONG DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA		
		AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5139.	22.5	11.9	51.	180.6	3.1	
800.0	6860.	18.9	8.5	51.	331.7	1.2	
750.0	8672.	16.5	5.8	49.	29.4	16.1	
700.0	10586.	11.9	5.1	63.	48.8	18.5	
650.0	12605.	6.2	2.6	78.	56.2	24.5	
600.0	14743.	1.7	-5.5	59.	59.4	25.4	
550.0	17033.	-1.4	-21.9	19.	75.2	25.2	
500.0	19500.	-6.4	-26.7	18.	81.5	26.8	
450.0	22179.	-10.4	-23.1	34.	76.8	28.4	
400.0	25121.	-16.8	-29.5	32.	80.3	33.8	
350.0	28376.	-23.3	-39.4	21.	89.4	27.4	
300.0	32009.	-32.5	-47.3	21.	87.3	33.0	
250.0	36121.	-43.0			92.6	41.3	
200.0	40942.	-53.7			88.2	52.0	
175.0	43713.	-60.0			87.2	63.9	
150.0	46839.	-64.1			109.0	55.0	
125.0	50492.	-65.2			88.3	36.7	
100.0	54910.	-67.8			60.2	27.4	
80.0	59320.	-60.4			93.8	30.5	
70.0	62055.	-59.7			107.2	23.5	
60.0	65222.	-59.0			68.7	21.8	
50.0	68983.	-58.1			92.9	21.6	

STATION ALTITUDE 5912.75 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 46

SIGNIFICANT LEVEL DATA  
 2170290040  
 EAST-28/CHERRY

GEODETIC COORDINATES  
 32.09927 LAT DEG  
 136.40591 LON DEG

TABLE 13

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE M/L FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
887.5	3912.7	31.0	20.9	55.0
871.0	4463.9	28.7	8.9	29.0
850.0	5172.0	25.3	7.9	33.0
787.1	8841.0	16.7	5.9	49.0
700.0	10651.6	12.2	4.4	59.0
621.8	13870.0	3.7	-5	74.0
607.8	14477.5	2.3	-2.0	73.0
595.8	15008.0	2.8	-13.9	28.0
587.2	15394.8	2.8	-14.8	26.0
539.9	17610.2	-1.9	-15.6	34.0
500.0	19602.2	-6.3	-16.5	44.0
472.7	21039.1	-9.3	-19.5	43.0
460.2	21720.3	-9.7	-27.4	22.0
449.4	22323.7	-9.4	-31.1	15.0
437.4	23009.2	-11.4	-30.9	18.0
400.0	25243.4	-16.3	-33.5	21.0
365.7	27442.4	-21.2	-38.1	20.0
356.1	28087.2	-22.3	-39.0	20.0
332.2	29754.3	-26.3	-42.0	21.0
300.0	32151.0	-32.5	-46.9	22.0
279.5	33780.0	-36.6	-50.5	22.0
266.5	34862.9	-38.3	-51.9	22.0
250.0	36301.7	-41.3		
226.3	38502.4	-47.0		
200.0	41162.5	-53.1		
184.9	42816.4	-56.7		
171.7	44352.0	-60.1		
150.0	47109.6	-63.5		
144.8	47824.3	-63.3		
128.9	50163.0	-66.7		
117.9	51936.6	-68.0		
108.0	53668.1	-69.7		
103.2	54566.3	-67.7		
101.5	54898.9	-64.3		
100.0	55199.4	-64.3		
90.2	57272.7	-66.1		

STATION ALTITUDE 3912.75 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 46

UPPER AIR DATA  
 2170290046  
 EAST-28/CHERRY

GEODLTIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 14

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	SPEED OF WIND KNOTS	DIRECTION DEGREES(TN)	INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE						
3912.7	887.5	31.0	20.9	55.0	1005.8	683.0	40.0	2.9	1.000326
4000.0	884.9	30.6	19.3	50.9	1005.0	682.3	45.4	2.7	1.000316
4500.0	869.9	28.5	8.9	29.2	999.6	678.3	94.8	2.1	1.000270
5000.0	855.1	26.1	8.2	32.0	990.5	675.6	135.1	3.1	1.000267
5500.0	840.3	24.5	7.8	34.4	978.6	673.8	139.3	3.7	1.000263
6000.0	825.6	23.4	7.7	36.6	965.3	672.5	111.0	2.9	1.000260
6500.0	811.2	22.2	7.5	38.8	952.2	671.1	98.2	3.6	1.000257
7000.0	797.1	21.0	7.3	41.0	939.4	669.8	78.8	5.7	1.000254
7500.0	783.2	19.8	7.0	43.2	926.7	668.5	71.9	8.5	1.000251
8000.0	769.5	18.7	6.8	45.3	914.2	667.1	70.1	10.8	1.000247
8500.0	756.1	17.5	6.2	47.5	901.9	665.8	72.0	11.6	1.000244
9000.0	742.8	16.3	5.8	49.9	889.8	664.4	72.0	12.2	1.000240
9500.0	729.6	15.1	5.5	52.6	877.8	662.9	71.2	12.6	1.000237
10000.0	716.6	13.8	5.0	55.4	865.9	661.5	67.8	13.2	1.000233
10500.0	703.8	12.6	4.6	58.2	854.2	660.0	64.9	13.6	1.000230
11000.0	691.1	11.3	4.6	60.6	842.7	658.5	62.4	13.7	1.000226
11500.0	678.5	10.0	3.2	63.0	831.3	656.9	59.7	13.8	1.000222
12000.0	666.1	8.6	2.5	65.3	820.1	655.3	56.0	13.9	1.000218
12500.0	654.0	7.3	1.7	67.6	809.0	653.7	49.3	14.6	1.000214
13000.0	642.0	6.0	.9	69.9	798.1	652.2	47.1	15.5	1.000210
13500.0	630.3	4.7	.1	72.3	787.4	650.6	48.3	16.2	1.000206
14000.0	618.8	3.4	-.8	73.8	776.7	649.0	51.7	16.9	1.000202
14500.0	607.3	2.3	-2.4	71.1	765.5	647.6	53.8	18.0	1.000196
15000.0	596.0	2.8	-13.6	28.7	751.4	647.6	56.0	20.0	1.000178
15500.0	584.9	2.6	-14.8	26.4	738.0	647.3	59.3	21.4	1.000174
16000.0	573.9	1.5	-14.9	28.2	726.9	646.1	64.2	22.0	1.000172
16500.0	563.1	.5	-15.1	30.0	716.1	644.8	66.7	21.5	1.000169
17000.0	552.5	-.6	-15.3	31.8	705.4	643.6	67.4	20.0	1.000167
17500.0	542.2	-1.7	-15.6	33.6	694.8	642.3	68.7	18.6	1.000164
18000.0	531.8	-2.8	-15.7	36.0	684.4	641.0	70.9	17.5	1.000162
18500.0	521.7	-3.9	-15.9	38.5	674.0	639.7	75.3	17.3	1.000159
19000.0	511.7	-5.0	-16.2	41.0	663.9	638.4	82.3	18.4	1.000157
19500.0	502.0	-6.1	-16.5	43.5	653.9	637.1	86.2	19.3	1.000155
20000.0	492.3	-7.1	-17.4	43.7	643.9	635.8	87.4	19.7	1.000152
20500.0	482.8	-8.2	-18.4	43.4	634.0	634.5	86.3	20.5	1.000149
21000.0	473.4	-9.2	-19.4	43.0	624.2	633.2	84.3	22.0	1.000146
21500.0	464.2	-9.6	-20.3	20.8	613.1	632.7	81.1	26.0	1.000141
22000.0	455.2	-9.6	-20.9	18.8	601.3	632.6	78.2	30.1	1.000137
22500.0	446.3	-9.9	-31.1	15.8	590.4	632.2	75.6	34.4	1.000134
23000.0	437.6	-11.4	-30.9	18.0	582.1	630.4	74.4	35.4	1.000132

UPPER AIR DATA  
 2170290046  
 EAST-20/CHILKRY  
 GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

UPPER AIR DATA  
 2170290046  
 EAST-20/CHILKRY  
 TABLE 14 CONT'D

STATION ALTITUDE 3912.75 FEET MSL  
 5 AUG. 63 1245 MDT  
 ASCENSION NO. 46

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	
23500.0	420.9	-12.5	-31.4	18.7	573.0	629.1	73.7	35.9	1.000130
24000.0	420.4	-13.6	-32.0	19.3	564.0	627.8	74.0	35.7	1.000128
24500.0	412.1	-14.7	-32.6	20.0	555.2	626.4	74.2	35.8	1.000126
25000.0	403.9	-15.8	-33.2	20.7	546.5	625.1	74.4	35.9	1.000124
25500.0	395.8	-16.9	-34.0	20.9	537.9	623.8	74.2	35.5	1.000122
26000.0	387.9	-18.0	-35.1	20.7	529.4	622.4	73.7	34.7	1.000120
26500.0	380.0	-19.1	-36.1	20.4	521.0	621.0	73.6	33.7	1.000118
27000.0	372.4	-20.2	-37.2	20.2	512.7	619.7	73.8	32.6	1.000116
27500.0	364.8	-21.3	-38.2	20.0	504.5	618.3	75.1	31.5	1.000114
28000.0	357.4	-22.2	-38.9	20.0	495.9	617.3	77.5	30.4	1.000112
28500.0	350.0	-23.3	-39.8	20.2	487.9	615.9	79.5	29.6	1.000110
29000.0	342.8	-24.5	-40.7	20.5	480.2	614.4	80.7	29.1	1.000108
29500.0	335.7	-25.7	-41.5	20.6	472.6	612.9	81.4	29.0	1.000106
30000.0	328.7	-26.9	-42.5	21.1	465.1	611.3	79.6	34.7	1.000104
30500.0	321.8	-28.2	-43.5	21.3	457.7	609.7	78.6	39.7	1.000103
31000.0	315.1	-29.5	-44.5	21.5	450.4	608.1	78.9	40.5	1.000101
31500.0	308.4	-30.8	-45.6	21.7	443.3	606.5	79.2	41.0	1.000099
32000.0	301.9	-32.1	-46.6	21.9	436.3	604.9	79.5	41.5	1.000098
32500.0	295.5	-33.4	-47.7	22.0	429.3	603.3	79.8	42.0	1.000096
33000.0	289.1	-34.6	-48.8	22.0	422.3	601.7	83.1	37.2	1.000095
33500.0	282.9	-35.9	-49.8	22.0	415.4	600.1	88.4	31.5	1.000093
34000.0	276.8	-36.9	-50.8	22.0	408.2	598.8	93.9	28.7	1.000091
34500.0	270.8	-37.7	-51.4	22.0	400.7	597.8	99.0	27.7	1.000090
35000.0	264.9	-38.6	-53.0	19.9**	393.4	596.7	100.1	30.9	1.000088
35500.0	259.1	-39.6	-57.8	12.3**	386.5	595.3	101.8	33.9	1.000086
36000.0	253.4	-40.7	-66.0	4.6**	379.7	594.0	103.9	36.9	1.000085
36500.0	247.8	-41.8			373.1	592.5	105.0	39.4	1.000083
37000.0	242.2	-43.1			366.8	590.9	105.1	40.9	1.000082
37500.0	236.8	-44.4			360.6	589.2	104.9	42.3	1.000080
38000.0	231.5	-45.7			354.6	587.5	103.2	43.1	1.000079
38500.0	226.3	-47.0			348.6	585.9	101.5	44.0	1.000078
39000.0	221.1	-48.1			342.4	584.4	100.0	44.4	1.000076
39500.0	216.1	-49.3			336.2	582.9	98.4	44.8	1.000075
40000.0	211.1	-50.4			330.2	581.4	96.9	45.7	1.000074
40500.0	206.2	-51.6			324.3	579.9	95.3	47.3	1.000072
41000.0	201.5	-52.7			318.5	578.4	94.0	48.9	1.000071
41500.0	196.8	-53.8			312.6	576.9	94.5	51.0	1.000070
42000.0	192.2	-54.9			306.8	575.5	94.9	53.1	1.000068
42500.0	187.7	-56.0			301.1	574.1	95.9	53.6	1.000067
43000.0	183.3	-57.1			295.5	572.6	97.2	53.1	1.000066

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

STATION ALTITUDE 5912.75 FEET MSL  
 5 AUG. 83  
 ASCENSION NO. 46 1245 MDT

UPPER AIR DATA  
 2170290046  
 EAST-28/CHERRY  
 TABLE 14 CONT'D

GEODETIC COORDINATES  
 32.8927 LAT DEG  
 136.40591 LONG DEG

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	
43500.0	178.9	-58.2		290.0	571.2	98.4	52.7	1.000005
44000.0	174.6	-59.3		284.3	569.7	99.0	52.5	1.000063
44500.0	170.5	-60.3		279.0	568.4	99.6	52.4	1.000002
45000.0	166.3	-60.9		273.0	567.6	100.4	52.6	1.000061
45500.0	162.3	-61.5		267.2	566.7	101.1	52.9	1.000060
46000.0	158.4	-62.1		261.5	565.9	102.1	52.6	1.000058
46500.0	154.5	-62.7		255.9	565.1	103.0	52.4	1.000057
47000.0	150.8	-63.4		250.4	564.3	104.6	50.0	1.000056
47500.0	147.1	-63.4		244.4	564.2	106.8	46.6	1.000054
48000.0	143.5	-63.6		238.6	564.0	109.2	43.0	1.000053
48500.0	140.0	-64.3		233.5	563.0	111.4	36.2	1.000052
49000.0	136.6	-65.0		228.6	562.0	114.5	29.4	1.000051
49500.0	133.2	-65.7		223.8	561.1	113.3	25.1	1.000050
50000.0	129.9	-66.5		219.0	560.1	107.1	22.8	1.000049
50500.0	126.7	-66.9		214.1	559.4	99.5	22.2	1.000048
51000.0	123.6	-67.3		209.2	558.9	92.3	24.8	1.000047
51500.0	120.5	-67.7		204.3	558.4	86.8	27.6	1.000046
52000.0	117.5	-68.1		199.6	557.9	83.7	29.7	1.000044
52500.0	114.6	-68.6		195.1	557.2	81.0	31.9	1.000043
53000.0	111.7	-69.0		190.7	556.6	80.4	34.8	1.000042
53500.0	108.9	-69.5		186.4	555.9	79.9	37.6	1.000041
54000.0	106.2	-69.0		181.2	556.7	80.6	40.0	1.000040
54500.0	103.5	-67.8		175.7	558.2	81.6	42.2	1.000039
55000.0	101.0	-64.3		168.5	563.0	85.7	40.0	1.000038
55500.0	96.5	-64.6		164.5	562.7	92.7	35.7	1.000037
56000.0	93.1	-65.0		160.8	562.1			1.000036
56500.0	93.7	-65.4		157.2	561.5			1.000035
57000.0	91.4	-65.9		153.7	560.9			1.000034

STATION ALTITUDE 3912.75 FEET MSL  
 5 AUG. 83  
 ASCENSION 110. 46  
 1245 MDT

MANDATORY LEVELS  
 2170290046  
 EAST-28/CHEERY

GEODETTIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 15

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5168.	25.3	7.9	33.	142.1	5.7	
800.0	6904.	21.3	7.3	41.	81.3	5.3	
750.0	8725.	17.0	6.0	49.	72.4	11.9	
700.0	10641.	12.2	4.4	59.	64.1	13.6	
650.0	12663.	6.9	1.5	68.	48.1	14.8	
600.0	14804.	2.6	-8.4	44.	55.2	19.2	
550.0	17103.	-9.	-15.4	32.	67.6	19.6	
500.0	19575.	-6.3	-16.5	44.	86.4	19.4	
450.0	22256.	-9.4	-30.9	15.	76.7	32.5	
400.0	25201.	-16.3	-33.5	21.	74.4	35.9	
350.0	28452.	-23.3	-39.8	20.	79.5	29.6	
300.0	32007.	-32.5	-46.9	22.	79.6	41.6	
250.0	36222.	-41.3			105.0	33.7	
200.0	41063.	-53.1			94.1	49.5	
175.0	43847.	-59.2			98.9	52.6	
150.0	46982.	-63.5			105.0	49.4	
125.0	50629.	-67.1			95.7	23.4	
100.0	55029.	-64.3			87.9	38.4	

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

**END**

**FILMED**

**9-83**

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