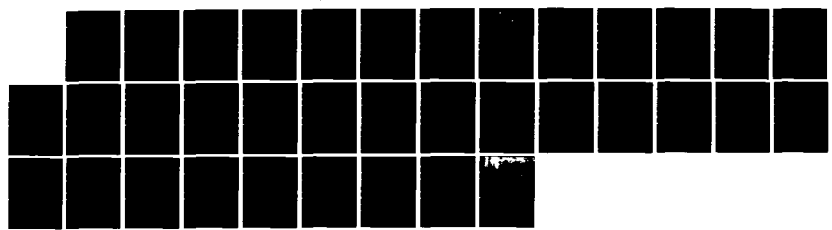
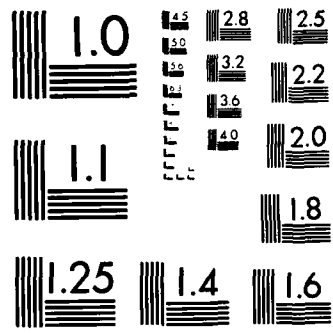


AD-A131 919 19310 MLRS MISSILE NUMBERS BN-308 BN-317 BN-310 BN-320 1/1

BN-312 BN-322 ROU. (U) ARMY ELECTRONICS RESEARCH AND  
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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

AD A 131919

METEOROLOGICAL DATA REPORT

19310A MLRS  
Missile Number BN-308, BN-317,  
BN-310, BN-320, BN-322  
Round Number 485/DL-25 thru 490/DL-30  
29 July 1983

by

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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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4. TITLE (and Subtitle) 19310A MLRS Missile Number BN-308, BN-317, BN-310, BN-320, BN-312, BN-322 Round Number 485/DL-25 thru 490/DL-30	5. TYPE OF REPORT & PERIOD COVERED	
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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-308, BN-317, BN-310, BN-320, BN-312, BN-322, Round Number 485/DL-25 thru 490/DL-30 are presented in tabular form.		

CONTENTS

	PAGE
INTRODUCTION -----	1
DISCUSSION -----	1
GENERAL AREA MAP -----	2
LAUNCH AREA DIAGRAM -----	3
TABLES:	
1. Surface Observation taken at 0915 MDT at Brillo -----	4
2. Anemometer Measured Wind Data at 30 FT. AGL -----	5
3. Anemometer Measured Wind Data at 60 FT. AGL -----	6
4. Anemometer Measured Wind Data at 90 FT. AGL -----	7
5. Launch and Impact Area Pilot-Balloon Measured Wind Data -----	8
6. Aiming and T-Time Computer Met Messages -----	9
7. E-28 Significant Level Data at 0615 MDT -----	10
8. E-28 Upper Air Data at 0615 MDT -----	12
9. E-28 Mandatory Levels at 0615 MDT -----	16
10. Jallen Significant Level Data at 0800 MDT -----	17
11. Jallen Upper Air Data at 0800 MDT -----	19
12. Jallen Mandatory Levels at 0800 MDT -----	23
13. E-28 Significant Level Data at 0915 MDT -----	24
14. E-28 Upper Air Data at 0915 MDT -----	26
15. E-28 Mandatory Levels at 0915 MDT -----	30



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## INTRODUCTION

19310A MLRS, Missile Numbers BN-308, BN-317, BN-310, BN-320, BN-312, and BN-322, Round Numbers 485/DL-25 thru 490/DL-30, were launched from Brillo, White Sands Missile Range (WSMR), New Mexico, at 0915:01, 0915:05, 0915:10, 0915:14, 0915:19, and 0915:23 MDT, 29 JUL 83. The scheduled launch times were 0915 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 ( $\text{gm}/\text{m}^3$ ), 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

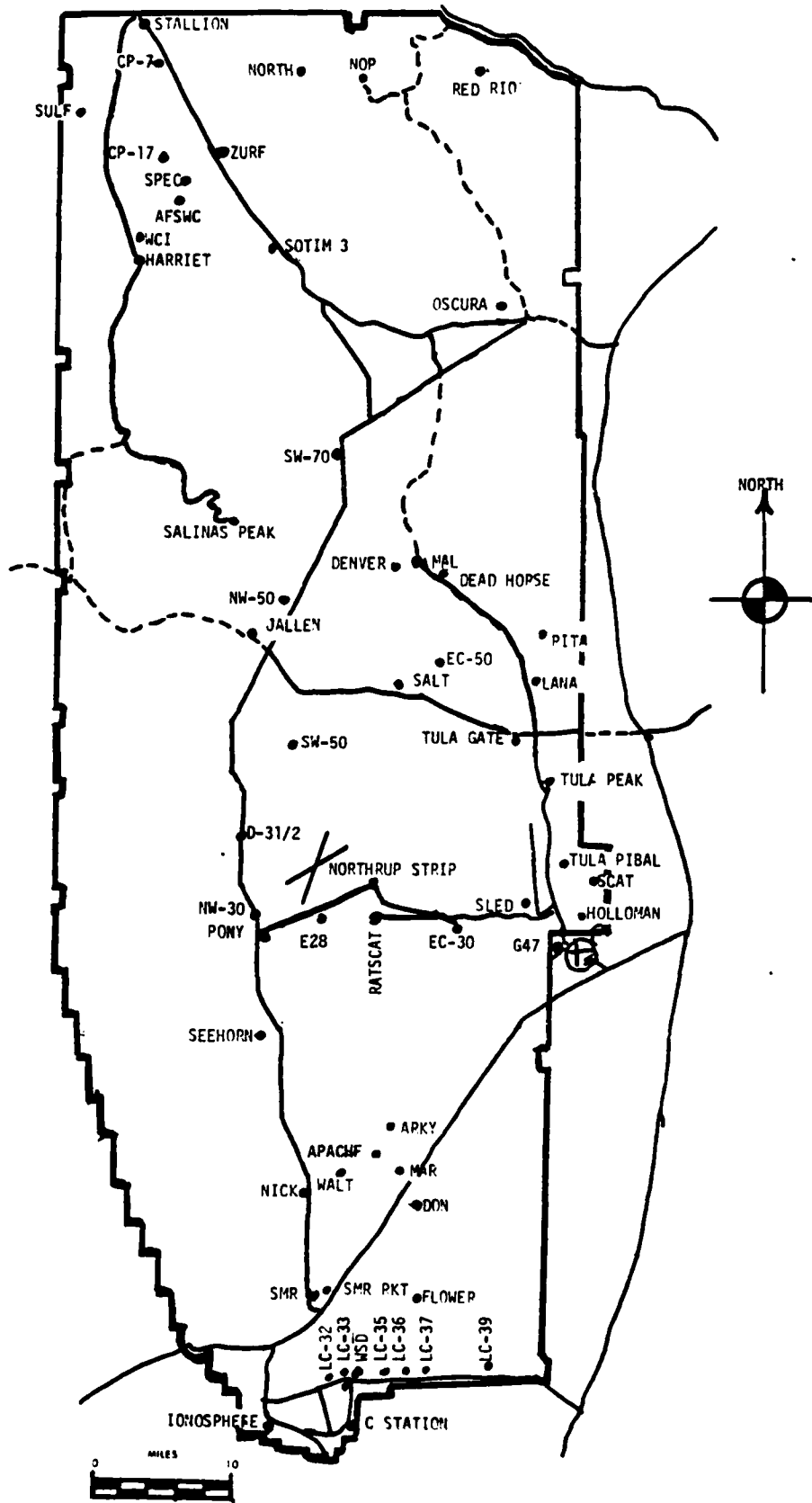
D $3\frac{1}{2}$	2 Km
Mal	2 Km

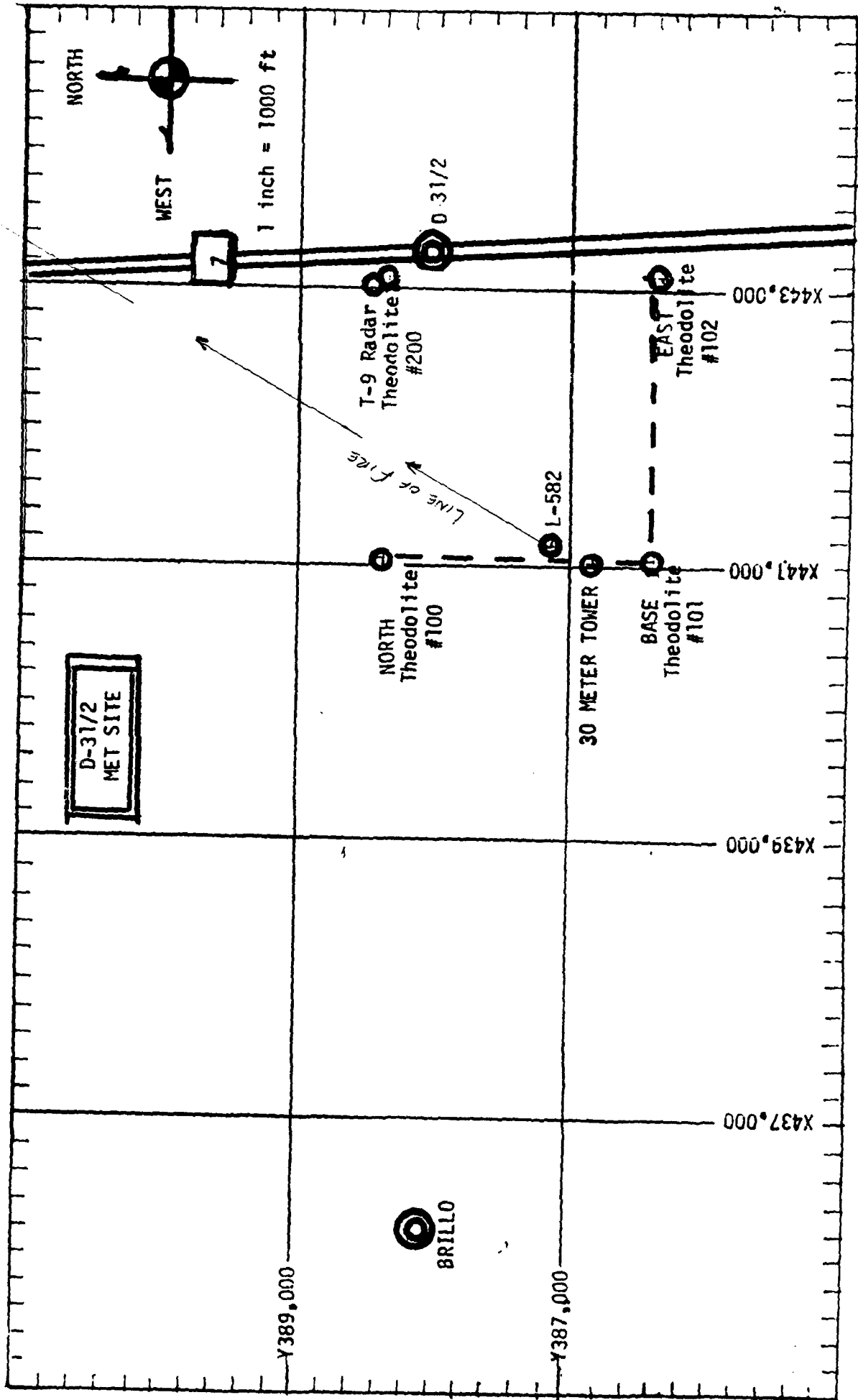
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

#### SITE AND TIME

E-28	0615 MDT
JALLEN	0800 MDT
E-28	0915 MDT

# WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1		STATION <u>Brillo</u>							
DATE	TIME	MO	DAY	YEAR	Y =	X =	H =		
29	0915	JUL		83	443.093.12	Y = 386.316.94	H = 3962.25		
TIME M D T	PRESSURE inHg	TEMPERATURE OF	TEMPERATURE OC	DEW POINT OF	RELATIVE HUMIDITY %	DENSITY gm/d <sup>3</sup>	WIND		VISIBIL- ITY
							DIRECTION degs In	SPEED kts	
0915	880.9	29.2	12.5	36			340	04	20

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS			
	1st LAYER		2nd LAYER		3rd LAYER					
	AMT	HGT	AMT	HGT	AMT	HGT				
	1	SC	6000	4	AC	12500	1	CI	25000	H ALQDS

PSYCHROMETRIC COMPUTATION

TIME:	MDT	0915
DRY BULB TEMP.		29.2
WET BULB TEMP.		18.1
WET BULB DEPR.		11.1
DEW POINT		12.5
RELATIVE HUMID.		36

TABLE 2

Anemometer Data - 30 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 326,349.19 H= 4,004.80 (BASE)

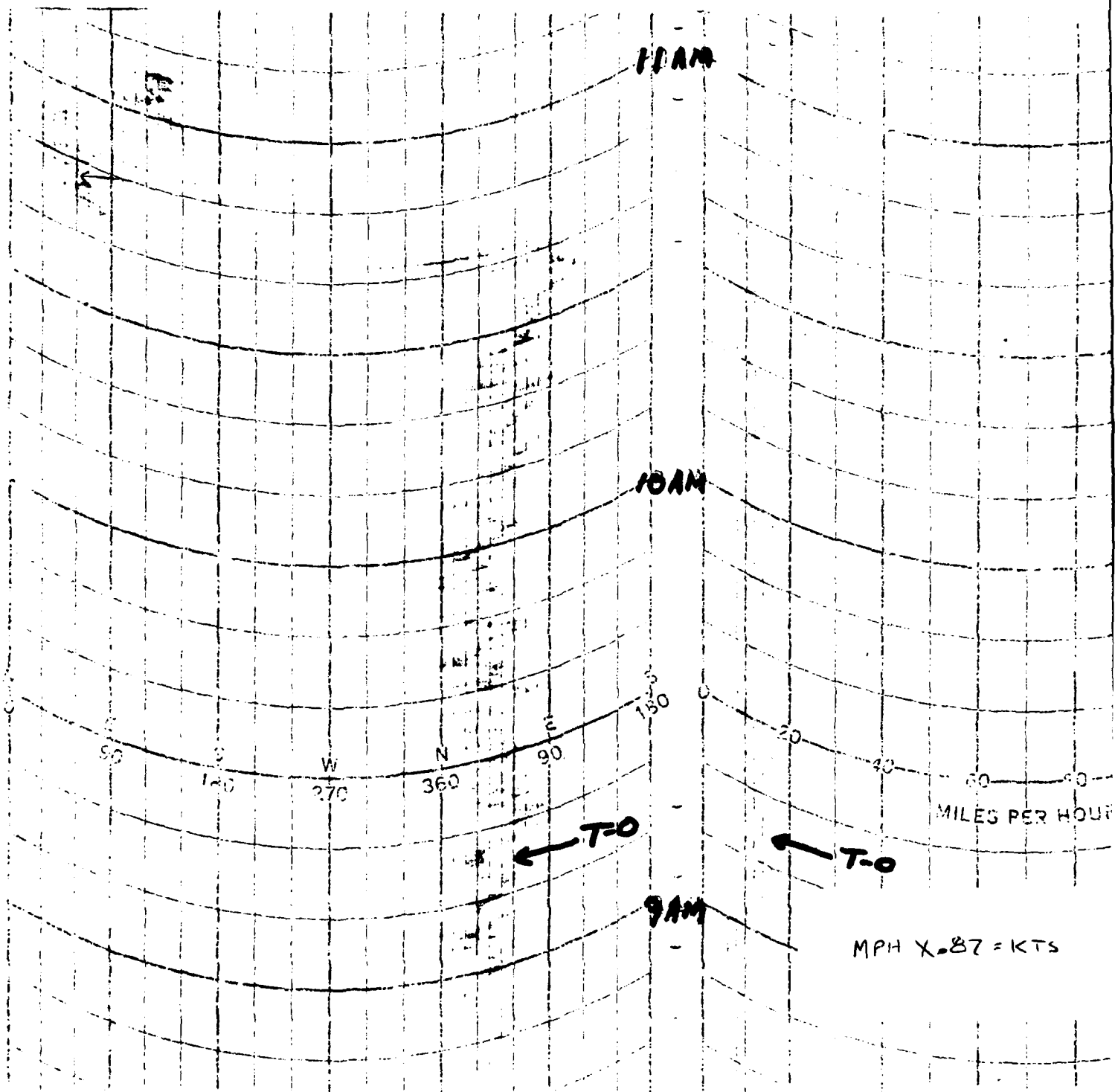


TABLE 3

Anemometer Data = 60 FT. Level of 30 Meter Tower

X= 441,018.71 Y= 386,349.19 H= 4,004.00 (BASE)

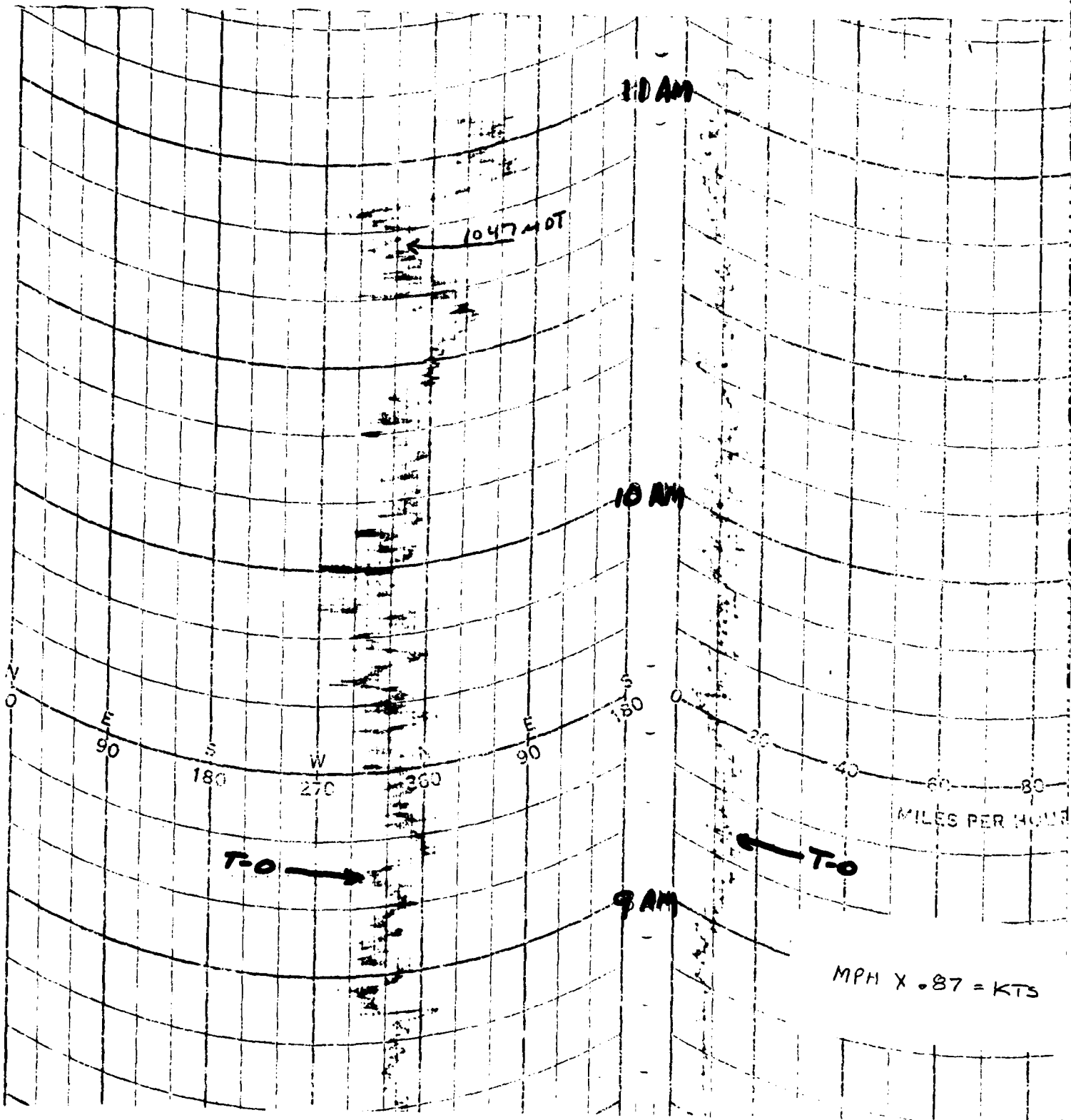
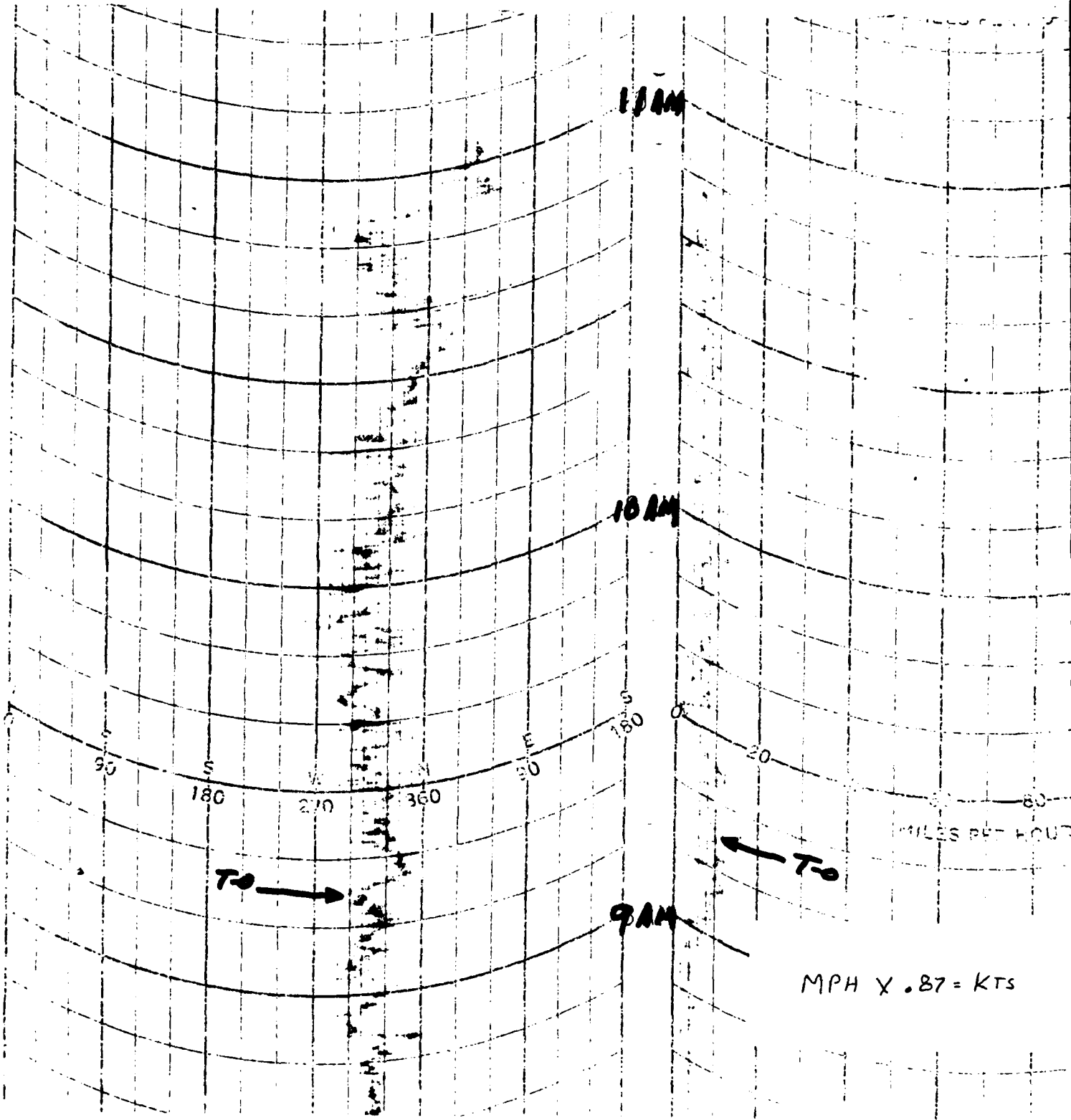


TABLE . 4

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 29 JUL 83

SITE: D 3½  
 TIME: 0915 MDT  
 WSTM COORDINATES:  
 X= 443,093.12  
 Y= 386,316.94  
 H= 3,962.25

SITE: MAL  
 TIME 0915 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	04
150	357	15
210	357	17
270	355	16
330	353	16
390	352	15
500	351	11
650	357	10
800	001	12
950	002	13
1150	011	10
1350	052	07
1550	066	07
1750	112	06
2000	132	08

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

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	350	10
150	007	14
210	015	13
270	023	13
330	028	12
390	030	12
500	030	10
650	030	07
800	040	04
950	085	05
1150	122	05
1350	106	07
1550	099	09
1750	106	08
2000	096	14

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

## AIMING AND T-TIME COMPUTER MET MESSAGES

29 July 1983

E-28 0615 MDT	JALLEN 0800 MDT	E-28 0915 MDT
METCML329065	METCML332065	METCML329065
291230119883	291400124880	291530119885
00089002 29800883	00018002 29940880	00604003 30140885
01610009 29970873	01006004 29950870	01606008 30130875
02036003 30050849	02048012 29920845	02080002 29970851
03193002 29890811	03084007 29700807	03118003 29730812
04310003 29470766	04173005 29440762	04219007 29440767
05207006 29050723	05196012 29030719	05203007 29070724
06170010 28630681	06197011 28600678	06171011 28670682
07197009 28160641	07192014 28150638	07176014 28250642
08209012 27700603	08200017 27700600	08186016 27780605
09210013 27280567	09213014 27260564	09202015 27330568
10187008 26910533	10144005 26910530	10180012 26980534
11247004 26660500	11201004 26610497	11143009 26690501
12281008 26140454	12210006 26090451	12183008 26190455
13160007 25570398	13231010 25490395	13265015 25670399
14193012 24900347	14244013 24820345	14234014 25000349
15241014 24080302	15232011 24070300	15214014 24220304
16281011 23360262	16256012 23270260	16214013 23390263
17322015 22480226	17322016 22470224	17242014 22560227
18308016 21740194	18298013 21670192	18265016 21920195
19343008 21090165	19271010 21140164	19306013 21280166
20361016 20650140	20348017 20590139	20347015 20670142
21312016 20270119	21330018 20220118	21308019 20340120
22307012 20160100	22193015 20080100	22269011 20250101
23157016 20470085	23197015 20550084	23170021 20470086
24206020 21030072	24181017 21290072	24234016 21160073
25164015 21280062	25185018 21430061	25169016 21310062
26144021 21430052	26177018 21510052	26161022 21400053

STATION ALTITUDE 3912.75 FEET MSL  
 29 JULY 83  
 ASCENSION NO. 41

0615 MDT

SIGNIFICANT LEVEL DATA  
 2100290041  
 EAST-20/CHERRY

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 7

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
883.4	22.9	53.0
874.2	24.4	40.0
870.3	25.0	43.0
850.0	25.3	42.0
834.2	26.0	37.0
700.0	14.0	45.0
687.5	12.8	44.0
607.8	3.4	72.0
548.4	-3.4	96.0
523.9	-5.8	97.0
500.0	-7.1	93.0
486.9	-8.1	80.0
468.3	-11.2	97.0
448.5	-12.7	97.0
430.4	-15.0	97.0
418.3	-15.5	78.0
408.1	-16.7	42.0
400.0	-17.3	40.0
365.6	-21.3	37.0
361.6	-22.5	28.0
341.1	-25.0	34.0
325.1	-27.6	41.0
300.0	-33.1	57.0
281.0	-37.0	63.0
268.5	-38.9	41.0
250.0	-43.3	
200.0	-54.3	
182.2	-58.5	
167.4	-61.4	
150.0	-66.7	
142.2	-65.7	
122.2	-70.1	
109.9	-72.0	
105.9	-70.9	
100.0	-71.8	
95.4	-73.0	
92.7	-69.7	
86.7	-70.4	
83.6	-67.5	
76.3	-64.7	

STATION ALTITUDE 3,12.75 FEET MSL  
20 JULY 83 0615 MDT  
ASCENSION NO. 41

SIGNIFICANT LEVEL DATA  
2100290041  
FAST-26/CHEKRY

GEODETTIC COORDINATES  
32.89927 LAT DEG  
136.40591 LON DEG

TABLE 7 CONT

GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
70.0 61038.5	-61.4	
50.0 68877.1	-58.6	
40.7 73208.9	-52.8	

UPPER AIR DATA  
 2100290041  
 EAST-20/CHERRY

STATION ALTITUDE 3912.75 FLEET MSL  
 29 JULY 83 0615 MDT  
 ASCENSION NO. 41

GEODYLIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE						
3912.7	885.4	22.9	12.8	53.0	1032.9	672.4	50.0	1.9	1.000294
4000.0	880.7	23.3	12.6	51.0	1020.3	672.9	51.1	2.0	1.000292
4500.0	865.6	25.7	12.1	42.8	1002.8	675.5	57.1	2.1	1.000283
5000.0	850.7	25.3	11.5	42.0	987.0	675.1	62.3	2.2	1.000278
5500.0	835.1	25.9	10.4	37.6	968.4	675.6	67.0	2.4	1.000269
6000.0	821.6	25.0	9.5	37.7	954.0	674.5	63.6	1.7	1.000264
6500.0	807.2	23.7	8.8	38.5	942.1	673.1	137.7	1.4	1.000259
7000.0	793.1	22.5	8.0	39.3	929.6	671.6	169.5	1.3	1.000254
7500.0	779.2	21.3	7.2	40.1	917.2	670.2	166.1	1.9	1.000249
8000.0	765.6	20.1	6.4	40.9	905.1	668.8	144.7	3.3	1.000244
8500.0	752.2	18.9	5.6	41.7	893.1	667.3	141.5	4.5	1.000240
9000.0	739.0	17.7	4.8	42.5	881.2	665.9	137.2	5.5	1.000235
9500.0	725.1	16.5	4.0	43.3	869.6	664.4	117.0	6.6	1.000231
10000.0	713.4	15.3	3.2	44.1	858.1	663.0	104.0	8.3	1.000226
10500.0	700.9	14.1	2.3	44.9	846.8	661.6	95.9	10.2	1.000222
11000.0	688.4	12.9	1.0	44.1	835.4	660.1	95.1	9.5	1.000217
11500.0	675.9	11.5	.8	47.9	824.2	658.5	96.6	8.3	1.000214
12000.0	663.6	10.1	.7	52.1	813.1	656.9	102.8	7.9	1.000212
12500.0	651.5	8.7	.5	56.2	802.3	655.2	108.8	8.2	1.000209
13000.0	639.6	7.3	.1	60.4	791.6	653.6	112.8	9.6	1.000206
13500.0	627.9	5.9	-.3	64.6	781.1	651.9	114.5	10.7	1.000203
14000.0	616.5	4.5	-.7	68.8	770.8	650.3	115.2	11.5	1.000200
14500.0	605.1	3.1	-1.2	73.0	760.4	648.7	117.1	12.1	1.000197
15000.0	593.8	1.9	-1.7	77.4	749.6	647.2	119.2	12.7	1.000194
15500.0	582.6	.6	-2.1	81.9	738.9	645.7	121.6	13.3	1.000191
16000.0	571.7	-.6	-2.6	86.3	728.4	644.2	120.1	13.4	1.000188
16500.0	561.0	-1.9	-3.2	90.7	718.1	642.7	114.3	13.0	1.000185
17000.0	550.4	-3.2	-3.8	95.1	708.0	641.2	109.7	11.6	1.000182
17500.0	540.0	-4.2	-4.7	96.3	697.3	639.8	105.4	9.7	1.000178
18000.0	529.7	-5.2	-5.7	96.8	686.7	638.6	105.1	6.3	1.000174
18500.0	519.5	-6.0	-6.5	96.3	675.7	637.6	109.4	4.6	1.000170
19000.0	509.5	-6.6	-7.3	94.6	664.1	636.9	119.0	4.4	1.000167
19500.0	499.7	-7.1	-8.1	92.9	652.8	636.2	132.0	6.0	1.000163
20000.0	490.1	-7.9	-9.5	87.7	642.1	635.3	139.4	8.0	1.000159
20500.0	480.6	-9.1	-10.5	89.7	632.8	633.7	149.6	8.2	1.000156
21000.0	471.2	-10.7	-11.3	95.2	624.2	631.8	158.9	8.7	1.000153
21500.0	462.0	-11.7	-12.0	97.0	614.3	630.6	165.0	8.9	1.000150
22000.0	452.9	-12.4	-12.7	97.0	603.9	629.7	169.9	8.9	1.000147
22500.0	444.0	-13.3	-13.6	97.0	594.1	628.6	164.3	7.4	1.000144
23000.0	435.2	-14.4	-14.7	97.0	584.9	627.2	155.7	6.3	1.000141

STATION ALTITUDE 3912.75 F FT MSL  
 29 JULY 83 0615 MDT  
 ASCENSION NO. 41

UPPER AIR DATA  
 2100290041  
 EAST-20/CHERRY

GEODETIC COORDINATES  
 32.09927 LAT UEG  
 136.40591 LON UEG

TABLE 8 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	420.6	-15.2	-16.3	91.1	575.1	626.2	143.9	6.1	1.000138
24000.0	410.1	-15.5	-18.0	77.3	564.6	625.7	129.2	6.2	1.000134
24500.0	409.8	-16.5	-24.9	47.9	555.8	624.3	113.0	6.8	1.000128
25000.0	401.5	-17.2	-27.4	40.4	546.2	623.5	90.9	7.5	1.000125
25500.0	393.4	-18.0	-28.4	39.4	537.0	622.4	74.6	8.8	1.000123
26000.0	383.5	-18.9	-29.4	38.8	528.0	621.3	70.2	8.9	1.000121
26500.0	377.7	-19.9	-30.4	38.1	519.2	620.2	72.3	9.1	1.000118
27000.0	370.1	-20.8	-31.5	37.4	510.6	619.1	80.3	9.5	1.000116
27500.0	362.5	-22.2	-35.0	30.1	503.1	617.2	92.3	10.4	1.000114
28000.0	353.1	-23.3	-36.0	29.9	494.9	615.9	102.4	11.7	1.000112
28500.0	347.8	-24.2	-36.1	32.0	486.5	614.8	109.5	12.7	1.000110
29000.0	340.6	-25.1	-36.2	34.2	478.2	613.7	115.8	13.5	1.000108
29500.0	333.5	-26.2	-36.4	37.3	470.4	612.3	122.3	13.9	1.000106
30000.0	326.6	-27.3	-36.7	40.3	462.8	610.9	126.8	14.3	1.000105
30500.0	319.7	-28.7	-37.0	44.3	455.0	609.1	129.6	14.6	1.000103
31000.0	313.0	-30.2	-37.5	48.6	448.7	607.3	131.7	14.8	1.000101
31500.0	306.4	-31.7	-39.0	52.8	441.8	605.5	133.6	14.9	1.000100
32000.0	299.9	-33.1	-38.7	57.0	435.1	603.7	137.0	14.0	1.000098
32500.0	293.4	-34.4	-38.6	59.0	428.1	602.0	140.9	12.8	1.000097
33000.0	287.1	-35.7	-40.5	61.0	421.2	600.4	145.8	10.7	1.000095
33500.0	280.9	-37.0	-41.4	62.9	414.4	598.7	149.4	9.6	1.000093
34000.0	274.8	-37.9	-44.0	52.2	406.9	597.5	150.3	9.3	1.000091
34500.0	268.8	-38.8	-46.9	41.6	399.7	596.4	149.4	10.0	1.000090
35000.0	262.9	-40.2	-51.3	28.9**	393.1	594.6	148.0	11.1	1.000088
35500.0	257.1	-41.6	-57.3	16.1**	386.7	592.9	157.5	11.8	1.000086
36000.0	251.4	-43.0	-70.2	3.2**	380.5	591.1	165.9	12.6	1.000085
36500.0	245.7	-44.2			373.8	589.5	173.7	13.3	1.000083
37000.0	240.1	-45.3			367.1	588.1	178.7	13.9	1.000082
37500.0	234.6	-46.4			360.5	586.6	181.8	14.4	1.000080
38000.0	229.3	-47.6			354.1	585.1	183.2	15.0	1.000079
38500.0	224.0	-48.7			347.7	583.6	184.0	15.5	1.000077
39000.0	218.9	-49.8			341.5	582.2	180.6	15.0	1.000076
39500.0	213.9	-51.0			335.4	580.7	176.9	14.6	1.000075
40000.0	209.0	-52.1			329.5	579.2	172.7	14.7	1.000073
40500.0	204.3	-53.3			323.6	577.7	169.7	15.2	1.000072
41000.0	199.6	-54.4			317.8	576.2	169.9	16.3	1.000071
41500.0	194.9	-55.5			311.9	574.8	171.2	16.7	1.000069
42000.0	190.3	-56.5			306.0	573.4	174.1	16.3	1.000068
42500.0	185.8	-57.6			300.3	571.9	176.6	14.9	1.000067
43000.0	181.4	-58.7			294.6	570.6	179.6	13.0	1.000066

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

STATION ALTITUDE 3912.75 F CI MSL  
 29 JULY 83 0615 MDT  
 ASCENSION NO. 41

UPPER AIR DATA  
 2100290041  
 EAST-28/CHERRY

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 8 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DULGRES(TN)	SPEED KNOTS	
43500.0	17.0	-59.5	288.6	569.5	181.6	10.8	1.000064	
44000.0	17.2	-60.3	282.8	568.3	184.9	8.8	1.000063	
44500.0	16.0	-61.1	277.1	567.2	191.3	7.9	1.000062	
45000.0	16.4	-62.2	271.8	565.8	197.2	7.5	1.000061	
45500.0	16.0	-63.4	266.6	564.2	195.8	8.3	1.000059	
46000.0	15.0	-64.6	261.6	562.6	194.7	9.6	1.000058	
46500.0	15.2	-65.8	256.7	561.0	193.8	12.2	1.000057	
47000.0	14.9	-66.6	251.3	559.9	195.7	14.1	1.000056	
47500.0	14.5	-66.1	244.5	560.6	200.7	15.2	1.000054	
48000.0	14.1	-65.8	238.1	561.0	205.7	15.5	1.000053	
48500.0	13.8	-66.5	233.0	560.0	211.1	15.3	1.000052	
49000.0	13.4	-67.3	228.0	559.0	208.1	15.5	1.000051	
49500.0	13.1	-68.0	223.1	558.0	203.2	15.8	1.000050	
50000.0	12.8	-68.7	218.3	557.0	193.6	15.6	1.000049	
50500.0	12.4	-69.5	213.7	556.0	184.4	15.8	1.000048	
51000.0	12.1	-70.2	209.1	555.1	178.4	15.7	1.000047	
51500.0	11.8	-70.6	204.2	554.4	172.6	15.7	1.000045	
52000.0	11.5	-71.1	199.5	553.8	169.0	16.1	1.000044	
52500.0	11.2	-71.5	194.9	553.2	166.5	16.6	1.000043	
53000.0	11.0	-72.0	190.4	552.5	168.5	16.7	1.000042	
53500.0	10.7	-71.3	184.9	553.6	171.0	16.4	1.000041	
54000.0	10.4	-71.1	180.1	553.7	176.3	14.5	1.000040	
54500.0	10.1	-71.5	175.9	553.2	180.5	12.7	1.000039	
55000.0	9.9	-72.0	171.9	552.5	175.8	10.6	1.000038	
55500.0	9.6	-72.7	168.0	551.6	166.7	8.5	1.000037	
56000.0	9.4	-71.6	162.9	553.1	145.0	7.0	1.000036	
56500.0	9.1	-69.8	157.4	555.6	116.4	6.8	1.000035	
57000.0	8.9	-70.1	153.6	555.2	87.9	8.1	1.000034	
57500.0	8.7	-70.3	150.0	554.8	75.6	11.0	1.000033	
58000.0	8.5	-68.9	145.2	556.7	60.0	15.5	1.000032	
58500.0	8.3	-67.3	140.5	559.0	45.4	20.0	1.000031	
59000.0	8.1	-66.5	136.5	560.0	35.8	25.1	1.000030	
59500.0	7.9	-65.8	132.6	561.0	30.5	29.1	1.000030	
60000.0	7.7	-65.0	128.9	562.1	28.0	27.5	1.000029	
60500.0	7.5	-64.1	125.2	563.3	25.6	25.7	1.000028	
61000.0	7.3	-63.2	121.6	564.5	23.4	20.9	1.000027	
61500.0	7.1	-62.2	118.1	565.8	21.7	16.7	1.000026	
62000.0	6.9	-61.4	114.8	566.9	19.7	16.0	1.000026	
62500.0	6.8	-61.2	111.9	567.2	18.7	15.3	1.000025	
63000.0	6.6	-61.0	109.2	567.5	18.0	14.7	1.000024	

STATION ALTITUDE 3912.75 FEET MSL  
 29 JULY 83  
 ASCENSION NO. 41 0615 MDT

UPPER AIR DATA  
 2100290041  
 EAST-28/CHEKRY

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 8 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPLD OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	64.9	-60.8			106.4	567.7	105.5	14.3	1.000024
64000.0	63.3	-60.6			103.8	568.0	98.2	14.3	1.000023
64500.0	61.8	-60.4			101.2	568.3	90.8	14.6	1.000023
65000.0	60.3	-60.2			98.7	568.6	87.1	15.6	1.000022
65500.0	58.9	-60.0			96.2	568.8	84.5	16.9	1.000021
66000.0	57.5	-59.8			93.8	569.1	82.0	16.8	1.000021
66500.0	56.1	-59.6			91.5	569.4	79.4	16.2	1.000020
67000.0	54.8	-59.4			89.2	569.6	76.7	17.1	1.000020
67500.0	53.5	-59.2			87.0	569.9	74.5	18.9	1.000019
68000.0	52.2	-59.0			84.9	570.2	76.0	21.0	1.000019
68500.0	50.9	-58.8			82.7	570.4	83.2	24.1	1.000018
69000.0	49.7	-58.4			80.7	570.9	88.6	27.4	1.000018
69500.0	48.5	-58.8			78.5	571.7	93.7	27.8	1.000017
70000.0	47.4	-57.1			76.4	572.6	98.7	28.4	1.000017
70500.0	46.3	-56.4			74.4	573.5	100.0	27.2	1.000017
71000.0	45.2	-55.8			72.4	574.4	99.5	24.9	1.000016
71500.0	44.1	-55.1			70.5	575.3			1.000016
72000.0	43.1	-54.4			68.7	576.2			1.000015
72500.0	42.1	-53.7			66.8	577.1			1.000015
73000.0	41.1	-53.1			65.1	577.9			1.000014

STATION ALTITUDE 3912.75 FEET MSL  
 29 JULY 83 0615 MDT  
 ASCENSION NO. 41

MANDATORY LEVELS  
 2100290041  
 EAST-28/CHEMRY

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LONG 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	5021.	25.3	11.5	42.	62.6	2.2
800.0	6767.	23.1	8.4	39.	154.4	1.3
750.0	8600.	18.7	5.5	42.	141.3	4.7
700.0	10528.	14.0	2.3	45.	95.4	10.4
650.0	12561.	8.5	.4	57.	109.4	8.4
600.0	14712.	2.5	-1.4	75.	110.0	12.4
550.0	17001.	-3.2	-3.8	95.	109.6	11.6
500.0	19460.	-7.1	-8.0	93.	131.5	5.9
450.0	22130.	-12.6	-13.0	97.	168.4	8.4
400.0	25054.	-17.3	-27.6	40.	87.4	7.7
350.0	28208.	-23.9	-36.1	31.	107.3	12.3
300.0	31929.	-33.1	-38.7	57.	136.9	14.0
250.0	36047.	-43.3			167.7	12.7
200.0	40858.	-54.3			169.9	16.1
175.0	43629.	-59.9			182.7	9.8
150.0	46741.	-66.7			194.0	13.8
125.0	50350.	-69.4			184.8	15.8
100.0	54683.	-71.8			177.6	11.3
80.0	59042.	-66.2			99.0	27.4
70.0	61727.	-61.4			120.4	16.1
60.0	64873.	-60.1			86.7	15.8
50.0	68619.	-58.6			87.1	20.4

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

STATION ALTITUDE 4051.00 F, ET MSL.  
 29 JULY 63  
 ASCENSION NO. 103

SIGNIFICANT LEVEL DATA  
 2100030103  
 JALLEH

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LONG DEG

TABLE 10

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
879.5	4051.0	24.5	10.8	42.0
875.5	4182.2	24.8	6.1	30.0
856.7	4807.7	25.5	7.6	32.0
856.0	5634.1	25.0	6.2	30.0
801.2	6728.8	21.9	7.7	40.0
774.9	7679.7	21.2	6.7	39.0
716.1	9903.4	15.7	2.2	40.0
700.0	10536.2	14.2	1.5	42.0
614.9	14074.1	4.7	-2.6	59.0
576.1	15808.3	.1	-4.9	69.0
553.7	16849.2	-2.9	-5.7	94.0
500.0	19489.8	-7.4	-7.9	96.0
463.8	21405.2	-10.9	-13.2	83.0
440.6	22695.3	-14.4	-14.8	97.0
423.0	23710.0	-16.1	-16.3	98.0
414.8	24195.3	-16.4	-16.8	97.0
400.0	25093.0	-17.7	-24.3	56.0
379.2	26001.6	-20.4	-29.9	42.0
337.5	29208.5	-26.2	-37.3	34.0
300.0	31079.2	-32.3	-41.5	39.0
286.5	33041.5	-35.6	-43.2	45.0
267.5	34603.0	-38.9	-46.9	
250.0	36120.0	-42.6		
230.4	37919.1	-46.9		
200.0	40954.0	-54.9		
189.7	42061.0	-57.6		
170.9	44220.6	-60.0		
150.0	46671.4	-65.4		
125.1	50473.6	-70.0		
111.4	52737.9	-72.2		
104.4	54000.0	-71.6		
100.0	54834.8	-73.5		
93.6	56111.0	-73.5		
93.3	56173.6	-69.6		
78.2	59676.9	-66.2		
73.2	61021.5	-59.2		
70.0	61947.0	-58.9		
57.6	65987.8	-58.9		
50.0	68929.5	-57.7		
42.4	72398.2	-53.9		

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

SIGNIFICANT LEVEL DATA  
2100030103  
JALLEN

GEODETTIC COORDINATES  
33.16712 LAT DEG  
106.49511 LONG DEG

TABLE 10 CONT

PRESSURE GEOMETRIC MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES 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

GEODTIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 11

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(TIN)	SPEED KNOTS	
4051.0	879.5	24.5	10.0	42.0	1023.6	674.0	10.0	1.9	1.000283
4500.0	865.9	25.2	6.9	31.0	1006.8	674.3	26.0	4.3	1.000267
5000.0	851.0	25.1	6.4	30.3	989.8	674.2	30.9	7.0	1.000262
5500.0	836.3	24.1	6.8	32.7	975.6	673.2	33.0	9.7	1.000260
6000.0	821.8	23.2	7.2	35.7	961.4	672.3	36.4	10.5	1.000258
6500.0	807.6	22.3	7.0	38.7	947.6	671.3	40.8	8.1	1.000256
7000.0	793.6	21.7	7.4	39.7	933.0	670.6	60.4	6.5	1.000253
7500.0	779.8	21.3	6.9	39.2	918.0	670.2	76.2	5.6	1.000248
8000.0	766.1	20.4	6.1	39.1	905.0	669.0	94.4	5.5	1.000243
8500.0	752.7	19.2	5.0	39.4	893.0	667.5	110.3	6.1	1.000238
9000.0	739.4	17.9	4.0	39.6	881.5	666.1	115.1	7.7	1.000233
9500.0	726.4	16.7	3.0	39.8	869.6	664.6	112.7	10.3	1.000228
10000.0	713.6	15.5	2.1	40.3	858.1	663.1	109.4	12.3	1.000223
10500.0	700.9	14.3	1.5	41.9	846.4	661.7	106.3	14.1	1.000220
11000.0	688.2	13.0	1.1	44.2	834.9	660.2	107.5	13.1	1.000217
11500.0	675.7	11.6	.6	46.6	823.7	658.6	108.7	12.1	1.000213
12000.0	663.4	10.3	.1	49.0	812.6	657.0	109.2	11.7	1.000210
12500.0	651.4	8.9	-.5	51.4	801.7	655.4	109.3	12.2	1.000207
13000.0	639.6	7.6	-1.2	53.8	791.0	653.8	109.2	13.5	1.000203
13500.0	628.0	6.2	-1.8	56.2	780.5	652.2	109.4	14.7	1.000200
14000.0	616.6	4.9	-2.5	58.6	770.1	650.6	109.8	15.7	1.000197
14500.0	605.1	3.6	-3.1	61.5	759.5	649.0	112.4	16.4	1.000193
15000.0	593.9	2.2	-3.8	64.3	749.0	647.5	115.8	17.0	1.000190
15500.0	582.8	.9	-4.5	67.2	738.7	645.9	117.9	16.5	1.000187
16000.0	571.9	-.5	-4.6	73.6	728.5	644.3	120.0	15.7	1.000184
16500.0	561.1	-1.9	-4.0	85.6	718.4	642.6	116.8	13.6	1.000184
17000.0	550.5	-3.2	-4.0	94.1	708.1	641.1	111.7	11.4	1.000181
17500.0	540.0	-4.0	-4.8	94.5	696.8	640.1	103.4	8.2	1.000178
18000.0	529.6	-4.9	-5.6	94.9	685.7	639.0	84.5	5.2	1.000174
18500.0	519.5	-5.7	-6.3	95.3	674.6	638.0	75.7	3.2	1.000170
19000.0	509.6	-6.6	-7.1	95.6	664.1	636.9	63.1	1.6	1.000167
19500.0	499.8	-7.4	-8.0	95.9	653.6	635.9	106.3	3.3	1.000164
20000.0	490.1	-8.3	-9.3	92.5	643.2	634.7	116.0	5.3	1.000160
20500.0	480.6	-9.2	-10.7	89.1	633.0	633.5	116.7	6.8	1.000156
21000.0	471.2	-10.2	-12.1	85.8	623.0	632.4	117.6	7.6	1.000152
21500.0	462.1	-11.2	-13.3	84.0	613.3	631.1	119.1	6.9	1.000149
22000.0	453.0	-12.5	-13.9	89.5	604.4	629.5	119.3	6.3	1.000146
22500.0	444.0	-13.9	-14.5	94.9	595.6	627.8	117.2	5.8	1.000144
23000.0	435.2	-14.9	-15.2	97.3	586.2	626.6	116.1	6.0	1.000141
23500.0	426.6	-15.7	-16.0	97.8	576.4	625.5	116.1	6.6	1.000138

STATION ALTITUDE 4051.00 F ET MSL  
 29 JULY 63  
 ASCENSION NO. 103

UPPER AIR DATA  
 2100030105  
 JALLFN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 11 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DNFSITY GM/CUBIC METER	SPLD OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	410.1	-16.3	-16.0	97.4	560.1	624.9	122.7	7.2	1.000136
24500.0	409.7	-16.8	-19.0	83.1	556.2	624.1	126.9	8.2	1.000132
25000.0	401.5	-17.6	-23.4	60.2	546.8	623.1	128.7	9.3	1.000127
25500.0	393.4	-18.5	-26.0	51.6	537.9	621.0	129.7	10.1	1.000124
26000.0	385.5	-19.6	-28.1	46.3	529.2	620.6	129.8	10.1	1.000121
26500.0	377.7	-20.6	-30.2	41.7	520.7	619.3	131.4	10.3	1.000119
27000.0	369.9	-21.6	-31.5	40.3	512.1	618.0	138.5	11.1	1.000117
27500.0	362.3	-22.7	-32.8	38.9	503.7	616.7	143.5	12.0	1.000115
28000.0	354.9	-23.7	-34.1	37.4	495.4	615.4	143.9	12.7	1.000112
23500.0	347.6	-24.7	-35.4	36.0	487.3	614.1	143.3	13.0	1.000110
29000.0	340.4	-25.8	-36.8	34.6	479.3	612.8	139.7	12.2	1.000108
29500.0	333.3	-26.8	-37.7	34.5	471.3	611.5	137.0	11.7	1.000106
30000.0	326.3	-27.9	-38.5	35.4	463.5	610.1	137.5	11.8	1.000105
30500.0	319.5	-29.0	-39.2	36.3	455.8	608.7	136.7	11.9	1.000103
31000.0	312.8	-30.1	-40.0	37.2	448.3	607.4	133.1	11.9	1.000101
31500.0	306.2	-31.2	-40.8	38.1	440.6	606.0	129.3	11.9	1.000099
32000.0	299.7	-32.4	-41.6	39.1	433.6	604.6	125.1	11.9	1.000098
32500.0	293.3	-33.9	-42.3	41.9	427.0	602.6	122.7	11.9	1.000096
33000.0	287.0	-35.5	-43.2	44.8	420.6	600.7	124.7	12.0	1.000095
33500.0	280.8	-36.6	-44.3	44.1	413.4	599.3	127.4	12.2	1.000093
34000.0	274.7	-37.6	-45.5	43.2	406.2	597.9	132.1	12.4	1.000091
34500.0	268.7	-38.7	-46.7	42.2	399.2	596.6	136.0	12.6	1.000090
35000.0	262.8	-39.9	-50.4	31.0**	392.4	595.0	138.5	12.5	1.000088
35500.0	257.0	-41.1	-56.4	17.2**	385.8	593.5	143.3	12.3	1.000086
36000.0	251.3	-42.3	-69.5	3.3**	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 11 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				DIRECTION DEGREES(TN)	SPEED KNOTS	
44000.0	172.7	-59.8			282.0	569.1	147.1	9.8	1.000063
44500.0	168.6	-60.6			276.2	568.0	146.6	9.5	1.000062
45000.0	164.5	-61.6			270.8	566.7	147.3	9.4	1.000060
45500.0	160.5	-62.6			265.5	565.3	155.5	9.3	1.000059
46000.0	156.6	-63.6			260.3	563.9	165.7	9.4	1.000058
46500.0	152.8	-64.6			255.2	562.5	190.6	12.4	1.000057
47000.0	149.0	-65.6			250.1	561.3	205.9	17.5	1.000056
47500.0	145.3	-66.2			244.6	560.4	207.2	19.4	1.000054
48000.0	141.7	-66.8			239.3	559.6	206.8	20.5	1.000053
48500.0	138.2	-67.5			234.1	558.7	198.4	18.5	1.000052
49000.0	134.7	-68.1			228.9	557.8	182.2	16.0	1.000051
49500.0	131.4	-68.8			223.9	557.0	175.1	15.9	1.000050
50000.0	128.1	-69.4			219.1	556.1	179.3	17.1	1.000049
50500.0	124.9	-70.0			214.3	555.2	182.7	18.1	1.000048
51000.0	121.8	-70.5			209.3	554.6	185.1	18.6	1.000047
51500.0	118.7	-71.0			204.5	553.9	185.6	18.7	1.000046
52000.0	115.7	-71.5			199.8	553.2	182.9	18.1	1.000045
52500.0	112.8	-72.0			195.3	552.6	182.7	18.1	1.000043
53000.0	109.9	-72.1			190.4	552.4	185.1	18.6	1.000042
53500.0	107.1	-71.8			185.4	552.0	185.1	18.6	1.000041
54000.0	104.4	-71.6			180.4	553.1	185.6	18.7	1.000040
54500.0	101.7	-72.7			176.9	551.5	185.6	18.7	1.000039
55000.0	99.1	-73.5			173.0	550.5	185.6	18.7	1.000039
55500.0	96.6	-73.5			168.6	550.5	185.6	18.7	1.000038
56000.0	94.1	-73.5			164.3	550.5	185.6	18.7	1.000037
56500.0	91.8	-69.3			156.8	556.2	185.6	18.7	1.000035
57000.0	89.5	-68.8			152.6	556.9	185.6	18.7	1.000034
57500.0	87.3	-68.3			148.4	557.6	185.6	18.7	1.000033
58000.0	85.1	-67.8			144.4	558.2	185.6	18.7	1.000032
58500.0	83.0	-67.3			140.5	558.9	185.6	18.7	1.000031
59000.0	80.9	-66.9			136.6	559.5	185.6	18.7	1.000030
59500.0	78.9	-66.4			132.9	560.2	185.6	18.7	1.000030
60000.0	77.0	-64.5			128.5	562.7	185.6	18.7	1.000029
60500.0	75.1	-61.9			123.9	566.2	185.6	18.7	1.000028
61000.0	73.3	-59.3			119.4	569.7	185.6	18.7	1.000027
61500.0	71.5	-59.0			116.4	570.0	185.6	18.7	1.000026
62000.0	69.8	-58.9			113.5	570.2	185.6	18.7	1.000025
62500.0	68.2	-58.9			110.8	570.2	185.6	18.7	1.000025
63000.0	66.5	-58.9			108.2	570.2	185.6	18.7	1.000024
63500.0	64.9	-58.9			105.6	570.2	185.6	18.7	1.000024

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

UPPER AIR DATA  
 2100030103  
 JALLEN

STATION ALTITUDE 4001.00 FEET MSL  
 29 JULY 63  
 ASCENSION NO. 103

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 11 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DEWPOINT DEGREES	DIRECTION (IN) 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		93.0	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 0800 MDT  
 ASCENSION NO. 103

MANDATORY LEVELS  
 2100030103  
 JALLEN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA		
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS	WIND DATA
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	8508.	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.	105.0	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 3912.7, F, FT MSL  
 29 JULY 83  
 ASCENSION NO. 42 0915 MDT

SIGNIFICANT LEVEL DATA  
 2100290042  
 EAST-2B/CHERRY

GEODLTIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 13

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
885.0	3912.7	26.8	9.6	34.0
881.0	4044.2	27.4	6.8	27.0
850.0	5079.7	24.5	10.0	40.0
812.4	6377.8	22.5	9.0	42.0
802.8	6717.4	22.0	8.5	42.0
765.2	8081.3	19.8	6.5	42.0
700.0	10578.8	14.2	2.5	45.0
643.2	12904.6	8.5	-0.8	52.0
569.4	16165.8	-0.8	-2.5	88.0
517.2	18672.6	-5.7	-6.9	91.0
500.0	19544.1	-7.0	-7.5	96.0
472.3	21001.4	-9.7	-10.1	97.0
432.6	23214.4	-14.4	-16.1	87.0
413.3	24352.2	-15.0	-29.0	29.0
400.0	25164.5	-16.2	-27.2	38.0
384.2	26159.5	-18.1	-27.6	43.0
361.1	27675.3	-21.2	-35.9	25.0
327.8	30000.4	-26.7	-38.3	32.0
300.0	32086.0	-31.6	-40.0	43.0
264.4	34984.5	-39.0	-47.4	40.0
250.0	36240.4	-42.4		
210.9	39052.6	-51.5		
208.7	40177.1	-51.2		
200.0	41084.8	-53.4		
184.9	42741.7	-55.6		
156.1	46236.1	-63.2		
150.0	47041.4	-64.7		
133.5	49367.5	-68.3		
129.1	50030.3	-68.5		
116.7	52017.2	-70.5		
112.9	52665.4	-70.5		
108.7	53409.1	-69.8		
100.0	55044.1	-70.9		
95.3	55983.3	-71.7		
91.5	56781.6	-68.7		
82.3	58876.1	-68.7		
75.3	60662.2	-62.0		
70.9	62160.0	-59.9		
55.5	66943.9	-60.3		
50.0	69105.7	-57.9		

STATION ALTITUDE 3912.75 FEET MSL  
29 JULY 83 0915 MDT  
ASCENSION NO. 42

SIGNIFICANT LEVEL DATA  
2100290042  
EAST-28/CHERRY

GEODETTIC COORDINATES  
32.89927 LAT DEG  
136.40591 LON DEG

TABLE 13 CON'T

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT 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/CHEERY  
 TABLE 14

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KIOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KIOTS	INDEX OF REFRACTION
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	26.1	32.7	1004.6	675.6	356.2	2.4	1.000271
5000.0	852.3	24.7	39.0	991.4	674.2	34.4	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	853.9	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	640.9	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	90.9	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	99.3	8.3	1.000144
23000.0	436.5	-13.9	88.0	585.4	627.7	118.5	8.6	1.000141

STATION ALTITUDE 5912.75 FEET MSL  
29 JULY 83 0915 MDT  
ASCENSION NO. 42

UPPER AIR DATA  
2100290042  
EAST-20/CHEMRY

GEODETTIC COORDINATES  
32.89927 LAT DEG  
136.40591 LONG DEG

TABLE 14 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUMID. 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	
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	-23.6	47.0	564.8	626.4	145.9	12.9	1.000131
24500.0	410.8	-15.2	-28.6	30.6	554.6	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	-27.3	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	485.1	616.1	133.5	13.6	1.000110
29000.0	341.7	-24.3	-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	-39.6	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	236.0	-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
42500.0	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 512.75 FT MSL  
 29 JULY 83 0915 MDT  
 ASCENSION NO. 42

UPPER AIR DATA  
 2100290042  
 EAST-20/CHERRY

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 14 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
43500.0	170.2	-57.2		287.6	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	119.8	-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	68.8	-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 3,12.75 FEET MSL  
 29 JULY 83 0915 MDT  
 ASCENSION NO. 42

UPPER AIR DATA  
 2100290042  
 EAST-28/CHERRY

GEODETIC COORDINATES  
 32.89927 LAT DEG  
 136.40591 LON DEG

TABLE 14 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
63500.0	63.6	-60.0		107.2	508.8	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	55.4	-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		85.0	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	50.3	-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 3912.75 FEET MSL  
 29 JULY 83  
 ASCENSION NO. 42 0915 MDT

MANDATORY LEVELS  
 2100290042  
 EAST-28/CHEKRY

GEODETIC 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	5076.	24.5	10.0	40.	17.5	2.2
800.0	6812.	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	15.8
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	18.9
50.0	68846.	-57.9			89.7	22.6

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

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