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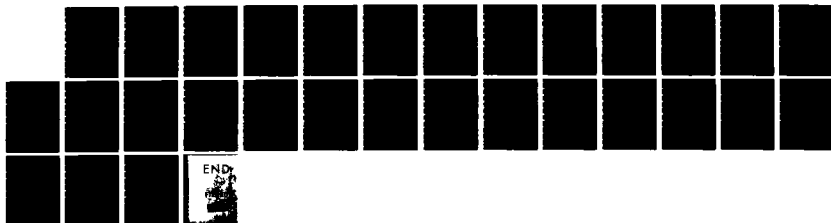
19321A MLRS MISSILE NUMBER 5827 5831 5829 5832 AND 5830
ROUND NUMBER V-56. (U) RRVY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER 10 FEB 84
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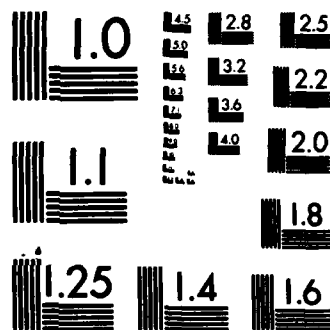
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MICROCOPY RESOLUTION TEST CHART
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FEB 84

DR 1335

AD

(12)

METEOROLOGICAL DATA REPORT

19321A MLRS

Missile Number 5827, 5831, 5829, 5832, and 5830

ROUND Number V-564/FB-07, thru V-568/FB-11

10 Feb 1984

by

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Program Support Coordinator

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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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 19321A MLRS, Missile Number 5827, 5831, 5829, 5832, and 5830 ROUND Number, V-564/FB-07 thru V-568/FB-11		

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INTRODUCTION

19321A MLRS, Missile Numbers 5827, 5831, 5829, 5832, and 5830, Round No. V-564/FB-07 thru V-568/FB-11, were launched from Tula Gate, White Sands Missile Range (WSMR), New Mexico, at 0909:23, 0909:27, 0909:32, 0909:36, and 0909:41, MST 10 Feb 84. The scheduled launch times were 0900 MST 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 (C°), relative humidity, dew point (C°), density (gm/m³), wind direction and speed, and cloud cover were made at the Tula Met Site at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at Tula Gate. Monitor or wind speed and direction from one anemometer was also provided in launch control room.

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

Tula Gate	1150 Meters
Mal	2000 Meters

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

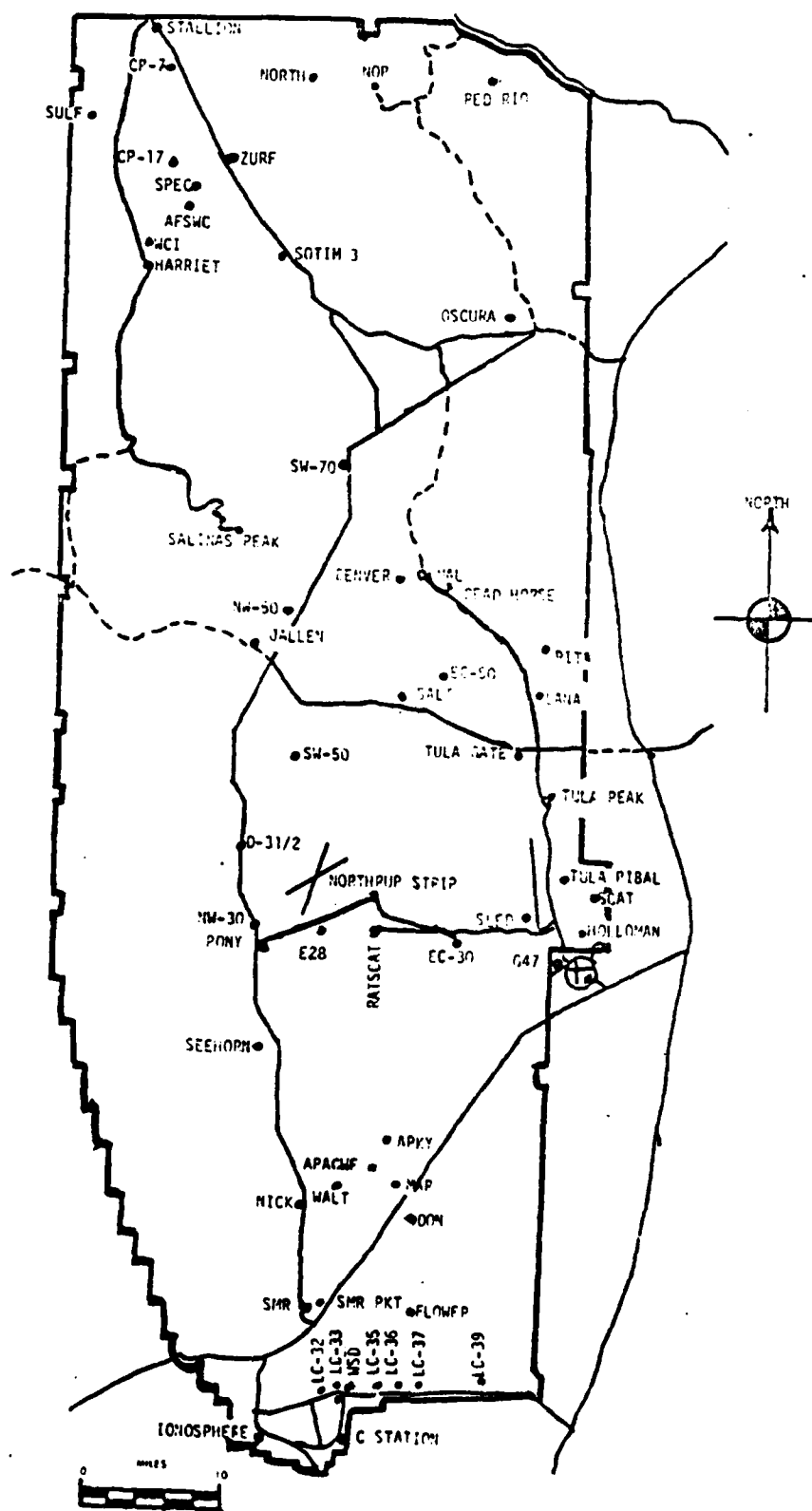
SITE AND TIME

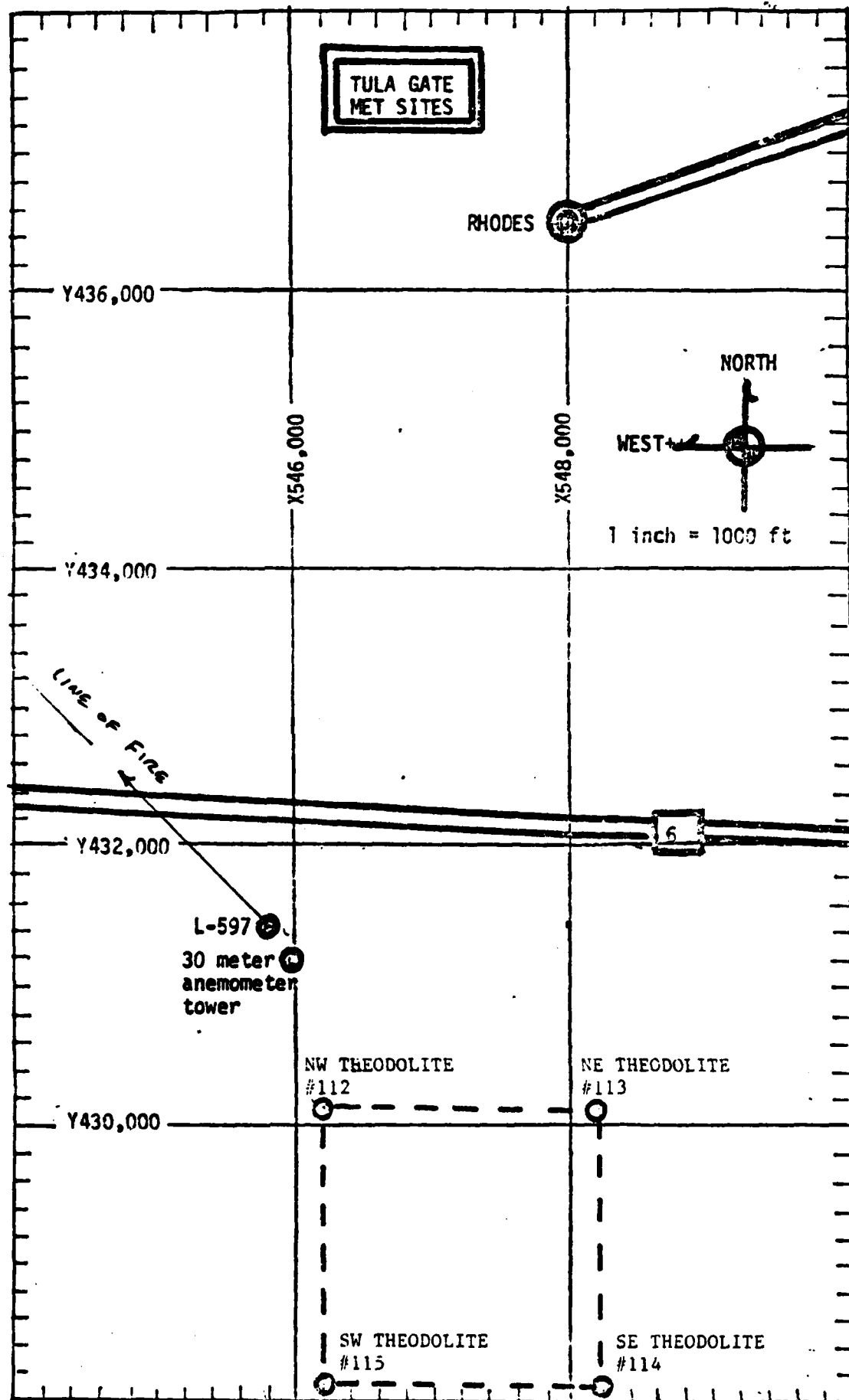
Rita	0715 MST
Lana	0730 MST
Lana	0900 MST
Rita	0910 MST



Al

WSMR METEOROLOGICAL SITES





PROJECT SURVEY OF 08-01-11-01

TULSA SITE									
TABLE 1									
DATE 10 Feb 84		VFA							
		Y=545,944.89 X=431,158.70 Z=4102.47							
TIME	PRESSURE mbs	TEMPERATURE °C	DEW POINT °C	RELATIVE HUMIDITY %	CLOUD %	WIND SPEED kts	WIND DIRECTION In	WIND CHARACTER kts	VISIBILITY
0910	872.1	10.0	-7.3	29		11	160		40+

OBSTRUCTIONS TO VISIBILITY	FLOORS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	AMT	TYPE	AMT	TYPE	
3	CC	180	3	CI	220		

PSYCHROMETRIC COMPUTATION

TIME:	0910
DRY BULB TEMP.	10.0°
WET BULB TEMP.	2.9°
WET BULB LEPP.	7.1
DW POINT	-7.3°
RELATIVE HUMID.	29

TABLE 2 ANEMOMETER DATA - 30 Ft Level of 30 Meter Tower
X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)



TABLE 3

ANEMOMETER DATA - 60 Ft Level of 30 Meter Tower

X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

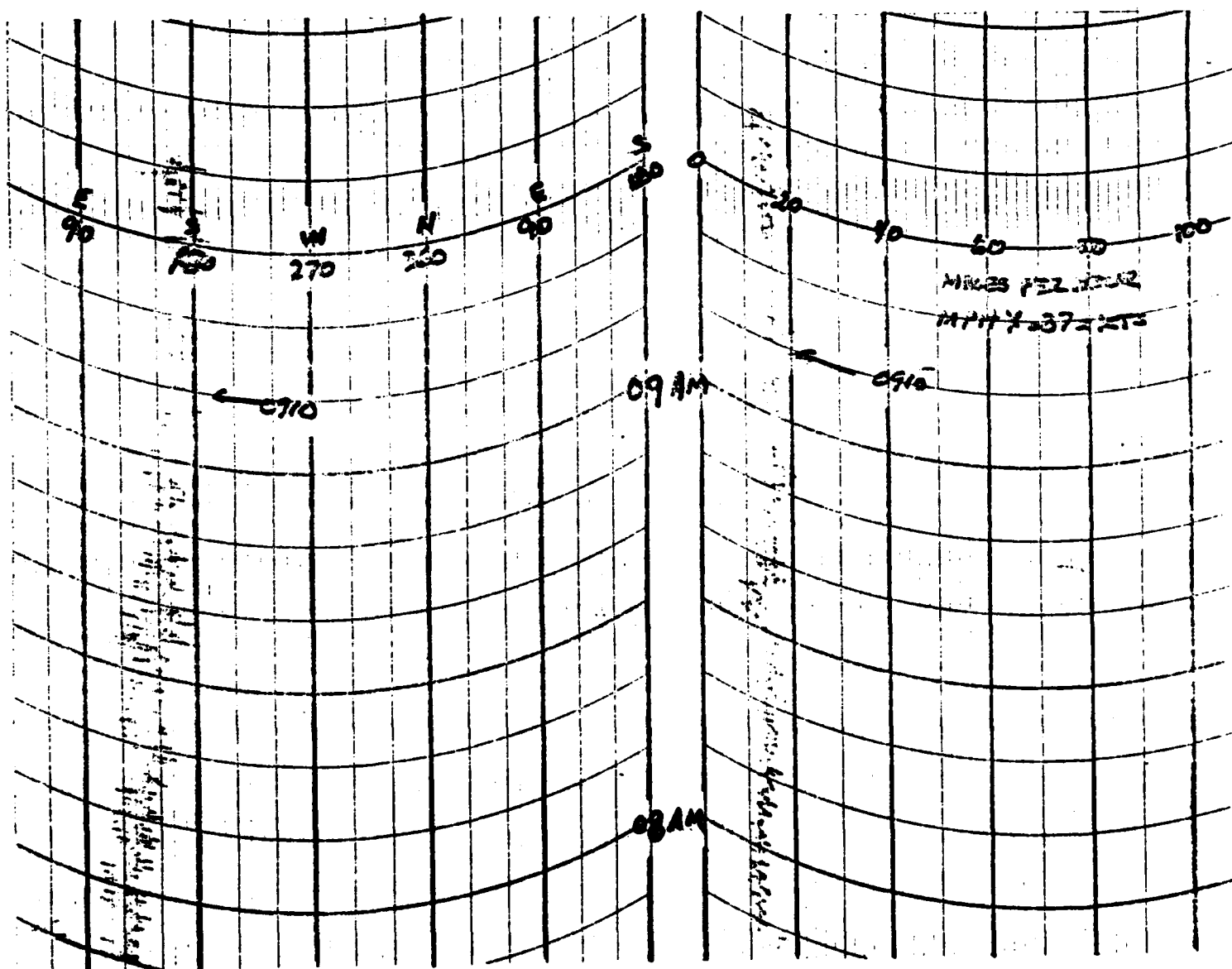


TABLE 4

ANEMOMETER DATA - 90 Ft Level of 30 Meter Tower

X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

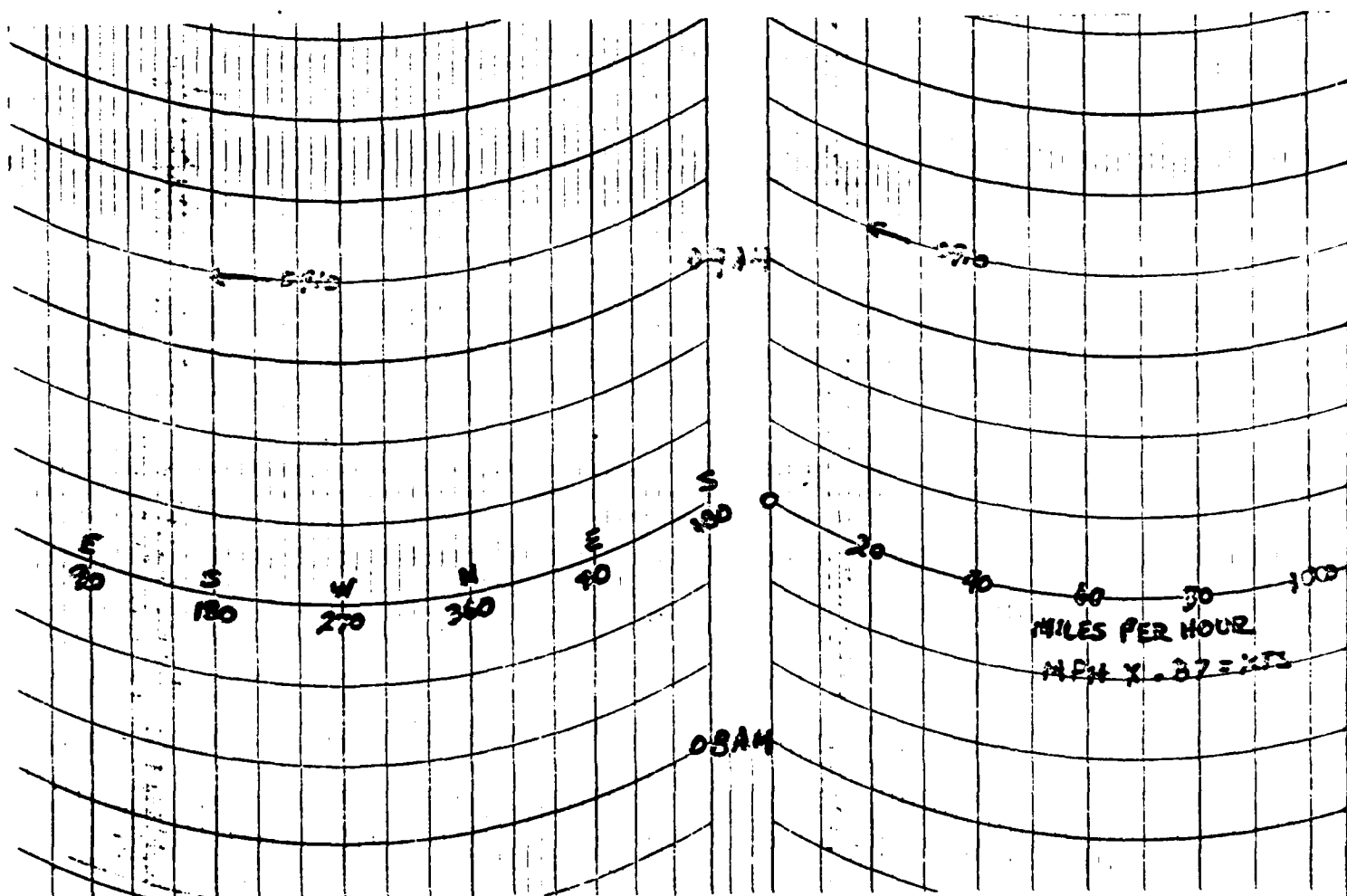


TABLE 5

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 10 Feb 84

SITE: Tula Gate

TIME: 0909 MST

WSTM COORDINATES:

X= 546,204.20

Y= 430,125.39

H= 4,108.59

SITE: MAL

TIME 0909 MST

WSTM COORDINATES:

X= 509,421.03

Y= 497,563.78

H= 4,133.09

LAYER MIDPOINT	DIRECTION	SPEED
METERS AGL	DEGREES	KNOTS
SURFACE	160	11
150	190	08
210	216	08
270	226	09
330	236	10
390	244	11
500	253	13
650	252	14
800	247	12
950	246	13
1150	254	13
1350		
1550		
1750		
2000		

Data obtained from a Double Theodolite
tracked pilot-balloon observation.

LAYER MIDPOINT	DIRECTION	SPEED
METERS AGL	DEGREES	KNOTS
SURFACE	140	02
150	167	08
210	173	09
270	181	10
330	189	10
390	192	12
500	193	14
650	203	15
800	222	15
950	238	19
1150	237	22
1350	240	21
1550	242	24
1750	243	28
2000	243	30

Data obtained from a single theodolite tracke
pilot-balloon observation.

Table 6

AIMING AND T-TIME COMPUTER MET MESSAGES

10 Feb 84

Rita 0715 MST
 METCM1332062
 101430128872
 00000000 27170872
 01329016 27710862
 02358014 28250836
 03418012 28230796
 04456017 27910749
 05472025 27530705
 06480029 27160662
 07468032 26780622
 08470030 26410583
 09468039 25990546
 10470044 25550511
 11475046 25060478
 12473044 24660431

Lana 0730 MST
 METCM1331062
 101450127872
 00213004 27110872
 01319012 27910862
 02335013 28310836
 03385015 28110796
 04438015 27800749
 05458022 27500705
 06464027 27130662
 07464039 26760621
 08460039 26380583
 09462039 25930546
 10464044 25505511
 11474048 25090478
 12474045 24650431

Lana 0900 MST
 METCM1331062
 101620127872
 00284004 28310872
 01325009 28330862
 02361014 28360836
 03430022 28150797
 04459032 27870750
 05446028 27540705
 06451034 27210662
 07456036 26810622
 08450042 26420583
 09454039 26040547
 10460040 25580512
 11456042 25160479
 12467042 24730432

Rita 0910 MST
 METCM1332062
 101600128872
 00311004 28230872
 01323011 28300862
 02356017 28330836
 03415020 28120797
 04454031 27850750
 05454028 27560705
 06457032 27160662
 07462033 26730622
 08455035 26340583
 09458036 26000546
 10465037 25560511
 11456038 25190478
 12473038 24730431

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

SIGNIFICANT LEVEL DATA

0410210304

WTA

TABLE 7

STATION ALTITUDE 4186.74 FEET MSL
10 FEB. 84 0715 HRS MST
ASCENSION NO. 4

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
722.2	4186.7	-1.9	-18.4	27.0
659.4	4578.0	5.4	-10.3	31.0
650.0	4874.1	7.4	-10.8	26.0
641.6	5143.3	9.4	-11.2	22.0
601.4	6475.2	9.4	-11.8	21.0
661.8	7847.6	6.7	-14.6	20.0
700.0	10106.6	1.5	-19.0	20.0
578.6	15263.1	-10.1	-28.7	20.0
500.0	16682.5	-19.3	-25.1	60.0
475.7	19892.9	-22.8	-26.0	75.0
466.0	20387.4	-25.4	-28.5	75.0
449.6	21244.1	-24.7	-27.0	81.0
429.6	22329.7	-26.6	-30.5	69.0
414.4	23193.4	-27.9	-35.5	48.0
400.0	24015.3	-30.3	-39.0	42.0
364.3	26195.6	-34.3	-47.3	25.0
350.3	27091.4	-37.7	-52.6	19.0
300.0	30534.2	-46.5		

STATION ALTITUDE 4186.74 FEET MSL
 10 FEB. 84 0715 'MS MST
 ASCENSION NO. 4

UPPER AIR DATA
 0410210004
 RITA
 TABLE 8

GEOMETRIC COORDINATES
 33.18295 LAT DEG
 106.15114 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4186.7	872.2	-1.9	-18.4	27.0	1119.5	641.8	.0	.0	1.000257
4500.0	861.9	3.4	-11.9	30.2	1087.5	648.8	226.2	1.8	1.000253
5000.0	846.1	8.3	-11.0	24.1	1045.8	654.0	226.2	4.8	1.000246
5500.0	830.6	9.4	-11.4	21.7	1022.9	655.2	226.2	7.7	1.000240
6000.0	815.5	9.4	-11.6	21.4	1004.3	655.2	226.2	10.7	1.000236
6500.0	800.7	9.4	-11.8	21.0	986.2	655.2	230.1	11.5	1.000231
7000.0	786.0	8.4	-12.9	20.6	971.6	654.0	236.0	11.5	1.000227
7500.0	771.6	7.4	-13.9	20.3	957.2	652.8	245.1	13.3	1.000223
8000.0	757.5	6.3	-14.9	20.0	943.2	651.6	252.7	15.5	1.000219
8500.0	743.4	5.2	-15.9	20.0	929.6	650.3	259.8	18.3	1.000216
9000.0	729.6	4.0	-16.8	20.0	916.2	648.9	263.4	20.9	1.000212
9500.0	716.1	2.9	-17.8	20.0	903.0	647.5	265.1	23.1	1.000209
10000.0	702.8	1.7	-18.8	20.0	890.0	646.2	266.6	25.4	1.000205
10500.0	689.4	.6	-19.7	20.0	876.7	644.8	267.9	27.4	1.000202
11000.0	676.3	-.5	-20.7	20.0	863.5	643.5	269.4	27.6	1.000198
11500.0	663.3	-1.6	-21.6	20.0	850.6	642.1	269.6	27.8	1.000195
12000.0	650.6	-2.8	-22.5	20.0	837.8	640.8	267.6	27.9	1.000192
12500.0	638.2	-3.9	-23.5	20.0	825.2	639.4	265.3	29.1	1.000189
13000.0	626.0	-5.0	-24.4	20.0	812.9	638.1	263.2	30.9	1.000186
13500.0	614.0	-6.1	-25.4	20.0	800.7	636.7	263.5	31.6	1.000182
14000.0	602.3	-7.3	-26.3	20.0	788.7	635.4	263.8	32.3	1.000179
14500.0	590.8	-8.4	-27.3	20.0	777.0	634.0	263.5	33.8	1.000177
15000.0	579.5	-9.5	-28.2	20.0	765.4	632.7	263.2	35.4	1.000174
15500.0	568.2	-10.7	-27.9	22.8	754.0	631.2	262.6	37.5	1.000171
16000.0	556.9	-12.1	-26.6	28.6	742.7	629.6	262.4	38.9	1.000169
16500.0	545.8	-13.4	-25.7	34.5	731.7	628.0	262.8	39.4	1.000167
17000.0	535.0	-14.6	-25.2	40.3	720.9	626.4	263.4	40.2	1.000165
17500.0	524.3	-16.1	-25.0	46.2	710.2	624.8	264.1	41.3	1.000163
18000.0	513.9	-17.5	-24.9	52.0	699.8	623.1	265.0	41.9	1.000161
18500.0	503.7	-18.8	-25.0	57.9	689.5	621.5	266.0	42.5	1.000158
19000.0	493.5	-20.2	-25.2	63.9	679.3	619.8	266.7	43.3	1.000156
19500.0	483.5	-21.7	-25.6	70.1	669.3	618.0	267.1	44.2	1.000154
20000.0	473.6	-23.4	-26.5	75.0	660.1	615.9	267.4	45.2	1.000151
20500.0	463.8	-25.3	-28.3	75.8	651.6	613.5	267.1	45.0	1.000149
21000.0	454.2	-26.9	-27.4	79.3	637.1	614.0	266.2	43.6	1.000146
21500.0	444.8	-28.1	-27.8	78.2	624.5	613.7	265.4	42.7	1.000143
22000.0	435.6	-29.0	-29.4	72.6	613.7	612.6	265.0	42.3	1.000140
22500.0	426.5	-29.9	-31.4	64.8	603.1	611.5	266.2	43.7	1.000137
23000.0	417.6	-27.6	-34.3	52.5	592.4	610.5	266.9	43.8	1.000134
23500.0	408.9	-28.8	-36.8	45.7	582.8	609.0	267.5	43.2	1.000131

STATION ALTITUDE 4126.74 FEET MSL
10 FEB. 84 0715 HRS MST
ASCENSION NO. 4

UPPER AIR DATA
0410210004
RITA

GEOMETRIC COORDINATES
33.18295 LAT DEG
106.15114 LONG DEG

TABLE 8 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	TEMP DEWPOINT CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	41.0	-10.3	-38.9	42.1	574.0	607.2	268.6	43.6	1.000129
24500.0	38.5	-12.2	-40.7	38.2	563.9	606.0	270.2	44.4	1.000127
25000.0	36.3	-14.1	-42.6	34.3	554.0	604.9	272.0	44.9	1.000124
25500.0	34.3	-16.0	-44.5	30.4	544.3	603.7	274.0	43.7	1.000122
26000.0	32.4	-18.0	-46.5	26.5	534.8	602.5	276.9	42.2	1.000120
26500.0	30.5	-20.0	-49.2	22.9	526.7	600.6	279.8	43.6	1.000118
27000.0	28.7	-22.0	-52.1	19.5	519.4	598.2	282.4	38.9	1.000116
27500.0	27.0	-24.0	-54.6	16.7**	510.9	596.4	283.0	37.5	1.000114
28000.0	25.4	-26.0	-57.1	13.9**	502.3	594.8	282.6	37.1	1.000112
28500.0	23.8	-28.0	-59.9	11.2**	493.9	593.2	281.5	37.5	1.000110
29000.0	22.3	-30.0	-63.1	8.4**	485.6	591.5	280.3	38.6	1.000108
29500.0	20.8	-32.0	-66.9	5.7**	477.5	589.9	280.1	38.6	1.000106
30000.0	19.3	-34.0	-72.4	2.9**	469.5	588.3			1.000105
30500.0	17.8	-36.0	-89.6	.2**	461.6	586.6			1.000103

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

STATION ALTITUDE 4186.74 FEET MSL
 10 FEB. 84
 ASCENSION NO. 4

MANDATORY LEVELS
 0410210004
 RIYA
 TABLE 9

GEODETIC COORDINATES
 33.18295 LAT DEG
 106.15114 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4871.	7.4	-10.8	26.	226.2	4.0	
800.0	6518.	9.3	-11.9	21.	230.4	11.5	
750.0	8261.	5.7	-15.4	20.	256.7	17.0	
700.0	10097.	1.5	-19.0	20.	266.9	25.8	
650.0	12039.	-2.8	-22.6	20.	267.4	27.9	
600.0	14102.	-7.5	-26.5	20.	263.8	32.6	
550.0	16302.	-12.9	-26.0	32.	262.7	39.2	
500.0	18658.	-19.3	-25.1	60.	266.2	42.8	
450.0	21192.	-24.7	-27.0	81.	265.8	43.0	
400.0	23977.	-30.3	-39.0	42.	268.6	43.6	
350.0	27054.	-37.7	-52.7	19.**	282.5	38.6	
300.0	30476.	-46.5					

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

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

SIGNIFICANT LEVEL DATA
0410320304
LAMA

TABLE 10

STATION ALTITUDE 4173.44 FEET MSL
10 FEB. 84
ASCENSION NO. 4
0730 HRS MST

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. NUM. PERCENT
	AIR	DEWPOINT DEGREES CENTIGRADE	
972.3 4173.4	-2.3	-14.3	39.0
968.1 4300.5	2.7	-8.9	42.0
959.0 4614.7	8.4	-4.7	39.0
950.0 4869.2	9.5	-15.0	16.0
942.7 5104.2	10.2	-14.5	16.0
756.2 8033.7	5.4	-19.1	15.0
736.3 8746.2	3.3	-20.8	15.0
723.4 9216.7	3.3	-20.8	15.0
700.0 10088.6	1.2	-22.5	15.0
686.4 10679.7	-9.0	-31.5	14.0
539.3 16796.5	-14.8	-34.3	17.0
509.0 18214.8	-18.7	-26.9	48.0
500.0 18651.5	-19.5	-29.1	42.0
490.7 19109.3	-20.6	-35.0	26.0
468.4 20233.9	-23.8	-29.7	58.0
460.4 20648.4	-23.2	-26.7	73.0
421.4 22760.7	-27.9	-32.4	65.0
412.3 23275.6	-29.0	-36.1	50.0
400.0 23985.2	-31.1	-40.7	38.0
389.4 24610.5	-32.1	-44.7	27.0
349.0 27120.1	-38.8	-52.8	21.0
335.4 28013.6	-41.1		

UPPER AIR DATA
0410320004
LAMA
TABLE 11

STATION ALTITUDE 4173.44 FEET MSL
10 FEB. 84 0730 WMS MST
ASCENSION NO. 4

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DWPPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGR FES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4173.4	872.3	-2.3	-14.3	39.0	1121.0	641.4	120.0	4.1	1.000260
4500.0	861.7	6.3	-6.2	40.1	1072.3	651.8	155.8	4.2	1.000257
5000.0	845.9	9.9	-14.7	16.0	1040.3	655.7	188.9	6.7	1.000241
5500.0	830.5	9.6	-15.1	15.9	1022.5	655.3	202.0	10.1	1.000237
6000.0	815.2	8.7	-15.9	15.7	1006.7	654.3	208.3	13.8	1.000233
6500.0	800.3	7.9	-16.7	15.5	991.2	653.4	213.3	14.2	1.000229
7000.0	785.7	7.1	-17.5	15.4	975.9	652.4	218.0	14.7	1.000225
7500.0	771.3	6.3	-18.3	15.2	960.9	651.4	228.0	14.5	1.000221
8000.0	757.1	5.5	-19.1	15.0	946.1	650.5	238.0	14.8	1.000217
8500.0	743.1	4.0	-20.2	15.0	933.4	648.8	247.2	16.5	1.000214
9000.0	729.3	3.3	-20.8	15.0	918.5	647.9	254.4	18.6	1.000210
9500.0	715.7	2.6	-21.4	15.0	903.6	647.1	256.5	20.1	1.000207
10000.0	702.3	1.4	-22.3	15.0	890.6	645.7	258.0	21.5	1.000203
10500.0	689.0	.3	-23.3	14.9	877.3	644.4	259.9	22.9	1.000200
11000.0	675.8	-8	-24.3	14.8	864.1	643.0	261.0	24.5	1.000197
11500.0	662.9	-1.9	-25.3	14.7	851.1	641.7	261.2	26.2	1.000194
12000.0	650.3	-3.0	-26.3	14.6	838.3	640.4	260.9	28.9	1.000190
12500.0	637.8	-4.2	-27.3	14.5	825.7	639.1	260.7	32.3	1.000187
13000.0	625.6	-5.3	-28.2	14.4	813.3	637.7	261.4	38.0	1.000184
13500.0	613.7	-6.4	-29.2	14.3	801.1	636.4	261.4	41.7	1.000181
14000.0	602.0	-7.5	-30.2	14.1	789.1	635.1	261.0	43.2	1.000178
14500.0	590.5	-8.6	-31.2	14.0	777.3	633.7	259.5	40.8	1.000176
15000.0	579.0	-9.9	-31.9	14.5	765.9	632.2	257.6	37.5	1.000173
15500.0	567.6	-11.3	-32.6	15.2	754.8	630.5	258.3	36.1	1.000170
16000.0	556.4	-12.6	-33.2	15.9	743.9	628.9	259.2	36.2	1.000168
16500.0	545.5	-14.0	-33.9	16.6	733.1	627.2	260.1	38.8	1.000165
17000.0	534.7	-15.4	-32.4	32.5	722.4	625.6	260.6	41.4	1.000163
17500.0	523.9	-16.7	-29.3	32.5	711.6	623.9	260.8	44.0	1.000162
18000.0	513.4	-18.1	-27.5	43.3	701.0	622.3	261.8	45.1	1.000160
18500.0	503.1	-19.2	-26.3	44.1	689.9	620.9	262.4	46.1	1.000157
19000.0	492.9	-20.3	-33.4	29.8	679.0	619.5	263.5	48.1	1.000153
19500.0	482.8	-21.7	-32.4	37.1	668.8	617.8	264.5	48.5	1.000151
20000.0	473.0	-23.1	-30.3	51.3	658.7	616.1	265.7	47.8	1.000150
20500.0	463.2	-23.4	-27.7	67.6	645.9	615.8	267.5	44.9	1.000148
21000.0	453.7	-24.0	-27.6	71.7	633.9	615.1	267.8	43.8	1.000145
21500.0	444.3	-25.1	-29.0	69.8	623.6	613.7	266.9	43.8	1.000142
22000.0	435.0	-26.2	-30.3	67.9	613.5	612.3	265.5	44.9	1.000140
22500.0	426.0	-27.3	-31.7	66.0	603.5	610.9	265.7	45.2	1.000137
23000.0	417.1	-28.4	-34.0	58.0	593.6	609.6	267.0	44.9	1.000134
23500.0	408.4	-29.7	-37.5	46.2	584.1	608.0	269.7	44.1	1.000132

STATION ALTITUDE 4173.44 FEET MSL
 IN FEB. 84
 ASCENSION NO. 4

UPPFR AIR DATA
 0410320004
 LANA
 TABLE 11 CONT'D

GEODETIC COORDINATES
 33.13510 LAT DEG
 106.15446 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE			KNOTS				
24000.0	399.7	-11.1	-40.8	17.7	575.3	606.1		272.5	43.4	1.000129
24500.0	391.3	-11.9	-43.9	28.9	565.0	605.1		275.5	42.8	1.000127
25000.0	382.8	-13.1	-46.0	26.1	555.6	603.6		278.3	42.4	1.000124
25500.0	374.6	-14.5	-47.5	24.9	546.7	601.9		281.1	42.1	1.000122
26000.0	366.5	-15.8	-49.1	23.7	537.9	600.2		283.7	42.0	1.000120
26500.0	358.6	-17.1	-50.7	22.5	529.3	598.5		285.8	41.8	1.000118
27000.0	350.8	-18.5	-52.4	21.3	520.8	596.8				1.000116
27500.0	343.2	-19.8	-58.0	12.1**	512.2	595.1				1.000114
28000.0	335.6	-41.1	-83.4	.3**	503.7	593.5				1.000112

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

STATION ALTITUDE 4173.44 FEET MSL
 10 FEB. 84 0730 HRS MST
 ASCENSION NO. 4

MANDATORY LEVELS
 U410320004
 LANA
 TABLE 12

GEODETIC COORDINATES
 33.13510 LAT DEG
 106.15446 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES(TN)	SPEED KNOTS
950.0	4866.	9.5	-15.0	16.		182.9	5.9
800.0	6512.	7.9	-16.7	16.		213.4	14.2
750.0	8247.	4.8	-19.6	15.		242.8	15.5
700.0	10079.	1.2	-22.5	15.		258.4	21.7
650.0	12019.	-3.1	-26.3	15.		260.8	29.0
600.0	14079.	-7.7	-30.4	14.		260.9	43.5
550.0	16277.	-13.4	-33.6	16.		259.7	37.7
500.0	18627.	-19.5	-29.1	42.		263.0	46.7
450.0	21167.	-24.4	-28.1	71.		267.5	43.7
400.0	23947.	-31.1	-40.7	38.		272.4	43.5
350.0	27009.	-38.6	-52.5	21.			

STATION ALTITUDE 4173.44 FEET MSL
10 FEB. 84 0900 HRS MST
ASCENSION NO. 5

SIGNIFICANT LEVEL DATA

U610320005

LANA

TABLE 13

GEODETIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
972.1 4173.4	9.4	-6.0	33.0
966.9 4336.5	10.3	-10.5	22.0
954.7 4722.6	9.3	-11.9	21.0
950.0 4872.8	10.2	-11.7	20.0
946.5 4995.5	10.8	-11.9	19.0
951.3 8217.8	5.6	-16.8	18.0
700.0 10102.9	1.7	-20.7	17.0
667.1 11371.4	-7	-23.3	16.0
580.1 14978.6	-9.5	-31.2	15.0
569.7 15437.3	-10.2	-31.8	15.0
541.3 16724.5	-13.4	-33.8	16.0
509.2 18241.2	-17.8	-29.8	34.0
500.0 18698.7	-19.1	-24.0	65.0
487.8 19291.4	-20.9	-23.7	78.0
476.6 19654.5	-22.4	-22.9	96.0
469.6 20212.3	-22.2	-24.2	84.0
461.7 20622.1	-22.9	-20.2	51.0
448.6 21315.1	-23.7	-35.4	33.0
438.8 21844.9	-24.8	-38.7	26.0
400.0 24035.6	-30.4	-42.9	28.0
348.1 27234.4	-38.3	-49.6	29.0

STATION ALTITUDE 4173.44 FEET MSL
 10 FEB. 84 0900 HNS MST
 ASCENSION NO. 5
 UPPER AIR DATA
 0410320005
 LANA
 TABLE 14
 GEODETIC COORDINATES
 33.13510 LAT DEG
 106.15446 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE		GM/CUBIC METER	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
4173.4	872.1	9.4	-6.0	33.0	1073.4	655.4	160.0	4.1	1.000258
4500.0	861.7	9.9	-11.1	21.6	1059.4	655.8	192.8	5.4	1.000248
5000.0	846.0	10.8	-11.9	19.0	1036.9	656.8	214.9	9.0	1.000243
5500.0	830.6	10.0	-12.7	18.8	1020.9	655.9	223.8	13.1	1.000238
6000.0	815.4	9.2	-13.4	18.7	1005.1	654.9	228.3	17.5	1.000234
6500.0	800.5	8.4	-14.2	18.5	989.6	654.0	238.8	21.3	1.000230
7000.0	785.8	7.6	-14.9	18.4	974.3	653.0	247.3	25.6	1.000226
7500.0	771.5	6.8	-15.7	18.2	959.3	652.1	252.7	28.4	1.000222
8000.0	757.4	6.0	-16.5	18.1	944.5	651.1	257.1	30.8	1.000219
8500.0	743.4	5.0	-17.4	17.9	930.3	650.0	257.8	30.7	1.000215
9000.0	729.6	4.0	-18.4	17.6	916.4	648.8	257.1	29.4	1.000211
9500.0	716.0	2.9	-19.4	17.3	902.8	647.6	254.6	28.9	1.000208
10000.0	702.7	1.9	-20.5	17.1	889.4	646.3	251.4	28.8	1.000204
10500.0	689.5	.9	-21.5	16.7	875.8	645.2	251.1	30.0	1.000201
11000.0	676.6	.0	-22.6	16.3	862.4	644.0	251.1	31.3	1.000197
11500.0	663.8	-1.0	-23.6	16.0	849.3	642.8	251.7	32.0	1.000194
12000.0	651.1	-2.2	-24.7	15.8	836.8	641.4	255.9	32.7	1.000191
12500.0	638.6	-3.5	-25.8	15.7	824.5	639.9	256.9	33.5	1.000188
13000.0	626.3	-4.7	-26.9	15.5	812.4	638.5	256.3	35.6	1.000184
13500.0	614.3	-5.9	-28.0	15.4	800.4	637.0	253.5	39.9	1.000182
14000.0	602.5	-7.1	-29.1	15.3	788.7	635.5	252.2	42.5	1.000179
14500.0	591.0	-8.3	-30.2	15.1	777.2	634.1	252.3	42.7	1.000176
15000.0	579.6	-9.5	-31.3	15.0	765.7	632.6	253.1	41.9	1.000173
15500.0	568.3	-10.4	-31.9	15.0	753.1	631.6	255.4	39.3	1.000170
16000.0	557.1	-11.6	-32.7	15.4	741.8	630.1	256.9	38.0	1.000167
16500.0	546.1	-12.8	-33.4	15.8	730.7	628.6	256.9	38.2	1.000165
17000.0	535.3	-14.2	-32.6	19.3	720.0	627.0	257.3	38.7	1.000163
17500.0	524.6	-15.6	-31.0	25.2	709.5	625.3	257.9	39.4	1.000161
18000.0	514.2	-17.1	-30.1	31.1	699.3	623.5	257.8	40.4	1.000159
18500.0	503.9	-18.6	-25.9	51.9	689.0	621.8	257.7	41.5	1.000158
19000.0	493.7	-20.0	-23.8	71.7	679.0	620.0	257.3	41.6	1.000157
19500.0	483.6	-21.5	-23.3	84.7	668.9	618.3	257.0	41.9	1.000155
20000.0	473.7	-22.3	-23.4	91.1	657.5	617.2	257.7	42.8	1.000152
20500.0	464.0	-22.7	-28.1	60.8	645.1	616.7	258.7	43.4	1.000147
21000.0	454.5	-23.3	-32.8	41.2	633.6	615.8	260.0	43.3	1.000143
21500.0	445.2	-24.1	-36.5	10.6	622.5	614.9	260.8	42.4	1.000140
22000.0	435.9	-25.2	-39.0	26.6	612.4	613.5	261.2	40.9	1.000138
22500.0	426.8	-26.5	-39.9	26.6	602.7	611.9	262.6	41.4	1.000135
23000.0	417.9	-27.8	-40.9	27.1	593.2	610.3	264.6	42.4	1.000133
23500.0	409.2	-29.0	-41.9	27.5	583.8	608.7	267.2	44.2	1.000131

STATION ALTITUDE 4173.44 FEET MSL
 10 FEB 84 0900 MHS MST
 ASCENSION NO. 5

UPPER AIR DATA
 0410320005
 LAMA
 TABLE 14 CONT'D

GEODETIC COORDINATES
 33.13510 LAT DEG
 106.15446 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		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	400.6	-30.3	28.0	574.6	607.1	269.0	44.9	1.000129
24500.0	392.0	-31.5	28.1	565.2	605.6	270.4	45.3	1.000127
25000.0	383.6	-32.8	28.3	555.9	604.0	271.2	45.2	1.000125
25500.0	375.3	-34.0	28.5	546.7	602.5	271.7	44.8	1.000122
26000.0	367.3	-35.3	28.6	537.8	600.9			1.000120
26500.0	359.4	-36.5	28.8	529.0	599.3			1.000118
27000.0	351.7	-37.7	28.9	520.3	597.8			1.000116

STATION ALTITUDE 4123.44 FEET MSL
10 FEB. 84
ASCENSION NO. 5

MANDATORY LEVELS
0410320005
LANA
TABLE 15

GEOMETRIC COORDINATES
33.13510 LAT DEG
106.15446 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4870.	10.2	-11.7	20.	211.2	7.9	
800.0	6519.	8.3	-14.2	19.	239.2	21.4	
750.0	8257.	5.5	-16.9	18.	258.1	31.3	
700.0	10094.	1.7	-20.7	17.	251.1	28.9	
650.0	12038.	-2.3	-24.8	16.	256.0	32.8	
600.0	14103.	-7.4	-29.3	15.	252.2	42.5	
550.0	16305.	-12.4	-33.2	16.	256.9	38.1	
500.0	18664.	-19.1	-24.0	65.	257.5	41.6	
450.0	21209.	-23.6	-34.7	35.	260.6	43.2	
400.0	23997.	-30.4	-42.9	28.	269.1	44.9	
350.0	27064.	-38.0	-49.3	29.			

STATION ALTITUDE 4146.74 FEET MSL
10 FEB. 84 0910 HRS MST
ASCENSION NO. 5

SIGNIFICANT LEVEL DATA

0410210005

RITA

TABLE 16

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT
		8.9	-11.1	
972.1	4196.7	10.3	-9.9	23.0
960.8	4541.8	8.8	-11.7	23.0
955.0	4725.9	9.9	-11.4	22.0
950.0	4885.4	10.5	-12.1	21.0
945.6	5027.0	4.9	-17.4	19.0
947.0	8379.9	2.0	-21.1	18.0
908.0	10110.7	-7.4	-25.9	16.0
908.6	13754.9	-10.4	-29.5	21.0
978.9	15028.2	-12.6	-13.1	19.0
950.6	16291.3	-17.4	-30.7	16.0
912.2	18089.0	-19.5	-25.1	30.0
900.0	18680.6	-20.8	-23.5	61.0
487.4	19303.0	-22.0	-23.6	79.0
479.4	19704.5	-22.0	-24.9	87.0
477.1	19821.0	-21.5	-32.2	77.0
466.9	20344.6	-22.2	-34.0	37.0
459.0	20757.8	-30.5	-44.8	33.0
400.0	24030.0	-35.2	-47.5	23.0
63.3	26258.8	-37.0	-49.0	27.0
54.1	26844.9			
50.0	30539.7			

GEODETIC COORDINATES
33.18295 LAT DEG
106.15114 LON DEG

UPPER AIR DATA
0410210005
RITA
TABLE 17

STATION ALTITUDE 4126.74 FEET MSL
10 FEB. 84
0910 HRS MST
ASCENSION NO. 5

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4186.7	872.1	8.9	23.0	1075.9	654.6	175.0	4.1	1.000252
4500.0	862.1	10.1	23.0	1059.9	656.1	194.8	5.9	1.000249
5000.0	846.4	10.4	19.4	1038.8	656.3	208.1	9.5	1.000243
5500.0	830.9	9.7	16.9	1027.3	655.5	214.0	13.4	1.000238
5000.0	815.7	8.9	18.7	1006.6	654.6	217.7	17.3	1.000234
6500.0	800.8	3.0	18.6	991.1	653.6	230.6	19.8	1.000230
7000.0	786.1	7.2	18.4	975.9	652.6	240.9	23.2	1.000226
7500.0	771.7	6.4	18.3	961.0	651.6	247.6	26.6	1.000223
8000.0	757.6	5.5	18.1	946.2	650.6	252.6	30.1	1.000219
8500.0	743.6	4.7	17.9	931.7	649.6	255.2	30.1	1.000215
9000.0	729.8	3.9	17.3	917.1	648.6	257.1	29.8	1.000211
9500.0	716.2	3.0	16.7	902.9	647.6	256.4	28.4	1.000207
10000.0	702.9	2.2	16.1	888.8	646.6	255.7	28.0	1.000204
10500.0	689.6	1.0	16.5	875.8	645.2	254.9	28.7	1.000201
11000.0	676.5	-0.3	17.2	863.2	643.7	256.0	30.1	1.000198
11500.0	663.6	-1.6	17.9	850.8	642.2	257.5	31.6	1.000195
12000.0	651.0	-2.9	18.6	838.7	640.6	258.7	32.6	1.000192
12500.0	638.6	-4.2	19.3	826.7	639.1	259.5	33.4	1.000189
13000.0	626.5	-5.5	20.0	814.9	637.6	259.6	33.5	1.000186
13500.0	614.6	-6.7	20.7	803.3	636.0	257.8	33.8	1.000183
14000.0	602.8	-8.0	20.6	791.5	634.5	254.8	34.2	1.000180
14500.0	591.0	-9.2	19.5	779.6	633.1	254.7	34.4	1.000177
15000.0	579.5	-10.5	19.0	767.9	631.7	254.4	34.6	1.000174
15500.0	568.2	-11.2	17.7	755.4	630.6	257.5	34.9	1.000171
16000.0	557.0	-12.1	16.7	743.1	629.5	259.3	35.2	1.000168
16500.0	546.0	-13.2	17.6	731.4	628.3	259.5	35.4	1.000165
17000.0	535.1	-14.5	21.5	720.5	626.6	260.2	35.9	1.000163
17500.0	524.5	-15.8	25.4	709.8	625.0	260.8	36.5	1.000161
18000.0	514.0	-17.2	29.3	699.3	623.4	261.4	37.3	1.000158
18500.0	503.7	-18.9	51.5	689.7	621.4	261.0	37.8	1.000158
19000.0	493.5	-20.2	70.2	679.1	619.8	260.2	38.2	1.000156
19500.0	483.5	-21.4	82.9	668.5	618.4	260.2	39.0	1.000154
20000.0	473.6	-21.8	63.3	656.1	617.8	260.5	39.4	1.000150
20500.0	463.9	-21.8	35.5	642.7	617.8	261.8	38.8	1.000145
21000.0	454.3	-22.8	32.3	632.1	616.5	262.8	37.3	1.000143
21500.0	444.9	-24.1	30.7	622.1	614.9	263.6	35.2	1.000140
22000.0	435.6	-25.4	29.2	612.3	613.3	263.8	36.3	1.000138
22500.0	426.6	-26.6	27.7	602.7	611.7	264.3	37.5	1.000135
23000.0	417.7	-27.9	26.1	593.2	610.2	265.0	38.9	1.000133
23500.0	409.0	-29.2	24.6	583.9	608.6	267.3	38.9	1.000131

STATION ALTITUDE 4156.74 FEET MSL 10 FEB. 84 0910 HRS MST ASCENSION NO. 5				UPPER AIR DATA 0410210005 RITA TABLE 17 CONT'D				GEODETIC COORDINATES 33.18295 LAT DEG 106.15114 LON DEG			
GEOMETRIC ALTITUDE	PRESSURE	TEMPERATURE	REL. HUM.	DENSITY	SPEED OF	WIND DATA	INDEX				
MSL FEET	MILLIBARS	AIR DEG/°C	PERCENT	GM/CUBIC METER	SOUND KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	REFRACTION			
24000.0	400.5	-70.4	23.1	574.8	607.0	269.6	39.4	1.000129			
24500.0	392.0	-71.5	23.8	565.0	605.6	271.5	40.0	1.000127			
25000.0	383.6	-72.5	24.7	555.3	604.3	272.6	39.4	1.000124			
25500.0	375.4	-73.6	25.6	545.9	603.0	272.9	36.5	1.000122			
26000.0	367.4	-74.7	26.5	536.6	601.7	273.6	37.7	1.000120			
26500.0	359.5	-75.9	27.0	527.9	600.0	274.8	37.4	1.000118			
27000.0	351.6	-77.4	25.9**	519.6	598.2	276.4	38.0	1.000116			
27500.0	343.8	-78.8	22.2**	511.0	596.4	277.8	39.3	1.000114			
28000.0	336.2	-80.1	18.6**	502.6	594.7	278.6	40.1	1.000112			
28500.0	328.8	-81.5	14.9**	494.3	593.0	279.1	40.4	1.000110			
29000.0	321.5	-82.8	11.3**	486.2	591.2	279.2	40.1	1.000108			
29500.0	314.3	-84.2	7.6**	478.2	589.5	278.9	39.8	1.000107			
30000.0	307.4	-85.5	3.9**	470.4	587.7			1.000105			
30500.0	300.5	-86.9	.3**	462.7	586.0			1.000103			

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

STATION ALTITUDE 4186.74 FEET MSL
 TO FEB. 84
 ASCENSION NO. 5
 0910T HRS MST
 MANDATORY LEVELS
 0410210005
 RITA
 TABLE 18
 GEODETIC COORDINATES
 33.18295 LAT DEG
 106.15114 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4882.	9.9	-11.4	21.	206.0	8.7	
800.0	6530.	8.0	-14.5	19.	231.4	20.0	
750.0	8266.	5.1	-17.2	18.	254.0	30.1	
700.0	10102.	2.0	-21.1	16.	255.5	28.1	
650.0	12044.	-3.0	-23.5	19.	258.8	32.8	
600.0	14103.	-8.3	-26.9	20.	254.7	34.3	
550.0	16299.	-12.7	-33.0	16.	259.4	35.3	
500.0	18656.	-19.5	-25.1	61.	260.7	37.9	
450.0	21205.	-23.4	-35.5	32.	263.1	36.4	
400.0	23992.	-30.5	-44.8	23.	269.7	39.4	
350.0	27063.	-37.7	-50.3	25.**	276.7	38.2	
300.0	30482.	-47.0					

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

END

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