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AD-A140 893

METEOROLOGICAL DATA REPORT

19321 AT MLRS

Missile Number 6721, 6722, 6719, 6715, 6716, and 6718

ROUND NUMBER V-575/FB-18 thru V-580/FB-23

7 March 1984

by

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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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## INTRODUCTION

19321 AT MLRS, Missile Numbers 6721, 6722, 6719, 6715, 6716, and 6718, Round Numbers V-575/FB-18 thru V-580/FB-23, were launched from Tula Gate, White Sands Missile Range (WSMR) New Mexico, at 1036:18, 1036:22, 1037:27, 1036:31, 1036:36, and 1036:40 MST 7 Mar 84. The scheduled launch times were 1000 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 ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm}/\text{m}^3$ ), wind direction and speed, and cloud cover were made at the Tula Gate Met Sites at T-0 minutes.

(2) Anemometer data were provided from existing tower-mounted anemometer at Tula Gate. 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

Tula Gate	1350 Meters
Mal	2000 Meters

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

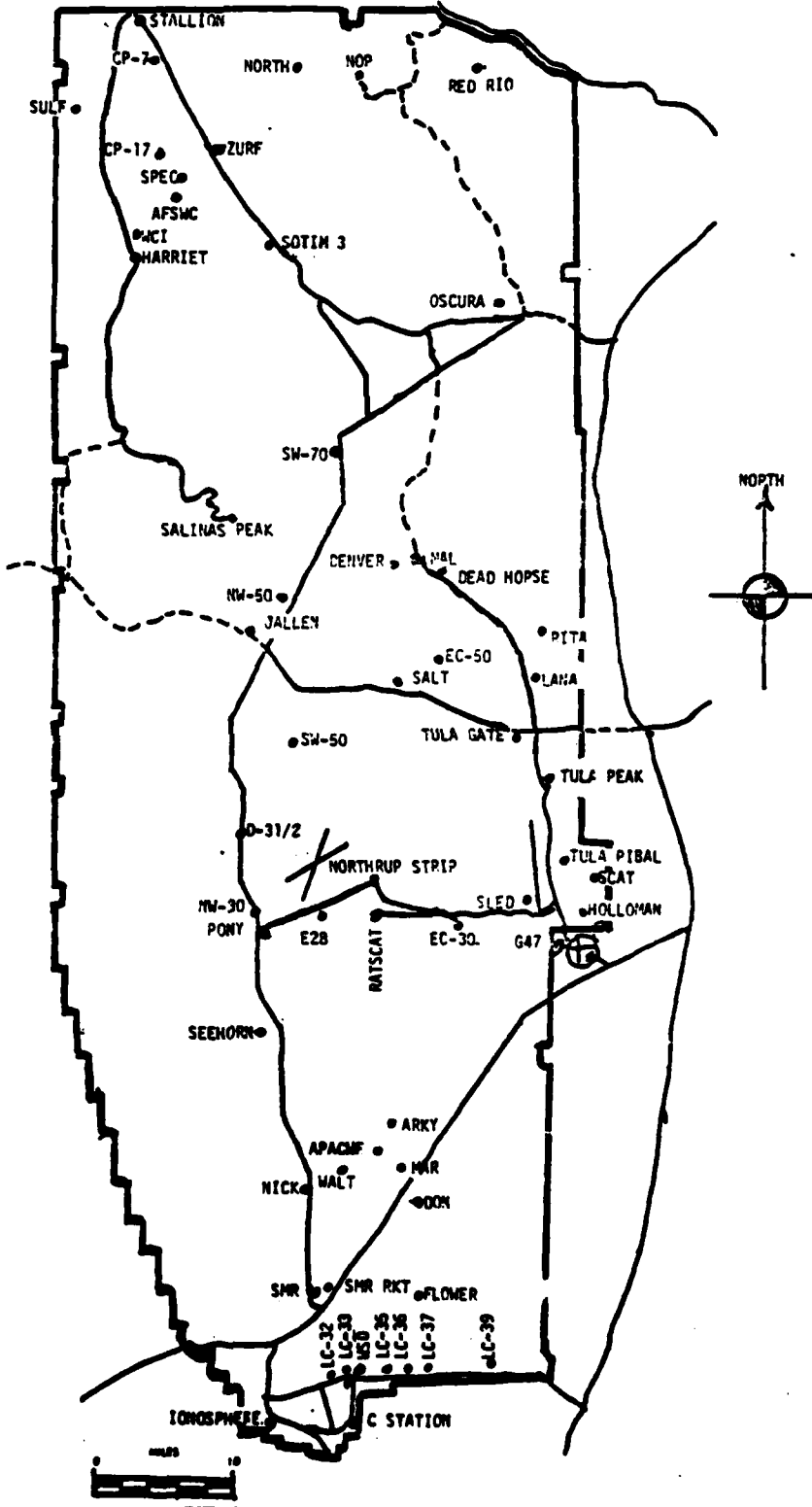
#### SITE AND TIME

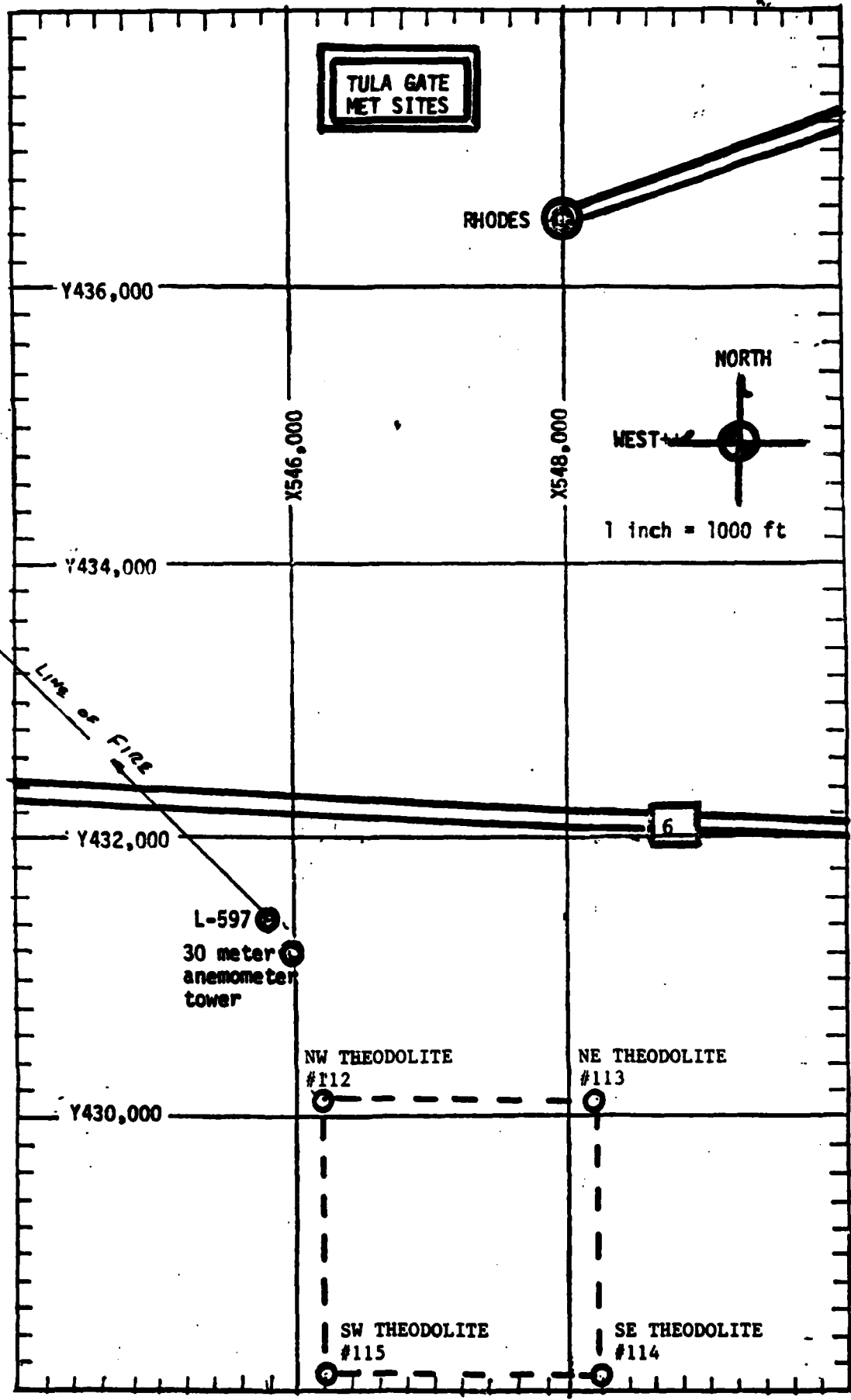
Rita	0815 MST
Lana	0915 MST
Lana	1036 MST
Rita	1036 MST



AI

# WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1		STATION TULA									
DATE 07 03 84		MONTH		YEAR		X=545-944.89		Y=431.158.70		H=4102.47	
TIME M S T	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	RELATIVE HUMIDITY %	DENSITY g/m <sup>3</sup>	DIRECTION Degs In	WIND SPEED kts	CHARACTER kts	VISIBIL- ITY		
1038	882.3	9.8	-6.6	31		260	2.0	-	40		

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS		
	1st LAYER		2nd LAYER		3rd LAYER				
	AMT	TYPE	HGT	AMT	TYPE	HGT	AMT	TYPE	HGT
CLEAR									

PSYCHROMETRIC COMPUTATION

TIME: MST	1038
DRY BULB TEMP.	9.8
WET BULB TEMP.	3.0
WET BULB DEPR.	6.8
DEW POINT	-6.6
RELATIVE HUMID.	31

TABLE 2

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

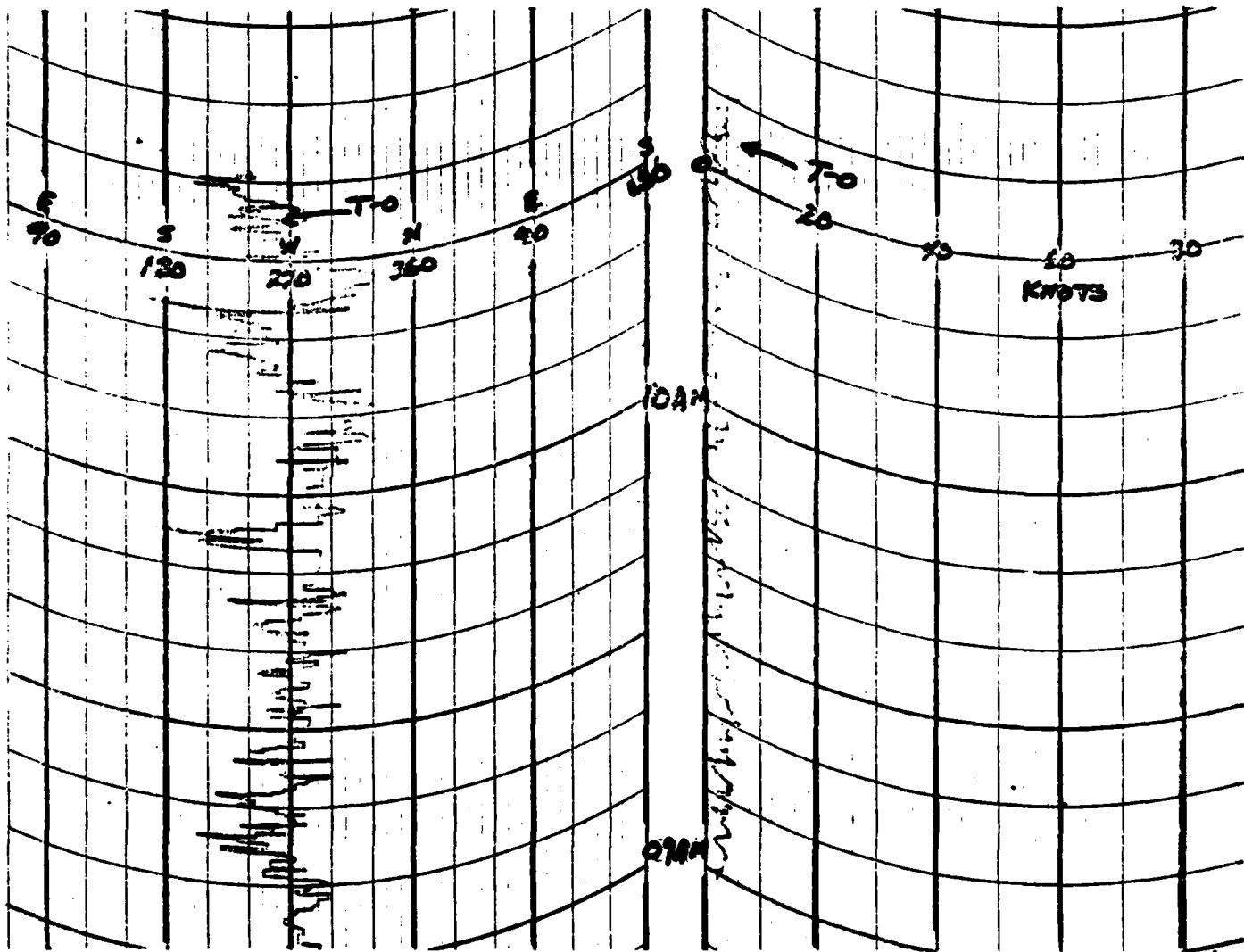


TABLE 3

ANEMOMETER DATA - 60 Ft Level of 30 Meter Tower  
X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

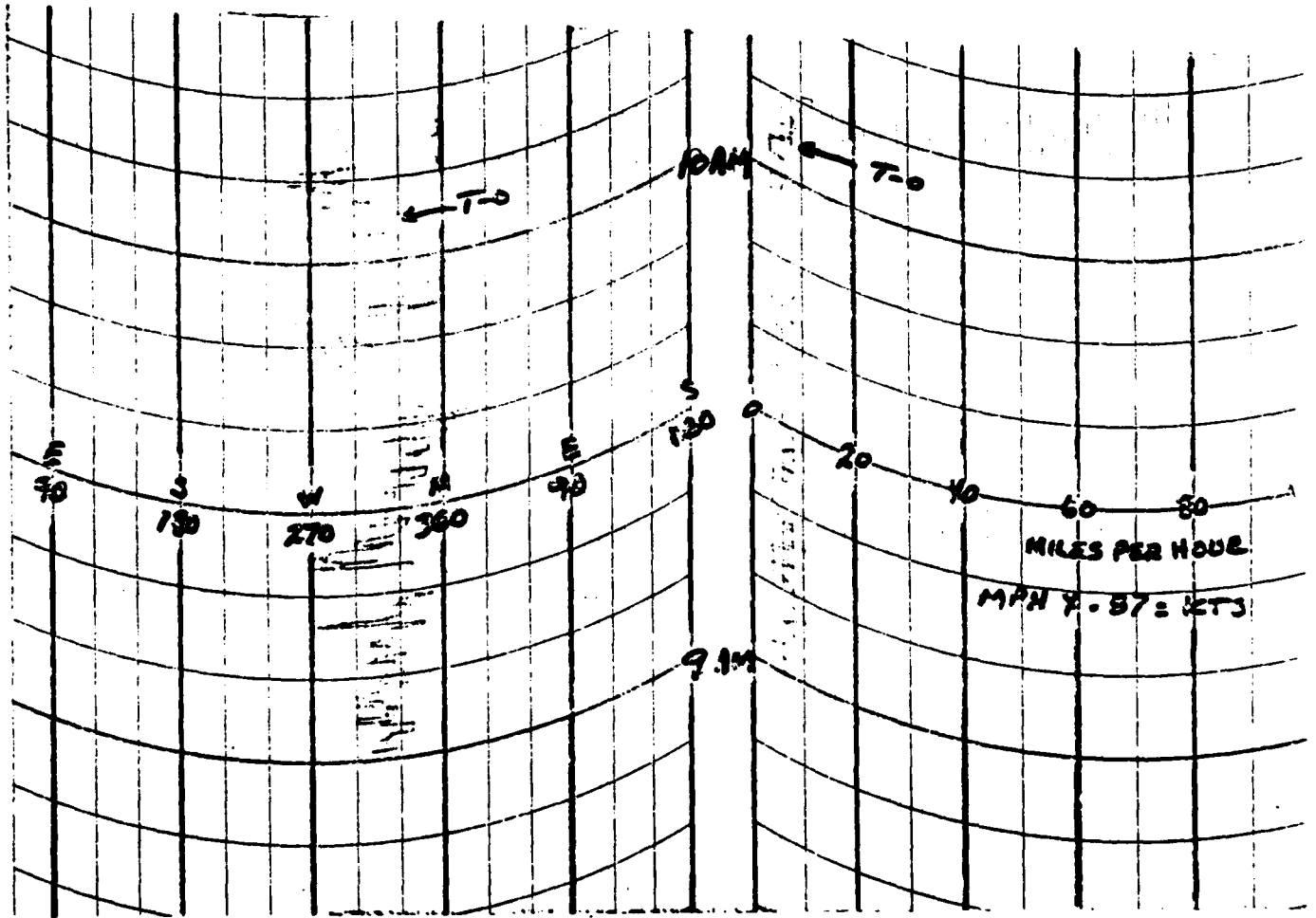


TABLE 4

ANEMOMETER DATA - 90 Ft Level of 30 Meter Tower  
X= 545,944.89 Y= 431,158.70 H= 4102.47 (BASE)

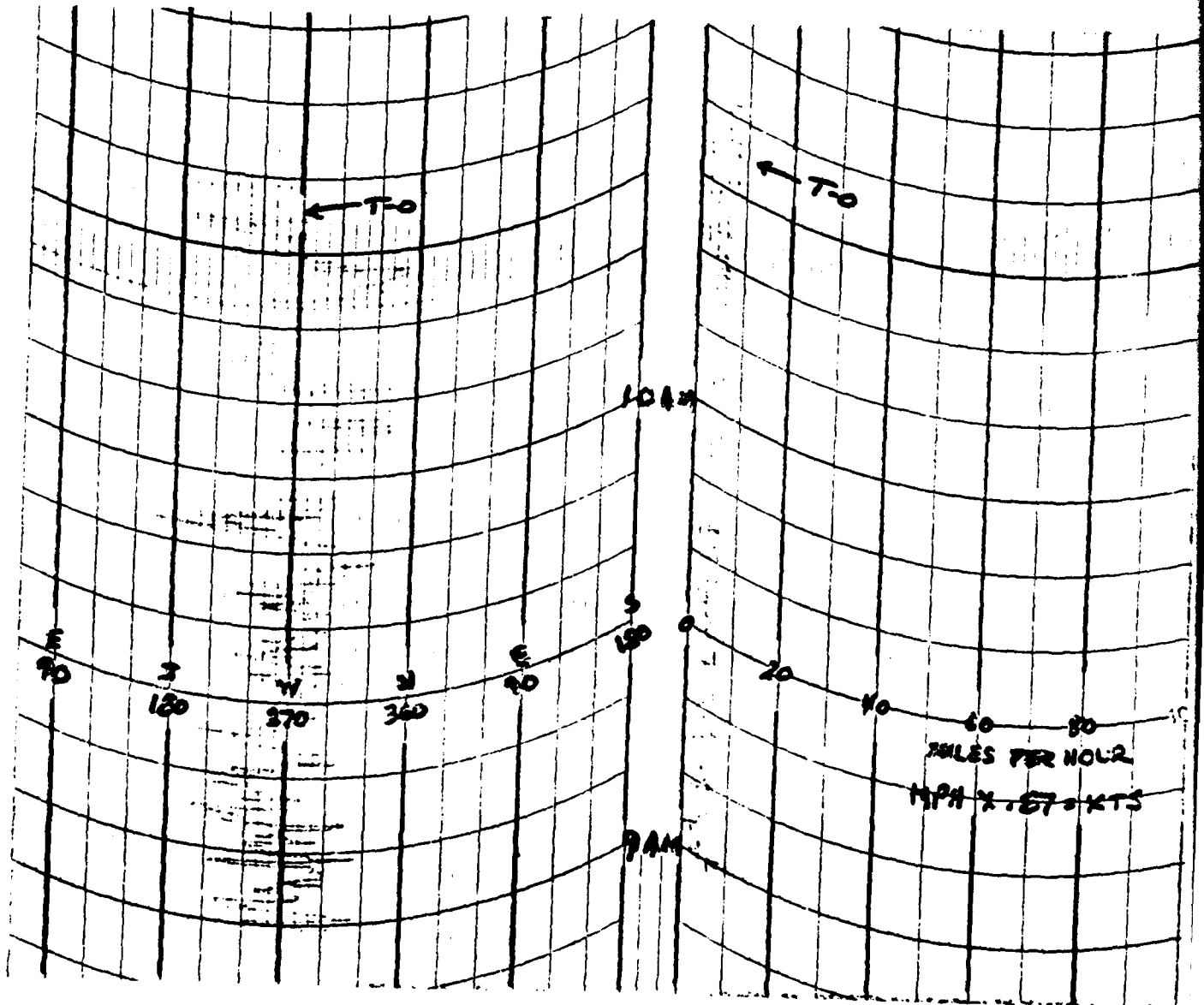


TABLE 5

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 07 March 1984

SITE: TULA GATE  
TIME: 1035 MST  
WSTM COORDINATES:  
X= 546,204.20  
Y= 430,125.39  
H= 4,108.59

SITE: MAL  
TIME 1036 MST  
WSTM COORDINATES:  
X=509,421.05  
Y=479,563.78  
H= 4,133.09

<u>LAYER MIDPOINT</u> <u>METERS AGL</u>	<u>DIRECTION</u> <u>DEGREES</u>	<u>SPEED</u> <u>KNOTS</u>
SURFACE	260	02
150	240	03
210	256	03
270	284	03
330	284	03
390	280	04
500	285	05
650	299	04
800	318	03
950	008	02
1150	347	03
1350	331	08
1550		
1750		
2000		

<u>LAYER MIDPOINT</u> <u>METERS AGL</u>	<u>DIRECTION</u> <u>DEGREES</u>	<u>SPEED</u> <u>KNOTS</u>
SURFACE	270	04
150	269	03
210	268	03
270	267	03
330	266	02
390	269	02
500	275	03
650	281	04
800	279	05
950	278	07
1150	282	08
1350	282	10
1550	277	12
1750	277	14
2000	282	16

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

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

07 March 1984

Rita 0815 MST  
METCM1332062  
071530128880  
00000000 27390880  
01610002 27700869  
02275003 27670843  
03430002 27520802  
04548005 27100754  
05543020 27330708  
06570023 27170665  
07571025 26800624  
08563026 26420585  
09570028 26030549  
10581027 25610514  
11568031 25230480  
12560040 34730434

Lana 0915 MST  
METCM1331062  
071630127879  
00000000 28100879  
01553003 27920869  
02226001 27710842  
03462002 27470802  
04545007 27140753  
05546018 27430707  
06580019 27180665  
07588020 26780624  
08563024 26400585  
09565027 26010548  
10575029 25620513  
11567032 25250480  
12548045 24820433

Lana 1036 MST  
METCM1331062  
071760127879  
00427003 28460879  
01509004 28240868  
02520004 27970842  
03547002 27590802  
04594008 27400754  
05518014 27550708  
06553011 27240666  
07559015 26870625  
08542019 26490586  
09548024 26120550  
10553029 25750515  
11543031 25340481  
12532044 23800435

Rita 1036 MST  
METCM1332062  
071760128879  
00427002 28180879  
01294004 28150868  
02482005 27890842  
03537004 27530802  
04592006 27390753  
05519014 27540708  
06535010 27230665  
07558013 26850625  
08543018 26460586  
09547022 26080549  
10555027 25700514  
11545029 25280481  
12530039 24700434

GEODETIC COORDINATES  
 33.18295 LAT DEG  
 106.15114 LON DEG

SIGNIFICANT LEVEL DATA  
 U67021000  
 PITA

TABLE 7

STATION ALTITUDE 4186.74 FEET MSL  
 7 MAR. 84  
 0815 HRS MST  
 ASCENSION NO. 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
979.9	4186.7	-2	51.0
977.9	4247.0	3.7	50.0
950.0	5107.6	3.2	33.0
911.8	6370.7	2.9	33.0
769.6	7779.0	-1.4	39.0
744.0	8621.4	-3.2	32.0
734.3	8962.4	-3.4	26.0
721.1	9476.4	-1.1	24.0
705.9	9996.5	-1.2	24.0
700.0	10217.6	1.9	25.0
688.8	11416.2	-1.4	27.0
563.0	15842.0	-11.3	24.0
500.0	18792.2	-18.9	31.0
465.6	20525.7	-22.6	33.0
454.1	21178.5	-23.4	32.0
400.0	24140.0	-30.2	33.0
359.1	26635.2	-36.1	33.0
349.3	27267.0	-36.5	33.0

UPPER AIR DATA  
 0670210000  
 PITA  
 TABLE 8

STATION ALTITUDE 4186.74 FEET MSL  
 7 MAR. 84 0815 HRS MST  
 ASCENSION NO. 9

GEOMETRIC COORDINATES  
 33.18295 LAT DEG  
 106.15114 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIR (DEGREES (TN))	SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE						
4186.7	879.9	.2	-8.7	51.0	1119.8	644.5	.0	1.000266	
4500.0	869.6	3.6	-6.8	46.5	1093.1	648.6	.3	1.000262	
5000.0	853.4	3.3	-9.2	39.5	1074.1	648.1	.9	1.000254	
5500.0	837.6	3.1	-10.4	36.4	1054.9	647.9	1.5	1.000249	
6000.0	822.0	3.0	-11.2	34.4	1035.7	647.8	2.0	1.000244	
6500.0	806.6	2.4	-11.9	33.7	1018.7	647.0	2.0	1.000239	
7000.0	791.5	.9	-12.5	35.9	1005.1	645.2	2.4	1.000236	
7500.0	776.6	-7	-13.2	38.0	991.8	643.4	2.7	1.000232	
8000.0	761.9	-1.9	-14.7	36.9	977.7	641.9	5.0	1.000228	
8500.0	747.5	-3.0	-16.9	33.0	962.9	640.6	8.8	1.000223	
9000.0	733.2	-3.1	-19.9	25.8	945.4	640.4	12.8	1.000217	
9500.0	719.4	-1.1	-18.2	24.0	917.1	644.0	16.9	1.000212	
10000.0	705.8	-2	-18.3	24.0	900.1	643.9	19.8	1.000208	
10500.0	692.5	.4	-17.1	25.5	881.3	644.6	21.5	1.000204	
11000.0	679.5	-6	-17.6	26.3	867.7	643.4	22.2	1.000201	
11500.0	666.6	-1.6	-18.1	27.0	854.4	642.3	22.9	1.000198	
12000.0	653.8	-2.7	-19.0	27.3	841.5	640.9	23.7	1.000195	
12500.0	641.2	-3.8	-19.8	27.5	828.7	639.6	24.4	1.000191	
13000.0	628.8	-4.9	-20.7	27.7	816.2	638.2	24.9	1.000188	
13500.0	616.7	-6.1	-21.6	27.9	803.8	636.9	25.2	1.000185	
14000.0	604.8	-7.2	-22.5	28.2	791.7	635.5	25.3	1.000182	
14500.0	593.2	-8.3	-23.4	28.4	779.8	634.2	25.6	1.000179	
15000.0	581.8	-9.4	-24.2	28.6	768.0	632.8	26.0	1.000176	
15500.0	570.5	-10.5	-25.1	28.8	756.4	631.5	26.9	1.000173	
16000.0	559.4	-11.7	-26.1	29.1	745.1	630.1	28.0	1.000170	
16500.0	548.3	-13.0	-27.1	29.4	733.9	628.5	28.4	1.000167	
17000.0	537.4	-14.3	-28.1	29.8	722.9	626.9	28.5	1.000164	
17500.0	526.7	-15.6	-29.1	30.1	712.0	625.4	28.1	1.000162	
18000.0	516.2	-16.9	-30.1	30.5	701.4	623.8	27.5	1.000159	
18500.0	505.9	-18.1	-31.1	30.8	690.9	622.2	27.3	1.000157	
19000.0	495.7	-19.3	-32.0	31.2	680.2	620.7	27.4	1.000154	
19500.0	485.7	-20.4	-32.6	31.8	669.2	619.4	29.9	1.000151	
20000.0	475.8	-21.5	-33.6	32.4	658.4	618.1	32.9	1.000149	
20500.0	466.1	-22.5	-34.3	33.0	647.7	616.8	36.5	1.000146	
21000.0	456.5	-23.2	-35.2	32.2	636.2	616.0	38.4	1.000144	
21500.0	447.0	-24.2	-36.1	32.1	625.5	614.7	39.8	1.000141	
22000.0	437.7	-25.4	-37.1	32.3	615.3	613.3	39.7	1.000139	
22500.0	428.6	-26.5	-38.0	32.5	605.2	611.9	39.9	1.000136	
23000.0	419.7	-27.6	-39.0	32.6	595.4	610.5	40.5	1.000134	
23500.0	410.9	-28.8	-40.0	32.8	585.6	609.1	42.6	1.000132	

STATION ALTITUDE 4186.74 FEET PSL  
 7 MAR. 24 0815 HRS MST  
 ASCENSION NO. 9

UPWFR AIR DATA  
 0470210000  
 PITA

GEODETIC COORDINATES  
 35.18295 LAT DEG  
 106.15114 LONG DEG

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	DWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	402.4	-79.9	-40.9	33.0	576.1	607.7	312.7	45.4	1.000179
24500.0	393.8	-77.1	-42.0	33.0	566.6	606.2	313.2	47.6	1.000177
25000.0	385.4	-72.2	-43.0	33.0	557.2	604.7	314.0	49.7	1.000175
25500.0	377.2	-73.4	-44.1	33.0	548.0	603.2	315.1	51.8	1.000173
26000.0	369.1	-74.6	-45.1	33.0	538.9	601.7			1.000171
26500.0	361.2	-75.8	-46.2	33.0	530.1	600.2			1.000119
27000.0	353.4	-76.3	-46.7	33.0	519.8	599.5			1.000116

STATION ALTITUDE 4156.74 FEET MSL  
 7 MAR. 84 0815 HRS PST  
 ASCENSION NO. 9

MANDATORY LEVELS  
 UA7021000  
 RITA

GEODETIC COORDINATES  
 33.16295 LAT NEG  
 106.15114 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	5704.	3.2	-9.7	18.	194.8	1.0
800.0	6714.	1.7	-12.2	35.	241.3	2.2
750.0	8405.	-2.4	-16.5	34.	302.8	8.1
700.0	10204.	.9	-16.9	25.	309.4	20.5
650.0	12144.	-3.0	-19.2	27.	323.8	23.9
600.0	14209.	-7.6	-22.8	28.	316.4	25.3
550.0	16410.	-12.4	-26.9	29.	320.7	28.4
500.0	18767.	-18.9	-31.7	31.	324.6	27.2
450.0	21314.	-23.9	-35.8	32.	314.2	19.4
400.0	24102.	-30.2	-41.2	33.	312.9	46.0
350.0	27174.	-36.5	-46.8			

STATION ALTITUDE 4173.44 FEET MSL  
 7 MAR. 84  
 ASCENSION NO. 9

SIGNIFICANT LEVEL DATA  
 0670320009

LAMA  
 TABLE 10

GEODETIC COORDINATES  
 33.13510 LAT DEG  
 106.15446 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREEF CENTIGRADE	REL. HUM. PERCENT
579.2	4173.4	7.4	45.0
571.0	4344.3	6.2	29.0
550.0	5078.5	3.1	45.0
536.1	5517.8	3.9	31.0
527.0	5809.6	3.6	23.0
518.0	6104.3	-2.8	26.0
514.4	6575.2	-3.2	20.0
511.9	6918.1	.2	18.0
522.3	7345.6	.2	18.0
509.4	7841.0	1.5	18.0
500.0	8193.8	1.4	18.0
490.6	8550.9	.9	18.0
498.2	8420.2	-8.0	19.0
500.0	8749.4	-18.5	24.0
477.8	9277.7	-21.2	26.0
452.0	9120.7	-22.9	28.0
400.0	2411.6	-29.1	32.0
330.2	27918.7	-38.1	31.0

UPPER AIR DATA  
 0670370000  
 LANA

STATION ALTITUDE 4173.44 FEET MSL  
 7 MAR. 84  
 0915 HRS MST

GEOMETRIC COORDINATES  
 33.13510 LAT DEG  
 106.15446 LON DEG

TABLE 11

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMP. DIMPTANT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
6173.4	879.2	7.4	-3.7	45.0	1089.5	653.2	.0	.0	1.000265
4500.0	868.6	5.6	-10.5	30.1	1084.2	650.8	162.1	.1	1.000255
5000.0	852.5	3.4	-10.6	34.3	1072.4	648.3	162.1	.4	1.000252
5500.0	836.7	3.9	-11.6	31.2	1051.0	648.8	162.1	.6	1.000247
6000.0	821.0	3.1	-15.5	24.1	1034.6	647.7	164.1	.7	1.000240
6500.0	805.6	1.7	-15.3	26.9	1020.3	646.1	199.7	.8	1.000237
7000.0	790.5	.3	-15.2	29.7	1006.2	644.5	256.4	1.4	1.000234
7500.0	775.6	-1.1	-15.5	32.6	997.3	642.8	281.4	3.1	1.000230
8000.0	761.0	-2.5	-15.7	35.4	978.7	641.2	301.4	6.6	1.000227
8500.0	746.6	-3.1	-21.5	22.6	962.7	640.3	307.9	10.5	1.000220
9000.0	732.4	.1	-21.3	15.1	933.3	644.1	309.5	13.8	1.000214
9500.0	718.6	.6	-21.0	18.0	914.1	644.7	304.3	16.3	1.000209
10000.0	705.1	1.5	-20.2	18.0	894.0	645.8	306.9	18.1	1.000205
10500.0	691.9	1.0	-20.6	18.0	878.8	645.2	312.7	18.5	1.000202
11000.0	678.8	-0.2	-21.5	18.1	865.7	643.9	318.7	18.6	1.000198
11500.0	665.8	-1.4	-22.4	18.3	852.9	642.4	325.5	18.3	1.000195
12000.0	653.1	-2.6	-23.3	18.4	840.4	641.0	329.7	18.6	1.000192
12500.0	640.7	-3.8	-24.2	18.5	828.0	639.6	332.2	19.1	1.000189
13000.0	628.4	-4.9	-25.1	18.7	815.9	638.2	330.7	20.0	1.000186
13500.0	616.4	-6.1	-26.1	18.8	803.9	636.7	327.5	20.9	1.000183
14000.0	604.7	-7.3	-27.0	18.9	792.1	635.3	322.4	21.9	1.000180
14500.0	593.0	-8.5	-27.8	19.2	780.3	633.9	318.7	23.4	1.000177
15000.0	581.2	-9.7	-28.5	19.8	768.3	632.5	315.4	25.0	1.000174
15500.0	569.8	-10.9	-29.2	20.4	756.4	631.1	315.7	26.0	1.000171
16000.0	558.5	-12.0	-29.9	20.9	744.8	629.6	316.3	26.9	1.000169
16500.0	547.4	-13.2	-30.6	21.5	733.4	628.2	316.0	27.3	1.000166
17000.0	536.6	-14.4	-31.3	22.0	722.1	626.8	319.4	27.7	1.000163
17500.0	526.0	-15.5	-32.1	22.6	711.1	625.4	320.5	28.2	1.000161
18000.0	515.6	-16.7	-32.8	23.1	700.2	624.0	323.0	28.5	1.000158
18500.0	505.4	-17.9	-33.6	23.7	689.5	622.5	324.9	28.8	1.000156
19000.0	495.3	-19.1	-34.3	24.4	679.9	621.1	325.1	28.9	1.000153
19500.0	485.3	-20.3	-35.0	25.3	668.3	619.6	321.1	30.9	1.000151
20000.0	475.4	-21.4	-35.6	26.2	657.6	618.3	316.6	34.2	1.000148
20500.0	465.7	-22.0	-35.9	26.9	645.7	617.5	312.6	38.6	1.000146
21000.0	456.1	-22.6	-36.2	27.7	634.1	616.7	309.8	40.9	1.000143
21500.0	446.7	-23.5	-36.7	28.4	622.2	615.6	307.9	41.9	1.000140
22000.0	437.4	-24.6	-37.4	29.1	610.9	614.3	306.8	42.3	1.000138
22500.0	428.4	-25.6	-38.1	29.8	602.8	613.0	304.6	44.2	1.000136
23000.0	419.5	-26.7	-38.8	30.4	597.8	611.7	302.7	47.8	1.000133
23500.0	410.7	-27.8	-39.6	31.1	585.0	610.3	305.9	51.4	1.000131

STATION ALTITUDE 4173.44 FEET MSL  
 7 MAR. 84 0915 HRS MST  
 ASCENSION NO. 9

UPPER AIR DATA  
 U670520009  
 IAPA  
 TABLE 11 CONT'D

GEODETIC COORDINATES  
 33.13510 LAT DEG  
 106.15446 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	WFL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	402.2	-28.8	31.8	573.4	609.0	311.2	55.0	1.000129
24500.0	393.7	-30.0	31.9	563.9	607.6	310.4	58.7	1.000127
25000.0	385.2	-31.2	31.8	554.5	606.1	309.9	61.8	1.000124
25500.0	377.0	-32.3	31.6	545.3	604.6	309.0	62.8	1.000122
26000.0	368.9	-33.5	31.5	536.2	603.1	308.4	63.3	1.000120
26500.0	361.0	-34.7	31.4	527.4	601.6	307.7	63.8	1.000118
27000.0	353.3	-35.9	31.2	518.6	600.1	307.8	64.6	1.000116
27500.0	345.7	-37.1	31.1	510.1	598.6			1.000114

STATION ALTITUDE 4123.44 FEET MSL  
 7 PAR. R4 0915 MMS MST  
 ASCENSION NO. 9

MANUATORY LEVELS  
 0670320000  
 IAMA  
 TABLE 12

GEODETIC COORDINATES  
 33.15510 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	
850.0	5075.	3.1	-10.2	35.	162.1	.4	
800.0	6625.	1.2	-15.3	28.	209.4	.9	
750.0	8175.	-3.0	-19.5	27.	307.2	9.7	
700.0	10184.	1.4	-20.3	18.	309.0	18.2	
650.0	12127.	-2.9	-23.5	18.	330.4	18.7	
600.0	14189.	-7.8	-27.4	19.	320.9	22.4	
550.0	16386.	-12.9	-30.4	21.	317.7	27.2	
500.0	18744.	-18.5	-34.0	24.	324.9	28.8	
450.0	21297.	-23.1	-36.4	28.	308.4	41.9	
400.0	24097.	-29.1	-40.5	32.	311.3	55.8	
350.0	27179.	-36.4	-47.2	31.			

STATION ALTITUDE 4173.44 FEET MSL  
 7 MAR. 84  
 ASCENSION NO. 10

0670320010  
 LAMA  
 TABLE 13

GEODETIC COORDINATES  
 33.13510 LAT DEG  
 106.15446 LONG DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT
979.9	4173.4	10.9	29.0
877.5	4432.0	8.7	23.0
750.0	5076.7	6.9	27.0
791.1	4993.9	1.2	36.0
768.0	7775.3	.2	20.0
752.2	8321.9	-3	19.0
728.4	9171.9	3.1	16.0
700.0	10227.2	1.8	17.0
500.0	1828.3	-17.3	21.0
473.2	20176.4	-21.0	26.0
416.0	21267.1	-27.4	41.0
400.0	24191.9	-29.6	47.0
384.7	24943.9	-30.7	43.0
332.7	29460.6	-38.8	43.0

STATION ALTITUDE 4173.64 FEET MSL  
 7 MAR. 64  
 ASCENSION NO. 10

UPPER AIR DATA  
 UAF70320010  
 LAHA  
 TABLE 14

GEOMETRIC COORDINATES  
 33.15510 LAT DEG  
 106.15446 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGR(FCM)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4173.6	878.8	10.8	29.0	1076.4	657.0	240.0	2.9	1.000257
4500.0	868.3	8.5	23.4	1072.7	654.2	247.4	2.6	1.000251
5000.0	852.4	7.1	26.5	1059.3	652.6	262.7	2.2	1.000249
5500.0	836.6	5.6	29.0	1044.2	650.9	282.5	2.0	1.000246
6000.0	821.1	4.2	31.3	1030.3	649.1	303.3	2.1	1.000242
6500.0	805.9	2.7	33.7	1014.6	647.4	320.5	2.4	1.000239
7000.0	790.9	1.2	35.9	1003.2	645.6	332.9	2.9	1.000235
7500.0	776.1	.6	35.6	987.0	644.8	333.2	4.5	1.000228
8000.0	761.5	-.0	19.6	970.6	644.0	332.8	6.2	1.000222
8500.0	747.1	.4	16.4	950.9	644.5	315.7	8.2	1.000218
9000.0	733.1	2.4	16.6	926.3	646.9	301.7	10.8	1.000212
9500.0	719.4	2.7	16.3	909.0	647.2	296.8	12.4	1.000208
10000.0	706.0	2.1	15.8	893.1	646.5	294.4	13.4	1.000205
10500.0	692.6	1.2	17.1	878.9	645.5	296.4	13.4	1.000202
11000.0	679.2	.1	17.4	865.4	644.2	301.8	12.8	1.000198
11500.0	666.0	-1.0	17.6	852.1	642.8	307.1	12.3	1.000195
12000.0	653.1	-2.1	17.8	839.1	641.5	311.4	12.0	1.000192
12500.0	640.4	-3.2	15.1	826.2	640.2	314.3	12.3	1.000189
13000.0	628.0	-4.4	15.3	813.6	638.9	313.6	14.1	1.000185
13500.0	615.9	-5.5	12.5	801.1	637.5	311.9	15.8	1.000182
14000.0	603.9	-6.6	12.8	788.9	636.2	308.9	17.6	1.000179
14500.0	592.2	-7.7	19.0	776.9	634.9	306.9	19.1	1.000177
15000.0	580.8	-8.8	19.2	765.1	633.5	306.3	20.1	1.000174
15500.0	569.5	-9.9	19.5	753.4	632.2	306.0	21.1	1.000171
16000.0	558.5	-11.0	19.7	742.0	630.9	307.3	22.7	1.000168
16500.0	547.7	-12.1	19.9	730.7	629.5	308.4	24.4	1.000165
17000.0	537.1	-13.2	20.1	719.6	628.2	305.5	26.1	1.000163
17500.0	526.7	-14.4	20.4	708.7	626.8	310.6	27.9	1.000160
18000.0	516.5	-15.5	20.6	698.0	625.5	310.7	28.6	1.000158
18500.0	506.5	-16.6	20.9	687.5	624.1	310.5	29.1	1.000155
19000.0	496.5	-17.8	21.6	677.1	622.6	308.7	29.8	1.000153
19500.0	486.5	-19.1	23.5	667.0	621.0	306.4	30.6	1.000150
20000.0	476.6	-20.5	25.3	657.1	619.3	303.9	32.6	1.000148
20500.0	466.9	-21.7	27.6	646.6	617.9	301.4	35.2	1.000146
21000.0	457.2	-22.7	30.0	635.8	616.6	300.3	38.0	1.000143
21500.0	447.8	-23.7	32.4	625.3	615.3	299.4	40.8	1.000141
22000.0	438.6	-24.8	34.9	615.0	614.0	299.0	43.3	1.000139
22500.0	429.5	-25.8	37.3	604.8	612.8	298.7	45.5	1.000136
23000.0	420.5	-26.8	39.7	594.8	611.5	299.1	47.8	1.000134
23500.0	411.9	-28.0	42.5	585.1	610.1	300.0	49.9	1.000132

UPPER AIR DATA  
 0470320010  
 1.000  
 GEODETIC COORDINATES  
 33.13510 LAT DEG  
 106.15446 LON DEG

STATION ALTITUDE 4173.64 FEET PSL  
 7 MAR. 84  
 1036 HRS MST  
 ASCFNSTN NO. 10  
 TABLE 14 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE °F	TEMPERATURE DEGREES C	Dewpoint °F	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
								DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	403.3	-79.1	-77.1	-78.0	45.8	575.6	608.6	301.0	51.7	1.000130
24500.0	394.8	-70.0	-73.0	-73.0	45.4	565.5	607.5	302.2	53.0	1.000127
25000.0	386.4	-70.7	-72.2	-72.2	43.0	555.2	606.6	303.1	54.0	1.000125
25500.0	378.1	-71.4	-70.2	-70.2	43.0	545.0	605.1	303.7	54.7	1.000123
26000.0	370.0	-73.1	-71.3	-71.3	43.0	536.8	603.7	303.0	55.6	1.000121
26500.0	362.0	-74.3	-72.4	-72.4	43.0	527.8	602.2	303.8	56.7	1.000119
27000.0	354.2	-75.4	-73.5	-73.5	43.0	519.0	600.7	302.1	49.1	1.000116
27500.0	346.6	-76.6	-74.6	-74.6	43.0	510.4	599.2			1.000114
28000.0	339.1	-77.6	-75.6	-75.6	43.0	501.9	597.7			1.000112

STATION ALTITUDE 4173.44 FEET MSL  
 7 MAR. 84  
 ASCENSION NO. 10

"ADUATORY LEVELS  
 UA7037001"  
 LAMA  
 TABLE 15

GEODETIC COORDINATES  
 33.15510 LAT DEG  
 106.15446 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS	
851.0	5073.	6.9	-10.8	27.	265.4	2.1	
800.0	6697.	2.1	-11.0	15.	325.9	2.6	
750.0	8392.	0.0	-21.0	19.	319.3	7.7	
700.0	10210.	1.9	-20.6	17.	293.5	13.8	
650.0	12162.	-2.4	-24.5	18.	312.0	11.9	
600.0	14220.	-7.0	-26.7	19.	307.7	18.4	
550.0	16434.	-11.9	-30.3	20.	308.3	24.2	
500.0	18903.	-17.3	-34.2	21.	309.6	29.5	
450.0	21361.	-23.5	-35.5	32.	299.6	40.1	
400.0	24157.	-29.6	-37.7	47.	301.5	52.1	
350.0	27241.	-36.1	-44.1	43.	300.6	63.9	

STATION ALTITUDE 4196.74 FEET PSL  
 7 MAR. 84 1036 HRS MST  
 ASCENSION NO. 10

SIGNIFICANT LEVEL DATA  
 0670210010  
 PITA  
 TABLE 16

GEODETIC COORDINATES  
 33.18295 LAT DEG  
 106.15114 LONG DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE PSL FEET	TEMPERATURE		REF. HUM. PERCENT
		AIR DIGREES CENTIGRADE	DEWPOINT CENTIGRADE	
878.8	4386.7	8.3	-4.2	41.0
877.8	4217.7	8.9	-3.9	40.0
850.0	5087.6	6.0	-9.8	31.0
789.9	7040.5	.7	-11.6	39.0
780.1	7389.4	.2	-17.9	24.0
754.7	8254.2	.0	-22.1	17.0
723.0	9374.2	2.7	-21.3	15.0
700.0	10231.4	1.8	-21.3	16.0
509.0	18824.2	-17.8	-24.7	21.0
465.7	20556.5	-22.5	-35.9	28.0
424.8	22755.9	-27.2	-36.9	39.0
412.1	2472.6	-29.1	-37.7	43.0
404.7	27897.8	-30.2	-37.2	50.0
300.0	24171.1	-30.7	-38.1	48.0
295.3	24447.2	-30.9	-38.9	45.0
248.7	27338.7	-37.1	-45.2	42.0

UPPER AIR DATA  
 06702100111  
 P1YA  
 TABLE 17

STATION ALTITUDE 4116.74 FEET MSL  
 7 PAR. 94  
 ASCENSION NO. 1036 UMS MST

GEODETIC COORDINATES  
 31.18295 LAT DEG  
 106.15114 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE F10 DEGREES CENTIGRADE	TEMPERATURE DEWPOINT 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	878.8	9.3	-4.2	41.0	1085.6	654.2	10.0	46.6	1.000273
4500.0	862.7	8.0	-5.6	37.1	1074.7	653.7	8.9	39.1	1.000256
5000.0	852.8	6.7	-9.2	31.9	1061.7	651.7	5.8	27.1	1.000251
5500.0	836.9	4.9	-10.1	31.7	1047.3	650.0	757.9	15.4	1.000247
6000.0	821.4	3.5	-10.6	34.7	1032.9	648.4	314.0	5.4	1.000244
6500.0	806.1	2.2	-11.1	36.8	1018.7	646.8	305.0	3.6	1.000240
7000.0	791.1	.8	-11.6	38.8	1004.8	645.2	345.5	2.7	1.000237
7500.0	776.2	.2	-18.5	35.0	989.7	644.3	340.2	3.5	1.000227
8000.0	761.6	.1	-20.8	35.0	970.6	644.1	330.6	4.6	1.000222
8500.0	747.3	.6	-21.9	36.6	950.5	644.7	311.5	7.7	1.000217
9000.0	733.3	1.8	-21.5	35.7	929.6	646.2	303.0	10.5	1.000212
9500.0	719.6	2.6	-21.3	35.1	909.6	647.1	296.8	12.5	1.000208
10000.0	706.1	2.0	-21.3	35.7	893.4	646.5	293.5	13.1	1.000205
10500.0	692.7	1.2	-21.7	36.2	879.1	645.5	291.9	12.6	1.000201
11000.0	679.2	.0	-22.4	36.4	865.7	644.1	296.3	11.1	1.000198
11500.0	666.1	-1.1	-23.2	36.7	852.5	642.7	303.3	10.1	1.000195
12000.0	653.2	-2.2	-23.9	37.0	839.5	641.4	310.6	9.8	1.000192
12500.0	640.5	-3.4	-24.7	37.3	826.7	640.0	313.3	10.5	1.000188
13000.0	628.1	-4.5	-25.4	37.6	814.1	638.7	312.8	12.2	1.000185
13500.0	615.9	-5.7	-26.2	37.9	801.8	637.3	311.2	14.4	1.000182
14000.0	604.0	-6.8	-27.0	38.2	789.6	635.9	309.4	16.6	1.000179
14500.0	592.3	-7.9	-27.7	38.5	777.6	634.6	306.3	18.2	1.000177
15000.0	580.8	-9.1	-28.5	38.8	765.9	633.2	304.6	19.0	1.000174
15500.0	569.5	-10.2	-29.3	39.1	754.3	631.8	304.8	19.3	1.000171
16000.0	558.5	-11.4	-30.1	39.4	742.9	630.4	305.9	20.0	1.000168
16500.0	547.6	-12.5	-30.9	39.6	731.7	629.1	307.0	21.7	1.000166
17000.0	537.0	-13.6	-31.7	39.9	720.7	627.7	307.0	24.2	1.000163
17500.0	526.6	-14.8	-32.5	40.2	709.8	626.3	311.4	26.2	1.000160
18000.0	516.4	-15.9	-33.4	40.5	699.2	624.9	312.4	26.6	1.000158
18500.0	506.4	-17.1	-34.2	40.8	688.7	623.5	311.6	26.8	1.000155
19000.0	496.4	-18.3	-34.8	41.7	678.3	622.0	310.1	27.4	1.000153
19500.0	486.3	-19.6	-35.1	43.7	668.1	620.4	305.1	28.8	1.000151
20000.0	476.5	-21.0	-35.4	45.8	659.1	618.7	305.3	30.3	1.000148
20500.0	466.8	-22.3	-35.9	47.8	649.7	617.0	302.4	32.1	1.000146
21000.0	457.1	-23.4	-36.0	50.2	637.6	615.7	300.2	34.1	1.000144
21500.0	447.7	-24.5	-36.2	52.7	627.1	614.4	299.0	36.4	1.000141
22000.0	438.4	-25.0	-36.4	55.2	616.8	613.0	298.4	38.3	1.000139
22500.0	429.4	-26.7	-36.7	57.7	606.7	611.7	298.0	39.8	1.000137
23000.0	420.4	-27.8	-37.1	60.4	596.9	610.2	297.6	40.7	1.000135
23500.0	411.6	-29.2	-37.6	63.5	587.6	608.6	297.7	42.5	1.000132

STATION ALTITUDE 4136.74 FEET MSL  
 7 MAR. 84 1036 HRS MST  
 ASCENSION NO. 10

UPPER AIR DATA  
 0670210010  
 RITA  
 TABLE 17 CONT'D

GEODETIC COORDINATES  
 33.18295 LAT DEG  
 106.15114 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 CENTIGRADE	DEWPOINT CENTIGRADE				DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	402.9	-70.4	-77.5	49.3	578.7	607.1	700.7	44.4	1.000130
24500.0	396.4	-71.0	-79.0	44.9	567.3	606.3	702.8	45.7	1.000128
25000.0	395.9	-72.1	-80.1	44.4	557.6	604.9	703.2	46.8	1.000125
25500.0	377.7	-73.2	-81.2	43.9	549.1	603.6	703.8	46.9	1.000123
26000.0	369.5	-74.2	-82.3	43.4	538.8	602.2	704.4	47.5	1.000121
26500.0	361.6	-75.3	-83.4	42.9	529.6	600.9			1.000119
27000.0	353.9	-76.4	-84.5	42.4	520.6	599.5			1.000117

STATION ALTITUDE 4186.74 FEET PSL  
 7 MAR. 84  
 ASCENSION NO. 10

MANDATORY LEVELS  
 047021001  
 DATA  
 TABLE 18

GEODETIC COORDINATES  
 33.18295 LAT DEG  
 106.15114 LON DEG

MILLIBARS	PRESSURE GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5084.	6.0	-9.8	31.	5.0	25.1
800.0	6700.	1.5	-11.3	38.	318.9	3.0
750.0	8190.	.4	-22.0	17.	318.9	7.0
700.0	10222.	1.8	-21.7	16.	292.4	13.0
650.0	12166.	-2.5	-24.1	17.	311.6	10.0
600.0	14231.	-7.2	-27.2	18.	307.3	17.7
550.0	16434.	-12.2	-30.7	20.	307.7	21.5
500.0	18799.	-17.8	-34.7	21.	310.9	26.9
450.0	21351.	-24.3	-36.3	32.	299.2	35.8
400.0	24137.	-30.7	-38.1	48.	301.5	44.8
350.0	27207.	-36.9	-45.1	42.		