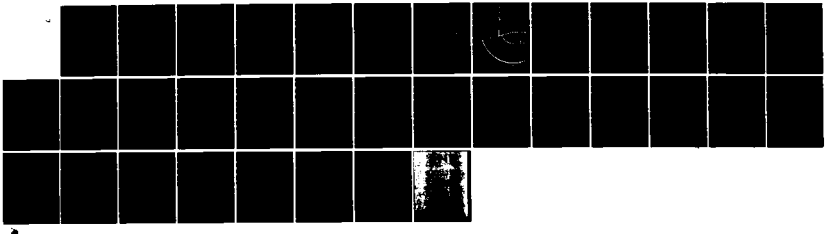
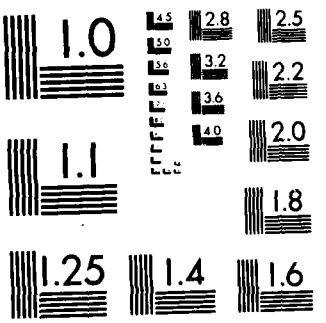
AD-A143 511 19311B MLRS MISSILE NUMBERS 456 495 430 ROUND NUMBERS 1/1
V-590/AV-1B V591/AV.. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER MAY 84
UNCLASSIFIED ERADCOM/RSL-DR-1344 F/G 4/2 NL





May 84
DR-1344
AD

METEOROLOGICAL DATA REPORT

19311B MLRS,
Missile Number 456, 495, 430
Round Number V-590/AV-10, V591/AV-11, V-592/AV-12
30 May 1984

by

DONALD C. KELLER
Program Support Coordonator
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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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

Meteorological data gathered for the launching of the 19311B MLRS, Missile Number 456, 495, 430, Round Number V-590/AV-10, V-591/AV-11, V-592/AV-12 are presented in tabular form.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

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CONTENTS

INTRODUCTION

19311B MLRS, Missile Numbers 456, 495 and 430, Round Numbers V-590/AV-10, V-591/AV-11, and V-592/AV-12, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1430:01, 1430:06 and 1430:11 MDT, 30 May 84. The scheduled launch times were 1430, 1430:04.5 and 1430:09 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 Minutes.

(2) Anemometer data were provided from existing tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

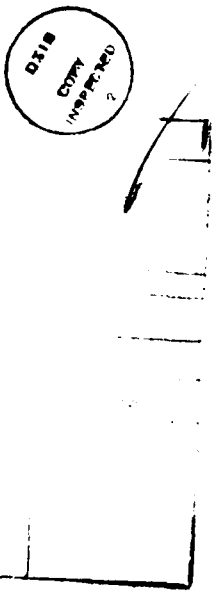
b. Upper Air

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

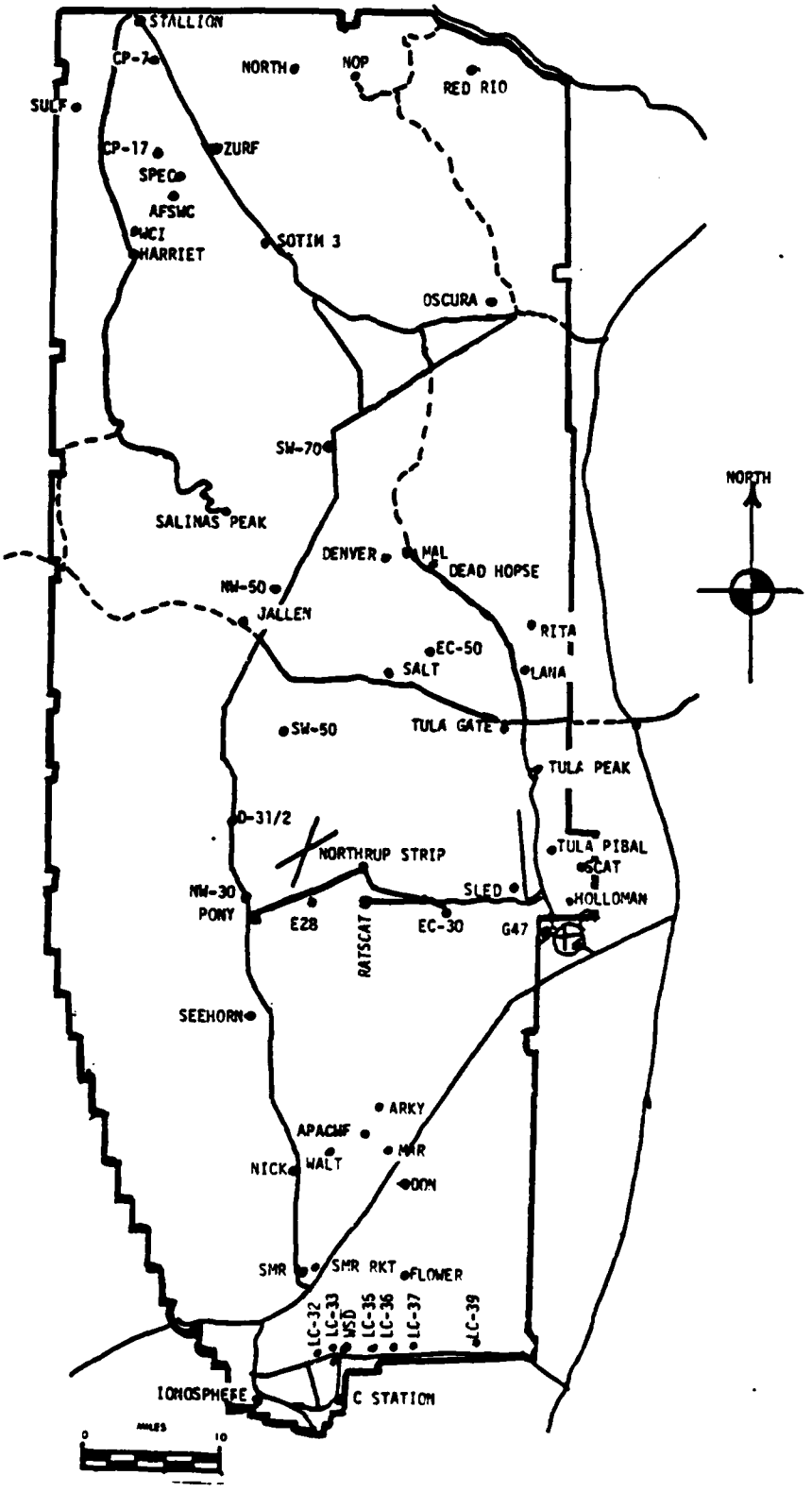
SITE AND ALTITUDE
LC-33 2 km

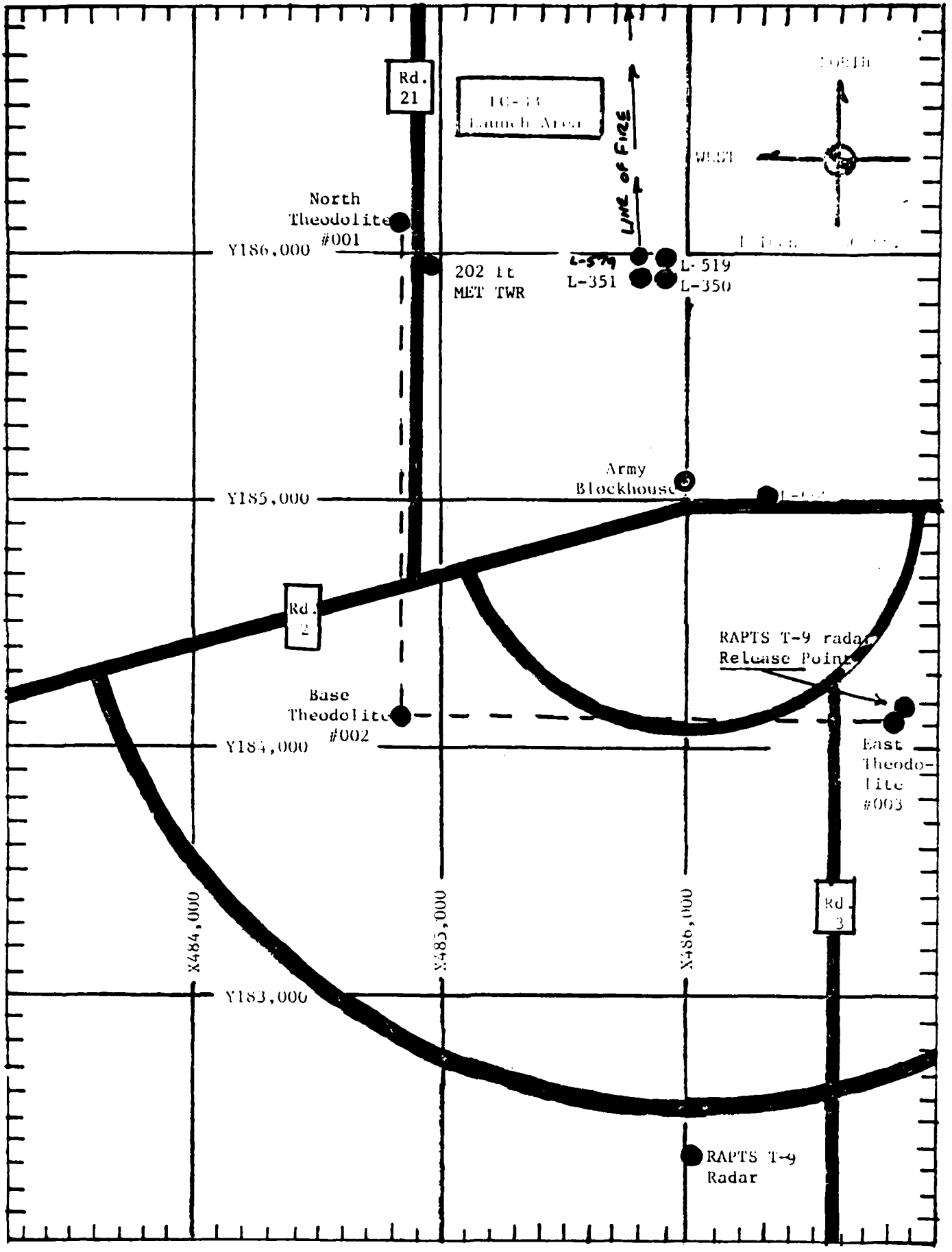
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME	
WSD	1300 MDT
SMR	1300 MDT
DON	1300 MDT
SMR	1345 MDT
WSD	1430 MDT
SMR	1430 MDT
DON	1430 MDT



WSMR METEOROLOGICAL SITES




Rd. 21
Launch Area
Line of Fire
North
Theodolite
#001
Y186,000
202 ft
MET TWR
L-519
L-350
L-351
Army
Blockhouse
Y185,000
Rd. 2
RAPTS T-9 radar
Release Point
Base
Theodolite
#002
Y184,000
East
Theodo-
lite
#003
Rd. 3
X484,000
X485,000
X486,000
Y183,000
RAPTS T-9
Radar

PROJECT SURFACE OBSERVATION

TABLE 1

STATION LC-33

DATE 30 (DAY) May (MONTH) 84 (YEAR)

X= 484,982.64 Y= 185,957.73 H= 3995.00

TIME M D T	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
1430	882.2		31.5		12.9	32		210	06		40

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
	2	CU	7,000	2	ci	25,000				CB NE TCU NW

PSYCHROMETRIC COMPUTATION

TIME: MDT	1430		
DRY BULB TEMP.	31.5		
WET BULB TEMP.	19.0		
WET BULB DEPR.	12.5		
DEW POINT	12.9		
RELATIVE HUMID.	32		

LC-33 METEOROLOGICAL TOWER
ANEMOMETER MEASURED WIND DATA

WSTM COOORDINATES X=484,982.64 Y=185,957.73 H=3983.00(BASE)

TABLE NO. 2

DATE 30 May 1984 1430 M D T
DAY MONTH YEAR TIME

LEVEL #1	12 FT AGL	
T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	292	02
T-20	268	02
T-10	233	03
T- 0(1st T)	230	02
T+10	232	02
T+20	230	01
T+30		CALM
T+40		
T+50		
T+60		

LEVEL #2	62 FT AGL	
T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	289	05
T-20	289	04
T-10	258	03
T- 0(1st T)	255	03
T+10	251	01
T+20	250	01
T+30	234	01
T+40		
T+50		
T+60		

LEVEL #3	102 FT AGL	
T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	262	05
T-20	240	04
T-10	260	04
T- 0(1st T)	243	04
T+10	224	03
T+20	221	02
T+30	216	03
T+40		
T+50		
T+60		

LEVEL #4	202 FT AGL	
T-TIME(SEC)	DIR(DEG)	SPEED(KTS)
T-30	264	06
T-20	275	04
T-10	253	03
T- 0(1st T)	227	03
T+10	233	06
T+20	236	05
T+30	234	05
T+40		
T+50		
T+60		

TABLE 3

PILOT-BALLOON MEASURED WIND DATA

DATE 30 May 1984

SITE: LC-33
TIME: 1345 MDT
WSTM COORDINATES:
X= 486,037.24
Y= 182,350.16
H= 3,977.30

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	210	06
150	080	03
210	134	03
270	172	04
330	176	11
390	169	14
500	177	10
650	165	08
800	166	08
950	182	11
1150	164	09
1350	132	10
1550	148	12
1750	164	10
2000	127	09

SITE: LC-33
TIME 1415 MDT
WSTM COORDINATES:
X= 486,037.24
Y= 182,350.16
H= 3,977.30

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	210	12
150	132	03
210	187	10
270	182	09
330	193	08
390	183	10
500	193	10
650	165	14
800	162	14
950	180	12
1150	182	10
1350	176	11
1550	127	10
1750	130	07
2000	155	14

Data obtained from RAPTS T-9 radar tracked pilot-balloon observations.

TABLE 3 Cont'd

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 30 May 1984

SITE: LC-33
TIME: 1430 MDT
WSTM COORDINATES:
X= 486,037.24
Y= 182,350.16
H= 3,977.30

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	210	06
150	168	03
210	108	10
270	167	08
330	176	09
390	169	08
500	158	07
650	174	06
800	165	07
950	140	07
1150	145	08
1350	156	10
1550	165	08
1750	119	12
2000	164	11

SITE:
TIME
WSTM COORDINATES:
X=
Y=
H=

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		
150		
210		
270		
330		
390		
500		
650		
800		
950		
1150		
1350		
1550		
1750		
2000		

TABLE 4

AIMING AND T-TIME COMPUTER MET MESSAGE DATA

30 May 1984

WSD 1300 MDT
METCM1324064
301900122884

00284001	30440884
01319005	30070874
02321006	29640849
03317007	29410811
04242006	28950765
05232010	28540721
06251010	28230679

SMR 1300 MDT
METCM1325064
301900122884

00213010	30490884
01287008	30240874
02269007	29850849
03312007	29430811
04285009	28920765
05246005	28480721
06261010	28220679

DON 1300 MDT
METCM1326063
301900121883

00249007	30370883
01254009	30040873
02346009	29760848
03338009	29370810
04289003	28920764
05261006	28590720
06241010	28220678

SMR 1345 MDT
METCM1325064
301980122883

00160010	30500883
01187004	30240873
02262007	29830849
03290012	29440810
04321009	28990764
05299005	28580721
06294009	28220679

WSD 1430 MDT
METCM324064
302050122882

00267003	30530882
01292014	30260872
02364004	29950848
03334008	29540810
04273011	29040764
05303011	28560720
06309011	28140678

SMR 1430 MDT
METCM1325064
302050122882

00178012	30780882
01272013	30260872
02297015	29950848
03280010	29540810
04355009	29050764
05363007	28580720
06307007	28130678

DON 1430 MDT
METCM1326063
302050121881

00231008	30550881
01326012	30330871
02363011	29960847
03297007	29560809
04271010	29090763
05273010	28630719
06279007	28240678

STATION ALTITUDE 3956.0 FEET MSL
30 MAY 84 1300 MDT
ASCENSION NO. 299

SIGNIFICANT LEVEL DATA
1°10020299
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 5

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
884.2	3989.0	30.0	10.0	29.0
880.6	4106.0	27.1	10.7	36.0
850.0	5129.2	23.7	9.7	41.0
818.8	6197.0	20.5	8.5	46.0
787.3	7304.6	17.2	7.3	52.0
737.8	9111.4	12.0	6.1	67.0
718.2	9851.7	11.0	-2.4	39.0
700.0	10555.0	10.7	-6.1	30.0
670.6	11723.0	7.7	-13.2	21.0
651.6	12499.9	7.0	-15.0	19.0
597.0	14836.0	.7	-18.5	22.0

UPPER AIR DATA
1*10020299
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
30 MAY 84 1300 MDT
ASCENSION NO. 299

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 6

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	884.2	30.0	10.0	29.0	1010.7	680.1	160.0	1.0	1.000276
4000.0	883.9	29.7	10.1	29.6	1011.2	679.8	160.7	1.0	1.000277
4500.0	868.7	25.3	10.4	37.9	1006.8	675.4	175.1	2.3	1.000278
5000.0	853.8	24.1	9.8	40.4	995.1	673.5	179.0	3.6	1.000274
5500.0	839.0	22.6	9.3	42.7	983.1	671.7	180.8	5.0	1.000270
6000.0	824.5	21.1	8.7	45.1	971.1	670.0	180.9	6.2	1.000266
6500.0	810.1	19.6	8.2	47.6	959.1	668.3	174.8	6.7	1.000262
7000.0	795.8	18.1	7.6	50.3	947.1	666.5	169.2	7.2	1.000258
7500.0	781.8	16.6	7.2	53.6	935.2	664.8	159.4	6.8	1.000254
8000.0	767.9	15.2	6.9	57.8	923.1	663.2	148.5	6.5	1.000251
8500.0	754.2	13.8	6.6	61.9	911.3	661.5	138.2	6.6	1.000248
9000.0	740.8	12.3	6.2	66.1	899.6	659.8	135.5	7.6	1.000245
9500.0	727.4	11.5	2.1	52.3	887.1	658.5	133.1	8.5	1.000231
10000.0	714.3	10.9	-3.1	37.1	875.7	657.5	133.0	9.2	1.000217
10500.0	701.4	10.7	-5.8	30.7	868.9	657.1	134.2	9.6	1.000210
11000.0	688.6	9.6	-8.7	26.6	847.1	655.6	135.4	10.0	1.000204
11500.0	676.1	8.5	-11.8	22.7	835.8	654.0	141.2	10.7	1.000198
12000.0	663.8	7.5	-13.8	20.3	823.1	653.0	146.9	11.4	1.000193
12500.0	651.6	7.0	-15.0	19.0	809.4	652.4	150.0	11.9	1.000189
13000.0	639.5	5.7	-15.7	19.6	798.2	650.8	150.1	11.8	1.000187
13500.0	627.6	4.3	-16.5	20.3	787.3	649.2	150.1	11.7	1.000184
14000.0	616.0	3.0	-17.2	20.9	776.5	647.7			1.000181
14500.0	604.6	1.6	-18.0	21.6	765.8	646.1			1.000178

STATION ALTITUDE 3969.00 FEET MSL
30 MAY 84 1300 MDT
ASCENSION NO. 299

MANDATORY LEVELS
1510020299
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	5125.	23.7	9.7	41.	179.6	4.0
800.0	6849.	18.5	7.8	50.	171.1	7.2
750.0	8650.	13.3	6.5	63.	137.3	6.9
700.0	10544.	10.7	-6.1	30.	134.4	9.7
650.0	12552.	6.8	-15.1	19.	150.0	11.9
600.0	14686.	1.1	-19.3	22.		

STATION ALTITUDE 3997.3 FEET MSL
10 MAY 84 1300 MDT
ASCENSION NO. 5[illegible]

SIGNIFICANT LEVEL DATA
15100600SR
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
963.6	3997.3	30.0	12.0	33.0
878.2	4176.5	28.4	7.6	27.0
850.0	5120.3	23.9	6.7	33.0
762.5	8199.4	14.6	4.6	51.0
725.5	9562.9	10.6	3.9	63.0
712.0	10076.9	9.6	1.3	56.0
700.0	10541.0	9.8	-5.7	33.0
690.2	10935.5	9.6	-11.0	22.0
625.0	13603.6	4.2	-18.0	18.0

UPPER AIR DATA

STATION ALTITUDE 5997.30 FEET MSL
30 MAY 84 1300 MDT
ASCENSION NO. 58

1510U60058
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
5997.3	883.6	30.0	12.0	33.0	1009.3	680.3	120.0	9.9	1.000283
6000.0	883.5	30.0	11.9	32.9	1009.3	680.3	120.0	9.9	1.000283
6500.0	868.4	26.9	7.4	29.1	1003.9	676.3	123.9	9.3	1.000267
7000.0	853.5	24.5	6.8	32.2	994.7	673.6	128.2	8.8	1.000264
7500.0	838.7	22.7	6.6	35.2	983.0	671.6	133.1	8.3	1.000261
8000.0	823.9	21.2	6.4	38.2	970.7	669.9	138.6	7.8	1.000258
8500.0	809.5	19.7	6.1	41.1	958.6	668.2	144.7	7.5	1.000255
9000.0	795.3	18.2	5.8	44.0	946.7	666.4	151.3	7.2	1.000252
9500.0	781.3	16.7	5.3	47.0	935.1	664.7	158.2	7.1	1.000249
10000.0	767.6	15.2	4.8	49.9	923.5	662.9	160.5	7.0	1.000245
10500.0	754.0	13.7	4.5	53.7	911.8	661.2	156.9	6.9	1.000242
11000.0	740.4	12.2	4.2	58.1	900.0	659.5	153.2	6.9	1.000239
11500.0	727.2	10.8	3.9	62.5	888.4	657.8	149.5	6.8	1.000236
12000.0	714.0	9.7	1.7	57.0	876.0	656.5	147.6	7.2	1.000236
12500.0	701.1	9.6	-4.9	35.0	861.2	656.0	146.6	7.9	1.000212
13000.0	688.3	9.4	-11.2	21.9	847.3	655.4	145.7	8.5	1.000201
13500.0	675.7	8.4	-12.5	21.1	834.8	654.2			1.000197
14000.0	663.3	7.4	-13.8	20.4	822.5	653.0			1.000193
14500.0	651.1	6.4	-15.1	19.6	810.4	651.8			1.000190
15000.0	639.1	5.4	-16.4	18.9	798.5	650.5			1.000186
15500.0	627.4	4.4	-17.7	18.2	786.7	649.3			1.000183

STATION ALTITUDE 3997.30 FEET MSL
30 MAY 84
ASCENSION NO. 5a 1300 MDT

MANDATORY LEVELS
1510060059
S M P

TABLE 10

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT		DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE		PERCENT	DEGREES(TN)	KNOTS
850.0	5117.	23.9	6.7	33.	129.3	8.6
800.0	6840.	18.7	5.9	43.	149.1	7.3
750.0	8640.	13.3	4.4	55.	155.8	6.9
700.0	10531.	9.8	-5.7	33.	146.5	7.9
650.0	12538.	6.3	-15.2	20.		

STATION ALTITUDE 6003.69 FEET MSL
30 MAY 84 1300 MDT
ASCENSION NO. 10

SIGNIFICANT LEVEL DATA
1°10200010
NOM

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
882.7	4003.7	29.0	9.7	30.0
879.6	4106.0	26.4	7.4	30.0
872.3	4346.9	25.7	6.8	30.0
850.0	5091.5	23.3	6.1	33.0
704.2	8093.9	14.7	2.3	43.0
761.2	8202.9	13.1	-.2	40.0
751.8	8547.4	15.3	-1.7	31.0
700.0	10515.8	10.3	-12.9	18.0
649.8	12534.9	6.6	-17.4	16.0
625.7	13548.3	3.7	-19.0	17.0

STATION ALTITUDE 4003.69 FEET MSL
30 MAY 84 1300 MDT
ASCENSION NO. 10

UPPER AIR DATA
1510200010
DON

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4003.7	882.7	29.3	9.7	30.0	1012.5	678.9	140.0	7.0	1.000276
4500.0	867.7	25.2	6.7	30.6	1008.8	674.4	153.6	7.1	1.000267
5000.0	852.7	23.6	6.2	32.6	996.8	672.5	166.2	7.6	1.000263
5500.0	837.8	22.1	5.7	34.4	984.3	670.8	176.8	8.4	1.000259
6000.0	823.1	20.7	5.1	36.0	971.8	669.2	185.3	9.5	1.000255
6500.0	808.6	19.3	4.5	37.7	959.5	667.5	187.7	8.7	1.000251
7000.0	794.4	17.8	3.8	39.4	947.4	665.8	189.5	7.4	1.000247
7500.0	780.5	16.4	3.1	41.0	935.5	664.1	184.2	5.5	1.000243
8000.0	766.7	15.0	2.4	42.7	923.8	662.5	172.0	3.6	1.000239
8500.0	753.1	15.0	-1.4	32.2	908.0	662.2	157.1	3.8	1.000227
9000.0	739.6	14.2	-4.1	28.0	894.7	661.1	144.6	4.2	1.000220
9500.0	726.3	12.9	-6.6	24.7	882.9	659.5	142.4	5.3	1.000214
10000.0	713.2	11.6	-9.7	21.4	871.2	657.9	143.3	6.8	1.000208
10500.0	700.4	10.3	-12.6	18.1	859.6	656.3	142.7	8.0	1.000202
11000.0	687.8	9.4	-14.0	17.5	846.8	655.2	139.8	9.0	1.000198
11500.0	675.1	8.5	-15.1	17.0	834.1	654.1	137.4	9.9	1.000195
12000.0	662.7	7.6	-16.2	16.5	821.6	653.1			1.000191
12500.0	650.6	6.7	-17.3	16.0	809.3	652.0			1.000188
13000.0	638.6	5.3	-18.1	16.5	798.4	650.3			1.000185
13500.0	626.8	3.8	-19.0	17.0	787.7	648.6			1.000182

STATION ALTITUDE 4003.69 FEET MSL
30 MAY 84 1300 MDT
ASCENSION NO. 1[illegible]

MANDATORY LEVELS
1510200010
DOM

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 13

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	5088.	23.3	6.1	33.	168.2	7.7
800.0	6809.	18.4	4.1	39.	188.8	7.8
750.0	8606.	15.1	-2.0	31.	154.1	3.8
700.0	10505.	10.3	-12.9	18.	142.6	8.1
650.0	12513.	6.6	-17.4	16.		

STATION ALTITUDE 3997.30 FEET ASL
20 MAY 84 1345 MDT
ASCENSION NO. 59

SIGNIFICANT LEVEL DATA
1510060059
S M R

GEODETIC COORDINATES
32.48054 LAT DEG
106.42307 LON DEG

TABLE 14

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
963.0	3997.3	30.0	12.4	34.0
877.7	4973.4	28.7	6.7	25.0
850.0	5300.7	23.7	6.5	33.0
764.6	8095.6	15.5	4.5	48.0
700.0	10572.1	10.2	-9.4	24.0
663.3	11995.8	7.5	-15.2	18.0
618.2	13684.7	3.0	-19.0	18.0

STATION ALTITUDE 3997.30 FEET MSL
30 MAY 84 1345 MDT
ASCENSION NO. 59

UPPER AIR DATA
1519060059
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 15

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	683.0	20.0	1..4	34.0	1008.4	680.4	120.0	9.9	1.000284
4000.0	682.9	20.0	12.3	33.9	1008.4	680.4	120.0	9.9	1.000284
4500.0	867.8	26.9	6.8	27.8	1001.1	676.3	127.6	9.5	1.000265
5000.0	853.0	24.2	6.6	32.1	994.8	673.3	135.7	9.2	1.000263
5500.0	838.1	22.6	6.4	35.0	982.9	671.4	144.1	9.1	1.000261
6000.0	823.4	21.2	6.2	37.5	970.1	669.9	152.4	9.3	1.000258
6500.0	809.0	19.9	5.9	40.0	957.6	668.3	160.4	9.6	1.000254
7000.0	794.8	18.5	5.5	42.5	945.3	666.8	165.7	9.5	1.000251
7500.0	780.9	17.1	5.1	45.0	933.1	665.2	169.8	9.1	1.000248
8000.0	767.2	15.8	4.6	47.5	921.2	663.6	174.1	8.7	1.000244
8500.0	753.5	14.6	2.5	44.0	908.8	662.1	175.1	8.3	1.000236
9000.0	740.0	13.5	-.1	39.1	896.4	660.6	175.4	7.9	1.000228
9500.0	726.7	12.4	-2.9	34.2	884.1	659.2	175.7	7.5	1.000220
10000.0	713.6	11.4	-5.9	29.2	872.0	657.8	173.0	7.4	1.000213
10500.0	700.8	10.3	-9.2	24.3	860.0	656.4	169.9	7.4	1.000206
11000.0	688.1	9.3	-11.2	22.1	847.3	655.2	166.8	7.4	1.000201
11500.0	675.5	8.4	-13.2	20.0	834.7	654.1	165.6	8.5	1.000197
12000.0	663.2	7.5	-15.3	18.0	822.4	653.0	164.7	9.6	1.000194
12500.0	650.9	6.5	-16.2	18.0	810.7	651.6			1.000189
13000.0	638.9	5.1	-17.2	18.0	799.2	650.2			1.000186
13500.0	627.1	3.9	-18.2	18.0	787.8	648.7			1.000183

STATION ALTITUDE 5097.30 FEET MSL
30 MAY 84 1345 MDT
ASCENSION NO. 59

MANDATORY LEVELS
1*10060059
S M R

GEODETIC COORDINATES
32.48054 LAT DEG
106.42307 LON DEG

TABLE 16

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5097.	23.7	6.5	33.	137.3	9.2
800.0	6820.	19.0	5.7	42.	164.4	9.7
750.0	8624.	14.3	1.9	43.	175.2	8.2
700.0	10522.	10.2	-9.4	24.	169.7	7.4
650.0	12529.	6.2	-16.3	18.		

STATION ALTITUDE 3989.00 FEET MSL
30 MAY 84 1430 MDT
ASCENSION NO. 300

SIGNIFICANT LEVEL DATA
15100 20300
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37053 LON DEG

TABLE 17

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
982.2	3989.0	30.8	7.3	23.0
874.7	4238.6	29.1	6.2	25.0
862.6	4649.6	26.6	6.1	27.0
850.0	5068.0	25.4	5.6	28.0
775.0	7695.4	17.2	4.2	42.0
700.0	10510.7	9.1	2.4	63.0
687.0	11020.7	7.7	2.4	69.0
677.1	11414.0	7.3	-8.3	32.0
669.6	11715.3	7.7	-16.5	16.0
632.7	13240.1	4.4	-18.5	17.0
614.9	14001.2	2.9	-19.0	18.0

UPPER AIR DATA
151002?0300
WHITE SANDS

STATION ALTITUDE 3989.?J FEET MSL
30 MAY 84 1430 MDT
ASCENSION NO. 300

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 18

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	682.2	30.6	7.3	23.0	1006.7	680.7	15.0	29.1	1.000266
4000.0	681.9	30.7	7.2	23.1	1006.7	680.6	15.0	29.0	1.000266
4500.0	666.9	27.1	6.1	26.3	1001.5	676.5	15.8	21.5	1.000263
5000.0	652.0	25.6	5.7	27.8	989.5	674.7	17.4	14.1	1.000259
5500.0	637.2	24.1	5.6	30.3	977.3	673.0	22.4	6.7	1.000257
6000.0	622.6	22.5	5.4	33.0	965.3	671.2	137.6	1.4	1.000254
6500.0	608.3	20.9	5.2	35.6	953.5	669.5	183.0	7.6	1.000251
7000.0	594.2	19.4	4.8	38.3	941.9	667.7	174.2	8.4	1.000248
7500.0	580.3	17.8	4.4	41.0	930.5	665.9	167.1	9.4	1.000245
8000.0	566.5	16.3	4.1	44.3	919.7	664.2	164.3	10.1	1.000242
8500.0	552.8	14.9	4.0	48.0	906.7	662.5	165.2	10.3	1.000239
9000.0	539.3	13.4	3.7	51.7	895.0	660.9	166.0	10.5	1.000236
9500.0	526.1	12.0	3.4	55.5	883.4	659.2	167.6	10.6	1.000233
10000.0	513.0	10.6	2.9	59.2	872.0	657.5	170.0	10.7	1.000230
10500.0	500.3	9.1	2.5	62.9	860.8	655.8	172.3	10.7	1.000226
11000.0	487.5	7.8	2.4	68.8	849.2	654.3	173.2	11.0	1.000224
11500.0	475.0	7.4	-10.1	27.4	836.7	653.1	172.0	11.4	1.000200
12000.0	462.6	7.1	-16.9	16.2	822.9	652.5	170.9	11.9	1.000191
12500.0	450.3	6.0	-17.5	16.5	810.9	651.2			1.000188
13000.0	438.4	4.9	-18.2	16.8	799.1	649.9			1.000185
13500.0	426.6	3.9	-18.7	17.3	787.2	648.7			1.000182
14000.0	414.9	2.9	-19.0	18.0	775.4	647.5			1.000179

STATION ALTITUDE 3969.00 FEET MSL
30 MAY 84 1430 MDT
ASCENSION NO. 300

MANDATORY LEVELS
1510020300
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 19

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5064.	25.4	5.6	28.	17.7	13.2
800.0	6795.	20.0	5.0	37.	177.5	8.1
750.0	8603.	14.6	3.9	49.	165.4	10.3
700.0	10500.	9.1	2.4	63.	172.4	10.7
650.0	12503.	6.0	-17.5	17.		

STATION ALTITUDE 3997.30 FEET MSL
30 MAY 84 1430 MDT
ASCENSION NO. 60

SIGNIFICANT LEVEL DATA
15100600 60
S M R

GEODETIC COORDINATES
32.46034 LAT DEG
106.42307 LON DEG

TABLE 20

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
883.0	3997.3	32.8	12.9	30.0
876.9	4167.5	28.3	3.9	21.0
850.0	5070.0	25.5	4.0	25.0
789.3	7182.7	18.9	2.7	34.0
700.0	10514.7	9.5	1.4	57.0
672.6	11598.5	6.6	-5.7	41.0
656.0	12272.9	6.9	-17.1	16.0

UPPER AIR DATA
1510060060
S M R

STATION ALTITUDE 3997.30 FEET MSL
30 MAY 84 1430 MDT
ASCENSION NO. 50

GEODETIC COORDINATES
32.46054 LAT DEG
106.42307 LON DEG

TABLE 21

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3997.3	882.3	32.8	1.9	30.0	997.8	683.6	100.0	12.0	1.000283
4000.0	881.9	32.7	12.8	29.9	998.0	683.5	100.0	12.0	1.000282
4500.0	866.9	27.3	4.0	22.5	1001.7	676.4	110.4	10.8	1.000257
5000.0	852.1	25.7	4.0	24.7	989.6	674.7	123.0	9.9	1.000255
5500.0	837.3	24.2	3.9	26.8	977.5	673.0	137.1	9.6	1.000253
6000.0	822.7	22.6	3.7	29.0	965.6	671.2	151.2	9.9	1.000250
6500.0	808.4	21.0	3.3	31.1	953.8	669.4	163.7	10.8	1.000247
7000.0	794.4	19.5	2.9	33.2	942.3	667.6	170.1	10.0	1.000243
7500.0	780.3	18.0	2.8	36.2	930.3	666.0	177.2	9.3	1.000241
8000.0	766.4	16.6	2.8	39.6	918.0	664.4	185.4	8.7	1.000238
8500.0	752.7	15.2	2.7	43.1	906.0	662.8	193.1	7.8	1.000236
9000.0	739.3	13.8	2.5	46.5	894.2	661.1	202.5	7.1	1.000233
9500.0	726.1	12.4	2.2	50.0	882.6	659.5	207.5	6.6	1.000230
10000.0	713.1	11.0	1.9	53.4	871.2	657.9	200.2	6.3	1.000227
10500.0	700.4	9.5	1.4	56.9	859.9	656.2	192.3	6.1	1.000224
11000.0	687.6	8.2	-1.6	49.8	849.8	654.4	184.4	5.9	1.000215
11500.0	675.0	6.9	-5.0	42.5	837.8	652.7	176.5	5.9	1.000207
12000.0	662.7	6.8	-11.3	26.1	827.5	652.3			1.000196

STATION ALTITUDE 3997.[illegible] FEET MSL
30 MAY 84 1430 MDT
ASCENSION NO. 60

MANDATORY LEVELS
15100600 60
S M R

GEODETIC COORDINATES
32.48034 LAT DEG
106.42307 LON DEG

TABLE 22

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
950.0	5066.	25.5	4.0	25.	124.8	9.8
900.0	6797.	20.1	3.1	32.	167.6	10.4
750.0	8606.	14.9	2.7	44.	195.0	7.6
700.0	10504.	9.5	1.4	57.	192.1	6.1

STATION ALTITUDE 4003.49 FEET MSL
30 MAY 84 1430 MDT
ASCENSION NO. 11

SIGNIFICANT LEVEL DATA
1510200011
DON

GEODETIC COORDINATES
32.57209 LAT DEG
106.29459 LON DEG

TABLE 23

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
881.0	4003.7	30.6	8.9	26.0
865.1	4535.5	27.7	4.1	22.0
850.0	5045.2	25.7	3.6	24.0
804.5	6619.8	20.9	3.6	32.0
761.9	8153.1	16.5	2.2	36.0
743.7	8827.2	14.6	2.8	45.0
707.0	10224.1	11.0	-4.2	34.0
700.0	10496.8	10.9	-4.7	33.0
660.2	12089.2	7.1	-14.9	19.0
588.2	15167.5	-.1	-22.2	17.0

UPPER AIR DATA
1510200011
DON

STATION ALTITUDE 4003.49 FEET MSL
30 MAY 64
ASCENSION NO. 11 1430 MDT

GEODETIC COORDINATES
32.57209 LAT DEG
106.29439 LON DEG

TABLE 24

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4003.7	681.0	10.6	8.9	26.0	1005.4	680.6	130.0	8.0	1.000271
4500.0	866.2	27.9	4.4	22.3	998.6	677.2	138.8	7.4	1.000258
5000.0	851.3	25.9	3.7	23.8	988.3	674.9	148.8	7.1	1.000254
5500.0	836.6	24.3	3.8	26.3	976.2	673.1	159.4	7.0	1.000252
6000.0	822.1	22.8	3.8	26.9	964.2	671.4	170.0	7.1	1.000250
6500.0	807.9	21.3	3.7	31.4	952.4	669.7	175.3	7.4	1.000247
7000.0	793.7	19.8	3.3	33.5	940.4	668.0	161.6	7.8	1.000244
7500.0	779.8	18.4	2.8	35.4	928.4	666.4	154.2	8.7	1.000240
8000.0	766.1	16.9	2.3	37.4	916.7	664.7	153.3	9.7	1.000237
8500.0	752.5	15.5	2.5	41.6	904.7	663.1	153.6	10.0	1.000235
9000.0	739.1	14.2	2.0	43.6	892.9	661.5	154.2	10.1	1.000231
9500.0	725.8	12.9	-.5	39.7	881.3	659.9	154.1	9.5	1.000224
10000.0	712.8	11.6	-3.0	35.8	869.8	658.2	153.8	8.9	1.000217
10500.0	699.9	10.9	-4.7	33.0	856.4	657.3	156.1	8.6	1.000211
11000.0	687.2	9.7	-7.6	28.6	844.7	655.8	159.2	8.5	1.000204
11500.0	674.7	8.5	-10.8	24.2	833.2	654.3	162.7	8.7	1.000198
12000.0	662.4	7.3	-14.3	19.8	821.8	652.8	166.5	9.4	1.000193
12500.0	650.1	6.1	-15.9	18.7	810.1	651.4	169.7	10.1	1.000189
13000.0	638.0	5.0	-17.1	18.4	799.4	650.0			1.000186
13500.0	626.2	3.8	-18.2	18.1	786.9	648.6			1.000182
14000.0	614.5	2.6	-19.4	17.8	775.7	647.2			1.000179
14500.0	603.1	1.5	-20.6	17.4	764.5	645.8			1.000176
15000.0	591.9	.3	-21.8	17.1	753.6	644.4			1.000173

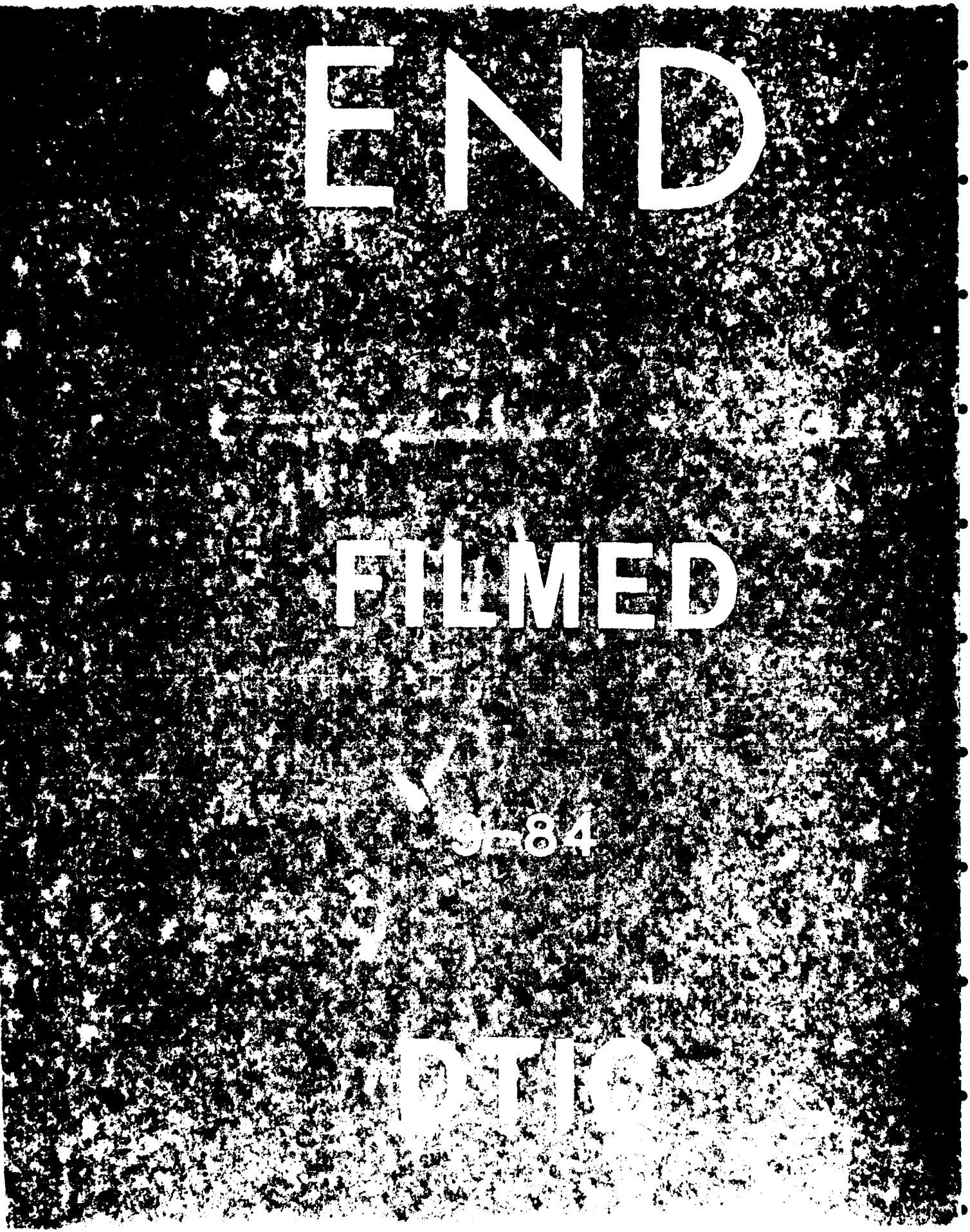
STATION ALTITUDE 4003.6? FEET MSL
30 MAY 84 1430 MDT
ASCENSION NO. 11

MANDATORY LEVELS
1510200011
DUN

GEODETIC COORDINATES
32.57209 LAT DEG
106.79439 LON DEG

TABLE 25

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5042.	25.7	3.6	24.	149.7	7.1
800.0	6774.	20.4	3.5	33.	167.5	7.6
750.0	8585.	15.3	2.6	43.	153.7	10.0
700.0	10487.	10.9	-4.7	33.	156.0	8.6
650.0	12495.	6.1	-15.9	19.	169.8	10.1
600.0	14626.	1.1	-20.9	17.		


END
FILMED
-84
DTIC