AD-A118 222 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
193188 MLRS, MISSILE NUMBER BN-104, BN-111, BN-106, ROUND NUMBE--ETC(U)
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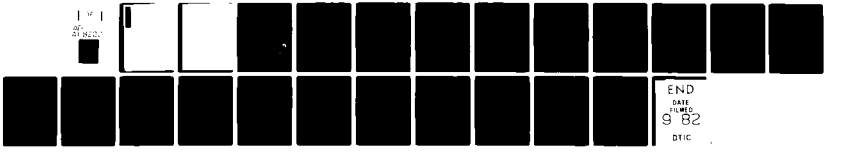

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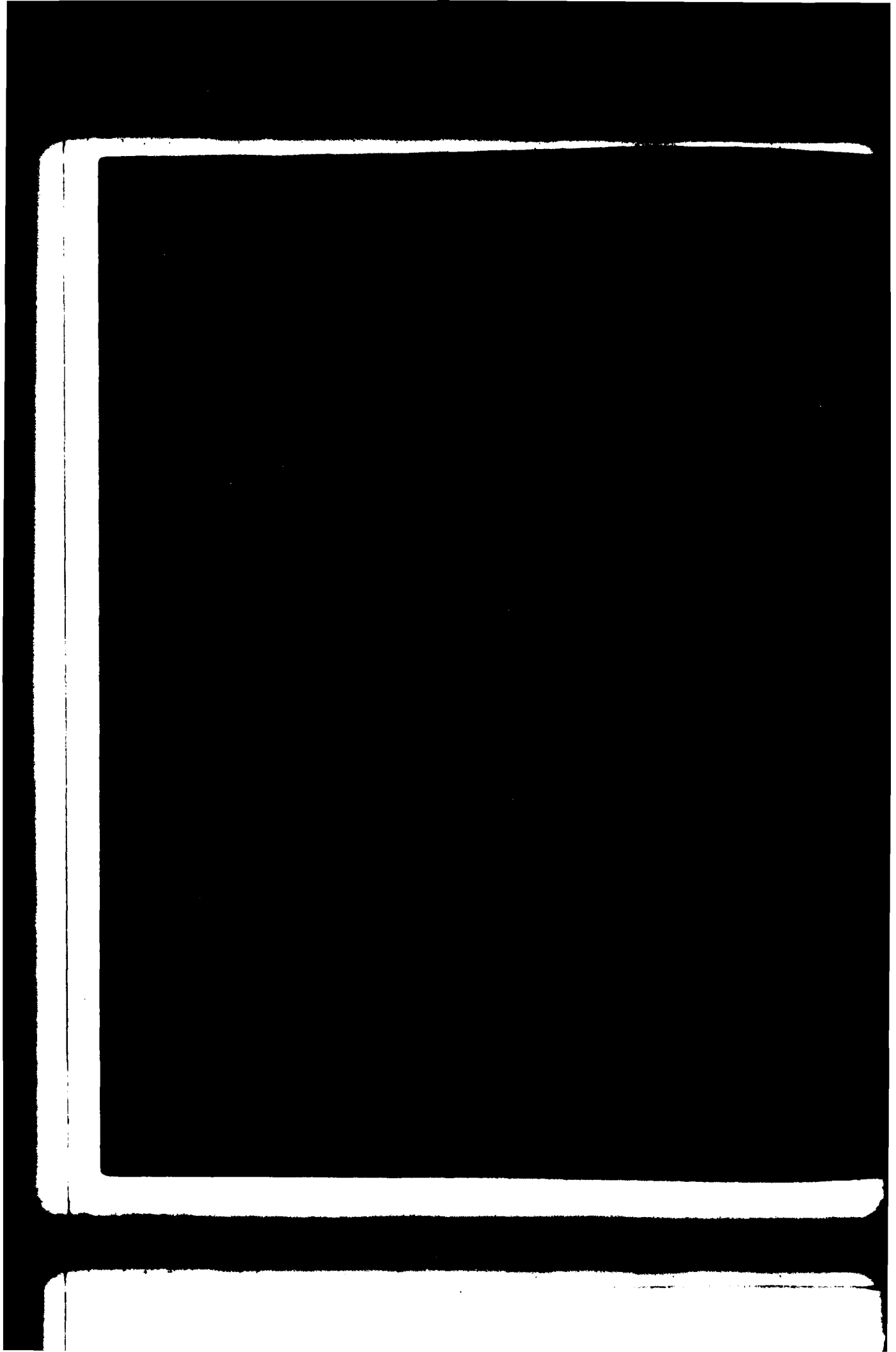

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

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

Meteorological data gathered for the launching of the 19318B MLRS, Missile Number BN-104,BN-111,BN-106, Round Number V-280/PQ-20,V-281/PQ-21,V-282/PQ-22 are presented in tabular form.

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

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INTRODUCTION

19318B MLRS, Missile Numbers BN-104, BN-111, and BN-106, Round Numbers V-280/PQ-20, V-281/PQ-21,and V-282/PQ-22, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1557:21, 1557:25, and 1557:29 MDT, 01 July 1982. The scheduled launch times were 1540, 1540:04.5, and 1540:09.

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 pole-mounted and 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

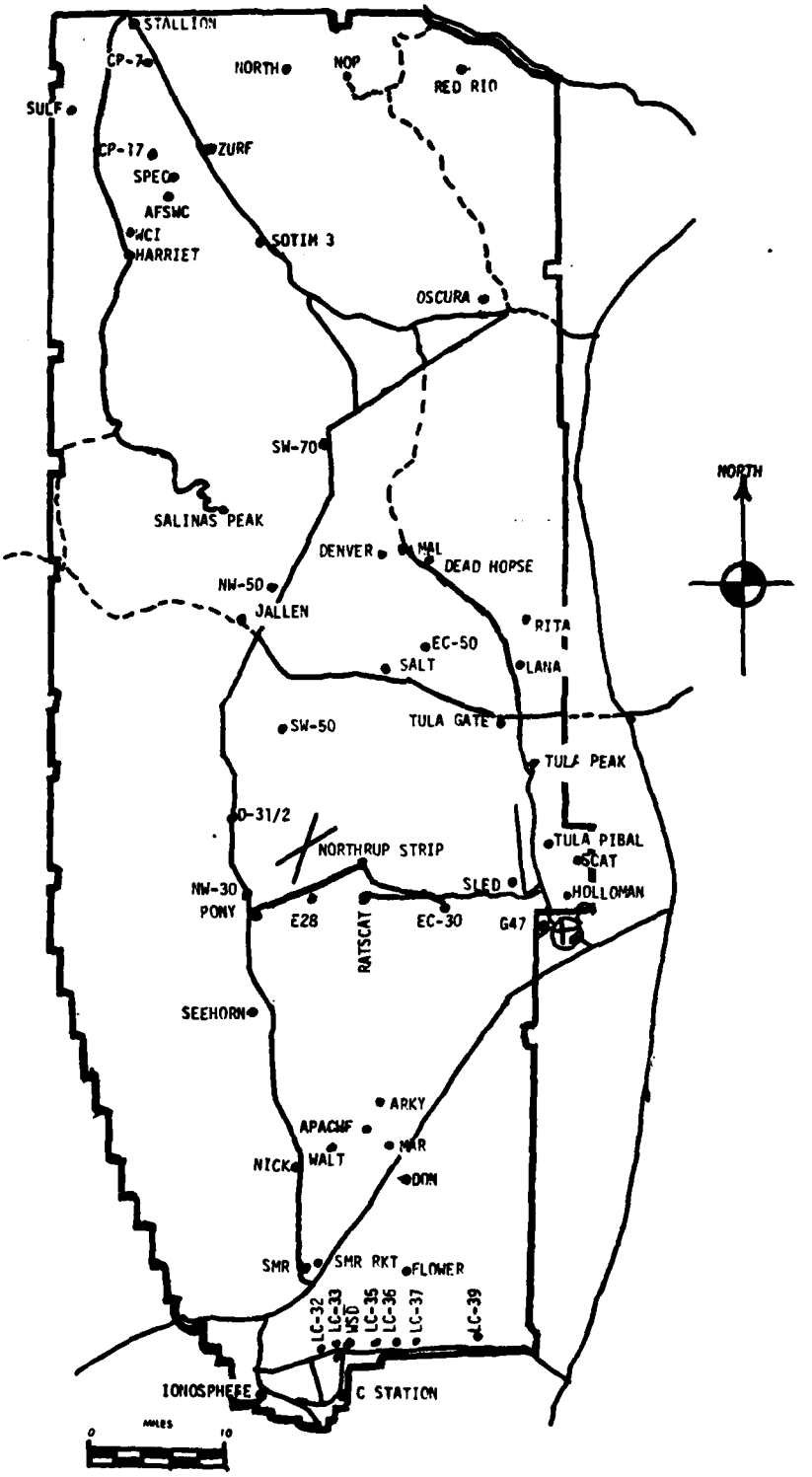
   (1) Low level wind data were obtained from Pilot-Balloon observations at:

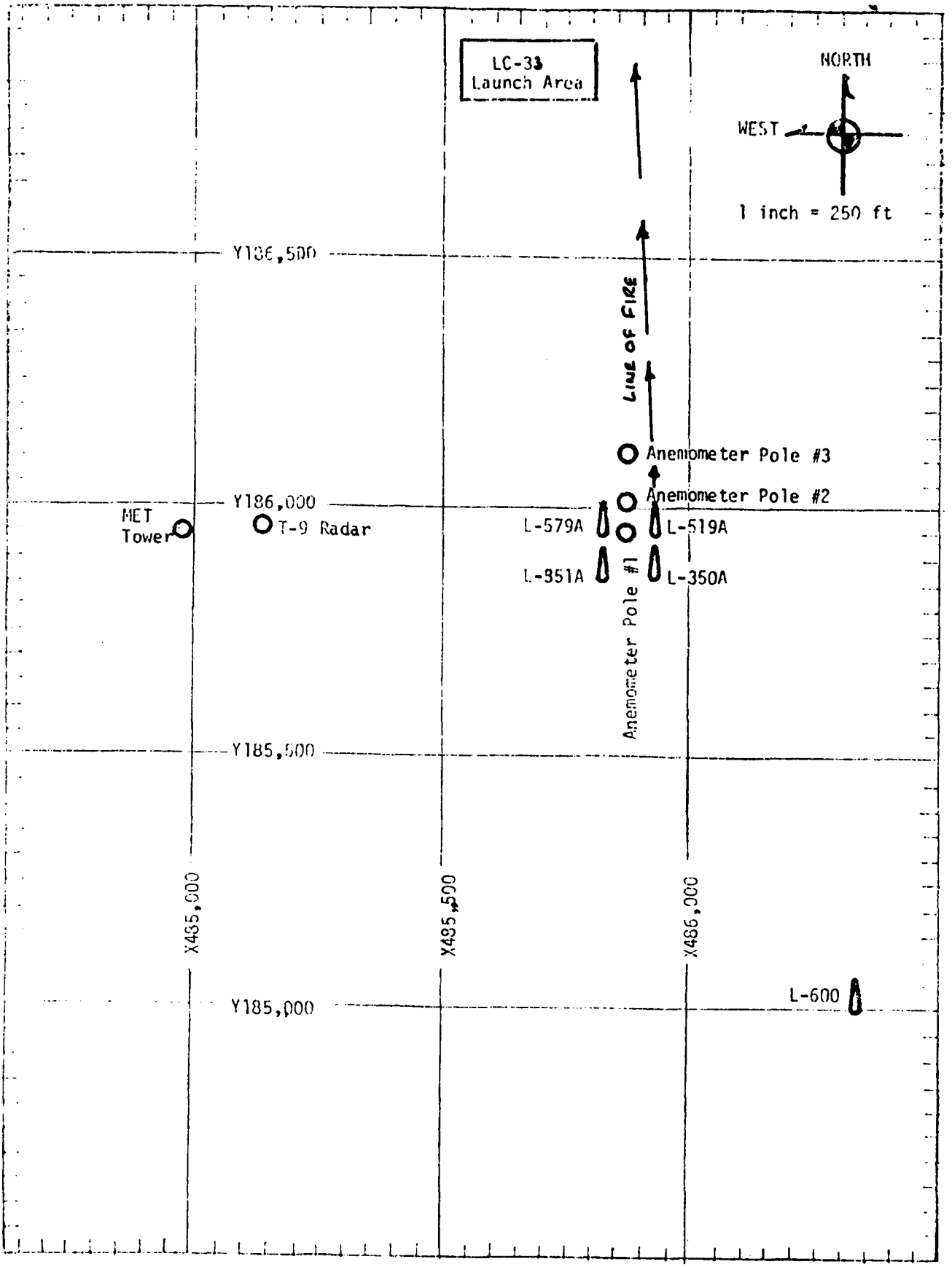
SITE AND ALTITUDE
WSD 2 Km
SMR 2 Km

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

SITE AND TIME
LC-37 1245 MDT
WSD 1345 MDT
LC-37 1445 MDT
WSD 1545 MDT

WSMR METEOROLOGICAL SITES




LC-33
Launch Area
NORTH
WEST
1 inch = 250 ft
Y186,500
LINE OF FIRE
Anemometer Pole #3
Anemometer Pole #2
Y186,000
MET
Tower
T-9 Radar
L-579A
L-519A
L-351A
L-350A
Anemometer Pole #1
Y185,500
X485,000
X485,500
X486,000
L-600
Y185,000

PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-33 E & A

DATE 01 (DAY) Jul (MONTH) 82 (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
1558	879.0		34.0		9.3	22	989	265	03		40 Mi

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
	5	CU	6500	2	CI	25,000				CB N THRU E MOV G NE TCU ALQDS H ALQDS

PSYCHROMETRIC COMPUTATION

TIME:	1558		
DRY BULB TEMP.	34.0		
WET BULB TEMP.	18.1		
WET BULB DEPR.	15.9		
DEW POINT	9.3		
RELATIVE HUMID.	22%		

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.29 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	238	09	-30	230	03	-30	237	13
-20	238	09	-20	238	13	-20	235	12
-10	242	11	-10	249	10	-10	248	12
0.0	238	10	0.0	246	08	0.0	245	10
+10	235	10	+10	242	08	+10	237	06

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185.057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	260	06	-30	252	06
-20	254	05	-20	258	06
-10	243	04	-10	235	05
0.0	265	03	0.0	230	05
+10	243	04	+10	246	06

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	228	04	-30	210	03
-20	240	07	-20	210	07
-10	230	06	-10	222	06
0.0	232	06	0.0	213	07
+10	220	08	+10	213	07

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 01 July 1982

SITE: WSD
TIME: 1557 MDT
WSTM COORDINATES:
X= 488,717.25
Y= 184,862.84
H= 4,002.56

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	270	10
150	241	15
210	240	16
270	247	14
330	283	11
390	288	15
500	266	15
650	260	12
800	269	10
950	270	13
1150	271	13
1350	270	13
1550	276	12
1750	267	11
2000	260	13

Data obtained from Nike-Herc Tracked Pilot-Balloon observation.

SITE: SMR
TIME 1558 MDT
WSTM COORDINATES:
X= 472,444.85
Y= 213,781.96
H= 4,000.99

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	270	03
150	279	12
210	290	09
270	302	09
330	284	11
390	262	10
500	253	11
650	243	14
800	246	13
950	258	09
1150	256	06
1350	248	09
1550	245	08
1750	238	08
2000	249	10

Data obtained from RAPTS T-9 Radar Tracked Pilot-Balloon observation.

TABLE-5

AIMING AND T-TIME COMPUTER MET MESSAGES

LC-37 1245 MDT

METCM1324063

011860124879

00213008 30710879
01309011 30340869
02333011 29960845
03379007 29570807
04480008 29090762
05475013 28770718
06499010 28340676
07484012 27890637
08493013 27510599
09451008 27170562

WSD 1345 MDT

METCM1324064

011980122881

00373010 30640881
01354016 30420871
02344011 30180847
03340002 29730809
04183003 29220764
05506005 28760720
06490015 28330679
07499015 27910639
08505014 27490601
09459007 27160564
10397007 26880530
11456008 26630497

LC-37 1445 MDT

METCM1324063

012080124877

00542004 30740877
01615013 30600867
02410007 30310843
03404006 29890806
04421004 29370761
05412005 28860718
06455008 28360676
07503013 27960636
08497010 27560598
09424008 27230562

WSD 1545 MDT

METCM1324064

012180122879

00480010 30850879
01456015 30590870
02478012 30230845
03469014 29920808
04469010 29430763
05478011 28940720
06467011 28460678
07458014 27950638
08456015 27560600
09478013 27170564
10458014 26800530

STATION ALTITUDE 4051.37 FEET MSL
1 JULY 82 1245 MDT
ASCENSION NO. 82

SIGNIFICANT LEVEL DATA
18201G0062
LC-37

GEODETIC COORDINATES
32 40175 LAT DEG
106.31232 LON DEG

TABLE-6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT	REL.HUM. PERCENT
879.2	4051.4	31.8	15.3	37.0
865.3	4517.9	26.3	13.4	45.0
859.0	5034.1	24.9	13.5	49.0
802.1	6695.1	20.0	13.0	64.0
751.3	8536.2	14.7	10.3	75.0
722.0	9641.8	13.5	4.6	55.0
712.2	10020.3	13.3	3.9	53.0
700.0	10497.5	12.0	2.7	53.0
656.3	12257.0	6.9	-3.1	49.0
577.5	15666.2	-.6	-16.4	29.0
500.0	19407.3	-7.0	-26.1	20.0

STATION ALTITUDE 4051.37 FEET MSL
1 JULY 82 1245 MDT
ASCENSION NO. 62

UPPER AIR DATA
18201000[illegible]
LC-37
TABLE-7

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

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
4051.4	879.2	31.8	15.3	57.0	996.8	682.9	120.0	8.0	1.000293
4500.0	865.8	26.5	13.5	44.7	999.7	676.7	129.3	6.7	1.000288
5000.0	851.0	25.0	13.5	48.7	987.5	675.0	144.1	5.6	1.000286
5500.0	836.3	23.5	13.5	53.2	975.1	673.4	164.3	5.0	1.000284
6000.0	821.8	22.1	13.3	57.7	963.0	671.7	186.5	5.1	1.000281
6500.0	807.6	20.6	13.1	62.2	951.0	670.0	205.0	5.9	1.000278
7000.0	793.5	19.1	12.6	65.8	939.2	668.4	220.3	6.6	1.000274
7500.0	779.5	17.7	11.9	68.8	927.4	666.6	240.8	6.5	1.000269
8000.0	765.8	16.2	11.2	71.8	915.8	664.9	259.7	7.2	1.000264
8500.0	752.3	14.8	10.4	74.8	904.3	663.2	280.0	8.9	1.000259
9000.0	738.9	14.2	8.1	66.6	890.8	662.2	286.8	10.8	1.000248
9500.0	725.7	13.7	5.4	57.6	877.3	661.3	287.6	12.4	1.000237
10000.0	712.7	13.3	4.0	53.1	863.0	660.8	286.8	13.2	1.000230
10500.0	699.9	12.0	2.7	53.0	851.7	659.2	272.9	12.9	1.000224
11000.0	687.2	10.5	1.1	51.9	840.8	657.4	270.2	11.8	1.000218
11500.0	674.8	9.1	-.6	50.7	830.1	655.6	279.0	10.9	1.000213
12000.0	662.5	7.6	-2.2	49.6	819.5	653.8	277.2	11.3	1.000208
12500.0	650.3	6.4	-3.9	47.6	808.4	652.2	275.4	11.7	1.000202
13000.0	638.3	5.3	-5.8	44.6	796.7	650.8	273.4	12.1	1.000197
13500.0	626.4	4.2	-7.7	41.7	785.3	649.4	273.2	12.4	1.000192
14000.0	614.8	3.1	-9.6	38.8	773.9	648.1	275.4	12.7	1.000187
14500.0	603.3	2.0	-11.6	35.8	762.8	646.7	276.6	12.6	1.000183
15000.0	592.1	.9	-13.6	32.9	751.7	645.3	277.0	12.0	1.000178
15500.0	581.1	-.2	-15.7	30.0	740.9	644.0	274.2	10.4	1.000174
16000.0	570.1	-1.2	-17.2	28.2	729.5	642.8	268.0	8.4	1.000171
16500.0	559.2	-2.0	-18.5	27.0	717.9	641.8	249.2	7.5	1.000167
17000.0	548.6	-2.9	-19.7	25.8	706.5	640.7	233.5	7.6	1.000164
17500.0	538.1	-3.7	-21.0	24.6	695.3	639.7	230.5	7.3	1.000161
18000.0	527.9	-4.6	-22.3	23.4	684.2	638.7	232.5	6.8	1.000158
18500.0	517.8	-5.4	-23.7	22.2	673.4	637.6			1.000155
19000.0	507.9	-6.3	-25.0	21.0	662.7	636.6			1.000152

STATION ALTITUDE 4051.37 FEET MSL
1 JULY 82 1245 MDT
ASCENSION NO. 62

MANDATORY LEVELS
18201800062
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.51232 LON DEG

TABLE-8

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5030.	24.9	13.5	49.	145.3	5.5
800.0	6764.	19.8	12.9	64.	212.6	6.5
750.0	8577.	14.6	10.1	74.	266.5	9.2
700.0	10487.	12.0	2.7	55.	272.9	12.9
650.0	12504.	6.3	-4.0	47.	275.3	11.7
600.0	14640.	1.6	-12.1	35.	277.1	12.4
550.0	16921.	-2.8	-19.6	26.	235.5	7.5
500.0	19380.	-7.0	-26.1	20.		

STATION ALTITUDE 3989.00 FEET MSL
1 JULY 62 1345 MDT
ASCENSION NO. 313

SIGNIFICANT LEVEL DATA
1820020313
WHITE SANDS
TABLE-9

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
881.3	3989.0	31.4	13.2	33.0
870.2	4360.8	28.5	11.1	34.0
850.0	5044.9	27.3	11.3	37.0
783.7	7374.5	19.2	9.9	55.0
755.4	8410.2	16.4	9.3	63.0
718.5	9805.5	12.9	8.8	76.0
709.5	10153.6	11.3	8.3	82.0
704.9	10332.5	10.9	5.2	68.0
700.0	10523.9	10.5	4.6	67.0
682.3	11224.6	9.4	.8	55.0
673.3	11586.8	9.1	-1.3	48.0
637.8	13051.9	5.2	-9.0	35.0
611.7	14168.2	2.5	-9.1	42.0
594.8	14910.0	.2	-11.2	42.0
576.0	15664.5	-.2	-18.3	24.0
553.0	16821.4	-3.1	-23.4	19.0
511.1	18861.6	-5.8	-26.9	17.0
500.0	19426.4	-6.7	-24.8	22.0
472.0	20898.2	-9.7	-26.4	24.0

STATION ALTITUDE 3989.00 FEET MSL
1 JULY 82 1345 MDT
ASCENSION NO. 313

UPPER AIR DATA
18200/0:15
WHITE SANDS
TABLE-10

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 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	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.3	31.4	13.2	33.0	1001.5	682.1	210.0	9.9	1.000285
4000.0	881.0	31.3	13.1	33.0	1001.5	682.0	210.0	9.9	1.000285
4500.0	866.1	28.3	11.2	34.6	995.2	678.3	207.6	8.5	1.000277
5000.0	851.3	27.4	11.3	36.8	980.9	677.4	204.3	7.2	1.000275
5500.0	836.6	25.7	11.3	40.5	969.3	675.5	199.6	5.9	1.000273
6000.0	822.2	24.0	11.1	44.4	956.1	673.6	192.3	4.6	1.000270
6500.0	808.0	22.2	10.8	48.2	947.1	671.6	179.9	3.5	1.000267
7000.0	794.0	20.5	10.3	52.1	936.3	669.6	164.7	2.7	1.000264
7500.0	780.2	18.9	9.9	56.0	925.3	667.7	150.0	2.2	1.000260
8000.0	766.5	17.5	9.6	59.6	913.2	666.2	128.2	1.8	1.000257
8500.0	753.0	16.2	9.3	63.8	901.3	664.6	108.3	.8	1.000254
9000.0	739.6	14.9	9.2	68.5	889.1	663.2	269.3	1.7	1.000251
9500.0	726.4	13.7	9.0	73.2	877.0	661.8	276.5	4.1	1.000248
10000.0	713.5	12.0	8.5	79.4	866.5	659.8	278.0	6.6	1.000245
10500.0	700.6	10.6	4.7	67.1	856.3	657.7	276.7	9.4	1.000231
11000.0	687.9	9.8	2.1	58.8	843.8	656.5	276.0	12.2	1.000222
11500.0	675.4	9.2	-.8	49.7	830.8	655.6	276.1	14.4	1.000215
12000.0	663.1	8.0	-3.4	44.3	819.4	654.1	278.1	14.7	1.000205
12500.0	650.9	6.7	-6.0	39.9	808.6	652.4	280.1	15.0	1.000199
13000.0	639.0	5.3	-8.7	35.5	797.9	650.7	281.2	14.9	1.000193
13500.0	627.2	4.1	-9.0	37.8	786.6	649.3	282.2	14.6	1.000191
14000.0	615.6	2.9	-9.0	40.9	775.3	647.9	282.6	13.9	1.000188
14500.0	604.1	1.5	-10.0	42.0	764.9	646.2	282.2	12.6	1.000185
15000.0	592.8	.2	-11.9	39.9	754.4	644.6	281.6	11.2	1.000181
15500.0	581.6	-.1	-16.4	27.9	741.3	644.1	279.8	9.8	1.000174
16000.0	570.6	-1.0	-19.7	22.6	729.9	642.9	280.5	8.6	1.000169
16500.0	559.8	-2.3	-21.9	20.4	719.5	641.4	279.5	7.6	1.000166
17000.0	549.2	-3.3	-23.7	18.8	708.7	640.1	278.1	7.3	1.000163
17500.0	538.7	-4.0	-24.5	18.3	698.8	639.3	276.9	7.1	1.000160
18000.0	528.4	-4.7	-25.4	17.8	688.2	638.5	275.5	7.0	1.000157
18500.0	518.3	-5.3	-26.2	17.4	678.8	637.7	273.5	7.1	1.000154
19000.0	508.4	-6.0	-26.3	18.2	668.6	636.9	271.4	7.3	1.000151
19500.0	498.6	-6.8	-24.9	22.1	657.8	636.9	269.3	7.5	1.000150
20000.0	488.9	-7.9	-25.4	22.8	647.6	634.7			1.000147
20500.0	479.4	-8.9	-26.0	23.5	637.6	633.5			1.000145

STATION ALTITUDE 3989.00 FEET MSL
1 JULY 82 1345 MDT
ASCENSION NO. 313

MANDATORY LEVELS
1820020313
WHITE SANDS

TABLE-11

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	5041.	27.3	11.3	37.	204.0	7.1
800.0	6784.	21.3	10.6	50.	169.2	3.0
750.0	8603.	15.9	9.3	65.	161.5	.4
700.0	10513.	10.5	4.6	67.	276.7	9.5
650.0	12528.	6.6	-6.2	40.	280.2	15.1
600.0	14663.	.9	-10.5	42.	282.0	12.1
550.0	16941.	-3.3	-23.6	19.	248.6	7.3
500.0	19399.	-6.7	-24.8	22.	243.8	7.5

STATION ALTITUDE 4051.37 FEET MSL
1 JULY 82 1445 MDT
ASCENSION NO. 63

SIGNIFICANT LEVEL DATA
18201800G
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.51232 LON DEG

TABLE-12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
877.0	4051.4	32.3	14.0	33.0
871.0	4254.1	31.7	10.4	27.0
850.0	4970.5	29.1	8.7	28.0
754.0	8409.7	18.2	6.7	47.0
717.0	9817.1	13.9	6.7	62.0
700.0	10481.0	11.8	5.9	67.0
678.7	11328.7	9.1	5.7	79.0
655.5	12274.9	7.3	1.4	66.0
596.9	14785.2	1.5	-6.1	57.0
580.9	15503.6	.4	-14.0	33.0
549.7	16952.7	-2.4	-11.1	51.0
534.7	17672.2	-4.9	-8.8	74.0
519.7	18406.9	-6.0	-25.6	19.0
500.0	19399.2	-7.4	-26.4	20.0

STATION ALTITUDE 4051.37 FEET MSL
1 JULY 82 1445 MDT
ASCENSION NO. 63

UPPER AIR DATA
1820180063
LC-37

TABLE-13

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

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
4051.4	877.0	32.3	14.0	33.0	993.3	683.2	305.0	4.1	1.000286
4500.0	863.7	30.8	9.8	27.3	984.7	681.0	294.5	3.7	1.000269
5000.0	849.1	29.0	8.7	28.2	974.1	678.9	280.4	3.5	1.000264
5500.0	834.5	27.4	8.8	30.9	962.2	677.1	265.4	3.5	1.000262
6000.0	820.0	25.8	8.7	33.7	950.5	675.4	251.4	3.7	1.000259
6500.0	805.9	24.3	8.4	36.4	939.1	673.6	239.7	4.1	1.000257
7000.0	792.0	22.7	8.1	39.2	927.8	671.8	230.5	4.7	1.000254
7500.0	778.3	21.1	7.7	42.0	916.6	670.0	231.7	4.7	1.000250
8000.0	764.8	19.5	7.2	44.7	905.9	668.1	235.8	4.5	1.000247
8500.0	751.6	17.9	6.8	48.0	895.0	666.3	238.4	4.5	1.000244
9000.0	738.5	16.4	6.9	53.3	883.7	664.6	238.0	4.7	1.000242
9500.0	725.2	14.9	6.8	58.6	872.6	662.9	235.9	4.9	1.000240
10000.0	712.3	13.3	6.5	63.4	861.7	661.1	234.5	4.9	1.000237
10500.0	699.5	11.7	5.9	67.3	851.1	659.2	235.5	5.0	1.000233
11000.0	686.9	10.1	5.8	74.3	840.4	657.4	248.7	6.5	1.000231
11500.0	674.4	8.8	4.9	76.6	829.3	655.7	257.1	8.3	1.000226
12000.0	662.2	7.8	2.7	69.8	817.5	654.4	268.4	10.0	1.000218
12500.0	650.0	6.8	.7	65.2	805.9	653.0	275.3	11.5	1.000211
13000.0	638.0	5.6	-.8	63.4	794.5	651.6	284.1	13.0	1.000205
13500.0	626.2	4.5	-2.2	61.6	783.3	650.1	287.1	13.1	1.000200
14000.0	614.6	3.3	-3.7	59.8	772.3	648.7	288.1	12.7	1.000195
14500.0	603.3	2.2	-5.2	58.0	761.4	647.2	281.2	10.7	1.000190
15000.0	592.1	1.2	-8.1	49.8	750.3	645.9	271.4	9.1	1.000184
15500.0	581.0	.4	-13.9	33.1	738.9	644.8	258.0	8.1	1.000175
16000.0	570.0	-.6	-12.7	39.2	727.4	643.7	245.7	7.6	1.000174
16500.0	559.3	-1.5	-11.8	45.4	716.1	642.6	232.6	7.8	1.000172
17000.0	548.7	-2.6	-10.9	52.5	705.1	641.4	226.6	8.0	1.000171
17500.0	538.3	-4.3	-9.2	68.5	696.0	639.5	230.3	7.9	1.000171
18000.0	528.0	-5.4	-14.3	49.5	685.9	637.9			1.000163
18500.0	517.8	-6.1	-25.9	19.1	675.2	636.8			1.000154
19000.0	507.8	-6.8	-26.2	19.6	663.9	635.9			1.000152

STATION ALTITUDE 4651.37 FEET MSL
1 JULY 62 1445 MDT
ASCENSION NO. 63

MANDATORY LEVELS
1820180063
LC-37

TABLE-14

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

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	4967.	29.1	8.7	28.	281.5	5.5
800.0	6721.	23.6	8.3	38.	235.2	4.4
750.0	8552.	17.7	6.8	49.	238.1	4.5
700.0	10471.	11.8	5.9	67.	235.0	4.9
650.0	12489.	6.8	.7	65.	275.2	11.5
600.0	14630.	1.8	-5.7	57.	278.8	10.2
550.0	16916.	-2.4	-11.1	51.	226.1	8.0
500.0	19372.	-7.4	-26.4	20.		

STATION ALTITUDE 3989.00 FEET MSL
1 JULY 82 1545 MDT
ASCENSION NO. 314

SIGNIFICANT LEVEL DATA
18200+0314
WHITE SANDS
TABLE-15

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE AIR	TEMPERATURE DEWPOINT	REL.HUM.
MILLIBARS	MSL FEET	DEGREES CENTIGRADE		PERCENT
879.3	3989.0	33.5	9.5	23.0
868.1	4367.2	30.8	8.0	21.0
850.0	4982.8	27.8	6.6	26.0
828.9	5712.7	27.1	8.0	28.0
779.9	7464.3	21.7	4.3	32.0
700.0	10497.4	12.9	2.5	49.0
676.1	11452.9	10.2	.5	51.0
621.9	13711.5	3.2	-2.3	67.0
603.9	14493.8	2.2	-4.5	61.0
598.7	14723.5	1.9	-7.1	51.0
577.9	15657.9	-.3	-14.2	34.0
552.2	16848.4	-3.1	-19.0	28.0
533.7	17731.4	-5.8	-11.3	65.0
526.9	18062.2	-5.7	-13.7	53.0
521.2	18342.7	-5.7	-17.1	40.0
500.0	19408.0	-8.5	-20.5	37.0

STATION ALTITUDE 3989.00 FEET MSL
1 JULY 82 1545 MDT
ASCENSION NO. 514

UPPER AIR DATA
1820020514
WHITE SANDS
TABLE-16

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 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	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	879.3	33.5	9.5	23.0	995.8	684.0	270.0	9.9	1.000270
4000.0	879.0	33.4	9.4	22.9	993.7	683.9			1.000269
4500.0	864.2	30.2	6.2	22.1	988.4	679.9			1.000259
5000.0	849.5	27.8	6.5	26.0	979.1	677.3			1.000259
5500.0	835.0	27.3	6.1	26.0	964.0	676.7			1.000254
6000.0	820.7	26.2	5.7	27.0	950.9	675.5			1.000251
6500.0	806.5	24.7	5.3	28.7	939.4	674.7			1.000247
7000.0	792.6	23.1	4.8	30.4	928.1	672.0			1.000244
7500.0	778.9	21.6	4.3	32.2	916.9	670.2	265.2	10.3	1.000241
8000.0	765.2	20.1	4.2	35.0	905.1	668.6	268.6	9.5	1.000238
8500.0	751.6	18.7	4.0	37.8	893.5	666.9	272.5	8.7	1.000235
9000.0	738.4	17.2	3.8	40.6	882.1	665.2	273.5	9.1	1.000233
9500.0	725.3	15.8	3.4	43.4	870.9	663.6	274.3	9.4	1.000229
10000.0	712.5	14.3	3.0	46.2	859.9	661.9	275.2	9.8	1.000226
10500.0	699.9	12.9	2.5	49.0	849.1	660.2	269.6	10.8	1.000223
11000.0	687.3	11.5	1.4	50.1	838.1	658.5	264.7	11.8	1.000218
11500.0	674.9	10.1	.5	51.3	827.3	656.8	261.2	12.8	1.000214
12000.0	662.6	8.5	-.0	54.9	816.6	655.0	258.9	13.7	1.000211
12500.0	650.4	7.0	-.6	58.4	806.2	653.1	256.9	14.6	1.000208
13000.0	638.5	5.4	-1.3	62.0	795.9	651.3	256.6	14.9	1.000205
13500.0	626.8	3.9	-2.0	65.5	785.7	649.4	256.7	15.0	1.000201
14000.0	615.2	2.8	-3.1	64.8	774.2	648.2	257.6	15.0	1.000197
14500.0	603.8	2.2	-4.6	60.7	761.8	647.3	262.1	14.4	1.000191
15000.0	592.5	1.2	-9.1	46.0	750.7	646.0	267.1	13.8	1.000183
15500.0	581.4	.1	-12.9	36.9	740.2	644.4	269.4	13.3	1.000176
16000.0	570.4	-1.1	-15.6	32.3	729.5	642.9	267.3	12.9	1.000172
16500.0	559.6	-2.3	-17.6	29.8	719.0	641.5	265.1	12.4	1.000168
17000.0	549.0	-3.6	-17.0	34.4	708.6	640.0	258.7	12.8	1.000166
17500.0	538.5	-5.1	-12.6	55.3	698.7	638.4	252.7	13.4	1.000168
18000.0	528.2	-5.7	-13.2	55.3	686.9	637.6			1.000165
18500.0	518.0	-6.1	-17.6	39.6	675.0	637.0			1.000159
19000.0	508.0	-7.4	-19.2	38.1	665.4	635.4			1.000155

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

STATION ALTITUDE 3489.00 FEET MSL
1 JULY 82 1545 MDT
ASCENSION NO. 514

MANDATORY LEVELS
1820020514
WHITE SANDS
TABLE-17

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	4979.	27.8	6.6	26.	9999.0	9999.0XX
800.0	6731.	24.0	5.1	29.	9999.0	9999.0XX
750.0	8564.	18.5	4.0	36.	272.6	8.7
700.0	10487.	12.9	2.5	49.	269.7	10.7
650.0	12510.	6.9	-.6	59.	256.9	14.6
600.0	14648.	2.0	-6.5	54.	263.7	14.2
550.0	16930.	-3.4	-17.6	32.	259.5	12.7
500.0	19380.	-8.5	-20.5	37.		

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


DATE
ILME
8