

AD-A100 445 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
19304 MLRS MISSILE NUMBER 001, ROUND NO. V134/MD-1, 17 APRIL 19--ETC(U)
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DR 1172
April 1981

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LEVEL II

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9 METEOROLOGICAL DATA REPORT

19304 MLRS
Missile No. 801
Round No. V134/MD-1
17 April 1981

By

Donald C. Keller AV 258-3909
Programs Coordinator
WS Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

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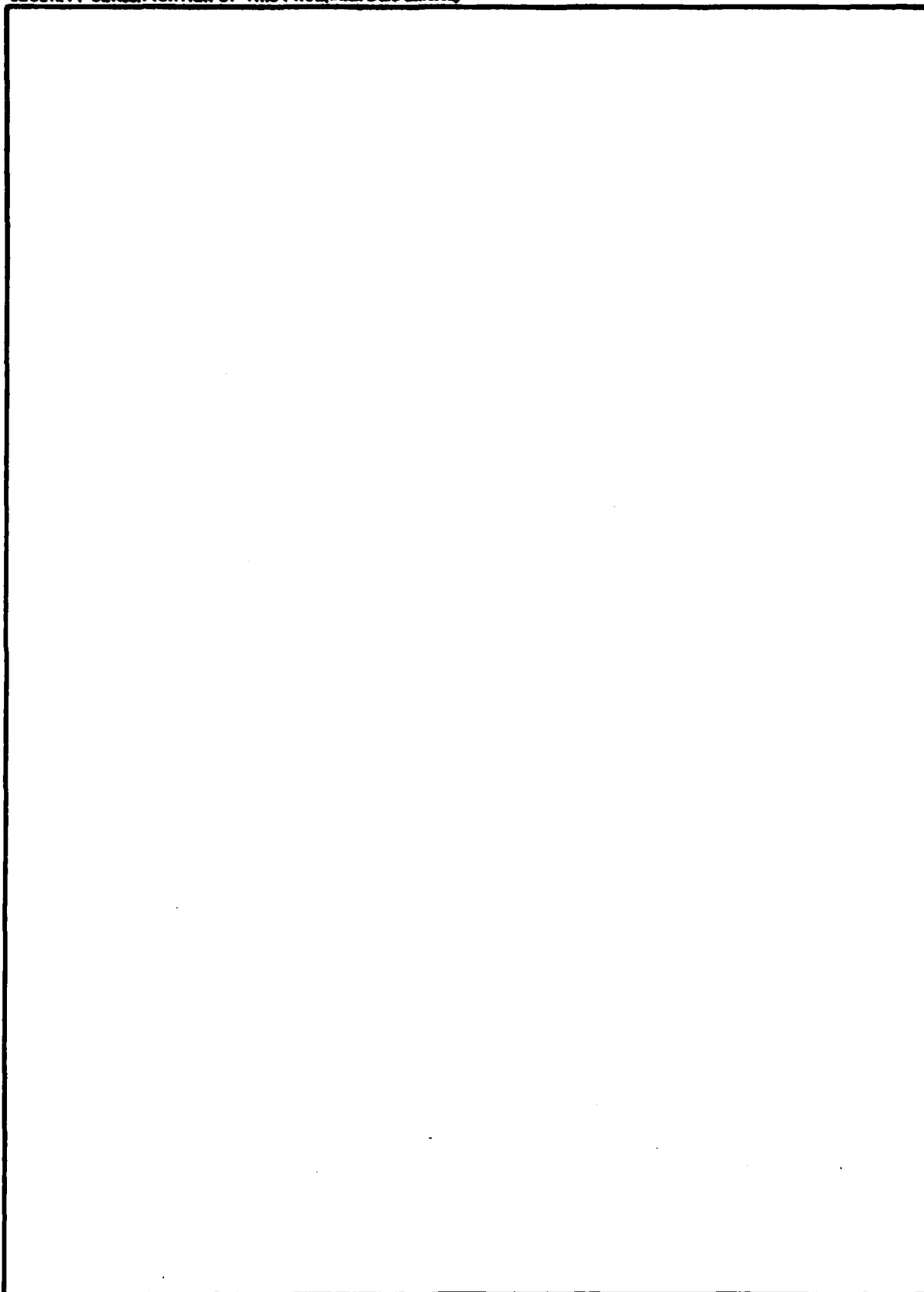
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INTRODUCTION

19304D MLRS _____, Missile Number 001, Round Number V134/MD-1,
was launched from LC-33, White Sands Missile Range (WSMR), New
Mexico, at 0939 MST on 17 April 1981. The scheduled launch time
was 0930.

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 LC-33 met site at T-0 minutes.

(2) Monitor of wind speed and direction from one anemometer was provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from Single Theodite observations at:

SITE AND ALTITUDE

LC-33	720 Meters
NICK	1560 Meters

(b) Air structure data (rawinsonde) were collected at the following met sites.

SITE AND TIME

LC-37	0530 MST
WSD	0630 MST
LC-37	0730 MST
WSD	0830 MST
WSD	0930 MST

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Unannounced	☐
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	

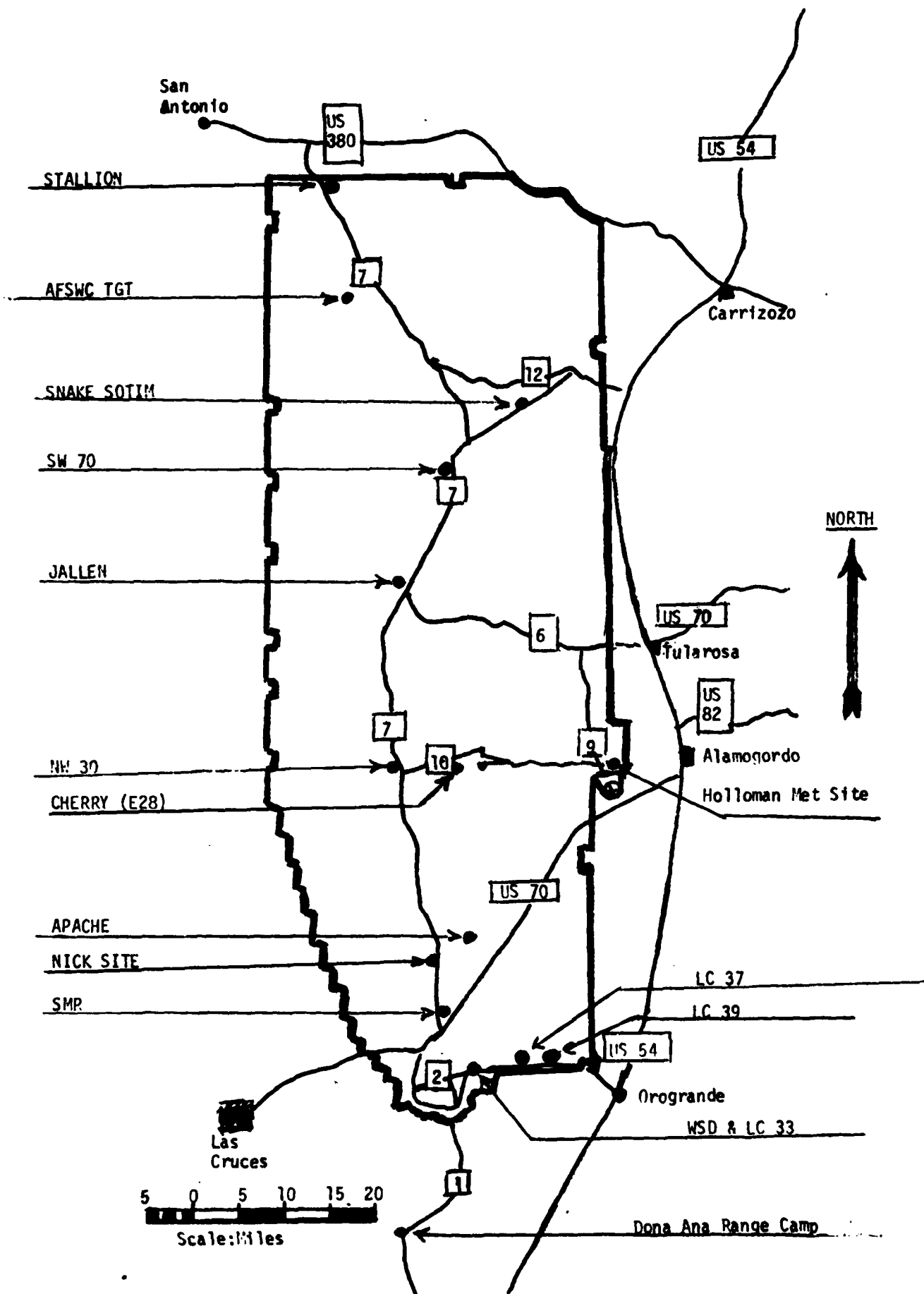


TABLE 1. Surface Observations taken at 0939 MST,
17 April 1981, at LC-33, 19304 MLRS,
Missile Number 001, Round Number V134/MD-1.

ELEVATION	3983	FT/MSL
PRESSURE	883.8	MBS
TEMPERATURE	17.0	°C
RELATIVE HUMIDITY	71	%
DEW POINT	11.6	°C
DENSITY	1052	GM/M ³
WIND SPEED	02	KTS
WIND DIRECTION	150	DEGREES
CLOUD COVER	10/AS	AMT/TYPE

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS
Taken at 0939 MST.

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 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 KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
F30	141	01	T-30	150	01	T-30	145	01
T-20	138	02	T-20	143	01	T-20	145	02
T-10	138	02	T-10	143	01	T-10	145	01
T0.0	120	01	T0.0	142	01	T0.0	145	01
T+10	119	02	T+10	138	01	T+10	145	02

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 KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	142	03	T-30	145	05
T-20	150	03	T-20	151	04
T-10	150	02	T-10	149	04
T0.0	150	02	T0.0	149	04
T+10	150	02	T+10	148	03

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	140	04	T-30	147	05
T-20	139	02	T-20	147	04
T-10	139	02	T-10	144	04
T0.0	139	03	T0.0	144	03
T+10	139	03	T+10	140	03

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

LC33 0939 MST
WSTM COORDINATES:
X= 486,037.24
Y= 182,350.16
H= 3977.30

NICK 0939 MST
WSTM COORDINATES:
X= 470,734.56
Y= 255,775.64
H= 4126.57

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	150	02
60		MISG
120		MISG
180	274	03
240	235	01
300	325	04
360	340	04
420	033	03
480	008	04
540	351	04
600	280	02
660	312	02
720	326	03

END OF DATA

HEIGHT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
60	017	02
120	017	03
180	025	02
240	110	01
300	184	01
360	197	02
420	204	03
480	207	03
540	209	02
600	234	01
660	299	01
720	304	02
780	304	02
840	301	02
900	294	02
960	282	02
1020	282	02
1080	290	02
1140	349	02
1200	021	03
1260	034	04
1320	028	04
1380	020	04
1440	011	05
1500	008	05
1560	009	05

END OF DATA

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES
17 APRIL 1981

LC37 0530 MST	WSD 0630 MST	LC37 0730 MST
METCM1325064	METCM1325065	METCM1325064
171250124880	171350122882	171450124881
00373004 28850880	00000000 28830882	00000000 28900881
01317011 28900870	01307002 28830872	01000000 28920871
02561004 28980845	02033007 28850846	02039004 28930846
03605008 28810806	03031007 28720807	03049006 28790807
04052003 28440759	04617003 28340760	04063004 28470760
05129004 28030715	05174003 27970716	05180003 28030716
06142015 27640672	06128013 27600673	06123013 27630673
07169012 27230632	07157016 27140632	07152015 27230633
08198014 26790593	08191012 26670594	08176014 26800594

WSD 0830 MST

METCM1325065

171550122883

00000000 29040883

01483001 28890873

02022005 28810847

03056005 28440808

04101004 28250761

05117003 28171716

06123011 27510673

07151015 27110633

08163014 26490594

WSD 0930 MST

METCM1325065

171650122883

00000000 29210883

01285003 28950873

02209001 28710847

03134001 28500808

04083006 28330761

05109005 27960716

06112012 27460673

07132016 27010632

08142017 26660594

STATION ALTITUDE 4051.37 FEET MSL
17 APR. 81
ASCENSION NO. 24

SIGNIFICANT LEVEL DATA
1070180024
LC-37
TABLE 6

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

PRESSURE	GEOMETRIC ALTITUDE	TEMPERATURE AIR	DEWPOINT DEGREES	REL. HUM. PERCENT
MILLIBARS	MSL FEET	DEGREES	CENTIGRADE	
880.3	4051.4	14.1	9.7	75.0
850.0	5026.6	15.6	8.6	63.0
804.6	6553.8	13.8	5.9	59.0
779.0	7447.4	12.0	4.5	60.0
719.8	9603.5	6.5	1.6	71.0
700.0	10354.7	5.0	-0.8	66.0
661.8	11852.3	1.8	-6.5	54.0
645.4	12515.9	.2	-8.0	54.0
606.0	14163.7	-4.2	-5.5	84.0
598.0	14508.0	-5.1	-7.4	84.0
582.4	15189.5	-6.8	-9.0	84.0
574.4	15544.3	-7.6	-11.4	74.0
559.0	16237.8	-9.5	-15.6	61.0
544.0	16927.6	-10.8	-14.5	74.0
542.5	16997.4	-11.1	-12.1	92.0
536.2	17292.7	-11.1	-12.5	89.0
528.6	17653.3	-11.3	-16.0	68.0
521.0	18019.0	-11.3	-14.5	77.0
506.0	18756.3	-11.7	-16.2	69.0
500.0	19057.1	-11.6	-19.0	54.0
434.0	22572.4	-19.6	-26.3	55.0
420.2	23360.2	-21.0	-25.6	66.0
412.8	23791.7	-21.7	-26.0	68.0
400.0	24552.7	-23.5	-28.4	64.0
392.8	24989.0	-24.6	-30.1	60.0
386.4	25381.8	-25.7	-29.8	68.0
379.6	25804.6	-26.7	-30.2	72.0
366.6	26629.4	-28.7	-34.0	60.0
347.6	27876.4	-31.6	-36.7	60.0
317.2	29980.9	-37.8	-42.8	59.0
300.0	31237.2	-41.2	-46.7	55.0
282.0	32611.0	-44.7	-50.1	54.0
250.0	35225.2	-51.6		

STATION ALTITUDE 4051.37 FEET MSL
 17 APR. 81 0530 HRS MST
 ASCENSION NO. 24

UPPER AIR DATA
 1070180024
 LC-37

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LON DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
4051.4	880.3	14.1	9.7	75.0	1062.1	662.0	210.0	4.1	1.000292
4500.0	866.2	14.8	9.3	69.5	1042.7	662.8	242.4	2.6	1.000286
5000.0	850.8	15.6	8.6	63.3	1021.5	663.6	298.6	2.9	1.000279
5500.0	835.7	15.0	7.8	61.8	1005.3	662.9	324.5	4.9	1.000272
6000.0	820.8	14.5	6.9	60.5	989.6	662.2	334.6	7.3	1.000266
6500.0	806.2	13.9	6.0	59.1	974.2	661.5	341.5	7.9	1.000260
7000.0	791.7	12.9	5.2	59.5	960.1	660.3	352.2	6.5	1.000255
7500.0	777.5	11.9	4.4	60.3	946.4	659.0	3.2	5.0	1.000250
8000.0	763.4	10.6	3.8	62.8	933.5	657.5	19.1	3.3	1.000246
8500.0	749.5	9.3	3.2	65.4	920.8	656.0	39.7	2.2	1.000242
9000.0	735.9	8.0	2.5	67.9	908.3	654.5	69.6	1.6	1.000237
9500.0	722.5	6.8	1.8	70.5	896.0	653.0	77.7	2.9	1.000233
10000.0	709.3	5.7	.3	68.4	883.1	651.6	74.1	5.0	1.000227
10500.0	696.2	4.7	-1.3	64.8	870.3	650.3	75.6	7.9	1.000221
11000.0	683.3	3.6	-3.2	60.8	857.7	649.0	77.7	11.3	1.000215
11500.0	670.6	2.6	-5.1	56.8	845.3	647.6	80.7	13.6	1.000209
12000.0	658.1	1.4	-6.8	54.0	833.2	646.2	84.6	14.9	1.000204
12500.0	645.8	.2	-8.0	54.0	821.3	644.8	88.9	15.3	1.000200
13000.0	633.6	-1.1	-7.3	62.8	809.6	643.3	95.1	14.4	1.000198
13500.0	621.6	-2.4	-6.8	71.9	798.0	641.7	101.8	13.5	1.000197
14000.0	609.8	-3.8	-6.5	81.0	786.8	640.2	108.7	12.6	1.000195
14500.0	598.2	-5.1	-7.4	84.0	775.6	638.6	114.3	12.4	1.000191
15000.0	586.7	-6.3	-8.6	84.0	764.4	637.0	116.5	13.2	1.000187
15500.0	575.4	-7.5	-11.1	75.2	753.3	635.5	120.4	13.7	1.000182
16000.0	564.2	-8.8	-14.1	65.5	742.7	633.8	126.2	14.0	1.000177
16500.0	553.2	-10.0	-15.1	65.9	731.4	632.4	132.8	13.6	1.000173
17000.0	542.4	-11.1	-12.1	92.0	719.9	631.2	142.2	12.2	1.000174
17500.0	531.8	-11.2	-14.4	76.9	706.3	631.0	148.6	12.3	1.000168
18000.0	521.4	-11.3	-14.6	76.5	692.7	630.9	151.3	13.3	1.000165
18500.0	511.2	-11.6	-15.6	71.8	679.8	630.5	147.5	13.3	1.000161
19000.0	501.1	-11.6	-18.4	56.8	666.8	630.4	141.7	13.1	1.000156
19500.0	491.2	-12.6	-19.9	54.1	656.1	629.1	132.2	11.9	1.000153
20000.0	481.4	-13.7	-21.0	54.3	645.9	627.7	116.9	10.5	1.000150
20500.0	471.8	-14.9	-22.0	54.4	635.8	626.3	99.8	9.9	1.000148
21000.0	462.4	-16.0	-23.0	54.6	625.9	624.9	85.9	10.1	1.000145
21500.0	453.2	-17.2	-24.1	54.7	616.2	623.5	73.2	10.9	1.000142
22000.0	444.1	-18.3	-25.1	54.8	606.7	622.1	66.7	10.6	1.000140
22500.0	435.3	-19.4	-26.2	55.0	597.3	620.7	60.0	10.4	1.000137
23000.0	426.5	-20.4	-25.9	61.0	587.3	619.6	58.6	8.5	1.000135
23500.0	417.8	-21.2	-25.8	66.6	577.3	618.6	58.8	6.1	1.000133

STATION ALTITUDE 4051.37 FEET MSL
17 APR. 61 0530 HRS MST
ASCENSION NO. 24

UPPER AIR DATA
1070180024
LC-37
TABLE 7 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	
24000.0	409.3	-22.2	-26.6	66.9	567.7	617.4	70.1	70.1	4.5	1.000131
24500.0	400.9	-23.4	-28.2	64.3	558.8	615.9	93.8	93.8	3.7	1.000128
25000.0	392.6	-24.6	-30.1	60.2	550.1	614.3	109.8	109.8	4.0	1.000126
25500.0	384.5	-26.0	-29.9	69.1	541.6	612.6	106.3	106.3	5.0	1.000124
26000.0	376.5	-27.2	-31.1	69.2	532.9	611.1	104.0	104.0	6.0	1.000122
26500.0	368.6	-28.4	-33.4	61.9	524.4	609.6	116.2	116.2	6.4	1.000119
27000.0	360.8	-29.6	-34.8	60.0	515.9	608.1	128.6	128.6	7.2	1.000117
27500.0	353.2	-30.7	-35.9	60.0	507.4	606.7	139.0	139.0	8.3	1.000115
28000.0	345.7	-32.0	-37.1	59.9	499.2	605.1	151.7	151.7	10.8	1.000113
28500.0	338.3	-33.4	-38.5	59.7	491.5	603.2	159.3	159.3	13.6	1.000111
29000.0	331.0	-34.9	-40.0	59.5	483.9	601.4	162.8	162.8	16.2	1.000109
29500.0	323.9	-36.4	-41.4	59.2	476.5	599.5	162.0	162.0	17.8	1.000107
30000.0	318.9	-37.9	-42.9	58.9	469.1	597.6	161.3	161.3	19.3	1.000105
30500.0	310.0	-39.2	-44.4	57.3	461.5	595.9	162.2	162.2	21.0	1.000104
31000.0	303.2	-40.6	-45.9	55.8	454.0	594.2	164.5	164.5	22.9	1.000102
31500.0	296.5	-41.9	-47.3	54.8	446.5	592.5	166.4	166.4	24.8	1.000100
32000.0	289.9	-43.1	-48.6	54.4	439.0	590.9	169.2	169.2	27.0	1.000098
32500.0	283.4	-44.4	-49.8	54.1	431.6	589.2	173.3	173.3	29.7	1.000097
33000.0	277.0	-45.7	-52.4	46.0**	424.3	587.5	176.7	176.7	32.5	1.000095
33500.0	270.7	-47.0	-55.7	35.6**	417.0	585.8				1.000093
34000.0	264.5	-48.4	-59.6	25.3**	409.9	584.1				1.000091
34500.0	258.5	-49.7	-64.7	15.0**	403.0	582.4				1.000090
35000.0	252.6	-51.0	-73.8	4.7**	396.1	580.6				1.000088

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

STATION ALTITUDE 4051.37 FEET MSL
 17 APR. 01
 ASCENSION NO. 24
 0530 HRS MST
 MANDATORY LEVELS
 1070180024
 LC-37
 TABLE 8
 GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		HFL.HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5023.	15.6	8.6	63.	300.0	3.0	
800.0	6707.	13.5	5.7	59.	345.5	7.3	
750.0	8480.	9.4	3.2	65.	39.0	2.2	
700.0	10344.	5.0	-0.8	66.	74.5	6.9	
650.0	12315.	.7	-7.6	54.	86.9	15.6	
600.0	14405.	-4.9	-7.1	84.	113.9	12.3	
550.0	16628.	-10.3	-14.9	69.	135.3	13.1	
500.0	19030.	-11.6	-19.0	54.	141.1	13.1	
450.0	21651.	-17.6	-24.4	55.	71.0	10.7	
400.0	24512.	-23.5	-28.4	64.	96.1	3.6	
350.0	27665.	-31.2	-36.4	60.	144.9	9.2	
300.0	31175.	-41.2	-46.7	55.	165.4	23.8	
250.0	35148.	-51.6					

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

GEODLTIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

SIGNIFICANT LEVEL DATA

1070020274
WHITE SANDS

TABLE 9

STATION ALTITUDE 3989.00 FEET MSL
17 APR. 61
ASCENSION NO. 274

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
682.0	14.0	9.2	73.0
650.0	14.5	8.2	66.0
620.2	14.5	6.1	57.0
791.0	12.0	4.3	57.0
752.8	9.3	2.4	62.0
715.0	5.7	.9	71.0
700.0	4.6	-.8	68.0
664.0	2.6	-6.8	50.0
651.0	.6	-6.3	51.0
624.4	-2.1	-6.8	60.0
608.0	-4.7	-6.5	67.0
582.2	-7.4	-11.4	73.0
564.4	-9.6	-13.7	72.0
556.0	-10.1	-10.0	62.0
539.4	-11.5	-13.5	65.0
526.7	-13.4	-14.4	92.0
514.6	-12.1	-13.5	89.0
500.0	-11.8	-10.0	60.0
482.0	-13.7	-21.8	50.0
435.2	-19.9	-27.0	53.0
412.4	-22.1	-20.5	67.0
400.0	-23.8	-26.7	64.0
368.8	-28.5	-32.8	60.0
300.0	-41.1	-47.1	52.0

STATION ALTITUDE 3989.00 FEET MSL
17 APR. 61 0630 HRS MST
ASCENSION 10.0 274

UPPER AIR DATA
1070020274
WHITE SANDS
TABLE 10

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	882.0	14.0	73.0	1064.7	661.8	0	0	1.000291
4000.0	881.7	14.0	72.9	1064.2	661.8	19.3	0	1.000291
4050.0	880.9	14.2	69.5	1044.4	662.1	19.3	1.8	1.000285
4100.0	850.5	14.5	66.1	1025.0	662.3	19.3	3.5	1.000278
4150.0	835.3	14.5	61.6	1007.0	662.3	19.3	5.2	1.000271
4200.0	820.4	14.5	57.1	989.3	662.2	19.3	7.0	1.000264
4250.0	805.8	13.6	57.0	974.9	661.0	15.8	6.9	1.000258
4300.0	791.3	12.6	57.0	961.8	659.9	6.9	5.4	1.000253
4350.0	777.1	11.4	58.8	947.6	658.5	358.3	4.4	1.000248
4400.0	763.0	10.2	60.6	934.6	657.0	353.2	3.8	1.000244
4450.0	749.2	9.0	62.8	921.8	655.5	355.0	2.7	1.000240
4500.0	735.5	7.7	66.1	904.1	654.0	32.3	1.3	1.000236
4550.0	722.1	6.4	69.3	896.7	652.5	82.5	2.2	1.000232
4600.0	708.8	5.2	69.8	884.0	651.1	82.6	4.5	1.000227
4650.0	695.7	4.3	65.6	870.9	649.9	81.2	6.9	1.000221
4700.0	682.8	3.5	58.1	857.6	648.8	76.9	10.4	1.000214
4750.0	670.1	2.7	50.7	844.6	647.7	74.7	13.8	1.000207
4800.0	657.6	1.3	50.6	833.0	646.1	78.4	15.1	1.000203
4850.0	645.3	0	52.9	821.3	644.5	81.8	16.3	1.000199
4900.0	633.1	-1.2	57.0	809.5	643.1	86.8	15.9	1.000197
4950.0	621.2	-2.6	65.3	798.2	641.4	93.3	15.0	1.000195
5000.0	609.3	-4.5	84.8	788.3	639.3	97.2	13.9	1.000195
5050.0	597.6	-5.8	81.5	777.1	637.7	98.2	12.5	1.000190
5100.0	586.2	-7.0	75.2	765.8	636.1	100.8	11.7	1.000185
5150.0	574.8	-8.3	72.6	754.9	634.5	105.4	12.1	1.000181
5200.0	563.7	-9.6	71.1	744.1	632.6	109.8	12.6	1.000177
5250.0	552.7	-10.4	66.6	731.6	631.9	121.1	14.4	1.000173
5300.0	541.8	-11.3	81.6	719.8	630.9	129.7	16.7	1.000172
5350.0	531.2	-12.7	89.5	709.5	629.2	135.8	17.6	1.000170
5400.0	520.7	-12.8	90.5	695.6	629.1	141.4	18.1	1.000167
5450.0	510.5	-12.0	80.9	680.0	630.0	141.8	17.1	1.000162
5500.0	500.4	-11.8	60.9	666.3	630.2	135.0	14.7	1.000157
5550.0	490.6	-12.8	54.8	653.8	628.9	125.3	12.5	1.000153
5600.0	480.9	-13.8	50.1	643.5	627.6	109.0	11.1	1.000150
5650.0	471.3	-15.1	50.7	633.6	626.1	90.1	10.8	1.000147
5700.0	461.8	-16.3	51.3	623.9	624.8	80.3	11.3	1.000144
5750.0	452.6	-17.5	51.9	616.4	623.1	74.8	12.0	1.000142
5800.0	443.5	-18.8	52.4	607.0	621.8	69.8	12.7	1.000139
5850.0	434.6	-20.0	53.3	597.6	620.1	60.3	10.9	1.000137
5900.0	425.8	-20.8	58.7	587.4	619.1	61.4	8.9	1.000135

STATION ALTITUDE 3489.00 FEET MSL				UPPER AIR DATA				DETAILED COORDINATES			
17 APR. 61				107002074				32.40043 LAT DEG			
ASCENSION, MO. 274				WHITE SANDS				106.37033 LONG DEG			
TABLE 10 CONT											
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS		WIND DATA		INDEX OF REFRACTION	
		AIR DEGREES	DEWPOINT CENTIGRADE					DIRECTION DEGREES (TN)	SPEED KNOTS		
23500.0	417.1	-21.6	-26.6	64.1	577.4	618.0		54.1	7.0	1.000133	
24000.0	400.6	-22.6	-27.2	66.1	567.8	610.8		60.0	5.4	1.000130	
24500.0	400.2	-23.8	-28.6	64.0	558.8	613.4		87.7	4.2	1.000128	
25000.0	391.9	-25.0	-29.7	64.5	549.8	613.9		117.0	4.1	1.000126	
25500.0	383.7	-26.2	-30.8	65.0	541.1	614.3		128.7	6.9	1.000123	
26000.0	375.8	-27.4	-31.9	65.5	532.5	610.8		133.5	9.8	1.000121	
26500.0	367.9	-28.6	-33.0	65.8	524.0	609.3		136.6	12.6	1.000119	
27000.0	360.0	-30.0	-34.5	64.4	515.6	607.0		143.7	14.0	1.000117	
27500.0	352.3	-31.3	-36.0	62.9	507.3	605.9		149.5	15.5	1.000115	
28000.0	344.7	-32.6	-37.5	61.4	499.1	604.3		154.2	17.2	1.000113	
28500.0	337.3	-34.0	-39.0	59.9	491.1	602.6		158.5	18.5	1.000111	
29000.0	330.0	-35.3	-40.5	58.5	483.2	600.9		158.6	19.8	1.000109	
29500.0	322.9	-36.6	-42.0	57.0	475.5	599.2		160.4	21.2	1.000107	
30000.0	316.0	-37.9	-43.5	55.5	467.9	597.5				1.000105	
30500.0	309.2	-39.3	-45.0	54.0	460.4	595.8				1.000103	
31000.0	302.5	-40.6	-46.5	52.6	453.1	594.1				1.000102	

STATION ALTITUDE 3489.00 FEET MSL
 17 APR. 61 0630 HRS MST
 ASCENSION NO. 274

MANDATORY LEVELS
 1070020274
 WHITE SANDS
 TABLE 11

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT DEGREE	PERCENT	DIRECTION DEGREE	SPEED KNOTS	
850.0	5012.	14.5	8.2	60.	19.3	3.6	
800.0	6694.	13.2	4.9	57.	12.8	6.3	
750.0	8464.	9.0	2.3	63.	354.0	2.8	
700.0	10326.	4.6	-0.8	68.	82.7	5.9	
650.0	12296.	.5	-8.4	51.	80.5	15.8	
600.0	14383.	-5.5	-8.0	83.	98.0	12.8	
550.0	16601.	-10.6	-14.9	70.	123.3	14.9	
500.0	18976.	-11.8	-18.0	60.	134.8	14.6	
450.0	21614.	-17.9	-25.3	52.	73.4	12.1	
400.0	24471.	-23.8	-28.7	64.	87.7	4.2	
350.0	27622.	-31.7	-36.4	62.	151.1	16.1	
300.0	31130.	-41.1	-47.1	52.			

STATION ALTITUDE 4051.37 FEET MSL
17 APR. 81 0730 HRS MST
ASCENSION NO. 25

SIGNIFICANT LEVEL DATA

10701H0025
LC-37

TABLE 12

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

PRESSURE GEOMETRIC		TEMPERATURE		REL. HUM. PERCENT
ALTITUDE MILLIBARS MSL FEET		AIR DEGREES	DEWPOINT CENTIGRADE	
881.4 4051.4		14.5	10.1	75.0
850.0 5061.3		15.1	8.8	66.0
795.6 6897.5		13.1	5.0	58.0
776.4 7571.6		11.9	3.9	58.0
700.0 10386.7		4.6	-4	70.0
646.8 12488.7		.3	-9.7	47.0
611.6 13952.5		-4.3	-5.3	93.0
560.4 16200.6		-9.1	-9.4	98.0
500.0 19087.1		-12.5	-15.1	81.0
464.4 20930.8		-16.2	-19.9	73.0
428.6 22905.9		-19.5	-23.6	70.0
400.0 24582.8		-23.2	-27.7	66.0
300.0 31277.3		-40.5	-47.2	48.0
281.8 32671.1		-44.0	-50.8	46.0
250.0 35274.5		-51.5		

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

UPPER AIR DATA
107010025
LC-37

TABLE 13

STATION ALTITUDE 4051.37 FEET MSL
17 APR. 61 0730 HRS MST
ASCENSION NO. 25

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4051.4	381.4	14.5	10.1	75.0	1061.8	662.5	0.0	1.000293
4500.0	867.3	14.8	9.6	71.0	1043.9	662.8	26.0	1.000287
5000.0	851.9	15.1	8.9	66.5	1024.5	663.1	26.0	1.000280
5500.0	836.7	14.6	7.9	64.1	1008.0	662.5	26.0	1.000273
6000.0	821.7	14.1	6.9	61.9	992.1	661.8	26.0	1.000267
6500.0	807.1	13.5	5.9	59.7	976.5	661.1	26.0	1.000260
7000.0	792.6	12.9	4.9	58.0	961.3	660.3	29.0	1.000254
7500.0	778.4	12.0	4.0	58.0	947.1	659.2	33.6	1.000249
8000.0	764.3	10.8	3.3	59.8	934.1	657.7	41.2	1.000245
8500.0	750.3	9.5	2.6	62.0	921.4	650.2	57.8	1.000240
9000.0	736.6	8.2	1.8	64.1	908.9	654.6	80.0	1.000236
9500.0	723.2	6.9	1.0	66.2	896.5	653.1	81.3	1.000232
10000.0	710.0	5.6	.2	68.4	884.4	651.5	77.2	1.000227
10500.0	697.0	4.4	-9.9	68.8	872.2	650.0	74.7	1.000223
11000.0	684.0	3.3	-2.9	63.3	859.5	648.7	72.0	1.000216
11500.0	671.3	2.3	-5.1	57.8	846.9	647.4	71.3	1.000210
12000.0	658.8	1.3	-7.4	52.3	834.5	646.0	74.0	1.000204
12500.0	646.5	.3	-9.6	47.4	822.3	644.7	78.2	1.000198
13000.0	634.3	-1.3	-7.4	63.1	811.1	643.0	82.0	1.000199
13500.0	622.3	-2.9	-6.0	78.8	800.2	641.2	86.9	1.000198
14000.0	610.5	-4.4	-5.3	93.1	789.3	639.5	91.9	1.000197
14500.0	598.7	-5.5	-6.2	94.2	777.3	638.2	96.0	1.000193
15000.0	587.2	-6.5	-7.2	95.3	765.5	636.8	99.2	1.000190
15500.0	575.9	-7.6	-8.1	96.4	753.8	635.5	102.5	1.000186
16000.0	564.8	-8.7	-9.0	97.6	742.4	634.2	104.8	1.000182
16500.0	553.8	-9.5	-9.9	96.2	730.2	633.2	106.6	1.000178
17000.0	543.0	-10.0	-10.9	93.3	717.6	632.5	108.3	1.000174
17500.0	532.4	-10.6	-11.9	90.3	705.2	631.8	111.1	1.000171
18000.0	521.9	-11.2	-12.9	87.4	693.0	631.0	113.0	1.000167
18500.0	511.7	-11.8	-13.9	84.5	681.1	630.3	112.5	1.000163
19000.0	501.7	-12.4	-14.9	81.5	669.3	629.5	109.0	1.000160
19500.0	491.8	-13.3	-16.1	79.2	658.5	628.4	104.2	1.000156
20000.0	482.0	-14.3	-17.5	77.0	648.0	627.1	92.3	1.000153
20500.0	472.5	-15.3	-18.8	74.9	637.7	625.9	80.1	1.000150
21000.0	463.1	-16.3	-20.0	72.9	627.5	624.7	72.3	1.000147
21500.0	453.8	-17.2	-20.9	72.1	616.9	623.6	70.1	1.000144
22000.0	444.7	-18.0	-21.9	71.4	606.5	622.6	67.7	1.000141
22500.0	435.7	-18.8	-22.8	70.6	596.3	621.5	74.6	1.000139
23000.0	426.9	-19.7	-23.8	69.8	586.4	620.4	90.0	1.000136
23500.0	418.2	-20.8	-25.0	68.6	577.0	619.1	108.4	1.000133

STATION ALTITUDE 4051.37 FEET MSL
 17 APR. 81 0730 HRS MST
 ASCENSION NO. 25

UPPER AIR DATA
 1070180025
 LC-37

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LON DEG

TABLE 13 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	409.7	-21.9	67.4	567.7	617.7	122.6	11.4	1.000131
24500.0	401.4	-23.0	66.2	558.7	616.3	132.1	13.7	1.000128
25000.0	392.9	-24.3	64.9	549.7	614.7	138.4	16.2	1.000126
25500.0	384.5	-25.6	63.5	540.8	613.1	141.4	18.0	1.000123
26000.0	376.4	-26.9	62.2	532.1	611.5	143.8	19.7	1.000121
26500.0	368.4	-28.2	60.8	523.6	609.9	145.8	21.2	1.000119
27000.0	360.5	-29.4	59.5	515.2	608.3	147.5	21.7	1.000117
27500.0	352.9	-30.7	58.2	507.0	606.6	149.1	22.2	1.000115
28000.0	345.4	-32.0	56.8	498.9	605.0	151.1	22.6	1.000113
28500.0	338.0	-33.3	55.5	490.9	603.4	154.3	22.8	1.000111
29000.0	330.8	-34.6	54.1	483.1	601.7	157.5	23.2	1.000109
29500.0	323.8	-35.9	52.8	475.4	600.1	160.4	23.5	1.000107
30000.0	316.9	-37.2	51.4	467.9	598.5	160.7	23.6	1.000105
30500.0	310.2	-38.5	50.1	460.4	596.8	161.0	23.8	1.000103
31000.0	303.6	-39.8	48.7	453.2	595.2	160.8	23.9	1.000102
31500.0	297.0	-41.1	47.7	445.8	593.5	158.9	24.3	1.000100
32000.0	290.4	-42.3	47.0	438.2	591.9	157.0	24.8	1.000098
32500.0	284.0	-43.6	46.2	430.9	590.3			1.000096
33000.0	277.6	-44.9	40.2**	423.7	588.5			1.000095
33500.0	271.3	-46.4	31.4**	416.7	586.7			1.000093
34000.0	265.1	-47.8	22.5**	409.8	584.8			1.000091
34500.0	259.1	-49.3	13.7**	403.1	582.9			1.000090
35000.0	253.2	-50.7	4.9**	396.5	581.0			1.000088

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

STATION ALTITUDE 4051.37 FEET MSL
17 APR. 81 0730 HRS NST
ASCENSION NO. 25

MANDATORY LEVELS
1070160025
LC-37
TABLE 14

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5058.	15.1	8.8	60.	26.0	2.2	
800.0	6739.	13.3	5.4	59.	26.9	5.4	
750.0	8512.	9.5	2.0	62.	58.4	3.1	
700.0	10376.	4.6	-4	70.	75.4	6.9	
650.0	12345.	.6	-9.0	48.	77.0	14.2	
600.0	14431.	-5.4	-6.1	94.	95.7	14.7	
550.0	16656.	-9.7	-10.3	95.	107.1	15.4	
500.0	19060.	-12.5	-15.1	81.	108.4	15.3	
450.0	21676.	-17.5	-21.3	72.	69.2	13.4	
400.0	24542.	-23.2	-27.7	66.	133.1	14.1	
350.0	27699.	-31.2	-36.8	58.	149.8	22.4	
300.0	31215.	-40.5	-47.2	48.	159.8	24.1	
250.0	35197.	-51.5					

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

Geodetic Coordinates,
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
1070020275
WHITE SANDS
TABLE 15

STATION ALTITUDE 3989.00 FEET MSL
17 APR. 61 0830 HRS PST
ASCENSION NO. 275

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
082.9 3989.0	15.8	9.5	06.0
872.6 4315.7	14.0	7.5	05.0
850.0 5044.3	14.4	7.5	03.0
314.4 6230.3	13.0	6.1	03.0
700.0 10350.3	4.2	.7	78.0
666.0 11676.5	1.4	-5.7	59.0
630.4 13121.6	-2.3	-8.8	01.0
604.8 14198.0	-5.7	-6.6	03.0
500.0 19040.1	-13.1	-16.1	78.0
400.0 24521.3	-23.6	-27.2	73.0
300.0 31207.6	-40.5	-45.7	57.0

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

UPPER AIR DATA
10700Z0275
WHITE SANDS
TABLE 16

STATION ALTITUDE 3989.00 FEET MSL
17 APR. 61 0830 HRS MST
ASCENSION NO. 275

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	862.9	15.8	66.0	1059.0	663.9	0.0	0.0	1.000290
4000.0	862.6	15.7	66.0	1058.9	663.8	29.0	0.0	1.000290
4500.0	860.8	14.1	64.5	1046.5	661.8	29.0	1.2	1.000281
5000.0	851.4	14.4	63.1	1026.8	662.1	29.0	2.3	1.000276
5500.0	830.1	13.9	63.0	1010.3	661.5	29.0	3.5	1.000271
6000.0	821.2	13.3	63.0	994.4	660.8	29.0	4.6	1.000266
6500.0	800.4	12.4	64.0	979.4	659.8	32.1	4.9	1.000261
7000.0	791.7	11.4	65.8	965.3	658.5	38.7	4.3	1.000257
7500.0	777.3	10.3	67.6	951.4	657.2	46.4	3.8	1.000252
8000.0	763.1	9.2	69.4	937.7	656.0	50.5	3.7	1.000247
8500.0	749.2	8.2	71.3	924.2	654.7	53.1	3.5	1.000243
9000.0	733.6	7.1	73.1	911.0	653.4	52.4	2.9	1.000239
9500.0	722.2	6.0	74.9	897.9	652.1	57.5	3.3	1.000234
10000.0	709.1	4.9	76.7	885.1	650.8	63.3	4.5	1.000230
10500.0	690.1	3.9	75.9	872.4	649.5	66.9	6.0	1.000225
11000.0	683.1	2.8	68.7	859.9	648.1	69.1	8.6	1.000217
11500.0	670.4	1.8	61.5	847.5	646.7	70.3	11.3	1.000210
12000.0	657.9	.6	59.4	835.4	645.2	76.6	12.9	1.000205
12500.0	645.5	-7.7	60.1	823.7	643.7	81.5	14.7	1.000201
13000.0	633.3	-2.0	60.8	812.1	642.1	84.9	14.9	1.000197
13500.0	621.3	-3.5	72.2	801.0	640.4	88.1	15.1	1.000196
14000.0	609.4	-5.1	87.1	790.2	638.6	90.1	14.6	1.000195
14500.0	597.7	-6.2	92.1	773.1	637.3	92.1	13.8	1.000192
15000.0	580.0	-6.9	90.5	765.2	636.3	93.0	12.8	1.000188
15500.0	574.6	-7.7	89.0	752.6	635.4	95.0	11.7	1.000184
16000.0	563.5	-8.5	87.4	740.2	634.4	99.9	11.1	1.000180
16500.0	552.5	-9.2	85.9	727.9	633.5	111.4	12.4	1.000176
17000.0	541.7	-10.0	84.3	715.9	632.5	120.4	14.2	1.000173
17500.0	531.2	-10.7	82.8	704.1	631.6	122.8	14.7	1.000169
18000.0	520.9	-11.5	81.2	692.5	630.6	123.9	14.9	1.000166
18500.0	510.7	-12.3	79.7	681.1	629.7	122.3	15.3	1.000162
19000.0	500.8	-13.0	78.1	669.8	628.7	111.4	16.7	1.000159
19500.0	490.7	-14.0	77.6	658.8	627.5	102.5	18.6	1.000156
20000.0	480.8	-15.0	77.1	648.1	626.3	99.7	21.2	1.000153
20500.0	471.1	-15.9	76.7	637.5	625.1	98.9	23.9	1.000150
21000.0	461.7	-16.9	76.2	627.0	623.9	98.4	25.7	1.000147
21500.0	452.4	-17.9	75.8	616.8	622.7	98.1	22.9	1.000144
22000.0	443.2	-18.9	75.3	605.7	621.5	97.7	20.0	1.000141
22500.0	434.3	-19.9	74.8	595.8	620.3	98.7	17.6	1.000139
23000.0	425.6	-20.8	74.4	587.1	619.1	102.1	15.6	1.000136

STATION ALTITUDE 3989.00 FEET MSL
17 APR. 81 0830 HRS PST
ASCENSION IS. 275

UPPER AIR DATA
1070020275
WHITE SANDS
TABLE 16 CONT

GEODETTIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	417.0	-21.8	73.9	577.5	617.9	100.0	13.7	1.000123
24000.0	400.6	-22.8	73.5	568.1	616.6	114.0	13.6	1.000131
24500.0	400.3	-23.8	73.0	550.9	615.4	123.4	14.9	1.000128
25000.0	391.8	-25.0	71.9	549.8	613.9	130.6	16.4	1.000126
25500.0	383.5	-26.2	70.7	540.8	612.3	134.0	18.2	1.000124
26000.0	373.3	-27.5	69.5	532.0	610.7	137.3	20.0	1.000121
26500.0	367.4	-28.7	68.3	523.4	609.2	139.0	21.9	1.000119
27000.0	359.5	-30.0	67.1	514.9	607.6	141.7	22.7	1.000117
27500.0	351.9	-31.2	65.9	506.6	606.0	143.0	23.4	1.000115
28000.0	344.4	-32.5	64.7	498.4	604.4	145.4	24.2	1.000113
28500.0	337.1	-33.7	63.5	490.3	602.9	148.2	24.0	1.000111
29000.0	329.9	-35.0	62.3	482.4	601.3	151.0	23.9	1.000109
29500.0	322.9	-36.2	61.1	474.7	599.7	153.6	23.9	1.000107
30000.0	316.0	-37.5	59.9	467.0	598.1			1.000105
30500.0	309.3	-38.7	58.7	459.5	596.5			1.000103
31000.0	302.7	-40.0	57.5	452.2	594.9			1.000101

STATION ALTITUDE 3989.00 FEET ASL
 17 APR. 61 0830 HRS MST
 ASCENSION NO. 275

MANDATORY LEVELS
 1070020275
 WHITE SANDS
 TABLE 17

CELESTIAL COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	ATP DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5041.	14.4	7.5	63.	29.0	2.4	
800.0	6717.	12.0	5.5	65.	34.8	4.6	
750.0	8481.	8.2	3.3	71.	53.2	3.5	
700.0	10340.	4.2	.7	78.	65.9	5.3	
650.0	12305.	-2.2	-7.1	60.	79.8	14.0	
600.0	14387.	-6.0	-7.0	92.	91.6	14.0	
550.0	16611.	-9.4	-11.4	80.	113.9	12.8	
500.0	19013.	-13.1	-16.1	78.	110.8	10.8	
450.0	21624.	-18.2	-21.4	70.	98.0	22.0	
400.0	24480.	-23.8	-27.2	73.	123.6	14.9	
350.0	27632.	-31.6	-35.8	60.	144.2	23.7	
300.0	31145.	-40.5	-45.7	57.			

CELESTIC COORDINATES,
32.40043 LAT DEG
106.37033 LONG DEG

SIGNIFICANT LEVEL DATA
1070020276
WHITE SANDS
TABLE 18

STATION ALTITUDE 3989.00 FEET MSL
17 APR. 61
0930 HRS MST
ASCENSION, NO. 276

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE		REL. HUM. PERCENT
		AIR	DEWPOINT	
683.0	3989.0	17.4	9.1	58.0
668.0	4468.0	14.8	6.1	64.0
650.0	5049.8	13.5	7.3	66.0
638.4	5430.3	13.5	4.6	55.0
750.8	8459.0	8.6	2.2	64.0
700.0	10350.1	4.1	.8	79.0
657.6	12001.9	.0	-5.8	65.0
604.2	14216.5	-6.2	-7.4	91.0
569.6	15729.4	-8.3	-9.2	93.0
544.8	16865.1	-9.2	-10.3	92.0
536.4	17261.2	-9.6	-9.9	92.0
500.0	19043.3	-11.6	-14.4	61.0
400.0	24539.1	-23.8	-27.2	73.0
300.0	31225.5	-40.5	-45.2	60.0

STATION ALTITUDE 3989.00 FEET MSL
17 APR. 61 0930 HRS MS1
ASCENSION NO. 276

UPPLR AIR DATA
1070020276
WHITE SANDS
TABLE 19

CELESTIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	885.0	17.4	58.0	1053.5	665.7	220.0	4.1	1.000267
4000.0	882.7	17.3	58.1	1053.3	665.0	220.0	4.1	1.000266
4500.0	867.0	14.7	64.1	1044.2	662.6	210.9	3.0	1.000262
5000.0	851.5	13.6	65.8	1029.7	661.2	210.5	1.9	1.000277
5500.0	836.3	13.4	65.2	1012.8	660.7	190.1	1.0	1.000265
6000.0	821.2	12.6	56.7	997.4	659.6	106.7	.7	1.000261
6500.0	806.4	11.8	58.2	982.2	658.8	73.9	1.3	1.000256
7000.0	791.8	11.0	59.7	967.2	657.9	64.0	1.7	1.000252
7500.0	777.5	10.2	61.2	952.5	656.9	54.5	2.9	1.000248
8000.0	763.5	9.3	62.6	938.1	656.0	48.7	5.2	1.000244
8500.0	749.7	8.5	64.3	923.9	655.0	48.7	6.5	1.000240
9000.0	735.9	7.3	68.3	910.6	653.6	52.2	6.7	1.000237
9500.0	722.4	6.1	72.3	897.9	652.2	50.0	6.9	1.000233
10000.0	709.1	4.9	76.2	885.2	650.8	62.6	7.0	1.000230
10500.0	696.1	3.7	77.7	872.8	649.3	64.5	8.1	1.000225
11000.0	683.1	2.5	73.5	860.8	647.8	63.0	10.2	1.000219
11500.0	670.3	1.2	69.3	848.6	646.2	64.2	11.8	1.000212
12000.0	657.8	.0	65.0	837.1	644.6	60.2	13.1	1.000207
12500.0	645.3	-1.4	70.8	825.9	643.0	60.9	14.4	1.000204
13000.0	633.1	-2.8	76.7	813.9	641.3	72.6	15.5	1.000201
13500.0	621.0	-4.2	82.6	802.6	639.6	70.0	16.7	1.000198
14000.0	609.2	-5.6	88.5	791.5	637.9	77.0	16.9	1.000195
14500.0	597.6	-6.6	91.4	779.3	636.7	79.1	17.0	1.000192
15000.0	585.0	-7.3	92.0	766.3	635.9	79.3	16.3	1.000188
15500.0	574.7	-8.0	92.7	753.5	635.0	78.6	15.0	1.000185
16000.0	563.6	-8.5	92.8	740.4	634.4	81.1	13.9	1.000181
16500.0	552.7	-8.9	92.3	727.2	633.9	92.0	13.6	1.000178
17000.0	541.9	-9.1	92.0	713.5	633.7	102.9	13.9	1.000174
17500.0	531.4	-9.2	90.5	699.9	633.5	111.0	16.9	1.000171
18000.0	521.0	-10.0	87.4	686.6	632.5	110.6	20.1	1.000167
18500.0	510.8	-10.9	84.4	677.4	631.4	110.0	21.8	1.000163
19000.0	500.9	-11.7	81.3	666.0	630.4	115.2	22.8	1.000160
19500.0	490.8	-12.8	80.3	655.8	629.0	114.2	23.7	1.000156
20000.0	481.0	-13.9	79.6	645.4	627.7	114.4	24.0	1.000153
20500.0	471.3	-15.0	78.9	635.2	626.5	114.0	24.3	1.000150
21000.0	461.8	-16.1	78.2	625.1	625.0	115.0	24.2	1.000147
21500.0	452.5	-17.2	77.4	615.2	623.6	117.0	24.1	1.000144
22000.0	443.4	-18.3	76.7	605.5	622.3	117.0	23.9	1.000141
22500.0	434.5	-19.3	76.0	595.9	620.9	110.9	23.5	1.000139
23000.0	425.8	-20.4	75.2	586.5	619.6	110.1	23.0	1.000136

UPPER AIR DATA
10700/0270
WHITE SANDS
TABLE 19 CONT

STATION ALTITUDE 3489.00 FEET MSL
17 APR. 51 0930 HRS MST
ASCENSION NO. 276

GEODETIC COORDINATES
32.40043 LAT DEG
106.57033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND METERS PER SECOND	WIND DATA DIRECTION DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	417.2	-21.5	74.5	577.2	610.2	116.3	22.8	1.000133
24000.0	400.9	-22.6	73.8	560.1	610.0	117.1	22.8	1.000131
24500.0	400.6	-23.7	73.1	554.2	615.5	117.9	22.7	1.000129
25000.0	392.1	-25.0	72.1	550.1	613.9	120.0	22.8	1.000126
25500.0	383.8	-26.2	71.1	541.1	612.4	124.1	22.9	1.000124
26000.0	375.6	-27.4	70.2	532.3	610.0	127.0	23.1	1.000121
26500.0	367.6	-28.7	69.2	523.7	609.2	132.5	23.7	1.000119
27000.0	359.8	-29.9	68.2	515.2	607.7	137.3	24.5	1.000117
27500.0	352.2	-31.2	67.2	506.9	606.1	141.5	25.4	1.000115
28000.0	344.7	-32.4	66.3	498.7	604.5	144.5	25.8	1.000113
28500.0	337.3	-33.7	65.3	490.6	602.9	147.5	26.2	1.000111
29000.0	330.1	-34.9	64.3	482.7	601.5			1.000109
29500.0	323.1	-36.2	63.4	474.9	599.8			1.000107
30000.0	316.2	-37.4	62.4	467.3	598.2			1.000105
30500.0	309.5	-38.7	61.4	459.8	596.0			1.000103
31000.0	302.9	-39.9	60.4	452.4	595.0			1.000102

STATION ALTITUDE 3,989.00 FEET MSL
17 APR. 61 0030 HRS MST
ASCENSION NO. 276

MANDATORY LEVELS
10700.20270
WHITE SANDS

TABLE 20

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEPT. POIN.T	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS	
850.0	5046.	13.5	7.3	60.	209.5	1.8	
800.0	6718.	11.4	3.7	59.	69.1	1.5	
750.0	8480.	9.5	2.2	64.	48.0	0.5	
700.0	10340.	4.1	.8	79.	65.1	7.5	
650.0	12302.	-0.9	-5.9	69.	67.3	15.9	
600.0	14379.	-6.4	-7.6	91.	78.0	17.0	
550.0	16602.	-9.0	-10.0	92.	94.5	13.6	
500.0	19017.	-11.8	-14.4	81.	115.1	23.0	
450.0	21637.	-17.5	-20.5	77.	117.4	24.1	
400.0	24498.	-23.8	-27.2	73.	117.9	22.7	
350.0	27650.	-31.6	-35.6	67.	142.0	25.6	
300.0	31163.	-40.5	-45.2	60.			

GEODETIC COORDINATES
32.40043 LAT DEG
106.57033 LONG DEG

