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19315B MLRS, MISSILE NUMBERS V-13-003, V-15-002, ROUND NUMBERS --ETC(U)
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METEOROLOGICAL DATA REPORT
19315B MLRS
Missile Numbers V-13-003, V-15-002
Round Numbers V-179/AT-7, V-180/AT-8
3 Aug 1981

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by

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Phone Number (505) 679-9568
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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

Meteorological data gathered for the launching of the 19315B MLRS, Missile No. V-13-003, and V-15-002, Round No. V-179/AT-7, and V-180/AT-8 presented in tabular form.

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INTRODUCTION

19315B MLRS, Missile Numbers V-13-003 and V-15-002, Round Numbers V-179/AT-7 and V-180/AT-8, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1441:52 and 1536:16 MDT, 03 Aug 1981. The scheduled launch times were 1430 and 1530 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 speed and direction, and cloud cover were made a 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 provide in the launch control room.

b. Upper Air:

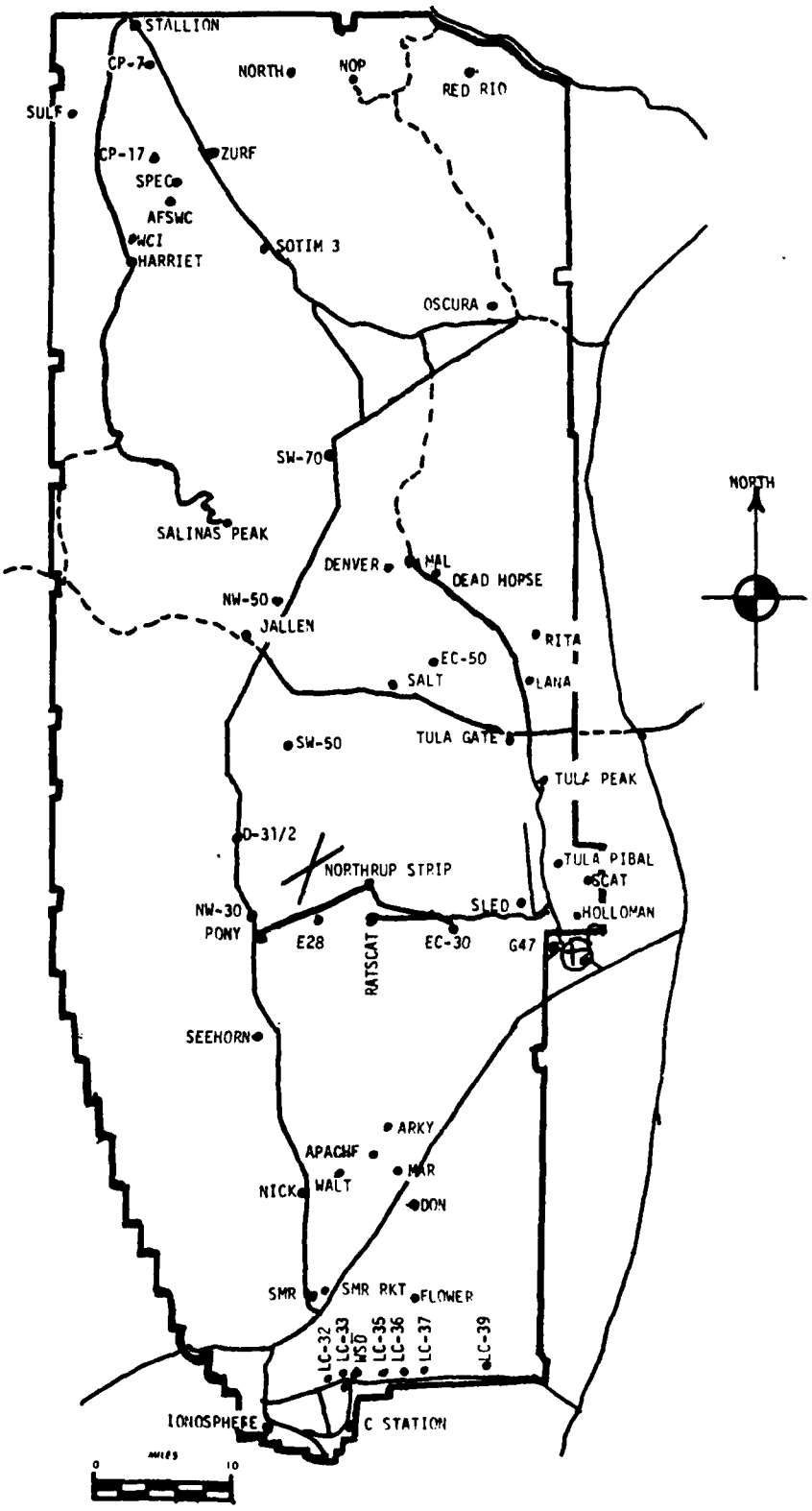
(1) Low level wind data were obtained from Pilot-Balloon observations at:

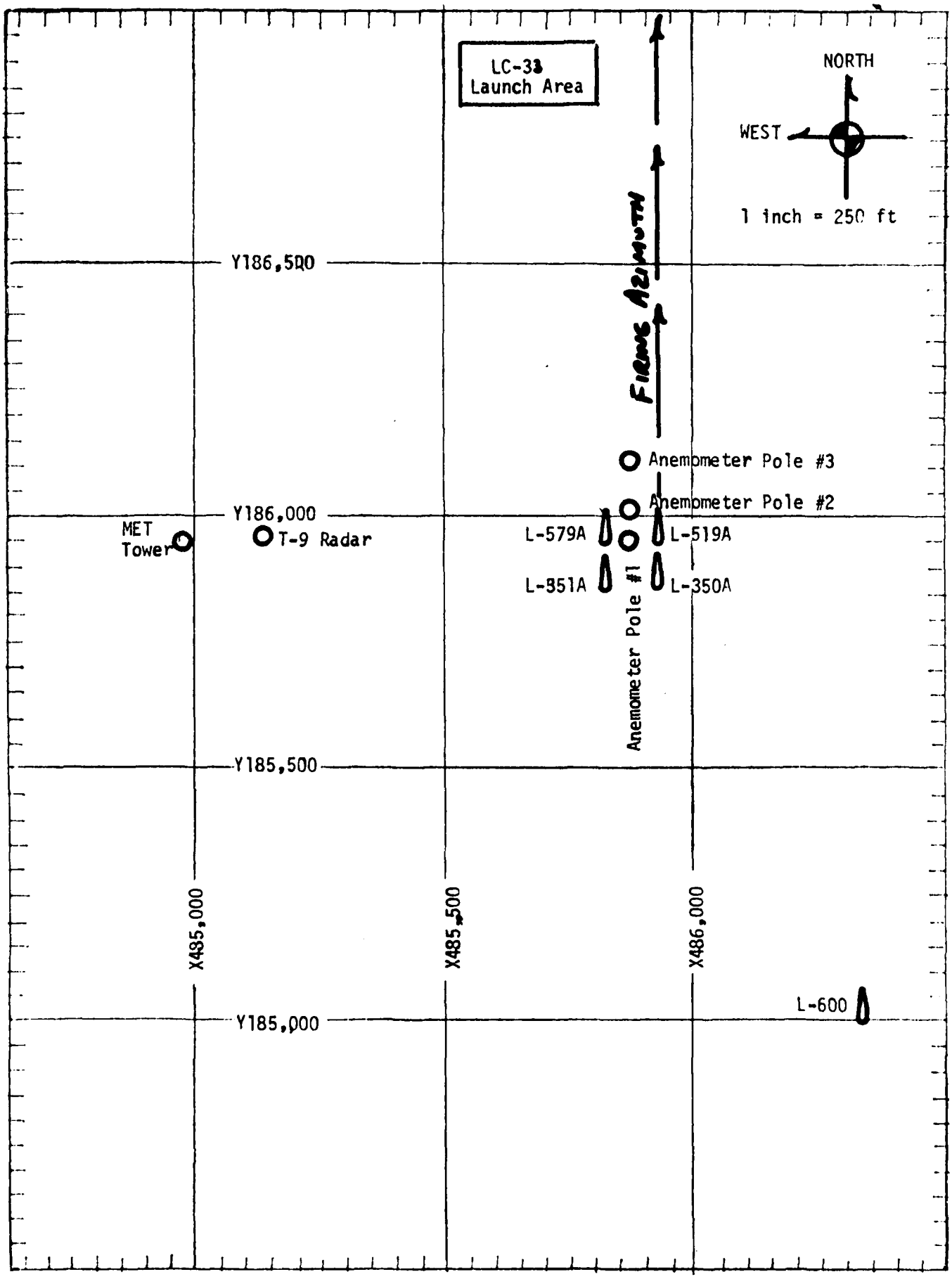
SITE AND ALTITUDE	
LC-33	2 KM
SMR	2 KM
SMR	2 KM

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

SITE AND TIME	
WSD	1130 MDT
LC-37	1230 MDT
WSD	1330 MDT
LC-37	1430 MDT
WSD	1530 MDT

WSMR METEOROLOGICAL SITES




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

PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-33

DATE 03 (DAY) Aug (MONTH) 1981 (YEAR) X= 485,135.76 Y= 185,919.24 H= 3,988.60

TIME MDT	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
1443	876.7		33.8		17.8	39	984	120	05		30
1537	876.3		28.9		18.0	52	999	245	12		30

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
	3	CU	6,000	1	CI	25,000				
	5	CB	6,000	1	AC	12,000	1	CI	25,000	

PSYCHROMETRIC COMPUTATION

TIME: MDT	1443	1537	
DRY BULB TEMP.	33.8	28.9	
WET BULB TEMP.	22.3	21.1	
WET BULB DEPR.	11.5	07.8	
DEW POINT	17.8	18.0	
RELATIVE HUMID.	39	52	

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS
1443 MDT

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
T-30	073	03	T-30	075	02	T-30	086	04
T_{-20}	070	03	T_{-20}	078	02	T_{-20}	092	01
T_{-10}	069	03	T_{-10}	080	01	T_{-10}	055	02
$T_{0.0}$	050	02	$T_{0.0}$	C A L M		$T_{0.0}$	057	03
T_{+10}	049	02	T_{+10}	C A L M		T_{+10}	085	07

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	125	05	T-30	120	04
T-20	117	05	T-20	103	06
T-10	115	04	T-10	100	07
T0.0	105	06	T0.0	105	06
T+10	090	07	T+10	104	07

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	117	05	T-30	091	06
T-20	104	06	T-20	078	07
T-10	097	07	T-10	075	05
T0.0	096	06	T0.0	081	07
T+10	098	08	T+10	095	06

TABLE 4 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS
1537 MDT

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
T_{-30}	M I S G	17	T_{-30}	259	13	T_{-30}	270	13
T_{-20}	M I S G	15	T_{-20}	248	10	T_{-20}	260	14
T_{-10}	M I S G	15	T_{-10}	251	14	T_{-10}	256	17
$T_{0.0}$	M I S G	13	$T_{0.0}$	244	17	$T_{0.0}$	252	12
T_{+10}	M I S G	17	T_{+10}	242	13	T_{+10}	254	19

TABLE 5 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}	252	13	T_{-30}	251	18
T_{-20}	242	16	T_{-20}	252	16
T_{-10}	251	13	T_{-10}	256	17
$T_{0.0}$	245	12	$T_{0.0}$	252	19
T_{+10}	265	13	T_{+10}	252	16

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}	242	18	T_{-30}	244	17
T_{-20}	241	20	T_{-20}	243	16
T_{-10}	240	20	T_{-10}	246	17
$T_{0.0}$	239	19	$T_{0.0}$	244	18
T_{+10}	236	18	T_{+10}	247	17

TABLE 6

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 03 Aug 81

SITE: LC-33

TIME: 1443 MDT

WSTM COORDINATES:

X= 484,837.34

Y= 184,124.44

H= 3,975.60

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	080	04
150	072	08
210	078	10
270	092	10
330	110	09
390	112	08
500	106	06
650	100	04
800	117	01
950	329	01
1150	010	02
1350	060	05
1550	020	04
1750	030	07
2000	036	10

Data obtained from Single Theodolite Tracked Pilot-Balloon Observation.

SITE: SMR

TIME: 1443 MDT

WSTM COORDINATES:

X= 472,257.00

Y= 214,426.00

H= 3,999.00

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	090	02
150	041	04
210	011	02
270	209	02
330	343	02
390	011	01
500	053	02
650	132	03
800	027	04
950	022	07
1150	007	08
1350	008	08
1550	008	08
1750	007	11
2000	005	09

Data obtained from T-9 Radar Tracked Pilo-Balloon Observation.

TABLE 7

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 03 Aug 81

SITE: SMR

TIME: 1537 MDT

WSTM COORDINATES:

X= 472,257.00

Y= 214,426.00

H= 3,999.00

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	260	08
150	232	11
210	207	21
270	204	18
330	206	18
390	202	20
500	204	16
650	226	12
800	206	11
950	185	11
1150	029	07
1350	074	12
1550	047	08
1750	040	06
2000	017	08

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 8

AIMING AND T-TIME COMPUTER MET MESSAGES

WSD 1130 MDT
METCM1324064
031750122879

00231004	30570879
01292010	30420869
02350007	30080845
03478006	29730807
04606008	29370762
05001008	29030718
06630010	28740677
07603007	28370638
08013007	27970601
09633008	27560565
10623007	27220531
11634008	26890498
12043006	26460453

LC-37 1230 MDT
METCM1324063
031850124876

00000000	30710876
01173004	30530866
02248003	30150842
03323005	29780804
04578008	29390759
05622008	29110716
06015008	28820675
07638006	28470636
08004006	28050599
09026010	27640564
10639010	27250530
11621007	26920497
12625008	26530452

WSD 1330 MDT
METCM1324064
031950122878

00124007	30910878
01201013	30770868
02127006	30440844
03158007	29940807
04508006	29420762
05600009	29020719
06022008	28670677
07003007	28250638
08635008	27900600
09020012	27490565
10610007	27100530
11611008	26710498
12611006	26370452

LC-37 1430 MDT
METCM1324063
032050124874

00178004	30840874
01105006	30700865
02128001	30400841
03484001	30010804
04549004	29530759
05566006	29070716
06625007	28690675
07632008	28300636
08628010	27890598
09634014	27540563
10611011	27140529
11586012	26820496
12606008	26510451

WSD 1530 MDT
METCM1324064
032150122876

00444010	30700876
01454020	30530866
02421011	30120842
03274004	29920805
04200006	29520760
05147003	28990717
06042013	28540676
07021013	28130636
08009014	27810599
09006013	27500563
10001012	27120529
11005016	26740497
12083006	26430452

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 61 1130 HRS MDT
ASCENSION NO. 501

SIGNIFICANT LEVEL DATA
2150020.01
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
678.5	3989.0	30.2	16.2	43.0
850.0	4951.7	26.0	13.2	45.0
793.2	6937.5	20.7	11.5	55.0
703.2	10325.8	14.5	5.0	53.0
660.8	12047.1	11.5	5.2	65.0
633.6	13189.7	8.7	1.4	60.0
598.4	14745.1	5.1	-1.8	61.0
556.4	16684.3	.1	-1.5	89.0
515.0	18713.1	-3.2	-6.1	69.0
503.6	19294.7	-5.0	-7.1	85.0
500.0	19480.5	-5.0	-6.1	79.0
475.0	20803.9	-6.9	-10.1	78.0
464.4	21382.8	-7.9	-15.3	55.0
444.4	22504.9	-10.1	-16.0	62.0
429.4	23373.9	-11.5	-23.6	35.0
414.6	24258.5	-11.7	-25.7	30.0
400.0	25158.5	-14.0	-24.3	41.0
393.0	25598.9	-15.2	-20.4	64.0
371.6	26985.3	-17.9	-22.7	66.0
358.4	27873.9	-19.1	-26.5	43.0
338.8	29244.5	-21.9	-32.9	36.0
307.6	31557.0	-28.1	-36.5	44.0
300.0	32147.6	-28.8	-39.1	36.0

UPPER AIR DATA
2150020501
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1730 HRS MDT
ASCENSION NO. 501

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 10

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	876.5	30.2	16.2	43.0	1000.6	681.2	130.0	4.1	1.000299
4000.0	876.2	30.2	16.2	43.0	1000.6	681.2	130.5	4.1	1.000299
4500.0	863.3	28.0	14.6	44.1	991.4	678.5	159.2	3.3	1.000291
5000.0	848.6	25.9	13.1	45.2	981.9	675.9	191.7	3.6	1.000283
5500.0	835.9	24.5	12.7	47.8	969.4	674.4	213.4	4.8	1.000279
6000.0	819.5	23.2	12.3	50.3	957.0	672.9	239.8	4.8	1.000275
6500.0	805.4	21.9	11.8	52.8	944.8	671.3	276.7	5.3	1.000271
7000.0	791.4	20.6	11.2	55.0	932.6	669.8	300.0	6.5	1.000266
7500.0	777.5	19.7	10.3	54.7	919.3	668.7	318.7	7.0	1.000260
8000.0	763.8	18.8	9.4	54.4	906.2	667.6	333.1	7.7	1.000254
8500.0	750.3	17.8	8.4	54.1	893.3	666.4	344.6	7.8	1.000249
9000.0	737.1	16.9	7.5	53.8	880.5	665.3	354.4	8.0	1.000243
9500.0	724.1	16.0	6.6	53.5	868.0	664.2	358.9	8.0	1.000238
10000.0	711.4	15.1	5.7	53.2	855.6	663.0	1.7	8.1	1.000232
10500.0	698.8	14.2	5.1	54.2	843.2	662.0	359.7	8.5	1.000228
11000.0	686.3	13.3	5.2	57.7	830.5	661.0	356.4	8.8	1.000226
11500.0	674.0	12.5	5.2	61.2	818.0	660.0	348.1	8.6	1.000223
12000.0	661.9	11.6	5.2	64.7	805.6	659.0	341.7	8.4	1.000221
12500.0	650.0	10.4	3.7	63.0	794.9	657.5	340.5	7.6	1.000215
13000.0	638.2	9.2	2.0	60.8	784.2	656.0	342.0	7.1	1.000208
13500.0	626.6	8.0	.8	60.2	773.4	654.5	348.7	6.9	1.000203
14000.0	615.1	6.8	-.3	60.5	762.5	653.1	356.5	7.1	1.000199
14500.0	603.8	5.7	-1.3	60.8	751.8	651.6	4.1	7.7	1.000195
15000.0	592.7	4.4	-1.6	64.7	741.2	650.2	4.7	8.0	1.000192
15500.0	581.7	3.2	-1.4	71.9	730.6	648.7	1.9	8.1	1.000190
16000.0	570.9	1.9	-1.4	79.1	720.5	647.2	357.8	7.9	1.000188
16500.0	560.3	.6	-1.4	86.3	710.4	645.7	353.1	7.6	1.000186
17000.0	549.7	-.4	-2.5	85.9	699.7	644.5	353.6	7.6	1.000182
17500.0	539.4	-1.2	-4.1	81.0	688.6	643.4	355.2	7.6	1.000177
18000.0	529.2	-2.0	-5.7	76.0	678.0	642.4	355.8	7.6	1.000172
18500.0	519.2	-2.9	-7.3	71.1	667.4	641.3	356.1	7.5	1.000167
19000.0	509.3	-4.1	-7.5	76.9	657.6	639.9	357.1	7.3	1.000165
19500.0	499.6	-5.0	-8.1	79.0	647.5	638.7	356.9	7.2	1.000162
20000.0	490.0	-5.7	-8.9	78.6	638.9	637.8	353.5	7.1	1.000158
20500.0	480.6	-6.5	-9.6	78.2	628.4	636.9	355.5	6.9	1.000155
21000.0	471.4	-7.2	-11.7	70.2	618.3	635.9	4.6	6.6	1.000151
21500.0	462.3	-8.1	-15.4	55.7	608.7	634.7	16.4	6.5	1.000145
22000.0	453.3	-9.1	-15.7	58.9	597.2	633.5	29.0	6.7	1.000143
22500.0	444.5	-10.1	-16.0	62.0	587.7	632.3	34.1	6.6	1.000141
23000.0	435.8	-10.9	-20.1	46.6	578.3	631.2	37.5	6.2	1.000136

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 61 1130 HRS MDT
ASCENSION NO. 501

UPPER AIR DATA
2150020501
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 10 CON'T

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
23500.0	427.3	-11.5	-24.1	34.3	568.5	630.4	45.0	4.9	1.000131
24000.0	416.9	-11.6	-25.2	31.5	557.6	630.2	59.2	3.5	1.000129
24500.0	416.6	-12.3	-25.2	33.0	548.0	629.4	62.5	3.2	1.000126
25000.0	402.5	-13.6	-24.5	39.1	539.8	627.9	62.0	2.8	1.000125
25500.0	394.6	-14.9	-21.2	58.8	531.7	626.4	23.9	2.8	1.000125
26000.0	386.7	-16.0	-21.1	64.6	523.2	625.1	359.3	3.7	1.000123
26500.0	379.0	-17.0	-21.9	65.3	514.7	623.9	351.4	4.9	1.000121
27000.0	371.4	-17.9	-22.8	65.6	506.4	622.7	358.1	6.0	1.000118
27500.0	363.9	-18.6	-25.8	52.7	497.6	621.8	12.7	7.5	1.000115
28000.0	356.5	-19.4	-28.9	42.4	489.1	620.8	23.8	9.6	1.000112
28500.0	349.3	-20.4	-30.5	39.8	481.2	619.5	31.0	12.2	1.000110
29000.0	342.2	-21.4	-32.1	37.2	473.3	618.3	32.8	13.2	1.000108
29500.0	335.2	-22.6	-33.2	36.9	465.8	616.8	34.3	13.9	1.000106
30000.0	328.3	-23.9	-34.0	38.6	458.7	615.1	35.6	12.9	1.000104
30500.0	321.5	-25.3	-34.8	40.3	451.6	613.5	37.9	11.7	1.000103
31000.0	314.8	-26.6	-35.6	42.1	444.7	611.8	41.9	10.4	1.000101
31500.0	308.3	-27.9	-36.4	43.8	437.9	610.1			1.000099
32000.0	301.9	-28.6	-38.4	38.0	430.0	609.3			1.000097

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1130 HRS MDT
ASCENSION NO. 561

MANDATORY LEVELS
2150020501
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 11

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4948.	26.0	13.2	45.	188.8	3.5
800.0	6689.	21.4	11.6	54.	287.2	6.0
750.0	8515.	17.8	8.4	54.	345.2	7.8
700.0	10442.	14.3	5.1	54.	359.9	8.5
650.0	12486.	10.4	3.7	63.	340.5	7.7
600.0	14656.	5.3	-1.6	61.	6.4	8.0
550.0	16967.	-.4	-2.4	86.	353.5	7.6
500.0	19453.	-5.0	-8.1	79.	357.0	7.2
450.0	22152.	-9.5	-15.8	60.	32.0	6.8
400.0	25116.	-14.0	-24.3	41.	51.2	2.7
350.0	28401.	-20.3	-30.3	40.	30.3	11.9
300.0	32082.	-28.8	-39.1	36.		

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 81 1230 HRS MDT
ASCENSION NO. 174

SIGNIFICANT LEVEL DATA
2150160174
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
875.7	4051.4	31.1	18.1	46.0
850.0	4924.0	26.7	14.8	48.0
779.2	7422.9	20.0	12.5	62.0
730.2	9256.8	16.8	8.8	59.0
700.0	10438.7	15.2	6.5	56.0
654.2	12314.8	11.8	5.6	57.0
590.6	15099.1	5.2	-2.1	59.0
573.0	15909.7	3.2	-3.1	63.0
547.0	17141.9	-.2	-2.7	83.0
500.0	19492.1	-4.5	-8.6	73.0
478.0	20655.1	-6.5	-9.1	82.0
446.4	22407.8	-9.0	-12.6	75.0
430.6	23324.9	-9.9	-20.3	42.0
400.0	25187.6	-12.5	-23.0	41.0
385.8	26093.4	-14.2	-24.8	40.0
371.2	27054.3	-15.8	-21.8	60.0
343.2	28988.1	-19.4	-28.3	45.0
300.0	32238.2	-26.1	-35.4	41.0

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 81 1230 HRS MDT
ASCENSION NO. 174

UPPER AIR DATA
2150180174
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 13

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	875.7	31.1	18.1	46.0	993.7	682.6	.0	.0	1.000307
4500.0	862.4	28.8	16.4	47.0	986.7	679.8	216.0	.3	1.000298
5000.0	847.8	26.5	14.7	48.4	978.2	676.9	216.0	.6	1.000289
5500.0	833.1	25.2	14.4	51.2	965.7	675.4	216.0	.9	1.000285
6000.0	818.8	23.8	14.0	54.0	953.4	673.8	216.0	1.3	1.000281
6500.0	804.6	22.5	13.5	56.8	941.3	672.3	216.0	1.6	1.000277
7000.0	790.8	21.1	13.0	59.6	929.4	670.7	226.1	1.7	1.000273
7500.0	777.1	19.9	12.3	61.9	917.4	669.2	307.2	3.3	1.000268
8000.0	763.4	19.0	11.3	61.1	904.3	668.1	322.6	6.5	1.000261
8500.0	750.0	18.1	10.3	60.2	891.4	667.0	329.9	8.6	1.000255
9000.0	736.9	17.2	9.3	59.4	878.6	665.9	335.4	10.1	1.000248
9500.0	723.9	16.5	8.3	58.4	865.7	664.9	343.8	8.8	1.000242
10000.0	711.1	15.8	7.3	57.1	852.6	664.0	353.7	8.0	1.000237
10500.0	698.5	15.1	6.4	56.0	839.8	663.1	3.6	7.7	1.000231
11000.0	686.0	14.2	5.6	56.3	827.5	662.0	7.6	7.6	1.000226
11500.0	673.7	13.3	4.8	56.6	815.4	660.9	6.7	7.5	1.000222
12000.0	661.7	12.4	4.1	56.8	803.5	659.8	3.0	7.0	1.000217
12500.0	649.8	11.4	3.2	57.1	792.0	658.6	357.5	6.5	1.000212
13000.0	637.9	10.2	2.2	57.5	781.1	657.1	358.1	6.1	1.000208
13500.0	626.3	9.0	1.1	57.9	770.2	655.7	359.2	5.9	1.000203
14000.0	614.9	7.8	.1	58.2	759.6	654.2	1.3	6.4	1.000199
14500.0	603.7	6.6	-.9	58.6	749.1	652.8	4.0	6.9	1.000195
15000.0	592.8	5.4	-1.9	58.9	738.7	651.3	7.8	7.4	1.000190
15500.0	581.8	4.2	-2.6	61.0	728.4	649.9	11.0	7.9	1.000187
16000.0	571.1	3.0	-3.1	64.5	718.2	648.4	13.9	8.3	1.000184
16500.0	560.4	1.6	-2.8	72.6	708.2	646.8	11.2	8.6	1.000183
17000.0	549.9	.2	-2.7	80.7	698.5	645.2	7.1	9.1	1.000181
17500.0	539.6	-.9	-3.6	81.5	688.0	643.9	1.2	9.3	1.000177
18000.0	529.3	-1.8	-4.9	79.3	677.4	642.8	355.7	9.6	1.000173
18500.0	519.3	-2.7	-6.1	77.2	667.0	641.6	353.9	8.9	1.000169
19000.0	509.5	-3.6	-7.4	75.1	656.7	640.4	351.6	8.1	1.000165
19500.0	499.8	-4.5	-8.6	73.1	646.6	639.3	351.1	7.5	1.000161
20000.0	490.3	-5.4	-8.8	76.9	636.5	638.3	350.6	6.9	1.000158
20500.0	480.9	-6.2	-9.0	80.8	626.1	637.3	351.5	7.1	1.000156
21000.0	471.6	-7.0	-9.7	80.6	615.8	636.3	352.8	7.7	1.000153
21500.0	462.5	-7.7	-10.8	78.6	605.6	635.4	353.4	8.2	1.000149
22000.0	453.6	-8.4	-11.8	76.6	595.6	634.5	353.2	8.5	1.000146
22500.0	444.8	-9.1	-13.2	71.7	585.7	633.7	353.6	8.6	1.000142
23000.0	436.1	-9.6	-17.2	53.7	575.7	632.9	359.6	7.6	1.000137
23500.0	427.6	-10.1	-20.6	41.9	565.8	632.1	6.9	6.7	1.000133

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 81 1230 HRS MDT
ASCENSION NO. 174

UPPER AIR DATA
2150160174
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	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
24000.0	419.2	-10.8	-21.3	41.6	556.2	631.3	16.4	5.8	1.000130
24500.0	411.0	-11.5	-22.0	41.4	546.8	630.4	29.0	5.0	1.000128
25000.0	403.0	-12.2	-22.7	41.1	537.6	629.6	34.8	4.4	1.000125
25500.0	395.0	-13.1	-23.6	40.7	528.7	628.5	34.1	3.8	1.000123
26000.0	387.2	-14.0	-24.6	40.1	520.2	627.4	30.5	3.4	1.000121
26500.0	379.6	-14.9	-23.3	48.5	511.5	626.4	21.1	4.0	1.000119
27000.0	372.0	-15.7	-21.9	58.9	502.9	625.4	14.3	4.6	1.000118
27500.0	364.6	-16.6	-23.2	56.5	494.6	624.3	16.0	5.8	1.000116
28000.0	357.2	-17.6	-24.9	52.7	486.5	623.1	17.7	7.0	1.000113
28500.0	350.1	-18.5	-26.6	48.8	478.5	621.9	23.2	7.8	1.000111
29000.0	343.0	-19.4	-28.3	45.0	470.7	620.8	32.5	8.3	1.000108
29500.0	336.0	-20.5	-29.4	44.4	462.9	619.5	40.6	9.0	1.000106
30000.0	329.1	-21.5	-30.5	43.8	455.3	618.2	38.4	11.0	1.000104
30500.0	322.4	-22.5	-31.6	43.1	447.9	616.9	36.8	13.1	1.000102
31000.0	315.8	-23.5	-32.7	42.5	440.5	615.6			1.000100
31500.0	309.3	-24.6	-33.8	41.9	433.3	614.3			1.000099
32000.0	303.0	-25.6	-34.9	41.3	426.2	613.1			1.000097

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 61 1230 HRS MDT
ASCENSION NO. 174

MANDATORY LEVELS
2150180174
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 14

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4920.	26.7	14.8	48.	216.0	.6
800.0	6667.	22.0	13.3	58.	216.0	1.7
750.0	8496.	18.1	10.3	60.	329.9	8.6
700.0	10428.	15.2	6.5	56.	2.2	7.7
650.0	12479.	11.4	3.2	57.	357.7	6.5
600.0	14656.	6.2	-1.3	59.	5.4	7.0
550.0	16975.	.2	-2.7	81.	7.1	9.1
500.0	19464.	-4.5	-8.6	73.	351.1	7.5
450.0	22168.	-8.7	-12.2	76.	353.1	8.6
400.0	25145.	-12.5	-23.0	41.	34.6	4.2
350.0	28454.	-18.5	-26.6	49.	23.1	7.8
300.0	32172.	-26.1	-35.4	41.		

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1330 HRS MDT
ASCENSION NO. 563

SIGNIFICANT LEVEL DATA
21500205G3
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 15

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
877.7	3989.0	33.5	16.8	37.0
850.0	4936.5	29.6	15.3	42.0
786.6	7180.3	21.6	11.3	52.0
758.8	8202.7	18.9	11.0	60.0
700.0	10461.7	13.6	5.0	56.0
678.2	11337.7	12.7	5.1	60.0
660.8	12052.9	10.1	2.7	60.0
601.0	14625.1	4.8	-1.6	63.0
592.4	15011.9	4.4	-1.6	65.0
567.4	16160.6	.9	-4.5	67.0
551.2	16925.6	-.5	-2.7	85.0
543.2	17309.4	-2.3	-4.3	86.0
511.0	18902.6	-4.1	-8.4	72.0
500.0	19465.2	-6.7	-9.2	82.0
487.6	20109.2	-8.3	-10.5	84.0
472.2	20930.5	-7.7	-14.1	60.0
446.6	22347.7	-11.7	-14.4	80.0
442.2	22597.7	-11.3	-16.2	67.0
434.6	23036.7	-10.0	-20.4	42.0
400.0	25127.1	-13.9	-22.5	48.0
384.0	26142.2	-16.9	-23.0	59.0
341.8	28987.9	-22.6	-33.2	37.0
300.0	32102.8	-28.6	-36.4	38.0

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1330 HRS MDT
ASCENSION NO. 503

UPPER AIR DATA
2150020503
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 16

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	877.7	33.5	16.8	37.0	988.9	685.0	70.0	7.0	1.000298
4000.0	877.4	33.5	16.8	37.1	988.6	685.0	70.0	7.0	1.000298
4500.0	862.7	31.4	16.0	39.7	978.9	682.6	70.9	6.3	1.000293
5000.0	846.1	29.4	15.2	42.3	969.1	680.2	72.0	5.6	1.000288
5500.0	830.6	27.6	14.4	44.5	958.4	678.1	73.4	4.9	1.000283
6000.0	819.3	25.8	13.6	46.7	947.9	676.0	75.3	4.2	1.000277
6500.0	805.3	24.0	12.6	49.0	937.5	673.9	77.9	3.5	1.000272
7000.0	791.5	22.2	11.7	51.2	927.3	671.8	66.1	1.6	1.000266
7500.0	777.8	20.3	11.3	54.5	915.9	670.1	292.3	2.1	1.000263
8000.0	764.2	19.4	11.1	58.4	904.0	668.6	288.7	5.1	1.000260
8500.0	750.8	18.2	10.2	59.5	892.1	667.1	299.4	7.8	1.000254
9000.0	737.5	17.0	8.9	58.6	880.2	665.6	317.2	8.1	1.000247
9500.0	724.5	15.9	7.5	57.7	868.5	664.1	336.5	8.5	1.000241
10000.0	711.6	14.7	6.2	56.8	856.9	662.6	353.7	8.3	1.000234
10500.0	699.0	13.6	5.0	56.2	845.3	661.2	7.0	8.7	1.000229
11000.0	686.5	13.0	5.1	58.5	831.6	660.7	7.6	8.3	1.000226
11500.0	674.2	12.1	4.6	60.0	819.4	659.6	6.7	8.0	1.000222
12000.0	662.1	10.3	2.9	60.0	810.2	657.3	1.7	7.7	1.000216
12500.0	650.0	9.2	2.0	60.5	798.7	655.9	359.5	7.4	1.000211
13000.0	638.1	8.1	1.1	61.1	787.2	654.7	2.4	6.9	1.000207
13500.0	626.5	7.1	.3	61.7	775.7	653.4	4.7	6.9	1.000203
14000.0	615.0	6.1	-.6	62.3	764.5	652.2	5.9	7.5	1.000199
14500.0	603.8	5.1	-1.4	62.9	753.4	650.9	6.0	8.2	1.000195
15000.0	592.7	4.4	-1.6	64.9	741.3	650.2	5.5	9.0	1.000192
15500.0	581.6	2.9	-2.8	65.8	731.6	648.3	5.3	9.8	1.000188
16000.0	570.8	1.4	-4.1	66.7	722.2	646.5	5.2	10.5	1.000184
16500.0	560.2	.3	-3.6	75.0	711.4	645.2	4.1	10.6	1.000182
17000.0	549.6	-.8	-3.0	85.2	700.3	643.9	2.3	10.3	1.000181
17500.0	539.2	-2.5	-4.8	84.3	692.0	641.9	355.7	8.9	1.000176
18000.0	529.0	-3.1	-6.0	79.9	680.5	641.1	344.7	7.3	1.000172
18500.0	519.0	-3.6	-7.3	75.5	669.1	640.4	341.4	6.9	1.000167
19000.0	509.1	-4.6	-8.5	73.7	658.7	639.2	339.1	6.6	1.000164
19500.0	499.3	-6.8	-9.3	82.1	651.5	636.5	342.5	7.4	1.000161
20000.0	489.7	-8.0	-10.3	83.7	642.0	635.0	345.4	8.1	1.000158
20500.0	480.2	-8.0	-12.1	72.6	629.6	635.0	347.9	8.5	1.000153
21000.0	470.9	-7.9	-14.1	61.9	617.4	635.0	349.6	8.4	1.000149
21500.0	461.7	-9.3	-14.1	68.0	606.0	633.3	350.7	7.1	1.000147
22000.0	452.7	-10.7	-14.3	75.1	600.0	631.6	348.4	5.6	1.000145
22500.0	443.9	-11.5	-15.5	72.1	591.0	630.7	355.4	4.0	1.000142
23000.0	435.2	-10.1	-20.0	44.1	575.0	632.2	361.5	2.9	1.000135

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1350 HRS MDT
ASCENSION NO. 503

UPPER AIR DATA
215002050
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 16 CON'T

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
23500.0	426.7	-10.9	-20.9	43.3	566.1	631.3	318.3	2.3	1.000132
24000.0	416.3	-11.8	-21.3	44.8	557.8	630.1	344.5	2.0	1.000130
24500.0	410.1	-12.7	-21.8	46.2	548.6	629.0	19.2	3.1	1.000128
25000.0	402.0	-13.7	-22.4	47.6	539.2	627.9	27.2	4.7	1.000126
25500.0	394.0	-15.0	-22.6	52.0	531.3	626.2	28.5	6.4	1.000124
26000.0	386.2	-16.5	-22.9	57.5	523.7	624.4	31.6	7.1	1.000122
26500.0	378.4	-17.6	-24.2	56.2	515.5	623.0	35.1	7.4	1.000120
27000.0	370.8	-18.6	-25.9	52.4	507.1	621.6	41.6	7.9	1.000117
27500.0	363.3	-19.6	-27.7	48.5	498.8	620.5	47.7	8.5	1.000115
28000.0	355.9	-20.6	-29.5	44.6	490.7	619.3	51.2	9.6	1.000112
28500.0	348.7	-21.6	-31.3	40.8	482.7	618.6	53.6	10.8	1.000110
29000.0	341.6	-22.6	-33.3	37.0	474.9	616.8	56.3	12.1	1.000108
29500.0	334.5	-23.6	-34.1	37.2	466.8	615.6	58.4	13.3	1.000106
30000.0	327.6	-24.5	-34.9	37.3	458.9	614.4	60.1	13.2	1.000104
30500.0	320.8	-25.5	-35.7	37.5	451.2	613.2	61.7	12.1	1.000102
31000.0	314.2	-26.5	-36.6	37.6	443.6	612.0			1.000100
31500.0	307.7	-27.4	-37.4	37.8	436.1	610.8			1.000099
32000.0	301.3	-28.4	-38.2	38.0	428.7	609.6			1.000097

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 61 1330 HRS MDT
ASCENSION NO. 503

MAND TOPY LEVELS
21500200,05
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 17

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4933.	29.6	15.3	42.	71.8	5.7
800.0	6691.	23.3	12.3	50.	79.2	3.2
750.0	8524.	18.1	10.1	59.	299.8	7.9
700.0	10451.	13.6	5.0	56.	7.0	8.7
650.0	12490.	9.2	2.0	61.	359.5	7.4
600.0	14652.	4.8	-1.6	63.	5.9	8.4
550.0	16961.	-.8	-2.9	85.	2.4	10.3
500.0	19437.	-6.7	-9.2	82.	342.2	7.3
450.0	22122.	-11.2	-14.3	77.	345.5	5.1
400.0	25084.	-13.9	-22.5	48.	27.6	5.1
350.0	28361.	-21.4	-31.0	41.	53.3	10.6
300.0	32038.	-28.6	-38.4	38.		

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 61 1430 HRS MDT
ASCENSION NO. 175

SIGNIFICANT LEVEL DATA
2150180175
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 18

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
874.2	4051.4	33.2	16.5	37.0
850.0	4880.3	29.7	14.7	40.0
778.2	7439.5	22.5	12.4	53.0
713.4	9999.8	15.5	9.0	65.0
700.0	10428.8	14.6	7.4	62.0
659.8	12065.1	11.0	4.5	64.0
582.4	15445.1	3.2	-3.4	62.0
574.2	15823.3	2.8	-4.0	61.0
541.4	17380.8	-.8	-5.0	73.0
533.4	17771.7	-1.8	-6.9	68.0
509.4	18971.3	-4.8	-7.7	80.0
500.0	19453.7	-5.0	-9.4	71.0
486.0	20187.2	-6.1	-13.6	55.0
440.8	22689.3	-8.8	-22.3	32.0
425.8	23570.0	-10.0	-22.2	36.0
400.0	25145.2	-13.7	-25.8	35.0
382.8	26239.9	-16.1	-27.7	36.0
376.0	26683.9	-16.6	-24.8	49.0
362.4	27592.4	-18.4	-31.0	32.0
335.8	29452.3	-22.0	-33.3	35.0

STATION ALTITUDE 4051.47 FEET MSL
3 AUG. 61 1430 HRS MDT
ASCENSION NO. 175

UPPER AIR DATA
2150130175
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 19

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
4051.4	874.2	33.2	16.5	37.0	986.0	684.7	100.0	4.1	1.000296
4500.0	861.0	31.3	15.5	38.6	977.5	682.4	100.8	3.2	1.000290
5000.0	846.5	29.4	14.6	40.6	967.6	680.1	102.6	2.1	1.000285
5500.0	832.0	28.0	14.3	43.1	955.5	678.5	107.7	1.1	1.000281
6000.0	817.8	26.5	13.9	45.7	943.6	676.9	175.2	.2	1.000277
6500.0	803.8	25.1	13.4	48.2	931.9	675.3	208.6	.7	1.000273
7000.0	790.1	23.7	12.9	50.8	920.5	673.7	280.8	1.2	1.000269
7500.0	776.5	22.3	12.4	53.3	909.1	672.0	288.3	1.7	1.000265
8000.0	762.9	20.9	11.7	55.7	897.7	670.3	290.4	3.0	1.000261
8500.0	749.6	19.5	11.1	58.2	886.4	668.7	305.3	4.3	1.000256
9000.0	736.4	18.1	10.3	60.6	875.3	667.0	309.6	5.1	1.000251
9500.0	723.6	16.6	9.6	63.0	864.4	665.3	314.0	5.6	1.000247
10000.0	710.8	15.3	8.7	64.4	853.3	663.7	319.9	5.8	1.000241
10500.0	698.2	14.4	7.3	62.1	841.1	662.5	328.4	5.6	1.000234
11000.0	685.7	13.3	6.4	62.7	829.4	661.2	340.5	5.8	1.000229
11500.0	673.4	12.2	5.5	63.3	817.8	659.8	353.0	6.4	1.000224
12000.0	661.4	11.1	4.6	63.9	806.5	658.5	357.1	7.1	1.000219
12500.0	649.3	10.0	3.5	63.7	795.2	657.0	357.7	7.8	1.000214
13000.0	637.4	8.8	2.3	63.4	784.1	655.6	354.9	8.4	1.000209
13500.0	625.8	7.7	1.1	63.2	773.1	654.2	353.7	9.0	1.000204
14000.0	614.3	6.5	-.0	62.9	762.3	652.7	352.9	9.7	1.000199
14500.0	603.1	5.4	-1.2	62.6	751.6	651.3	353.7	10.7	1.000195
15000.0	592.0	4.2	-2.3	62.3	741.1	649.9	354.3	11.7	1.000190
15500.0	581.2	3.1	-3.4	61.9	730.6	648.6	354.7	12.8	1.000186
16000.0	570.4	2.4	-4.1	62.4	719.0	647.7	355.1	13.6	1.000183
16500.0	559.7	1.2	-4.4	66.2	708.5	646.3	355.4	14.0	1.000180
17000.0	549.2	.1	-4.7	70.1	698.2	644.9	354.0	13.7	1.000177
17500.0	538.9	-1.1	-5.6	71.5	688.2	643.5	349.7	12.6	1.000174
18000.0	528.7	-2.4	-7.0	70.3	678.5	641.9	344.7	11.3	1.000170
18500.0	518.7	-3.6	-7.3	75.3	668.7	640.4	338.4	10.1	1.000167
19000.0	508.8	-4.8	-7.8	79.5	658.9	639.0	333.7	10.3	1.000165
19500.0	499.1	-5.1	-9.7	70.0	647.1	638.6	331.0	10.9	1.000160
20000.0	489.5	-5.8	-12.5	59.1	636.6	637.5	330.5	11.8	1.000154
20500.0	480.1	-6.4	-14.6	52.1	626.1	636.7	335.3	11.2	1.000150
21000.0	470.8	-7.0	-16.2	47.5	615.4	636.0	339.7	10.3	1.000146
21500.0	461.7	-7.5	-17.9	42.9	604.8	635.3	340.3	9.0	1.000143
22000.0	452.8	-8.1	-19.7	38.3	594.4	634.6	339.7	7.8	1.000139
22500.0	444.1	-8.6	-21.7	33.7	584.2	633.9	338.2	6.5	1.000136
23000.	435.4	-9.2	-22.3	33.4	574.3	633.2	341.9	6.5	1.000133
23500.	427.0	-9.9	-22.2	35.7	564.5	632.4	345.4	6.5	1.000131

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 61 1430 HRS MDT
ASCENSION NO. 175

UPPER AIR DATA
2150180175
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 19 CON'T

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
24000.0	418.6	-11.0	-23.2	35.7	555.8	631.0	347.8	5.6	1.000129
24500.0	416.4	-12.2	-24.3	35.4	547.4	629.6	357.8	4.4	1.000127
25000.0	402.3	-13.4	-25.5	35.1	539.1	628.1	34.9	3.4	1.000124
25500.0	394.3	-14.5	-26.4	35.3	530.7	626.8	65.9	4.8	1.000122
26000.0	386.5	-15.6	-27.3	35.8	522.4	625.4	75.9	7.3	1.000120
26500.0	378.8	-16.4	-25.9	43.6	513.6	624.5	77.1	7.9	1.000119
27000.0	371.2	-17.2	-26.7	43.1	504.9	623.4	77.0	7.9	1.000116
27500.0	363.8	-18.2	-30.2	33.7	496.8	622.2	72.8	7.3	1.000114
28000.0	356.4	-19.2	-31.4	32.7	488.7	621.0			1.000111
28500.0	349.2	-20.2	-32.1	33.5	480.6	619.8			1.000109
29000.0	342.1	-21.1	-32.7	34.3	472.6	618.6			1.000108

STATION ALTITUDE 4051.37 FEET MSL
3 AUG. 81 1430 HRS MDT
ASCENSION NO. 175

MANDATORY LEVELS
2150160175
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 20

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4877.	29.7	14.7	40.	102.0	2.4
800.0	6640.	24.8	13.3	49.	273.4	.8
750.0	8484.	19.5	11.1	58.	305.2	4.3
700.0	10418.	14.6	7.4	62.	327.0	5.7
650.0	12462.	10.1	3.5	64.	357.9	7.7
600.0	14630.	5.1	-1.5	62.	353.9	10.9
550.0	16943.	.2	-4.7	70.	354.3	13.8
500.0	19426.	-5.0	-9.4	71.	331.0	10.8
450.0	22128.	-8.2	-20.3	37.	339.3	7.4
400.0	25102.	-13.7	-25.8	35.	46.7	3.4
350.0	28392.	-20.0	-32.0	33.		

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1530 HRS MDT
ASCENSION NO. 504

SIGNIFICANT LEVEL DATA
21500208504
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 21

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
876.0	3989.0	28.9	17.1	49.0
856.8	4637.3	28.2	15.1	45.0
850.0	4869.1	26.0	13.2	45.0
818.8	5951.2	25.2	13.1	47.0
762.8	7983.8	20.9	11.0	53.0
700.0	10397.1	13.0	7.9	71.0
690.0	10794.7	11.5	8.5	82.0
672.0	11521.8	10.5	8.0	77.0
654.4	12247.6	8.3	5.9	85.0
603.2	14447.7	3.9	-.9	71.0
586.0	15221.2	3.4	-3.4	61.0
553.2	16749.8	-.1	-6.3	63.0
544.8	17153.3	.1	-6.3	62.0
536.6	17551.6	-2.4	-8.5	63.0
528.2	17963.7	-2.8	-7.7	69.0
504.4	19162.7	-4.7	-10.4	64.0
500.0	19389.3	-5.7	-10.8	67.0
480.6	20408.4	-6.9	-14.8	53.0
457.6	21666.8	-7.5	-15.4	53.0
442.8	22505.4	-10.0	-19.4	46.0
427.8	23379.4	-10.6	-17.0	59.0
420.6	23808.6	-11.5	-21.3	44.0
400.0	25070.0	-14.0	-24.1	42.0
363.8	27416.0	-19.5	-29.6	40.0
343.4	28822.3	-21.5	-32.2	37.0
324.2	30210.7	-24.4	-36.9	30.0
305.0	31665.6	-27.8	-38.2	36.0
300.0	32054.8	-30.3	-40.2	37.0

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1530 HRS MDT
ASCENSION NO. 504

UPPER AIR DATA
2150020504
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 22

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES 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	876.0	28.9	17.1	49.0	1001.8	679.9	250.0	9.9	1.000305
4000.0	875.7	28.9	17.1	48.9	1001.5	679.9	249.9	9.9	1.000304
4500.0	860.8	28.3	15.6	45.8	986.9	679.1	242.5	7.8	1.000294
5000.0	846.2	25.9	13.1	45.2	979.0	676.0	230.3	6.0	1.000282
5500.0	831.7	25.5	13.1	46.2	963.3	675.6	209.6	4.7	1.000279
6000.0	817.4	25.1	13.0	47.1	948.1	675.1	179.9	4.3	1.000275
6500.0	803.3	24.0	12.5	48.6	935.2	673.9	153.6	4.6	1.000271
7000.0	789.4	23.0	12.0	50.1	922.4	672.7	133.5	5.1	1.000266
7500.0	775.8	21.9	11.5	51.6	909.8	671.4	121.9	5.7	1.000262
8000.0	762.4	20.8	11.0	53.1	897.5	670.2	115.1	6.0	1.000257
8500.0	749.3	19.2	10.5	56.9	886.7	668.3	108.3	5.6	1.000254
9000.0	736.7	17.6	9.9	60.6	876.0	666.3	98.3	4.5	1.000250
9500.0	722.7	15.9	9.2	64.3	865.0	664.4	81.3	3.9	1.000246
10000.0	710.0	14.3	8.5	68.0	855.3	662.5	58.4	3.8	1.000242
10500.0	697.4	12.6	8.1	73.8	845.2	660.5	36.8	6.6	1.000238
11000.0	684.9	11.2	8.0	80.6	834.0	658.9	28.4	10.1	1.000236
11500.0	672.5	10.5	6.7	77.2	821.3	656.0	22.6	13.0	1.000229
12000.0	660.4	9.1	6.2	82.3	810.7	656.2	19.1	14.4	1.000226
12500.0	648.3	7.8	5.2	83.4	799.7	654.7	16.0	14.5	1.000221
13000.0	636.4	6.8	3.6	80.2	788.2	653.4	12.6	13.9	1.000214
13500.0	624.7	5.8	2.1	77.0	776.9	652.1	9.0	13.7	1.000208
14000.0	613.3	4.8	.5	73.8	765.7	650.8	4.7	14.0	1.000202
14500.0	602.0	3.9	-1.0	70.3	754.4	649.6	4.6	14.2	1.000196
15000.0	590.9	3.5	-2.6	63.9	741.5	649.1	4.6	14.0	1.000190
15500.0	579.9	2.8	-3.9	61.4	730.0	648.1	4.5	13.2	1.000185
16000.0	569.1	1.6	-4.9	62.0	719.4	646.7	3.6	12.6	1.000182
16500.0	558.4	.5	-5.8	62.7	709.1	645.3	2.6	12.1	1.000178
17000.0	548.0	.0	-6.3	62.4	697.0	644.7	2.4	12.0	1.000175
17500.0	537.7	-2.1	-8.2	62.9	689.4	642.2	3.1	12.1	1.000171
18000.0	527.5	-2.9	-7.8	68.8	678.2	641.3	3.0	12.9	1.000169
18500.0	517.4	-3.6	-8.9	66.8	667.3	640.3	2.5	14.1	1.000165
19000.0	507.6	-4.4	-10.1	64.7	656.6	639.3	2.2	14.9	1.000161
19500.0	497.9	-5.8	-11.2	65.5	647.5	637.6	1.9	15.7	1.000158
20000.0	488.3	-6.4	-13.2	58.6	636.6	636.8	7.0	13.1	1.000154
20500.0	478.9	-6.9	-14.9	53.0	625.7	636.1	14.6	10.3	1.000150
21000.0	469.6	-7.2	-15.1	53.0	614.2	635.8	25.3	7.2	1.000147
21500.0	460.6	-7.4	-15.3	53.0	602.9	635.5	40.5	5.4	1.000144
22000.0	451.7	-8.5	-17.0	50.2	593.7	634.2	47.2	5.1	1.000141
22500.0	442.9	-10.0	-19.4	46.0	585.6	632.3	52.6	5.2	1.000138
23000.0	434.2	-10.3	-19.0	53.4	574.9	632.0	54.6	5.6	1.000136

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1535 HRS MDT
ASCENSION NO. 504

UPPER AIR DATA
215002050A
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 22

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(IN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	425.8	-10.9	-18.1	54.8	564.7	631.4	57.2	6.2	1.000134
24000.0	417.4	-11.9	-21.7	43.7	556.0	630.0	62.2	6.3	1.000130
24500.0	409.2	-12.9	-22.8	42.9	547.2	628.8	65.1	6.5	1.000127
25000.0	401.1	-13.9	-23.9	42.1	538.5	627.6	59.6	6.8	1.000125
25500.0	393.1	-15.0	-25.1	41.6	530.1	626.2	53.4	7.1	1.000123
26000.0	385.2	-16.2	-26.3	41.2	521.9	624.7	39.4	7.1	1.000120
26500.0	377.5	-17.4	-27.5	40.8	513.8	623.3	29.7	7.2	1.000118
27000.0	370.0	-18.5	-28.6	40.4	505.9	621.8	30.6	6.4	1.000116
27500.0	362.5	-19.6	-29.8	39.8	497.9	620.5	33.6	5.8	1.000114
28000.0	355.2	-20.3	-30.7	38.8	489.2	619.6	57.7	6.3	1.000112
28500.0	348.0	-21.0	-31.6	37.7	480.6	618.7	75.4	7.5	1.000110
29000.0	340.9	-21.9	-32.8	36.1	472.4	617.7	88.6	8.6	1.000108
29500.0	333.9	-22.9	-34.5	33.6	464.7	616.4	102.2	9.0	1.000105
30000.0	327.0	-24.0	-36.2	31.1	457.1	615.1	108.6	8.7	1.000103
30500.0	320.3	-25.1	-37.2	31.2	449.6	613.7	114.2	8.2	1.000102
31000.0	313.6	-26.2	-37.6	33.3	442.4	612.2	118.7	7.5	1.000100
31500.0	307.1	-27.4	-38.0	35.3	435.3	610.8			1.000098
32000.0	300.7	-29.9	-39.9	36.9	430.6	607.6			1.000097

STATION ALTITUDE 3989.00 FEET MSL
3 AUG. 81 1530 HRS MDT
ASCENSION NO. 304

MANDATORY LEVELS
2150020504
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 23

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4866.	26.0	13.2	45.	234.2	6.5
800.0	6616.	23.8	12.4	49.	148.6	4.6
750.0	8457.	19.3	10.5	57.	108.9	5.7
700.0	10387.	13.0	7.9	71.	39.9	5.8
650.0	12418.	7.0	5.4	84.	16.5	14.5
600.0	14573.	3.8	-1.3	69.	4.6	14.3
550.0	16831.	-.0	-6.3	63.	2.2	11.9
500.0	19362.	-5.7	-10.8	67.	2.0	15.5
450.0	22061.	-8.8	-17.4	49.	48.5	5.1
400.0	25027.	-14.0	-24.1	42.	59.1	6.8
350.0	28367.	-20.8	-31.4	36.	70.5	7.1
300.0	31990.	-30.3	-40.2	37.		

DATE
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