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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
193048 MLRS, MISSILE NUMBER V01-019, ROUND NUMBER V-190/MD-44, --ETC(U)
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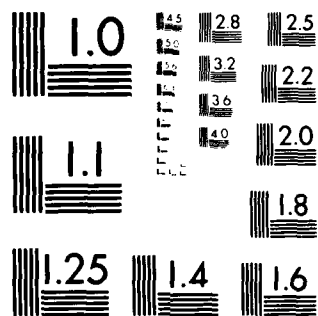
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METEOROLOGICAL DATA REPORT
19304B MLRS,
Missile Number V01-019,
Round Number V-190/MD-44,
12 December 1981.

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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 19304B MLRS, Missile Number V01-019, Round Number V-190/MD-44 presented in tabular form.		

410600

CONTENTS

	PAGE
INTRODUCTION-----	1
DISCUSSION-----	1
GENERAL AREA MAP-----	2
LAUNCH AREA MAP-----	3
TABLES:	
1. Surface Observations taken at 1100 MST at LC-33-----	4
2. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 1102 MST-----	5
3. Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3, and 4, taken at 1102 MST-----	5
4. Launch and Impact Area Pilot-Balloon Measured Wind Data---	6
5. Aiming and T-Time Computer Met Message Data-----	7
6. WSD Significant Level Data at 0800 MST-----	8
7. WSD Upper Air Data at 0800 MST-----	10
8. WSD Mandatory Levels at 0800 MST-----	14
9. LC-37 Significant Level Data at 0900 MST-----	15
10. LC-37 Upper Air Data at 0900 MST-----	16
11. LC-37 Mandatory Levels at 0900 MST-----	21
12. WSD Significant Level Data at 1000 MST-----	22
13. WSD Upper Air Data at 1000 MST-----	23
14. WSD Mandatory Levels at 1000 MST-----	24
15. LC-37 Significant Level Data at 1100 MST-----	25
16. LC-37 Upper Air Data at 1100 MST-----	26
17. LC-37 Mandatory Levels at 1100 MST-----	28

INTRODUCTION

19304B MLRS, Missile Number V01-019, Round Number V-190/MD-44, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1102:36 MST, 12 December 1981. The scheduled launch time was 1100 MST.

DISCUSSION

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

1. Observations.

a. Surface:

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (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 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
NICK 2 KM

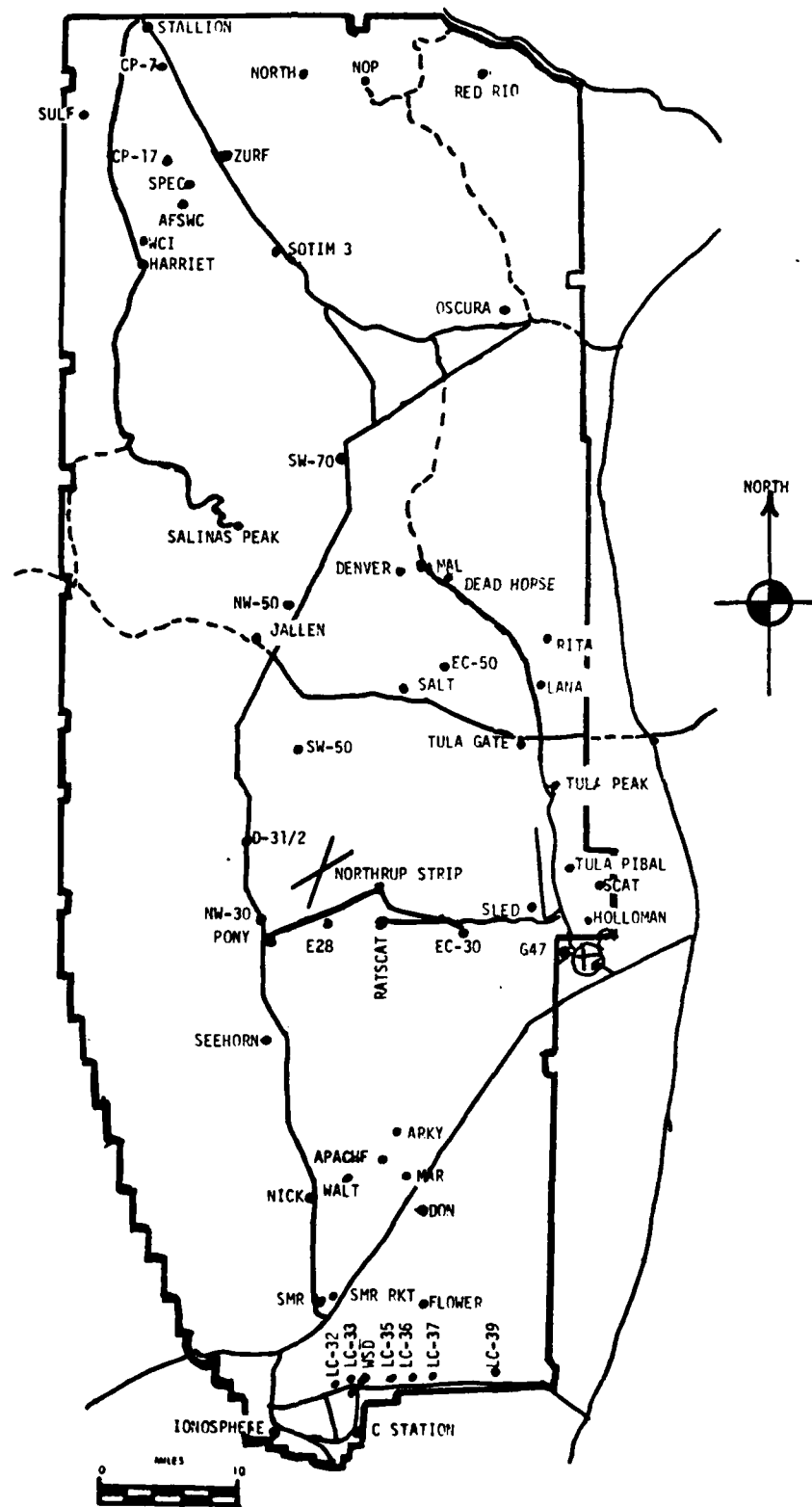
(2) Air sturcture data (rawinsonde) were collected at the following Met Sites:

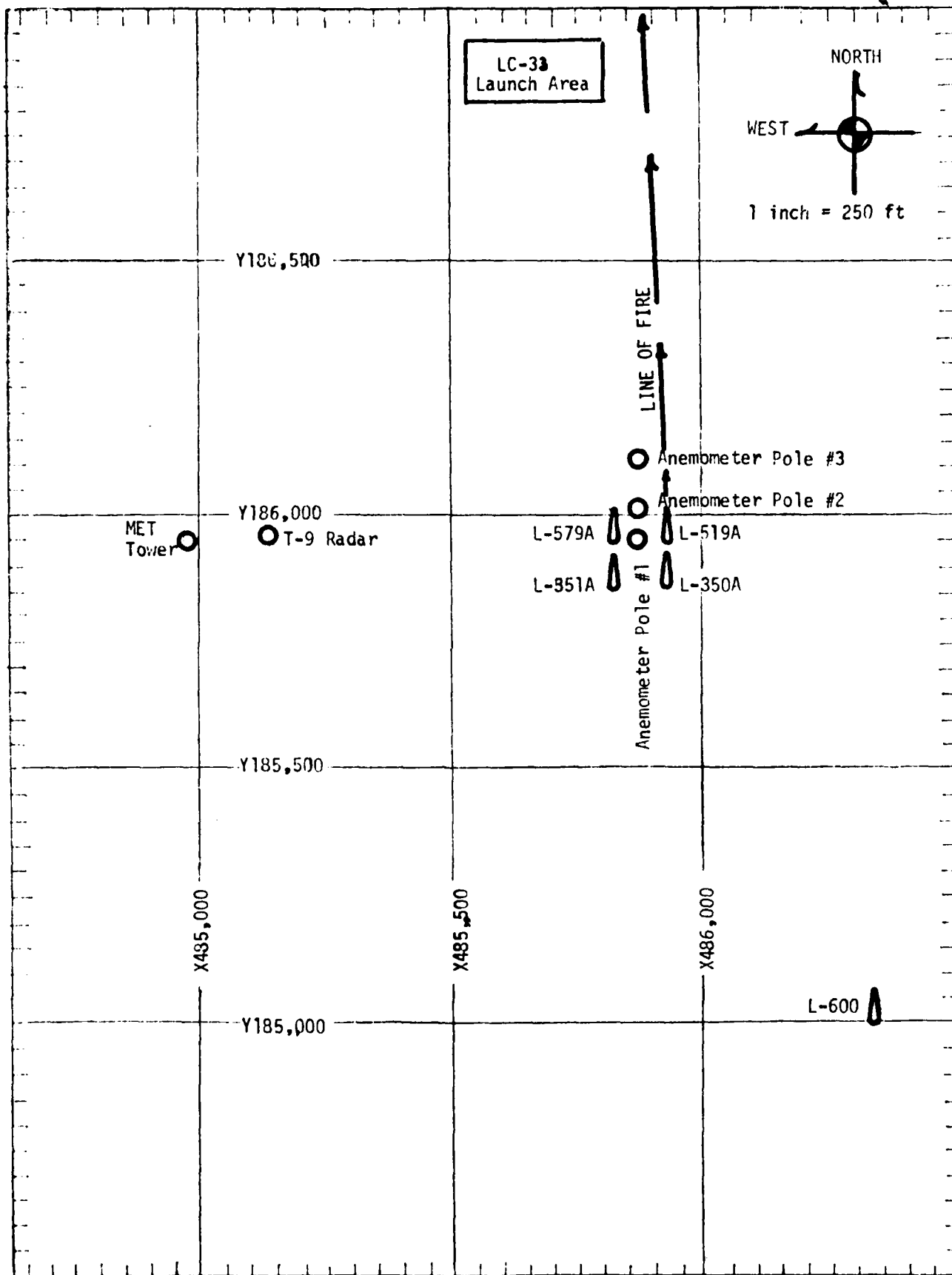
SITE AND TIME

WSD 0800 MST
LC-37 0900 MST
WSD 1000 MST
LC-37 1100 MST

Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By _____	
Distribution/ _____	
Availability Codes	
Dist	Avail and/or Special
A	

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE <u>1</u>									
STATION <u>LC-33</u>									
DATE <u>12</u> <u>DEC</u> <u>1981</u>									
X = <u>484,982.64</u> Y = <u>185,957.53</u> H = <u>3,983.00</u>									
TIME M S I	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	DIRECTION degs Tn	WIND SPEED kts	CHARACTER kts	VISIBIL- ITY
1100	882.4	14.3	2.6	46	1064	C A L M			45

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	HGT	AMT	TYPE	HGT	
	10	AS	12,000				

PSYCHROMETRIC COMPUTATION

TIME:	MST	1100
DRY BULB TEMP.	14.3	
WET BULB TEMP.	8.2	
WET BULB DEPR.	6.1	
DEW POINT	2.6	
RELATIVE HUMID.	46	

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 X485,874.93 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	C A L M		T-30	C A L M		T-30	C A L M	
T-20	C A L M		T-20	C A L M		T-20	C A L M	
T-10	C A L M		T-10	C A L M		T-10	C A L M	
T0.0	C A L M		T0.0	C A L M		T0.0	C A L M	
T+10	C A L M		T+10	C A L M		T+10	C A L M	

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	C A L M		T-30	C A L M	
T-20	C A L M		T-20	C A L M	
T-10	C A L M		T-10	C A L M	
T0.0	C A L M		T0.0	C A L M	
T+10	C A L M		T+10	C A L M	

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	C A L M		T-30	C A L M	
T-20	C A L M		T-20	C A L M	
T-10	C A L M		T-10	C A L M	
T0.0	C A L M		T0.0	C A L M	
T+10	C A L M		T+10	C A L M	

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 12 December 1981

SITE: LC-33
 TIME: 1103 MST
 WSTM COORDINATES:
 X= 486,872.00
 Y= 184,146.80
 H= 3,981.20

SITE: NICK
 TIME: 1102 MST
 WSTM COORDINATES:
 X= 470,734.56
 Y= 255,775.64
 H= 4,126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
	C A L M	
SURFACE		
150	329	03
210	358	05
270	354	05
330	006	14
390	007	17
500	020	14
650	027	12
800	010	09
950	336	07
1150	276	13
1350	284	18
1550	283	25
1750	277	28
2000	275	23

Data obtained from NIKE-HERC radar
 tracked pilot-balloon observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
	C A L M	
SURFACE		
150	348	07
210	351	09
270	357	10
330	002	11
390	004	11
500	008	09
650	008	08
800	344	06
950	281	08
1150	274	16
1350	280	21
1550	285	28
1750	272	23
2000	271	18

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

TABLE 5AIMING AND T-TIME COMPUTER MET MESSAGES
12 December 1981

WSD 0800 MST	LC-37 0900 MST	WSD 1000 MST	LC-37 1100 MST
METCM1324064	METCM1324063	METCM1324064	METCM1324063
121400122880	121500124880	121600122881	121700124880
00000000 27980880	00000000 28280880	00000000 28500831	00000000 28800820
01032014 28350869	01001011 28560869	01030010 28540870	01013016 28690870
02509014 28780843	02596007 28550844	02036012 28560845	02626014 28470844
03512016 28590804	03548008 28390804	03603008 28420805	03574009 28280805
04516018 28240757	04513018 28090757	04495018 28160758	04516013 28130757
05534017 27940713	05515017 27910712	M I S G	05490023 27900713
06503020 27680670	06490023 27670670	M I S G	06474021 27580670

GEODETIC COORDINATES
32-40043 LAT DEG
106-37033 LON DEG

SIGNIFICANT LEVEL DATA

3460020737
WHITE SANDS

TABLE 6

STATION ALTITUDE 3989.00 FEET MSL
12 DEC. 61
ASCENSION. NO. 737

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MGL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
879.5	3989.0	6.0	-0.3	64.0
858.9	4635.3	13.2	.3	41.0
850.0	4923.2	13.7	-0.3	38.0
840.3	5241.2	14.5	-1.2	34.0
783.7	7162.2	10.5	-2.0	39.0
728.3	9152.9	6.4	-7.0	36.0
700.0	10218.8	5.4	-13.5	24.0
683.3	10865.4	4.2	-15.6	22.0
656.5	11230.3	2.3	-17.7	21.0
612.4	13746.5	-1.1	-20.7	19.0
578.9	15241.3	-2.5	-22.9	19.0
500.0	18998.9	-11.5	-28.9	22.0
441.6	22087.5	-18.7	-34.2	24.0
419.0	23367.7	-22.0	-28.6	54.0
411.6	23798.7	-22.6	-25.9	74.0
400.0	24490.3	-22.0	-24.6	78.0
368.6	26950.0	-25.7	-28.2	79.0
355.2	27337.5	-27.0	-29.5	79.0
321.6	29670.5	-32.5	-35.1	77.0
300.0	31270.6	-36.6	-40.5	67.0
290.2	32026.0	-37.7	-41.5	67.0
250.0	35348.6	-46.7		
232.4	3627.7	-51.2		
211.2	38463.0	-54.1		
200.0	40100.3	-57.4		
181.6	42094.3	-62.1		
163.3	44230.9	-67.5		
150.0	45913.0	-68.7		
134.1	48132.6	-67.4		
130.1	48737.0	-65.2		
122.7	49910.3	-64.4		
108.5	52379.1	-67.4		
100.0	53993.1	-68.2		
98.0	54839.1	-67.1		
92.7	57763.5	-64.7		
76.7	59305.3	-63.5		
70.0	61154.2	-64.6		
60.3	64133.6	-63.7		
55.3	65929.0	-72.7		
50.6	67602.7	-63.7		

GEODETIC COORDINATES
 52.40043 LAT UEG
 106.37033 LON UEG

SIGNIFICANT LEVEL DATA
 3460020737
 WHITE SANDS
 TABLE 6 (CONT)

STATION ALTITUDE 3989.00 FEET MSL
 12 DEC. 81 0800 HRS MST
 ASCENSION NO. 737

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
47.5 68837.5	-60.7	
45.3 69815.1	-59.6	
38.3 73250.3	-63.9	
34.9 75159.7	-58.2	

STATION ALTITUDE 3989.00 FEET MSL
12 DEC. 61 0800 HRS MST
ASCENSION NO. 137

UPPER AIR DATA
3460020757
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	"IND DATA		INDEX OF REFRACTION
						"IRRELATION DEGREES (TN)	SPEED KNOTS	
3989.0	879.5	6.0	64.0	1094.7	651.7	0	0	1.000273
4000.0	879.1	6.1	63.6	1093.8	651.9	282.1	.1	1.000273
4500.0	863.2	11.7	45.8	1052.8	658.4	282.1	2.7	1.000264
5000.0	847.6	13.9	37.0	1026.0	660.9	282.1	5.3	1.000256
5500.0	832.4	14.0	34.7	1007.5	660.9	282.1	7.9	1.000250
6000.0	817.5	12.9	36.0	993.0	659.7	284.4	9.9	1.000246
6500.0	802.8	11.9	37.3	978.6	658.5	293.6	10.3	1.000242
7000.0	786.3	10.8	38.6	964.7	657.3	295.7	12.1	1.000238
7500.0	774.0	9.8	38.5	950.6	656.1	291.5	15.4	1.000234
8000.0	759.9	8.8	37.7	937.0	654.8	292.0	17.0	1.000229
8500.0	746.0	7.7	37.0	923.4	653.6	294.2	17.8	1.000224
9000.0	732.4	6.7	36.2	910.0	652.3	297.5	17.4	1.000220
9500.0	719.0	6.1	32.1	895.6	651.5	301.5	16.7	1.000214
10000.0	705.7	5.6	26.5	880.8	650.9	298.2	17.7	1.000208
10500.0	692.7	4.9	23.1	867.0	649.9	294.6	18.9	1.000203
11000.0	679.9	4.0	21.9	853.8	648.8	287.2	19.7	1.000199
11500.0	667.2	3.1	21.4	840.7	647.8	280.4	20.7	1.000195
12000.0	654.8	2.2	20.9	827.7	646.7	273.0	20.6	1.000192
12500.0	642.5	1.5	20.4	814.2	646.0	266.0	20.8	1.000188
13000.0	630.5	.9	19.8	800.9	645.2	263.3	20.9	1.000185
13500.0	618.6	.2	19.3	787.6	644.4	264.7	20.8	1.000182
14000.0	607.0	-5.5	19.0	775.0	643.5	272.5	20.5	1.000178
14500.0	595.5	-1.3	19.0	762.7	642.5	283.7	20.9	1.000175
15000.0	584.3	-2.1	19.0	750.5	641.6	294.4	22.1	1.000172
15500.0	573.1	-3.1	19.2	738.9	640.4	297.5	22.9	1.000169
16000.0	562.0	-4.3	19.6	727.9	638.9	299.6	23.6	1.000167
16500.0	551.2	-5.5	20.0	717.0	637.5	299.4	24.2	1.000164
17000.0	540.5	-6.7	20.4	706.4	636.1	299.6	24.9	1.000161
17500.0	530.1	-7.9	20.8	695.9	634.6	300.7	26.0	1.000159
18000.0	519.9	-9.1	21.2	685.6	633.2	300.6	26.7	1.000156
18500.0	509.8	-10.3	21.6	675.4	631.7	298.7	26.9	1.000154
19000.0	500.0	-11.5	22.0	665.4	630.3	297.6	27.2	1.000151
19500.0	490.0	-12.7	22.3	655.1	628.9	298.3	27.6	1.000149
20000.0	480.3	-13.8	22.6	645.0	627.5	299.2	28.1	1.000146
20500.0	470.7	-15.0	23.0	635.0	626.0	300.5	28.6	1.000144
21000.0	461.3	-16.2	23.3	625.2	624.6	300.7	29.1	1.000142
21500.0	452.2	-17.3	23.6	615.5	623.2	299.9	29.7	1.000139
22000.0	443.2	-18.5	23.9	606.1	621.8	300.7	30.7	1.000137
22500.0	434.2	-19.8	33.7	596.7	620.3	302.0	31.9	1.000135
23000.0	425.4	-21.1	45.4	587.5	618.7	301.5	34.3	1.000134

UPPER AIR DATA
3460020737
WHITE SANDS
TABLE 7 CONT

STATION ALTITUDE 3989.00 FEET MSL
12 DEC. 61
ASCENSION NO. 137

GEODETIC COORDINATES
32.40043 LAT UEG
106.37033 LON UEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	416.7	-22.2	-27.8	60.1	578.1	617.3	300.1	37.0	1.000133
24000.0	400.2	-22.4	-25.6	75.2	566.8	617.1	296.0	40.2	1.000131
24500.0	393.8	-22.0	-24.8	78.0	554.2	617.0	290.6	44.0	1.000128
25000.0	391.6	-23.0	-25.7	78.3	544.9	616.4	284.6	47.2	1.000126
25500.0	383.6	-23.9	-26.6	78.5	535.7	615.3	277.0	50.2	1.000124
26000.0	375.7	-24.8	-27.4	78.8	526.7	614.1	273.0	54.3	1.000121
26500.0	367.9	-25.8	-28.3	79.0	517.8	612.9	270.9	59.3	1.000119
27000.0	360.3	-26.5	-29.0	79.0	508.6	612.0	270.7	63.8	1.000117
27500.0	352.8	-27.4	-29.9	78.9	499.7	610.9	272.4	67.7	1.000114
28000.0	345.3	-28.6	-31.1	78.4	491.6	609.4	273.7	70.8	1.000112
28500.0	338.0	-29.7	-32.3	78.0	483.6	607.9	274.6	72.9	1.000110
29000.0	330.9	-30.9	-33.5	77.6	475.7	606.5	275.7	74.9	1.000108
29500.0	323.9	-32.1	-34.7	77.1	468.0	605.0	276.4	77.1	1.000106
30000.0	317.0	-33.3	-36.2	74.9	460.4	603.4	276.8	79.6	1.000104
30500.0	310.2	-34.6	-37.9	71.8	452.9	601.8	276.7	82.5	1.000102
31000.0	303.5	-35.9	-39.6	68.7	445.6	600.1	276.2	84.9	1.000101
31500.0	297.0	-36.9	-40.8	67.0	437.9	598.8	275.3	86.3	1.000099
32000.0	290.5	-37.7	-41.5	67.0	429.7	597.9	274.6	86.9	1.000097
32500.0	284.1	-39.0	-44.2	57.5**	422.6	596.2	274.2	86.2	1.000095
33000.0	277.8	-40.3	-47.2	47.4**	415.6	594.5	274.0	85.8	1.000093
33500.0	271.6	-41.7	-50.5	37.3**	408.8	592.7	274.4	86.3	1.000091
34000.0	265.6	-43.0	-54.3	27.2**	402.1	591.0	274.9	86.6	1.000090
34500.0	259.7	-44.4	-59.2	17.1**	395.5	589.2	275.4	85.8	1.000088
35000.0	253.9	-45.8	-66.9	7.0**	389.0	587.5	276.0	85.0	1.000087
35500.0	248.3	-47.1			382.6	585.7	277.0	84.2	1.000085
36000.0	242.6	-48.6			376.3	583.8	278.0	83.4	1.000084
36500.0	237.0	-50.0			370.0	582.0	279.0	83.7	1.000082
37000.0	231.6	-51.3			363.7	580.3	281.5	84.9	1.000081
37500.0	226.2	-52.0			356.4	579.3	283.4	86.8	1.000079
38000.0	221.0	-52.7			349.2	578.4	285.3	89.9	1.000078
38500.0	215.8	-53.4			342.2	577.5	287.5	93.2	1.000076
39000.0	210.8	-54.2			335.5	576.4	289.1	97.3	1.000075
39500.0	205.9	-55.6			329.7	574.5	290.6	101.4	1.000073
40000.0	201.0	-57.1			324.1	572.6	291.6	105.4	1.000072
40500.0	196.2	-58.3			318.2	571.0	292.5	109.4	1.000071
41000.0	191.5	-59.5			312.3	569.4	292.6	113.3	1.000070
41500.0	186.9	-60.7			306.5	567.8	292.9	117.2	1.000068
42000.0	182.4	-61.9			300.8	566.3	293.0	119.7	1.000067
42500.0	178.0	-63.1			295.2	564.6	293.0	121.2	1.000066
43000.0	173.6	-64.4			289.7	562.9	293.1	121.5	1.000065

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

GEODLTIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

UPPER AIR DATA
3460020757
WHITE SANDS
TABLE 7 CONT

STATION ALTITUDE 3989.00 FEET MSL
12 DEC. 61 0800 HRS MST
ASCENSION 110. 737

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) SPEED KNOTS	INDEX OF REFRACTION
43500.0	169.3	-65.7		284.3	561.2	293.5	1.000063
44000.0	165.2	-66.9		279.0	559.5	295.6	1.000062
44500.0	161.1	-67.7		275.1	558.4	294.1	1.000061
45000.0	157.1	-68.0		266.8	557.9	294.4	1.000059
45500.0	153.2	-68.4		260.6	557.4	293.5	1.000058
46000.0	149.3	-68.6		254.4	557.1	292.0	1.000057
46500.0	145.6	-68.4		247.7	557.5	290.1	1.000055
47000.0	142.0	-68.1		241.2	557.9	287.2	1.000054
47500.0	138.5	-67.8		234.8	558.3	284.3	1.000052
48000.0	135.0	-67.5		228.7	558.7	282.3	1.000051
48500.0	131.7	-66.1		221.5	560.6	280.4	1.000049
49000.0	128.4	-65.0		214.9	562.0	279.4	1.000048
49500.0	125.3	-64.7		209.3	562.5	279.5	1.000047
50000.0	122.2	-64.5		204.0	562.7	279.8	1.000045
50500.0	119.2	-65.1		199.6	561.9	282.0	1.000044
51000.0	116.2	-65.7		195.2	561.1	284.6	1.000043
51500.0	113.4	-66.3		191.0	560.3	285.6	1.000043
52000.0	110.6	-66.9		186.8	559.4	286.3	1.000042
52500.0	107.8	-67.5		182.6	558.7	286.3	1.000041
53000.0	105.2	-67.7		178.3	558.4	285.7	1.000040
53500.0	102.5	-68.0		174.1	558.1	285.1	1.000039
54000.0	100.0	-68.2		170.0	557.7	284.9	1.000038
54500.0	97.5	-68.0		165.5	558.0	284.6	1.000037
55000.0	95.1	-67.7		161.2	558.4	283.9	1.000036
55500.0	92.7	-67.5		157.1	558.7	283.0	1.000035
56000.0	90.4	-67.3		153.0	559.0	281.9	1.000034
56500.0	88.2	-66.8		148.9	559.6	280.6	1.000033
57000.0	86.0	-66.0		144.6	560.7	279.4	1.000032
57500.0	83.8	-65.2		140.3	561.8	278.4	1.000031
58000.0	81.8	-64.5		136.6	562.7	277.5	1.000030
58500.0	79.8	-64.1		133.0	563.2	279.0	1.000030
59000.0	77.9	-63.7		129.5	563.8	280.7	1.000029
59500.0	76.0	-63.6		126.3	563.9	282.7	1.000028
60000.0	74.1	-63.9		123.4	563.5	285.4	1.000027
60500.0	72.3	-64.2		120.5	563.1	286.9	1.000027
61000.0	70.5	-64.5		117.8	562.7	288.0	1.000026
61500.0	68.8	-65.1		115.4	562.0	289.3	1.000026
62000.0	67.1	-65.8		112.7	561.0	290.7	1.000025
62500.0	65.4	-66.5		110.3	560.1	292.4	1.000025
63000.0	63.8	-67.1		107.9	559.2	293.7	1.000024

STATION ALTITUDE 3989.00 FEET MSL
12 DEC. 61 0800 HRS MST
ASCENSION NO. 137

UPPER AIR DATA
3460020737
WHITE SANDS

TABLE 7 CONT

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON 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
63500.0	62.2	-67.8		105.0	558.2	294.6	24.4	1.000024
64000.0	60.7	-68.5		103.3	557.3	295.5	25.3	1.000023
64500.0	59.2	-69.6		101.3	555.9	294.7	26.3	1.000023
65000.0	57.7	-70.7		99.3	554.3	293.2	27.3	1.000022
65500.0	56.2	-71.9		97.4	552.0	291.8	27.3	1.000022
66000.0	54.8	-72.4		95.1	552.0	290.4	24.7	1.000021
66500.0	53.4	-71.3		92.2	553.4	288.6	22.1	1.000021
67000.0	52.1	-70.3		89.5	554.8	288.2	17.2	1.000020
67500.0	50.8	-69.3		86.8	556.2	288.0	11.9	1.000019
68000.0	49.5	-67.2		83.7	559.1	291.9	8.9	1.000019
68500.0	48.3	-65.3		80.2	564.3	301.4	8.6	1.000018
69000.0	47.1	-60.5		77.2	568.1	311.4	8.5	1.000017
69500.0	46.0	-60.0		75.2	568.8	301.5	21.3	1.000017
70000.0	44.9	-59.8		73.3	569.0	298.9	34.7	1.000016
70500.0	43.8	-60.5		71.8	568.2	297.4	47.2	1.000016
71000.0	42.8	-61.1		70.2	567.3	295.8	57.6	1.000016
71500.0	41.7	-61.7		68.7	566.5	294.6	68.0	1.000015
72000.0	40.7	-62.3		67.3	565.6	295.6	63.5	1.000015
72500.0	39.7	-63.0		65.8	564.8	298.6	49.6	1.000015
73000.0	38.8	-63.6		64.5	564.0	304.5	36.1	1.000014
73500.0	37.9	-63.2		62.8	564.5			1.000014
74000.0	36.9	-61.7		60.8	568.6			1.000014
74500.0	36.0	-60.2		58.9	568.5			1.000013
75000.0	35.2	-58.7		57.1	570.5			1.000013

STATION ALTITUDE 3989.00 FEET MSL
 12 DEC. 51
 ASCENSION NO. 757

MANDATORY LEVELS
 3460020757
 WHITE SANDS
 TABLE 8

GLOTTIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION EGRES(TN)	SPEED KNOTS
850.0	4920.	13.7	-7.3	38.	282.1	4.8
800.0	6593.	11.7	-2.3	38.	295.2	10.4
750.0	8352.	8.0	-5.7	37.	293.5	17.6
700.0	10209.	5.4	-13.5	24.	296.6	16.2
650.0	12182.	2.0	-14.2	21.	270.2	20.6
600.0	14288.	-1.0	-21.6	19.	276.8	20.7
550.0	16548.	-5.6	-24.9	20.	299.3	24.2
500.0	18972.	-11.5	-20.9	22.	297.8	27.2
450.0	21591.	-17.6	-33.4	24.	299.8	29.8
400.0	24449.	-22.0	-24.8	78.	290.8	43.8
350.0	27637.	-27.8	-30.3	79.	272.9	69.1
300.0	31208.	-36.6	-40.5	67.	275.7	85.6
250.0	35271.	-46.7			276.0	84.5
200.0	40009.	-57.4			291.8	100.1
175.0	42736.	-64.0			293.0	122.2
150.0	45789.	-68.7			292.3	99.2
125.0	49400.	-64.7			279.5	77.5
100.0	53832.	-68.2			284.9	63.5
80.0	58261.	-64.2			278.8	42.8
70.0	60945.	-64.6			288.3	28.8
60.0	64003.	-68.9			295.7	25.7
50.0	67549.	-68.7			287.7	9.1
40.0	72082.	-62.8			297.6	54.3

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

CELESTIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

SIGNIFICANT LEVEL DATA
3460180227
LC-37
TABLE 9

STATION ALTITUDE 4051.37 FEET MSL
12 DEC. 81 0900 HRS MST
ASCENSION NO. 227

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DWPOINT CENTIGRADE	
879.6	9.0	.5	55.0
868.4	12.7	.1	42.0
850.0	13.0	-2.9	33.0
820.6	11.4	-3.9	34.0
820.4	11.5	-3.8	34.0
754.6	6.8	-5.5	41.0
715.4	6.1	-15.8	19.0
700.0	4.9	-18.1	17.0
669.8	2.5	-20.7	16.0
634.8	1.5	-22.3	15.0
591.6	-2.4	-25.4	15.0
500.0	-13.2	-33.6	16.0
446.4	-19.9	-30.5	21.0
416.4	-24.6	-30.3	59.0
409.0	-23.4	-26.1	78.0
400.0	-26.7	-29.5	77.0
373.4	-26.7	-29.6	76.0
326.6	-33.1	-30.7	70.0
300.0	-30.2	-41.9	68.0
265.6	-44.4		
250.0	-47.8		
200.0	-59.5		
165.0	-67.7		
150.0	-68.6		
125.4	-64.7		
100.0	-68.6		
78.2	-64.6		
70.0	-66.1		
57.8	-72.2		
53.0	-70.6		
50.0	-65.3		
48.4	-59.6		
39.6	-63.5		
32.6	-56.6		
30.0	-55.6		
28.2	-57.6		
23.2	-57.4		
21.0	-54.0		

STATION ALTITUDE 4051.37 FEET MSL
12 DEC. 61 0900 HRS MST
ASCENSION NO. 227

UPPER AIR DATA
3460100227
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) SPEED (KNOTS)	INDEX OF REFRACTION
4051.4	879.6	9.0	5	55.0	1083.1	655.3	0	1.000271
4500.0	865.3	12.7	-3	40.5	1051.6	659.6	351.4	1.000262
5000.0	849.8	13.0	-2.9	33.0	1032.3	659.7	351.4	1.000253
5500.0	833.5	11.8	-3.6	33.8	1018.1	658.3	351.4	1.000249
6000.0	819.4	11.4	-3.8	34.1	1000.9	657.9	319.9	1.000245
6500.0	804.5	10.4	-4.1	35.6	986.3	656.7	305.0	1.000241
7000.0	789.9	9.4	-4.5	37.2	971.9	655.5	293.2	1.000237
7500.0	775.5	8.3	-4.9	38.7	957.7	654.3	288.0	1.000234
8000.0	761.4	7.3	-5.3	40.3	943.8	653.1	289.5	1.000230
8500.0	747.4	6.7	-6.9	37.1	928.8	652.3	291.8	1.000225
9000.0	733.7	6.4	-10.1	29.4	912.9	651.9	294.0	1.000217
9500.0	720.2	6.2	-14.0	21.8	897.2	651.5	292.2	1.000210
10000.0	706.9	5.4	-17.0	17.9	883.2	650.5	288.9	1.000205
10500.0	693.8	4.4	-18.6	16.8	870.1	649.3	285.5	1.000201
11000.0	680.9	3.4	-19.7	16.4	857.2	648.1	282.1	1.000197
11500.0	668.3	2.5	-20.8	16.0	844.2	647.0	278.0	1.000194
12000.0	655.8	2.1	-21.3	15.6	829.5	646.5	275.4	1.000190
12500.0	643.5	1.8	-21.9	15.3	815.0	646.1	272.7	1.000187
13000.0	631.5	1.2	-22.5	15.0	801.3	645.5	270.3	1.000184
13500.0	619.6	0.2	-23.4	15.0	789.3	644.2	270.3	1.000181
14000.0	607.9	-0.9	-24.2	15.0	777.4	643.0	272.0	1.000178
14500.0	596.4	-1.9	-25.1	15.0	765.8	641.7	277.6	1.000175
15000.0	585.0	-3.1	-26.0	15.1	754.4	640.3	286.1	1.000172
15500.0	573.7	-4.4	-26.9	15.2	743.2	638.8	291.7	1.000169
16000.0	562.6	-5.6	-27.9	15.3	732.3	637.3	296.4	1.000166
16500.0	551.7	-6.9	-28.8	15.4	721.5	635.8	296.3	1.000164
17000.0	541.0	-8.1	-29.8	15.5	710.9	634.3	295.7	1.000161
17500.0	530.5	-9.4	-30.7	15.6	700.5	632.8	294.4	1.000159
18000.0	520.2	-10.7	-31.7	15.8	690.2	631.3	292.8	1.000156
18500.0	510.2	-11.9	-32.6	15.9	680.1	629.8	290.3	1.000154
19000.0	500.3	-13.2	-33.6	16.0	670.2	628.2	288.5	1.000151
19500.0	490.3	-14.4	-34.0	16.0	659.8	626.8	287.4	1.000149
20000.0	480.5	-15.6	-34.5	17.8	649.0	625.3	288.1	1.000147
20500.0	470.8	-16.8	-35.0	18.6	639.0	623.9	289.8	1.000144
21000.0	461.4	-17.9	-35.6	19.5	629.0	622.4	291.5	1.000142
21500.0	452.2	-19.1	-36.1	20.4	620.0	621.0	293.2	1.000140
22000.0	443.1	-20.4	-35.2	25.1	610.5	619.4	294.3	1.000138
22500.0	434.0	-21.4	-32.2	36.4	601.3	617.7	295.2	1.000136
23000.0	425.1	-23.2	-31.2	47.7	592.3	616.0	296.0	1.000135
23500.0	416.0	-24.6	-30.3	59.0	583.4	614.3	295.2	1.000133

STATION ALTITUDE 4051.37 FEET MSL
12 DEC. 61 0900 HRS MST
ASLUSION NO. 227

UPPER AIR DATA
346100227
LC-37
TABLE 1-10.17

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	TEMPERATURE DEWPOINT DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³ METR	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) SPEED (KNOTS)	INDEX OF REFRACTION
24000.0	407.8	-23.8	-26.6	77.9	569.5	615.3	292.5	1.000131
24500.0	399.4	-26.7	-29.5	77.0	564.3	611.7	288.4	1.000129
25000.0	391.1	-26.7	-29.5	76.7	552.5	611.7	283.7	1.000126
25500.0	382.9	-26.7	-29.6	76.4	541.0	611.7	279.0	1.000124
26000.0	375.0	-26.7	-29.6	76.1	529.7	611.7	274.3	1.000121
26500.0	367.1	-27.5	-30.5	75.2	520.3	610.7	272.4	1.000119
27000.0	359.3	-28.5	-31.7	74.3	511.5	609.4	271.2	1.000117
27500.0	351.7	-29.6	-32.8	73.3	502.8	608.2	270.7	1.000114
28000.0	344.3	-30.6	-33.9	72.4	494.3	606.9	270.2	1.000112
28500.0	337.1	-31.6	-35.0	71.4	485.9	605.6	269.7	1.000110
29000.0	330.0	-32.6	-36.1	70.5	477.7	604.3	269.1	1.000108
29500.0	322.9	-33.8	-37.4	69.7	469.8	602.8	270.3	1.000106
30000.0	315.9	-35.1	-38.7	69.2	462.2	601.2	272.1	1.000104
30500.0	309.1	-36.4	-40.0	68.7	454.8	599.5	273.5	1.000103
31000.0	302.4	-37.7	-41.4	68.2	447.4	597.8	274.8	1.000101
31500.0	295.8	-38.9	-43.7	68.2**	439.9	596.3	275.0	1.000099
32000.0	289.3	-40.1	-46.8	47.7**	432.3	594.8	274.8	1.000097
32500.0	282.9	-41.2	-50.5	35.2**	424.8	593.4	275.4	1.000095
33000.0	276.6	-42.3	-55.2	22.7**	417.5	591.9	276.3	1.000093
33500.0	270.5	-43.5	-62.3	10.2**	410.3	590.4	277.9	1.000091
34000.0	264.5	-44.6			403.2	588.9	279.7	1.000090
34500.0	258.5	-45.9			396.4	587.3	279.1	1.000088
35000.0	252.7	-47.2			389.6	585.8	278.4	1.000087
35500.0	246.9	-48.5			382.8	584.0	277.3	1.000085
36000.0	241.1	-49.7			375.9	582.4	276.3	1.000084
36500.0	235.5	-50.9			369.2	580.7	278.3	1.000082
37000.0	230.0	-52.2			362.6	579.1	280.3	1.000081
37500.0	224.7	-53.4			356.1	577.5	286.1	1.000079
38000.0	219.4	-54.6			349.8	575.9	291.6	1.000078
38500.0	214.3	-55.9			343.6	574.2		1.000077
39000.0	209.3	-57.1			337.5	572.6		1.000075
39500.0	204.4	-58.4			331.5	571.0		1.000074
40000.0	199.6	-59.6			325.6	569.3		1.000073
40500.0	194.8	-60.6			319.2	567.9		1.000071
41000.0	190.0	-61.7			313.0	566.5		1.000070
41500.0	185.4	-62.7			306.9	565.1		1.000068
42000.0	180.8	-63.8			300.9	563.7		1.000067
42500.0	176.4	-64.8			295.0	562.3		1.000066
43000.0	172.1	-65.9			289.3	560.8		1.000064
43500.0	167.9	-67.0			283.7	559.4		1.000063

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

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

UPPER AIR DATA
3460180227
LC-37

STATION ALTITUDE 4051.37 FEET MSL
12 DEC. 81 0900 HRS MST
ASCENSION NO. 227

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 10 CONT

GEOMETRIC ALTITUDE MSL FELT	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES(TN))	INDEX OF REFRACTION
44000.0	163.8	-67.8		277.8	558.3		1.000062
44500.0	159.7	-68.0		271.2	558.0		1.000060
45000.0	155.7	-68.2		264.7	557.7		1.000059
45500.0	151.8	-68.5		258.4	557.3		1.000058
46000.0	148.1	-68.3		251.8	557.0		1.000056
46500.0	144.4	-67.8		244.9	558.3		1.000055
47000.0	140.8	-67.2		238.2	559.1		1.000053
47500.0	137.3	-66.7		231.7	559.8		1.000052
48000.0	133.9	-66.1		225.4	560.5		1.000050
48500.0	130.6	-65.6		219.2	561.3		1.000049
49000.0	127.4	-65.0		213.2	562.0		1.000047
49500.0	124.2	-64.9		207.8	562.2		1.000046
50000.0	121.2	-65.3		203.1	561.7		1.000045
50500.0	118.2	-65.7		198.4	561.1		1.000044
51000.0	115.2	-66.2		193.9	560.5		1.000043
51500.0	112.4	-66.6		189.5	559.9		1.000042
52000.0	109.6	-67.0		185.2	559.3		1.000041
52500.0	106.9	-67.5		181.0	558.7		1.000040
53000.0	104.2	-67.9		176.9	558.2		1.000039
53500.0	101.7	-68.3		172.9	557.6		1.000039
54000.0	99.1	-68.5		168.7	557.4		1.000038
54500.0	96.7	-68.1		164.2	557.9		1.000037
55000.0	94.3	-67.6		159.9	558.5		1.000036
55500.0	92.0	-67.2		155.6	559.0		1.000035
56000.0	89.7	-66.8		151.4	559.6		1.000034
56500.0	87.5	-66.4		147.4	560.1		1.000033
57000.0	85.3	-66.0		143.5	560.7		1.000032
57500.0	83.2	-65.6		139.7	561.2		1.000031
58000.0	81.1	-65.2		135.9	561.8		1.000030
58500.0	79.1	-64.8		132.3	562.3		1.000029
59000.0	77.2	-64.8		129.0	562.4		1.000029
59500.0	75.3	-65.1		126.1	561.9		1.000028
60000.0	73.4	-65.4		123.2	561.5		1.000027
60500.0	71.6	-65.8		120.3	561.0		1.000027
61000.0	69.9	-66.2		117.6	560.5		1.000026
61500.0	68.1	-67.0		115.1	559.4		1.000026
62000.0	66.4	-67.8		112.7	558.3		1.000025
62500.0	64.8	-68.0		110.3	557.2		1.000025
63000.0	63.1	-69.4		107.9	556.1		1.000024
63500.0	61.6	-70.2		105.7	555.0		1.000024

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

STATION ALTITUDE 4051.37 FEET MSL
 12 DEC. 61 0900 HRS MST
 ASCENSION NO. 227

UPPER AIR DATA
 3460180227
 LC-37

GEOD. TIC COORDINATES
 32.40175 LAT DEG
 106.51232 LON DEG

TABLE 10 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
64000.0	60.0	-71.0		103.4	553.9			1.000023
64500.0	58.5	-71.8		101.2	552.8			1.000023
65000.0	57.0	-72.0		98.8	552.6			1.000022
65500.0	55.6	-71.5		96.1	553.2			1.000021
66000.0	54.2	-71.0		93.4	553.9			1.000021
66500.0	52.8	-70.3		90.7	554.9			1.000020
67000.0	51.5	-68.0		88.5	558.0			1.000019
67500.0	50.2	-65.7		84.4	561.1			1.000019
68000.0	49.0	-61.8		80.8	565.4			1.000018
68500.0	47.8	-59.8		78.1	569.0			1.000017
69000.0	46.7	-60.3		76.4	568.4			1.000017
69500.0	45.5	-60.8		74.7	567.7			1.000017
70000.0	44.4	-61.3		73.1	567.1			1.000016
70500.0	43.4	-61.7		71.5	566.5			1.000016
71000.0	42.3	-62.2		69.9	565.8			1.000016
71500.0	41.3	-62.7		68.4	565.2			1.000015
72000.0	40.3	-63.2		66.9	564.6			1.000015
72500.0	39.3	-63.3		65.3	564.4			1.000015
73000.0	38.4	-62.4		63.5	565.5			1.000014
73500.0	37.5	-61.6		61.7	566.7			1.000014
74000.0	36.6	-60.7		60.0	567.8			1.000013
74500.0	35.7	-59.8		58.3	569.0			1.000013
75000.0	34.9	-59.0		56.7	570.1			1.000013
75500.0	34.0	-58.1		55.1	571.3			1.000012
76000.0	33.2	-57.3		53.6	572.4			1.000012
76500.0	32.4	-56.5		52.1	573.4			1.000012
77000.0	31.7	-56.2		50.8	573.8			1.000011
77500.0	30.9	-56.0		49.6	574.1			1.000011
78000.0	30.2	-55.7		48.3	574.5			1.000011
78500.0	29.5	-56.2		47.3	573.9		48.2	1.000011
79000.0	28.8	-56.9		46.4	572.8		45.8	1.000010
79500.0	28.1	-57.6		45.4	572.0		43.8	1.000010
80000.0	27.4	-57.6		44.3	572.0		42.1	1.000010
80500.0	26.8	-57.5		43.3	572.0		41.5	1.000010
81000.0	26.2	-57.5		42.3	572.1		41.2	1.000009
81500.0	25.5	-57.5		41.2	572.1		40.9	1.000009
82000.0	24.9	-57.5		40.3	572.1		42.4	1.000009
82500.0	24.3	-57.4		39.3	572.2		45.3	1.000009
83000.0	23.8	-57.4		38.4	572.2		48.2	1.000009
83500.0	23.2	-57.4		37.5	572.2			1.000008

AX WIND DATA INVALID DUE TO ISSUES RAW AZIMUTH AND ELEVATION ANGLES.

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

UPPER AIR DATA
3460180227
LC-37

STATION ALTITUDE 4051.37 FEET MSL
12 DEC. 61
ASCENSION NO. 227

TABLE 10 CON'T

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						.. DIRECTION DEGREES (IN)	SPEED KNOTS	
84000.0	22.7	-56.7		36.5	573.1			1.000008
84500.0	22.1	-56.1		35.5	574.0			1.000008
85000.0	21.6	-55.4		34.6	574.9			1.000008
85500.0	21.1	-54.7		33.7	575.8			1.000007

STATION ALTITUDE 4051.37 FEET MSL
 12 DEC. 51
 ASCENSION NO. 227

MANDATORY LEVELS
 3460180227
 LC-37
 TABLE 11

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4989.	13.0	-2.9	33.	331.4	4.1
800.0	6651.	10.1	-4.2	30.	301.0	8.7
750.0	8400.	6.7	-6.4	38.	291.2	14.0
700.0	10254.	4.9	-10.1	17.	287.1	16.7
650.0	12223.	1.9	-21.6	15.	274.1	22.7
600.0	14329.	-1.6	-24.8	15.	275.1	23.2
550.0	16578.	-7.1	-29.0	15.	296.2	21.2
500.0	18987.	-13.2	-33.6	10.	268.5	23.8
450.0	21589.	-19.4	-30.3	21.	293.5	23.7
400.0	24423.	-26.7	-29.5	77.	269.0	41.4
350.0	27577.	-29.8	-33.0	73.	270.6	59.9
300.0	31124.	-38.2	-41.9	68.	275.2	73.1
250.0	35159.	-47.8			277.9	88.7
200.0	39866.	-59.5			999.0	999.0XX
175.0	42571.	-65.2			999.0	999.0XX
150.0	45617.	-68.6			999.0	999.0XX
125.0	49236.	-64.8			999.0	999.0XX
100.0	53664.	-68.6			999.0	999.0XX
80.0	58089.	-65.0			999.0	999.0XX
70.0	60757.	-66.1			999.0	999.0XX
60.0	63787.	-71.0			999.0	999.0XX
50.0	67341.	-65.3			999.0	999.0XX
40.0	71877.	-63.3			999.0	999.0XX
30.0	77797.	-55.6			999.0	999.0XX
25.0	81580.	-57.5			265.0	41.9

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

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

SIGNIFICANT LEVEL DATA

3469020736
WHITE SANDS

TABLE 12

STATION ALTITUDE 3939.00 FEET MSL
12 DEC. 61 1000 HRS MST
ASCENSION NO. 738

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
880.9 3989.0	18.9	9.1	53.0
877.1 4109.3	11.4	-1.4	41.0
867.7 4405.1	11.8	-1.7	39.0
850.0 4971.5	12.1	-4.5	31.0
800.5 6615.9	10.3	-6.1	31.0
791.1 6738.6	10.3	-6.5	30.0
744.5 8587.2	6.9	-9.0	31.0
735.2 8926.3	6.7	-14.6	20.0
719.8 9497.4	7.2	-18.5	14.0

STATION ALTITUDE 3989.00 FEET MSL				UPPER AIR DATA				GEOGRAPHIC COORDINATES			
12 DEC. 61				3460020730				32.400043 LAT DEG			
ASCENSION NO. 738				WHITE SANDS				106.37033 LON DEG			
1000 HRS NST				TABLE 13							
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		EL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION		
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES (IN)	SPEED KNOTS			
3989.0	880.9	13.9	9.1	53.0	1045.5	667.4	00	00	1.000264		
4000.0	880.6	13.2	8.2	51.9	1047.9	666.5	357.2	.1	1.000262		
4500.0	863.7	11.9	-2.1	37.7	1054.5	658.4	357.2	2.5	1.000259		
5000.0	849.1	12.1	-4.5	31.0	1035.1	658.6	357.2	4.9	1.000251		
5500.0	835.8	11.5	-5.0	31.0	1018.4	657.9	357.2	7.3	1.000247		
6000.0	816.7	11.0	-5.5	31.0	1001.9	657.3	357.2	9.7	1.000242		
6500.0	803.9	10.4	-6.0	31.0	985.7	656.6	351.2	8.5	1.000238		
7000.0	789.3	10.2	-6.6	30.0	968.8	656.3	296.4	9.5	1.000233		
7500.0	774.9	9.1	-7.4	30.3	954.6	655.1	285.5	12.9	1.000229		
8000.0	760.3	8.1	-8.1	30.6	940.7	653.9	283.5	16.5	1.000225		
8500.0	746.9	7.1	-9.9	30.9	927.0	652.7			1.000222		
9000.0	733.2	6.8	-15.1	19.2	911.6	652.1			1.000212		

STATION ALTITUDE 3989.00 FEET MSL
 12 DEC. 81
 ASCENSION NO. 738

MANDATORY LEVELS
 3460020736
 WHITE SANDS
 TABLE 14

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.57033 LONG DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4968.	12.1	-4.5	31.	357.2	4.7
800.0	6628.	10.3	-6.1	31.	321.6	6.5
750.0	8381.	7.3	-8.7	31.		

STATION ALTITUDE 4051.37 FEET MSL
 12 DEC. 61
 ASCENSION NO. 228

SIGNIFICANT LEVEL DATA

3461180220
 LC-37

TABLE 15

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
880.3	4051.4	14.0	1.3	42.0
850.0	5016.6	11.2	-2.6	38.0
787.8	7089.6	8.4	-4.4	40.0
732.8	9049.2	7.0	-7.8	34.0
700.0	10280.0	4.6	-18.3	17.0
660.4	11829.8	1.7	-20.0	18.0
600.2	14344.8	-1.7	-24.2	16.0
575.4	15442.7	-4.4	-25.7	17.0
500.0	19017.5	-13.6	-27.8	29.0
447.6	21744.3	-21.6	-28.2	55.0
433.2	22536.2	-22.3	-28.1	71.0
400.0	24457.9	-24.1	-27.2	75.0
356.0	27233.2	-28.3	-31.3	75.0
300.0	31194.9	-38.0	-41.4	70.0

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LON DEG

STATION ALTITUDE 4051.37 FEET MSL
 12 DEC. 81 1100 HRS MST
 ASCENSION NO. 228

UPPER AIR DATA
 3460180220
 LC-37

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.51232 LON DEG

TABLE 16

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND METERS PER SECOND	DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4051.4	880.3	14.0	42.0	1164.9	661.1	0.0	0.0	1.000268
4500.0	860.1	12.7	40.1	1052.8	659.5			1.000262
5000.0	850.5	11.2	38.1	1039.5	657.7			1.000255
5500.0	835.1	10.5	38.5	1023.1	656.9			1.000251
6000.0	819.9	9.9	38.9	1007.0	656.1			1.000247
6500.0	805.0	9.2	39.4	991.1	655.3			1.000243
7000.0	790.4	8.5	39.9	975.5	654.5			1.000239
7500.0	775.9	8.1	38.7	959.1	654.0			1.000234
8000.0	761.8	7.7	37.2	942.9	653.6			1.000229
8500.0	747.8	7.4	35.7	926.9	653.1			1.000224
9000.0	734.1	7.0	34.2	911.2	652.7			1.000220
9500.0	720.6	6.1	27.8	897.7	651.5			1.000213
10000.0	707.3	5.1	20.9	884.6	650.2			1.000206
10500.0	694.2	4.2	17.1	871.4	649.0	273.0	22.7	1.000201
11000.0	681.3	3.3	17.5	858.1	647.9	271.2	21.6	1.000198
11500.0	668.6	2.3	17.8	845.0	646.8	268.6	20.6	1.000195
12000.0	656.1	1.5	17.9	831.8	645.8	267.4	20.7	1.000191
12500.0	643.8	.8	17.5	818.1	645.0	266.2	20.9	1.000188
13000.0	631.7	.1	17.1	804.8	644.2	266.9	20.8	1.000185
13500.0	619.8	-.6	16.7	791.6	643.4	268.3	20.6	1.000181
14000.0	608.1	-1.2	16.3	778.7	642.6	269.9	20.4	1.000178
14500.0	596.6	-2.1	16.1	766.4	641.6	271.8	20.2	1.000175
15000.0	585.3	-3.3	16.6	755.2	640.1	273.4	20.0	1.000172
15500.0	574.1	-4.5	17.2	744.2	638.6	273.6	19.6	1.000170
16000.0	562.9	-5.8	18.9	733.3	637.1	274.1	19.3	1.000167
16500.0	552.0	-7.1	20.5	722.5	635.6	272.2	19.8	1.000165
17000.0	541.2	-8.4	22.2	711.9	634.0	270.5	20.3	1.000162
17500.0	530.7	-9.7	23.9	701.4	632.5	271.4	20.6	1.000160
18000.0	520.4	-11.0	25.6	691.2	630.9	272.8	20.9	1.000158
18500.0	510.3	-12.3	27.3	681.1	629.4	273.6	21.2	1.000155
19000.0	500.3	-13.6	28.9	671.1	627.8	274.1	21.3	1.000153
19500.0	490.3	-15.0	33.6	661.4	626.1	274.7	21.6	1.000151
20000.0	480.4	-16.5	38.4	651.8	624.3	276.0	22.4	1.000149
20500.0	470.8	-17.9	43.1	642.3	622.5	277.1	23.1	1.000147
21000.0	461.3	-19.4	47.9	633.1	620.7	281.2	24.0	1.000145
21500.0	452.1	-20.9	52.7	624.0	618.9	285.2	25.1	1.000143
22000.0	442.9	-21.8	60.2	613.0	617.6	286.6	26.4	1.000141
22500.0	433.8	-22.3	70.3	602.0	617.3	285.4	28.0	1.000138
23000.0	424.9	-22.7	72.0	590.8	616.7	284.2	29.6	1.000136
23500.0	416.2	-23.2	73.0	579.7	616.1	280.2	32.1	1.000133

AX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEV TYPH ANGLES.

STATION ALTITUDE 4051.37 FEET MSL
12 DEC. 81 1100 HRS MST
ASCENSION NO. 228

UPPER AIR DATA
3460180226
LC-37

GEODETIC COORDINATES
32.40175 LAT UEG
106.31232 LON UEG

TABLE 16 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 CENTIGRADE	DEWPOINT CENTIGRADE			KNOTS	DEGREES (IN)	KNOTS		
24000.0	407.7	-23.7	-27.0	74.0	568.9	615.5	276.5	34.9	1.000131	
24500.0	399.3	-24.2	-27.3	75.0	558.3	614.9	272.0	38.6	1.000128	
25000.0	391.0	-24.9	-28.0	75.0	548.4	614.0	268.2	43.8	1.000126	
25500.0	382.9	-25.7	-28.8	75.0	538.7	613.0	264.9	49.1	1.000123	
26000.0	374.9	-26.4	-29.5	75.0	529.1	612.1	263.8	53.3	1.000121	
26500.0	367.1	-27.2	-30.2	75.0	519.7	611.1	263.0	57.5	1.000119	
27000.0	359.5	-27.9	-31.0	75.0	510.5	610.2	264.2	59.4	1.000117	
27500.0	351.9	-29.0	-32.0	74.7	501.8	608.9	265.8	61.0	1.000114	
28000.0	344.4	-30.2	-33.3	74.0	493.6	607.4	267.0	63.1	1.000112	
28500.0	337.0	-31.4	-34.6	73.4	485.5	605.8	267.7	65.9	1.000110	
29000.0	329.8	-32.6	-35.8	72.8	477.6	604.3	268.4	68.7	1.000108	
29500.0	322.8	-33.9	-37.1	72.1	469.8	602.7			1.000106	
30000.0	315.9	-35.1	-38.4	71.5	462.1	601.2			1.000104	
30500.0	309.1	-36.3	-39.6	70.9	454.6	599.6			1.000103	
31000.0	302.5	-37.5	-40.9	70.2	447.2	598.1			1.000101	

STATION ALTITUDE 4051.37 FEET MSL
12 DEC. 81
ASCENSION NO. 228

MANDATORY LEVELS
3460160220
LC-37

TABLE 17

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5013.	11.2	-2.6	38.	9999.0	9999.0XX
800.0	6667.	9.0	-4.0	40.	9999.0	9999.0XX
750.0	8415.	7.4	-6.7	36.	9999.0	9999.0XX
700.0	10270.	4.6	-18.3	17.	9999.0	9999.0XX
650.0	12236.	1.1	-20.7	18.	266.8	20.8
600.0	14337.	-1.7	-24.2	16.	271.2	20.2
550.0	16584.	-7.4	-25.9	21.	271.9	19.9
500.0	18991.	-13.6	-27.8	29.	274.1	21.3
450.0	21581.	-21.2	-28.1	54.	286.0	25.3
400.0	24417.	-24.1	-27.2	75.	273.2	38.0
350.0	27584.	-29.3	-32.3	75.	266.2	61.3
300.0	31133.	-38.0	-41.4	70.		

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