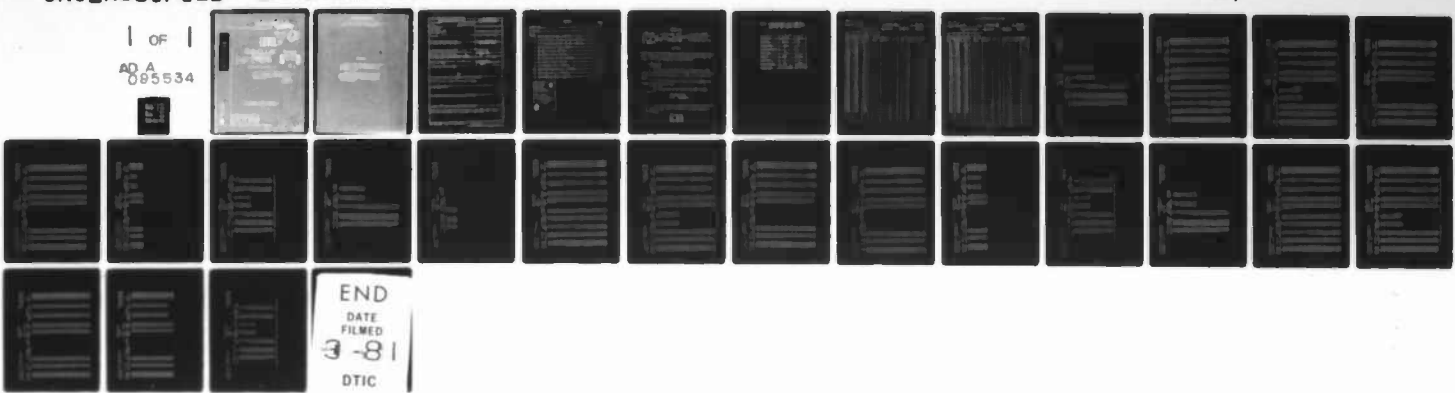


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9 METEOROLOGICAL DATA REPORT

4 12300 RANGE
11 DECEMBER 1961

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White Sands Meteorological Team

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 12830B LANCE, Missile Number 2513, Round Number 360-DSL presented in tabular form.		

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INTRODUCTION

12830B LANCE , Missile Number 2513 , Round Number 360-DSL ,
was launched from LC 33 , White Sands Missile Range (WSMR), New
Mexico, at 0820 MST on 11 December 1980 . The scheduled launch time
was 0800 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) 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 RAPTS T-9 pibal observation at:

SITE AND ALTITUDE

LC 33 1500 Meters

(b) Air structure data (rawinsonde) were collected at the following met sites. Data were collected from surface to as high as possible in 500-foot increments.

SITE AND TIME

WSD 0845 MST
NW 30 0700 MST
JALLEN 0740 MST

TABLE 1. Surface Observation taken at 0820 MST,
 11 December 1980, at LC33, 12830B LANCE
 Missile No. 2513, Round No. 360-DSL.

ELEVATION	3977.30	FT/MSL
PRESSURE	890.6	MBS
TEMPERATURE	29.3	°C
RELATIVE HUMIDITY	71	%
DEW POINT	21.0	°C
DENSITY	1014	GM/M ³
WIND SPEED	01	KTS
WIND DIRECTION	200	DEGREES
CLOUD COVER	1st 1/CT/25000	AMT/TYPER/HGT

STATION ALTITUDE 3939.00 FEET MSL
 11 DEC. 50
 ASCENSION NO. 679

SIGNIFICANT LEVEL DATA
 34600, 6075
 WHITE SANDS

34600, 6075
 WHITE SANDS

TABLE 4

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MFL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
890.3	3489.0	-3.0	76.0
882.6	4214.9	-3.3	72.0
873.0	4501.6	1.2	65.0
850.0	5209.8	3.0	52.0
776.6	7620.7	9.8	32.0
730.2	8038.0	3.0	28.0
730.2	9264.2	3.5	29.0
721.0	9601.9	3.1	22.0
760.0	10387.2	2.2	26.0
667.2	11658.6	1.5	23.0
556.4	16384.4	-7.6	23.0
500.0	19081.5	-10.8	25.0
470.2	20597.0	-10.5	25.0
454.6	21008.3	-21.2	20.0
400.0	24699.4	-27.1	25.0
337.6	29429.8	-37.2	25.0
300.0	31683.8	-42.9	
290.0	35071.3	-40.9	
220.0	37797.6	-54.3	
200.0	39788.5	-50.1	
170.8	43006.1	-64.8	
154.4	45024.2	-67.4	
150.0	45601.2	-65.5	
113.2	51233.5	-66.5	
100.0	53707.6	-66.8	
86.2	56656.5	-68.6	
70.0	60800.9	-65.9	
61.4	63842.6	-63.7	
54.4	65894.2	-63.9	
50.0	67617.4	-60.1	
45.0	69789.9	-60.1	
41.4	71502.6	-61.8	
38.4	73041.1	-62.0	
31.8	76940.3	-57.3	
30.0	78160.6	-56.6	
25.6	81503.5	-50.6	
20.0	86799.7	-40.0	
19.2	87687.1	-40.9	

GEODESIC COORDINATES
 32.40043 LAT DEG
 106.57033 LONG DEG

UPPER AIR DATA
 3400020079
 WHITE SANDS

TABLE 5

STATION ALTITUDE 3989.00 FEET MSL
 11 DEC 63
 0845 HRS EST

GEODESIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND MOTS	DIRECTION DEGREES (TH)	WIND SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES	WET POINT CENTIGRADE						
3989.0	890.3	-3.0	-6.6	76.0	1146.3	640.8	210.0	4.1	1.000275
4000.0	889.4	-3.0	-6.7	75.0	1145.8	640.8	210.3	4.0	1.000275
4500.0	873.1	1.2	-4.6	65.0	1106.6	645.9	234.1	2.7	1.000268
5000.0	850.8	2.5	-5.4	55.9	1090.9	647.3	278.9	2.3	1.000261
5500.0	840.8	3.2	-6.3	49.6	1058.0	648.2	313.4	3.3	1.000255
6000.0	825.2	3.6	-7.1	45.4	1037.1	648.6	334.7	5.1	1.000249
6500.0	805.9	4.0	-8.0	41.3	1016.5	649.0	347.6	7.6	1.000243
7000.0	794.9	4.3	-9.0	37.1	996.4	649.4	351.7	8.4	1.000237
7500.0	780.1	4.7	-10.2	33.0	976.7	649.8	353.7	8.1	1.000231
8000.0	765.6	4.3	-11.4	30.8	960.2	649.3	353.7	7.2	1.000226
8500.0	751.4	3.6	-12.6	29.3	944.6	649.5	353.1	6.2	1.000222
9000.0	737.5	3.1	-13.5	28.2	929.0	647.9	349	5.1	1.000218
9500.0	723.8	3.2	-15.3	24.1	911.4	648.0	29.1	4.3	1.000212
10000.0	710.3	2.6	-15.8	24.0	896.3	647.3	61.6	4.6	1.000209
10500.0	697.0	2.1	-15.5	25.7	881.2	646.7	80.6	6.2	1.000205
11000.0	684.0	1.9	-16.3	24.6	865.6	646.4	85.1	8.7	1.000201
11500.0	671.2	1.6	-17.1	23.4	850.3	645.0	89.8	10.6	1.000197
12000.0	658.5	.8	-17.9	23.0	836.5	645.1	87.4	12.8	1.000194
12500.0	646.0	-1	-18.7	23.0	823.5	644.0	86.4	12.8	1.000191
13000.0	633.7	-1.1	-19.5	23.0	810.8	642.8	83.6	13.3	1.000187
13500.0	621.6	-2.0	-20.3	23.0	798.2	641.7	88.4	14.1	1.000184
14000.0	609.8	-3.0	-21.2	23.0	785.8	640.5	86.5	15.1	1.000181
14500.0	598.2	-4.0	-22.0	23.0	773.6	639.4	86.6	16.6	1.000178
15000.0	586.8	-4.9	-22.8	23.0	761.7	638.2	87.4	18.3	1.000175
15500.0	575.6	-5.9	-23.6	23.0	749.9	637.1	87.4	19.6	1.000172
16000.0	564.7	-6.9	-24.5	23.0	738.3	635.9	87.3	20.9	1.000169
16500.0	553.9	-7.9	-25.3	23.1	727.1	634.6	83.3	21.8	1.000166
17000.0	543.0	-9.3	-26.3	23.5	716.5	633.0	83.4	22.7	1.000163
17500.0	532.3	-10.6	-27.3	23.8	706.1	631.4	82.1	22.3	1.000161
18000.0	521.9	-12.0	-28.3	24.2	695.8	629.7	80.7	22.0	1.000158
18500.0	511.7	-13.3	-29.3	24.6	685.7	628.1	73.2	21.2	1.000156
19000.0	501.6	-14.7	-30.3	24.9	675.8	626.4	77.4	20.4	1.000153
19500.0	491.6	-16.2	-31.6	25.0	666.2	624.6	74.7	19.4	1.000151
20000.0	481.7	-17.7	-32.9	25.0	656.7	622.8	70.6	18.7	1.000148
20500.0	472.1	-19.2	-34.2	25.0	647.4	620.9	63.1	18.4	1.000146
21000.0	462.5	-20.5	-35.0	25.5	637.1	619.5	64.7	19.0	1.000144
21500.0	453.1	-21.4	-35.7	26.0	626.7	618.2	64.9	20.2	1.000141
22000.0	443.7	-22.3	-36.6	25.8	616.2	617.1	77.5	20.5	1.000139
22500.0	434.6	-23.3	-37.5	25.6	605.8	615.9	87.5	21.1	1.000136
23000.0	425.6	-24.2	-38.4	25.5	595.6	614.7	92.9	23.7	1.000134

STATION ALTITUDE 3949.00 FEET MSL
 14 DEC. 63
 ASCENSION NO. 674

UPPER AIR DATA
 340020679
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

TABLE 5 (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUMID. PERCENT	WIND DIRECTION DEGREES (TRU)	WIND SPEED KNOTS	INDEX OF REFRACTION
23500.0	410.8	-25.2	25.3	90.5	26.8	1.000132
24000.0	400.2	-26.2	25.2	96.8	30.7	1.000129
24500.0	392.8	-27.1	25.0	97.5	33.7	1.000127
25000.0	391.5	-28.4	25.0	98.7	35.0	1.000125
25500.0	385.0	-29.7	25.0	99.2	36.4	1.000123
26000.0	374.8	-31.0	25.0	98.8	37.8	1.000121
26500.0	360.4	-32.3	25.0	97.6	38.1	1.000119
27000.0	359.0	-33.5	25.0	96.0	37.1	1.000117
27500.0	351.0	-34.8	25.0	95.7	32.9	1.000115
28000.0	345.9	-36.1	25.0	97.9	24.2	1.000113
28500.0	336.5	-37.4	24.3**	100.0	17.5	1.000111
29000.0	329.1	-38.4	19.6**	100.7	14.6	1.000109
29500.0	321.9	-39.5	14.6**	100.4	11.6	1.000107
30000.0	314.8	-40.6	10.2**	95.5	8.2	1.000105
30500.0	307.9	-41.6	5.5**	83.5	5.0	1.000103
31000.0	301.1	-42.7	.8**	293.1	4.0	1.000101
31500.0	294.5	-43.6		289.5	13.2	1.000100
32000.0	287.7	-44.5		284.0	17.6	1.000098
32500.0	281.2	-45.4		284.1	21.2	1.000096
33000.0	274.8	-46.5		279.7	25.5	1.000094
33500.0	268.6	-47.1		276.5	30.1	1.000092
34000.0	262.6	-48.0		276.7	37.1	1.000090
34500.0	256.6	-48.9		273.2	44.6	1.000089
35000.0	250.8	-49.8		279.8	51.8	1.000087
35500.0	245.0	-50.6		280.1	58.9	1.000085
36000.0	239.5	-51.4		278.5	64.7	1.000084
36500.0	233.8	-52.2		275.5	69.5	1.000082
37000.0	228.4	-53.0		274.0	73.6	1.000080
37500.0	223.1	-53.8		274.0	76.7	1.000079
38000.0	217.9	-54.8		273.7	79.7	1.000077
38500.0	212.7	-56.0		273.0	82.4	1.000076
39000.0	207.7	-57.2		272.0	84.6	1.000075
39500.0	202.8	-58.4		270.0	85.8	1.000073
40000.0	197.9	-59.5		268.5	86.5	1.000072
40500.0	193.1	-60.4		268.5	84.1	1.000070
41000.0	188.5	-61.2		268.5	81.7	1.000069
41500.0	183.9	-62.1		269.2	79.4	1.000068
42000.0	179.4	-63.0		270.1	77.1	1.000066
42500.0	175.1	-63.9		271.9	74.8	1.000065
43000.0	170.9	-64.8		274.0	72.5	1.000064

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

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

UPPER AIR DATA
 3400020679
 WHITE SANDS
 TABLE 5 (Cont)

STATION ALTITUDE 3989.00 FEET MSL
 TIME 0845 HRS MST
 OBSERVATION NO. 079

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
43500.0	160.6	-65.4		279.5	561.5	270.3	69.7	1.000062
44000.0	162.5	-66.1		273.4	560.0	279.0	66.7	1.000061
44500.0	150.5	-66.7		267.5	559.7	281.1	63.5	1.000060
45000.0	154.6	-67.4		261.7	550.9	281.9	59.7	1.000058
45500.0	150.8	-65.8		253.3	560.9	282.6	56.0	1.000056
46000.0	147.0	-65.6		240.8	561.3	282.8	52.4	1.000055
46500.0	143.4	-65.7		240.8	561.2	282.9	48.8	1.000054
47000.0	139.9	-65.7		234.9	561.1	281.4	45.7	1.000052
47500.0	136.4	-65.8		229.2	560.9	279.6	42.7	1.000051
48000.0	133.1	-65.9		223.7	560.8	277.9	40.3	1.000050
48500.0	129.8	-66.0		218.2	560.7	276.4	38.3	1.000049
49000.0	126.6	-66.1		213.0	560.6	274.6	36.8	1.000047
49500.0	123.4	-66.2		207.8	560.4	272.8	36.3	1.000046
50000.0	120.4	-66.3		202.7	560.3	271.0	35.8	1.000045
50500.0	117.4	-66.4		197.8	560.2	269.6	36.0	1.000044
51000.0	114.5	-66.5		193.0	560.1	268.6	38.5	1.000043
51500.0	111.7	-66.5		188.3	560.0	267.0	41.7	1.000042
52000.0	108.9	-66.6		183.7	559.9	266.2	45.9	1.000041
52500.0	106.2	-66.7		179.2	559.8	265.9	49.2	1.000040
53000.0	103.6	-66.7		174.8	559.7	264.8	48.5	1.000039
53500.0	101.0	-66.8		170.6	559.7	263.6	48.1	1.000038
54000.0	98.5	-67.0		166.5	559.4	274.2	45.4	1.000037
54500.0	96.1	-67.3		162.6	559.0	278.6	41.3	1.000036
55000.0	93.7	-67.6		158.8	558.6	284.3	37.6	1.000035
55500.0	91.4	-67.9		155.1	558.1	285.5	35.6	1.000035
56000.0	89.1	-68.2		151.4	557.7	286.9	33.7	1.000034
56500.0	86.9	-68.5		147.9	557.3	286.9	31.6	1.000033
57000.0	84.7	-68.4		144.1	557.5	285.1	29.4	1.000032
57500.0	82.6	-68.1		140.3	557.9	282.9	27.1	1.000031
58000.0	80.6	-67.7		136.6	558.4	281.6	27.0	1.000030
58500.0	78.6	-67.4		133.0	558.8	280.5	27.0	1.000030
59000.0	76.6	-67.1		129.5	559.3	280.1	27.0	1.000029
59500.0	74.7	-66.7		126.1	559.7	280.7	27.0	1.000028
60000.0	72.9	-66.4		122.8	560.1	281.5	27.1	1.000027
60500.0	71.1	-66.1		119.6	560.6	282.1	25.9	1.000027
61000.0	69.3	-65.7		116.4	561.1	283.0	24.5	1.000026
61500.0	67.6	-65.3		113.3	561.6	282.1	23.5	1.000025
62000.0	66.0	-64.9		110.3	562.2	277.6	23.2	1.000025
62500.0	64.5	-64.5		107.4	562.8	273.0	23.0	1.000024
63000.0	62.8	-64.1		104.6	563.3	269.7	23.6	1.000023

STATION ALTITUDE 5989.00 FEET MSL
 11 JUL 68
 ASCENSION I.O. 079

UPPER AIR DATA
 3460020679
 WHITE SANDS
 Table 5 (Cont)

GEODETTIC COORDINATES
 32.40043 LAT NEG
 106.37033 LON NEG

GEOMETRIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND METERS PER SECOND	WIND DATA DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
63500.0	61.2	-63.7		101.6	563.8	267.0	24.6	1.000023
64000.0	59.7	-63.7		99.4	563.8	265.2	25.4	1.000022
64500.0	58.3	-63.8		97.0	563.7	267.5	24.6	1.000022
65000.0	56.9	-63.8		94.6	563.6	270.0	23.9	1.000021
65500.0	55.5	-63.9		92.3	563.6	272.5	22.4	1.000021
66000.0	54.1	-63.7		90.0	563.9	275.3	20.4	1.000020
66500.0	52.8	-62.6		87.4	565.3	276.8	18.4	1.000019
67000.0	51.5	-61.5		84.8	566.8	282.1	17.6	1.000019
67500.0	50.3	-60.4		82.3	568.3	285.5	17.0	1.000018
68000.0	49.1	-60.1		80.3	568.6	289.0	16.4	1.000018
68500.0	47.9	-60.1		78.3	568.6	292.2	15.5	1.000017
69000.0	46.8	-60.1		76.5	568.6	295.7	14.7	1.000017
69500.0	45.6	-60.1		74.6	568.6	296.8	15.0	1.000017
70000.0	44.5	-60.3		72.9	568.4	296.3	16.0	1.000016
70500.0	43.5	-60.8		71.3	567.7	295.8	17.0	1.000016
71000.0	42.4	-61.3		69.8	567.0	291.5	19.5	1.000016
71500.0	41.4	-61.8		68.2	566.4	288.1	22.0	1.000015
72000.0	40.4	-61.9		66.6	566.3	286.2	24.4	1.000015
72500.0	39.4	-61.9		65.0	566.2	285.7	26.2	1.000014
73000.0	38.5	-62.0		63.5	566.1	285.2	28.0	1.000014
73500.0	37.6	-61.4		61.8	566.8	283.0	28.9	1.000014
74000.0	36.7	-60.8		60.2	567.6	280.3	29.8	1.000013
74500.0	35.8	-60.2		58.5	568.4	277.5	30.5	1.000013
75000.0	34.9	-59.6		57.0	569.3	272.6	30.5	1.000013
75500.0	34.1	-59.0		55.5	570.1	267.8	30.7	1.000012
76000.0	33.3	-58.4		54.0	570.9	265.2	30.7	1.000012
76500.0	32.5	-57.8		52.6	571.7	265.5	30.3	1.000012
77000.0	31.7	-57.3		51.2	572.4	265.7	29.9	1.000011
77500.0	31.0	-57.0		49.9	572.8	265.7	29.9	1.000011
78000.0	30.2	-56.7		48.7	573.2	265.5	30.1	1.000011
78500.0	29.5	-56.4		47.4	573.6	265.3	30.3	1.000011
79000.0	28.8	-56.1		46.3	574.0	264.3	31.5	1.000010
79500.0	28.2	-55.8		45.1	574.4	263.4	32.9	1.000010
80000.0	27.5	-55.5		44.0	574.7	262.6	34.3	1.000010
80500.0	26.8	-55.2		42.9	575.1	262.0	35.4	1.000010
81000.0	26.2	-54.9		41.9	575.5	261.5	36.4	1.000009
81500.0	25.6	-54.6		40.8	575.9	260.5	37.6	1.000009
82000.0	25.0	-54.1		39.8	576.6	257.8	39.2	1.000009
82500.0	24.4	-53.5		38.8	577.3	255.3	40.9	1.000009
83000.0	23.9	-53.0		37.8	578.0	254.0	42.6	1.000008

STATION ALTITUDE 3989.00 FEET MSL
 11 DEC. 68
 ASCENSION NO. 079

UPPER AIR DATA
 3460020679
 WHITE SANDS

0845 HRS MST

GEODETIC COORDINATES
 32.40043 LAT (DEG)
 106.37033 LONG (DEG)

TABLE 5 (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND M/SEC	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
03500.0	23.3	-52.5		36.8	570.7	254.3	43.9	1.0000068
04000.0	22.8	-52.0		35.9	579.4	254.6	45.3	1.0000068
04500.0	22.3	-51.4		35.0	580.1	256.0	46.0	1.0000068
05000.0	21.8	-50.9		34.1	580.0	258.3	46.2	1.0000068
05500.0	21.2	-50.4		33.2	581.5	260.6	46.5	1.0000067
06000.0	20.8	-49.8		32.4	582.2			1.0000067
06500.0	20.3	-49.3		31.6	582.9			1.0000067
07000.0	19.8	-49.0		30.8	583.3			1.0000067
07500.0	19.4	-48.9		30.1	583.4			1.0000067

STATION ALTITUDE 3989.00 FEET MSL
 11 DEC. 60
 ASCENSION NO. 679

MANDATORY LEVELS
 3460020679
 WHITE SANDS

GEODLTIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

TABLE 6

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5206.	3.0	-5.9	52.	296.3	2.6	
800.0	6821.	4.2	-8.6	39.	351.1	8.5	
750.0	8544.	3.5	-12.7	29.	358.6	6.1	
700.0	10377.	2.2	-15.3	26.	79.3	5.7	
650.0	12335.	.2	-18.4	23.	88.0	12.6	
600.0	14423.	-3.8	-21.9	23.	86.6	16.4	
550.0	16658.	-8.4	-25.7	23.	84.6	22.2	
500.0	19055.	-14.9	-30.5	25.	77.1	20.2	
450.0	21632.	-21.7	-36.0	26.	70.4	20.5	
400.0	24449.	-27.1	-41.1	25.	97.4	33.6	
350.0	27555.	-35.1	-48.0	25.	96.0	31.3	
300.0	31022.	-42.0			294.0	5.2	
250.0	34995.	-49.9			279.9	52.6	
200.0	39693.	-59.1			269.0	80.5	
175.0	42409.	-63.9			271.9	74.8	
150.0	45479.	-65.5			282.0	55.4	
125.0	49112.	-66.1			273.8	36.5	
100.0	53543.	-66.8			271.6	48.1	
80.0	57946.	-67.6			281.4	27.0	
70.0	60594.	-65.9			282.6	25.2	
60.0	63683.	-63.7			265.2	25.4	
50.0	67365.	-60.1			206.1	16.9	
40.0	71921.	-61.9			286.0	25.0	
30.0	77830.	-56.6			265.4	30.1	
25.0	81644.	-54.1			258.0		
20.0	86397.	-49.0					

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

STATION ALTITUDE 4010.40 FEET MSL
 11 DEC. 80
 ASCENSION NO. 32

SIGNIFICANT LEVELL DATA
 3460220052
 NW 30
 TABLE 7

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	DEWPOINT TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT
888.2	4010.4	-4.5	-0.9	71.0
881.2	4216.0	-2.3	-5.9	76.0
867.8	4618.7	1.6	-7.7	50.0
850.0	5169.6	4.1	-10.7	33.0
837.8	5556.2	4.9	-12.5	27.0
810.6	6438.9	4.4	-16.5	17.0
781.0	7436.0	6.2	-23.1	10.0
723.6	9485.5	5.3	-23.8	10.0
700.0	10371.6	3.5	-25.2	10.0
624.2	13390.3	-2.7	-30.0	10.0
615.8	13743.4	-2.3	-29.7	10.0
581.4	15232.2	-6.1	-32.7	10.0
559.8	17130.7	-0.2	-35.1	10.0
500.0	19058.1	-14.6	-39.4	10.0
461.4	21030.4	-20.0	-43.6	10.0
424.0	23084.4	-23.9	-46.7	10.0
400.0	24475.4	-27.0	-49.2	10.0
300.0	31067.5	-43.9		
284.8	32210.0	-46.7		
273.0	33132.3	-47.6		
250.0	35028.8	-51.9		
244.8	35477.3	-52.1		
237.8	36093.0	-54.2		
228.6	36726.1	-54.4		
218.2	37903.7	-56.7		
200.0	39712.4	-59.2		
193.0	40448.6	-58.9		
169.0	43072.5	-62.9		
160.6	44204.3	-62.5		
150.0	45584.9	-65.0		
143.8	46433.4	-65.0		
135.6	47609.2	-66.6		
127.8	48794.5	-65.4		
120.2	50023.1	-66.0		
109.2	51051.4	-64.4		
100.0	53720.7	-65.6		
87.2	56453.1	-67.7		
70.0	60035.4	-66.0		
63.8	62693.4	-66.0		
50.0	67619.3	-62.5		

STATION ALTITUDE 4010.40 FEET MSL
 11 DEC. 68
 ASCENSION NO. 32

SIGNIFICANT LEVEL DATA
 3460220032
 LW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 7 (Cont)

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE METERS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
41.2	71606.2	-50.0	
38.6	72062.5	-50.1	
30.0	78203.2	-57.8	
22.8	83072.1	-50.6	
21.6	85127.9	-50.6	
20.0	86789.4	-50.3	
17.0	90297.9	-50.7	

STATION ALTITUDE 4010.00 FEET MSL
 11 DEC. 63 0700 HRS MST
 ASCENSION 140. 32

UPPER AIR DATA
 340220032
 NW 30

GEODETIC COORDINATES
 32.08497 LAT NEG
 106.49714 LON NEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA (TN) KNOTS	INDEX OF REFRACTION
4010.0	880.2	-4.5	-0.9	71.0	1150.2	659.0	.0	.0	1.000273
4500.0	871.7	.5	-0.9	57.7	1103.2	644.9	340.0	2.1	1.000265
5000.0	855.4	3.3	-0.5	33.2	1076.4	648.2	340.0	4.2	1.000255
5500.0	839.6	4.8	-12.2	27.9	1051.2	649.8	339.7	4.9	1.000246
6000.0	824.0	4.6	-15.2	22.0	1032.4	649.0	338.9	5.5	1.000239
6500.0	808.8	4.5	-17.7	16.6	1014.0	649.4	338.3	6.1	1.000233
7000.0	793.8	5.4	-20.7	13.1	992.2	650.4	336.7	6.2	1.000227
7500.0	779.1	6.2	-23.1	10.0	971.3	651.2	335.1	5.7	1.000221
8000.0	764.8	6.0	-23.3	10.0	954.1	651.0	331.3	5.2	1.000217
8500.0	750.7	5.7	-23.5	10.0	937.2	650.7	330.5	4.7	1.000213
9000.0	736.8	5.5	-23.6	10.0	920.7	650.5	335.0	2.7	1.000209
9500.0	723.2	5.3	-23.8	10.0	904.5	650.2	.5	.7	1.000206
10000.0	709.8	4.3	-24.6	10.0	891.0	649.0	80.8	2.0	1.000203
10500.0	696.6	3.2	-25.4	10.0	877.6	647.8	86.0	3.7	1.000199
11000.0	683.5	2.2	-26.2	10.0	864.4	646.0	80.0	5.1	1.000196
11500.0	670.6	1.2	-27.0	10.0	851.3	645.4	73.5	6.2	1.000193
12000.0	658.0	.2	-27.8	10.0	838.5	644.2	73.2	7.0	1.000190
12500.0	645.7	-0.9	-28.6	10.0	825.8	642.9	77.1	8.2	1.000187
13000.0	633.5	-1.9	-29.4	10.0	813.4	641.7	76.0	9.6	1.000184
13500.0	621.6	-2.6	-29.7	10.0	800.0	640.9	73.8	11.6	1.000181
14000.0	609.7	-3.0	-30.2	10.0	785.9	640.5	72.9	13.2	1.000178
14500.0	598.1	-4.2	-31.2	10.0	774.5	638.9	73.0	14.3	1.000175
15000.0	586.6	-5.5	-32.2	10.0	763.4	637.4	74.4	15.2	1.000172
15500.0	575.3	-6.5	-33.0	10.0	751.6	636.2	73.4	15.8	1.000169
16000.0	564.2	-7.4	-33.7	10.0	739.3	635.2	73.9	16.7	1.000167
16500.0	553.3	-8.2	-34.3	10.0	727.2	634.2	71.1	17.8	1.000164
17000.0	542.6	-9.0	-34.9	10.0	715.4	633.3	69.1	18.7	1.000161
17500.0	531.9	-10.2	-35.9	10.0	704.7	631.7	65.3	19.6	1.000159
18000.0	521.5	-11.6	-37.0	10.0	694.5	630.1	63.8	19.5	1.000156
18500.0	511.2	-13.0	-38.1	10.0	684.5	628.4	62.6	19.3	1.000154
19000.0	501.2	-14.4	-39.2	10.0	674.7	626.7	62.9	18.6	1.000151
19500.0	491.1	-15.8	-40.3	10.0	664.7	625.0	64.0	18.1	1.000149
20000.0	481.3	-17.2	-41.4	10.0	654.9	623.3	60.7	17.1	1.000147
20500.0	471.6	-18.5	-42.5	10.0	645.2	621.7	63.4	15.9	1.000145
21000.0	462.1	-19.9	-43.6	10.0	635.6	620.0	69.1	14.3	1.000142
21500.0	452.7	-20.9	-44.3	10.0	625.1	618.8	70.3	14.3	1.000140
22000.0	443.4	-21.8	-45.1	10.0	614.6	617.0	71.6	14.8	1.000138
22500.0	434.4	-22.8	-45.9	10.0	604.3	616.5	60.2	17.1	1.000135
23000.0	425.5	-23.7	-46.6	10.0	594.2	615.3	67.3	20.1	1.000133
23500.0	416.7	-24.8	-47.5	10.0	584.5	613.9	92.0	23.6	1.000131

STATION ALTITUDE 4010.40 FEET MSL
 11 DEC. 53 0700 HRS MST
 ASCENSION NO. 32

UPPER AIR DATA
 346022003L
 RW 30

GEOMETRIC ALTITUDE 4010.40 FEET MSL
 11 DEC. 53 0700 HRS MST
 ASCENSION NO. 32

GEOMETRIC COORDINATES
 32.00497 LAT DEG
 106.49714 LONG DEG

TABLE 8 (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TR)	WIND SPEED KNOTS	INDEX OF REFRACTION
24000.0	400.0	-25.9	10.0	575.0	612.0	90.2	27.2	1.000129
24500.0	399.6	-27.1	10.0**	565.0	611.2	90.3	30.1	1.000126
25000.0	399.2	-28.3	9.2**	556.3	609.0	95.0	32.5	1.000124
25500.0	382.5	-29.6	8.4**	547.2	608.0	93.5	34.0	1.000122
26000.0	374.3	-30.9	7.7**	538.2	606.4	90.9	35.6	1.000120
26500.0	366.2	-32.2	6.9**	529.4	604.7	88.1	37.2	1.000118
27000.0	358.3	-33.5	6.2**	520.7	603.1	86.3	38.6	1.000116
27500.0	350.3	-34.8	5.4**	512.2	601.5	85.5	39.5	1.000114
28000.0	342.0	-36.0	4.7**	503.9	599.9	84.8	40.2	1.000112
28500.0	333.6	-37.3	3.9**	495.7	598.3	84.2	40.5	1.000110
29000.0	325.3	-38.6	3.1**	487.6	596.0	83.7	40.6	1.000109
29500.0	317.2	-39.9	2.4**	479.7	595.0	83.3	40.6	1.000107
30000.0	314.3	-41.2	1.6**	472.0	593.4	83.1	38.7	1.000105
30500.0	307.5	-42.4	.9**	464.4	591.7	82.9	36.3	1.000103
31000.0	300.9	-43.7	.1**	456.9	590.1	82.7	32.5	1.000102
31500.0	294.2	-45.0		449.1	588.5	82.4	28.3	1.000100
32000.0	287.5	-46.2		441.3	586.9	82.2	22.9	1.000098
32500.0	281.0	-47.0		432.9	585.9	82.2	17.2	1.000096
33000.0	274.7	-47.5		424.0	585.2	82.3	12.1	1.000094
33500.0	268.4	-48.4		416.1	584.0	82.9	7.4	1.000093
34000.0	262.2	-49.5		408.0	582.5	79.0	3.8	1.000091
34500.0	256.2	-50.7		401.2	581.0	21.7	1.3	1.000089
35000.0	250.3	-51.8		394.0	579.0	263.5	4.8	1.000088
35500.0	244.5	-52.2		386.5	579.1	274.7	11.0	1.000086
36000.0	238.8	-53.0		379.5	578.9	269.9	17.3	1.000085
36500.0	233.3	-54.3		371.3	578.3	265.3	23.8	1.000083
37000.0	227.8	-54.6		363.1	576.0	263.4	30.0	1.000081
37500.0	222.4	-55.8		356.4	574.4	262.9	34.4	1.000079
38000.0	217.2	-56.8		349.8	573.0	262.5	38.8	1.000078
38500.0	212.0	-57.5		342.5	572.1	263.1	41.3	1.000076
39000.0	207.0	-58.2		335.5	571.1	267.5	43.8	1.000075
39500.0	202.1	-58.9		328.5	570.2	268.5	45.9	1.000073
40000.0	197.2	-59.1		321.0	570.0	269.1	47.8	1.000071
40500.0	192.5	-59.0		313.1	570.1	268.6	49.8	1.000070
41000.0	187.9	-59.7		306.7	569.1	267.7	51.7	1.000069
41500.0	183.3	-60.5		300.4	568.1	266.7	53.4	1.000067
42000.0	178.9	-61.3		294.2	567.1	266.0	53.8	1.000066
42500.0	174.6	-62.0		288.1	566.1	265.3	54.2	1.000064
43000.0	170.4	-62.8		282.2	565.0	265.0	54.1	1.000063
43500.0	166.3	-62.7		275.3	565.1	265.0	53.9	1.000061

** AT LEAST ONE ASSUMED REL. HUM. PERCENT VALUE WAS USED IN FOR UPPER DATA.

UPPER AIR DATA
3460220032
NW 30

STATION ALTITUDE 4010.40 FEET MSL
10 DEC 69 0700 HRS MST
ASCENSION NO. 32

GEOCLIMATIC COORDINATES
52.80497 LAT DEG
106.49714 LONG DEG

TABLE 8 (Cont)

GEOMETRIC ALTITUDE MILES FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KILOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KILOTS	
44000.0	166.2	-62.6	269.4	565.3	267.2	54.0	1.000000	
44500.0	150.5	-63.0	262.4	564.7	268.6	54.3	1.000058	
45000.0	154.4	-63.9	257.1	563.5	271.4	54.0	1.000057	
45500.0	150.6	-64.8	251.9	562.3	273.2	53.3	1.000056	
46000.0	140.9	-65.0	245.9	562.1	273.9	52.7	1.000055	
46500.0	143.3	-65.1	240.0	561.9	282.4	52.1	1.000053	
47000.0	139.8	-65.8	234.8	561.0	285.0	51.7	1.000052	
47500.0	130.3	-66.5	229.8	560.1	286.4	49.7	1.000051	
48000.0	132.0	-66.2	223.8	560.4	286.8	47.6	1.000050	
48500.0	129.7	-65.7	217.8	561.1	287.0	45.0	1.000049	
49000.0	126.5	-65.5	212.2	561.4	287.2	42.2	1.000047	
49500.0	123.4	-65.7	207.2	561.1	287.1	39.6	1.000046	
50000.0	120.3	-66.0	202.4	560.7	285.0	38.5	1.000045	
50500.0	117.0	-65.6	197.0	561.2	282.6	37.5	1.000044	
51000.0	114.5	-65.2	191.0	561.8	277.7	37.7	1.000043	
51500.0	111.7	-64.8	186.7	562.4	271.0	38.9	1.000042	
52000.0	108.9	-64.4	181.8	562.8	265.4	40.3	1.000040	
52500.0	106.3	-64.8	177.7	562.3	264.2	40.8	1.000040	
53000.0	103.7	-65.2	173.7	561.8	262.2	41.3	1.000039	
53500.0	101.1	-65.6	169.7	561.2	263.9	39.7	1.000038	
54000.0	98.6	-66.0	165.8	560.7	269.7	36.9	1.000037	
54500.0	96.2	-66.3	162.0	560.2	273.7	34.6	1.000036	
55000.0	93.8	-66.7	158.3	559.8	270.1	34.1	1.000035	
55500.0	91.5	-67.0	154.6	559.3	273.6	33.7	1.000034	
56000.0	89.2	-67.4	151.0	558.8	280.2	32.9	1.000034	
56500.0	87.0	-67.7	147.5	558.4	281.4	32.0	1.000033	
57000.0	84.8	-67.5	143.7	558.7	282.3	30.9	1.000032	
57500.0	82.7	-67.3	140.0	559.0	281.7	28.9	1.000031	
58000.0	80.7	-67.1	136.4	559.2	280.9	26.8	1.000030	
58500.0	78.7	-66.9	132.9	559.5	277.0	26.1	1.000030	
59000.0	76.7	-66.7	129.5	559.7	273.0	26.2	1.000029	
59500.0	74.8	-66.5	126.2	560.0	269.4	26.4	1.000028	
60000.0	73.0	-66.3	122.9	560.3	272.2	25.9	1.000027	
60500.0	71.2	-66.1	119.8	560.5	273.1	25.6	1.000027	
61000.0	69.4	-66.0	116.8	560.7	277.0	25.2	1.000026	
61500.0	67.7	-66.0	113.9	560.7	280.3	24.8	1.000025	
62000.0	66.0	-66.0	111.1	560.7	282.8	24.4	1.000025	
62500.0	64.4	-66.0	108.3	560.7	281.4	24.9	1.000024	
63000.0	62.8	-65.8	105.6	561.0	280.1	25.3	1.000024	
63500.0	61.3	-65.4	102.8	561.3	280.1	25.5	1.000023	

GEOMETRIC COORDINATES
 32.66497 LAT DEG
 106.49714 LONG DEG

UPPER AIR DATA
 3460220052
 107 30

STATION ALTITUDE 9010.00 FEET MSL
 11 DEC 67
 0700 HRS MST
 OBSERVATION NO. 32

TABLE 8 (Cont)

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 (TYP)	SPEED KNOTS	INDEX OF REFRACTION
64000.0	59.8	-65.1	100.1	562.0	281.7	25.5	1.000022	
64500.0	58.3	-64.7	97.5	562.4	283.2	25.5	1.000022	
65000.0	56.9	-64.4	95.0	562.9	285.0	24.7	1.000021	
65500.0	55.5	-64.0	92.5	563.4	287.0	23.9	1.000021	
66000.0	54.2	-63.7	90.1	563.9	288.0	23.0	1.000020	
66500.0	52.8	-63.3	87.7	564.4	288.7	22.0	1.000020	
67000.0	51.6	-62.9	85.4	564.8	288.9	21.1	1.000019	
67500.0	50.3	-62.6	83.2	565.3	288.9	20.7	1.000019	
68000.0	49.1	-62.1	81.0	566.0	288.9	20.8	1.000018	
68500.0	47.9	-61.5	78.9	566.8	288.9	20.9	1.000018	
69000.0	46.9	-60.9	76.6	567.5	289.7	20.8	1.000017	
69500.0	45.6	-60.4	74.7	568.3	290.7	20.5	1.000017	
70000.0	44.5	-59.8	72.7	569.0	291.4	20.3	1.000016	
70500.0	43.5	-59.3	70.6	569.8	289.2	20.1	1.000016	
71000.0	42.4	-58.7	68.9	570.5	287.6	19.9	1.000015	
71500.0	41.4	-58.1	67.1	571.3	285.4	20.3	1.000015	
72000.0	40.4	-58.5	65.6	571.0	277.7	22.0	1.000015	
72500.0	39.5	-58.7	64.1	570.5	272.9	23.9	1.000014	
73000.0	38.5	-59.1	62.7	570.0	270.5	25.5	1.000014	
73500.0	37.6	-59.0	61.2	570.1	270.1	26.7	1.000014	
74000.0	36.7	-58.8	59.7	570.3	269.7	27.9	1.000013	
74500.0	35.8	-58.7	58.2	570.5	270.0	28.5	1.000013	
75000.0	35.0	-58.6	56.8	570.6	270.7	28.7	1.000013	
75500.0	34.2	-58.5	55.4	570.8	271.4	29.0	1.000012	
76000.0	33.4	-58.3	54.1	571.0	273.4	29.8	1.000012	
76500.0	32.6	-58.2	52.8	571.1	275.8	30.9	1.000012	
77000.0	31.8	-58.1	51.5	571.3	278.0	32.0	1.000011	
77500.0	31.0	-58.0	50.2	571.5	280.1	32.9	1.000011	
78000.0	30.3	-57.9	49.0	571.6	282.1	33.9	1.000011	
78500.0	29.6	-57.6	47.8	571.9	284.0	34.9	1.000011	
79000.0	28.9	-57.4	46.6	572.3	281.8	35.8	1.000010	
79500.0	28.2	-57.1	45.5	572.7	279.7	36.7	1.000010	
80000.0	27.5	-56.8	44.3	573.4	277.5	37.6	1.000010	
80500.0	26.9	-56.5	43.3	573.4	275.5	38.5	1.000010	
81000.0	26.3	-56.2	42.2	573.8	283.0	39.6	1.000009	
81500.0	25.6	-56.0	41.1	574.1	285.9	40.9	1.000009	
82000.0	25.0	-55.7	40.1	574.5	283.5	42.0	1.000009	
82500.0	24.5	-55.4	39.1	574.9	281.7	43.2	1.000009	
83000.0	23.9	-55.1	38.2	575.2	289.9	44.4	1.000008	
83500.0	23.3	-54.9	37.2	575.6	288.9	45.7	1.000008	

STATION ALTITUDE 4010.40 FELT MSL
 11 DEC. 60 0700 HRS MST
 ASCENSION: NO. 32

UPPER AIR DATA
 3460220032
 HW 30

GEODLTIC COORDINATES
 32.88997 LAT LEG
 106.49714 LON DEG

TABLE 8 (Cont)

GEODLTIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ MLTLP	SPEED OF SOUND M/SEC	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	INDEX OF REFRACTION
84000.0	22.8	-54.5		36.3	576.1	258.8	47.0	1.000008
84500.0	22.2	-52.8		35.2	576.3	258.7	48.4	1.000008
85000.0	21.7	-51.0		34.1	580.8	258.6	49.7	1.000008
85500.0	21.2	-50.5		33.2	581.3	257.2	50.8	1.000007
86000.0	20.7	-50.4		32.4	581.4	255.8	51.9	1.000007
86500.0	20.3	-50.4		31.7	581.5	254.4	53.0	1.000007
87000.0	19.8	-50.3		31.0	581.5	253.8	54.3	1.000007
87500.0	19.4	-50.4		30.3	581.5	253.2	55.8	1.000007
88000.0	18.9	-50.4		29.6	581.4	252.8	57.3	1.000006
88500.0	18.5	-50.5		28.9	581.3			1.000006
89000.0	18.1	-50.6		28.3	581.2			1.000006
89500.0	17.6	-50.6		27.6	581.2			1.000006
90000.0	17.2	-50.7		27.0	581.1			1.000006

STATION ALTITUDE 4010.40 FEET ASL
 11 DEC. 60
 ASCENSION IS. 32

MANDATORY LEVELS
 3460220032
 100 30

GEODETTIC COORDINATES
 32.80497 LAT DEG
 106.49714 LONG DEG

TABLE 9

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5166.	4.1	-10.7	33.	340.3	4.5
800.0	6736.	5.0	-19.0	15.	338.0	6.4
750.0	8317.	5.7	-23.5	10.	330.5	4.7
700.0	10362.	3.5	-25.2	10.	89.3	3.4
650.0	12318.	7.5	-28.3	10.	77.5	7.8
600.0	14403.	-4.0	-31.1	10.	73.5	14.1
550.0	16533.	-8.4	-34.5	10.	70.3	13.1
500.0	19032.	-14.6	-39.4	10.	63.0	16.7
450.0	21615.	-21.2	-44.6	10.	70.7	14.4
400.0	24436.	-27.0	-49.2	10.	96.3	29.9
350.0	27544.	-34.8	-60.4	5.**	85.4	39.7
300.0	31007.	-43.0			82.7	32.1
250.0	34954.	-51.0			283.0	5.0
200.0	39619.	-59.2			268.7	46.7
175.0	42353.	-62.0			265.4	54.2
150.0	45465.	-65.0			275.0	53.2
125.0	49100.	-65.6			287.3	40.9
100.0	53558.	-65.8			265.7	36.5
80.0	57979.	-67.0			280.7	26.3
70.0	60631.	-69.0			276.9	25.3
60.0	63702.	-65.1			281.3	29.5
50.0	67370.	-62.5			284.9	20.7
40.0	71441.	-58.5			275.9	22.7
30.0	77875.	-57.4			282.7	34.2
25.0	81667.	-54.7			263.0	42.0
20.0	86390.	-50.3			253.8	53.6

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

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

SIGNIFICANT LEVEL DATA
 3460030290
 JALLEN

TABLE 10

STATION ALTITUDE 4051.00 FEET MSL
 11 DEC. 60 0740 HRS MST
 ASCENSION NO. 290

PRESSURE MILLIBARS	PRESSURE GEOMETRIC ALTITUDE		TEMPERATURE		REL. HUM. PERCENT
	MSL FEET	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
887.0	4051.0	4051.0	-5.5	-7.3	87.0
876.6	4358.0	4358.0	-4	-6.6	63.0
871.0	4526.5	4526.5	-1	-6.9	60.0
850.0	5172.8	5172.8	3.6	-6.4	48.0
802.4	6708.3	6708.3	3.2	-9.7	38.0
788.6	7172.3	7172.3	5.8	-10.0	31.0
773.8	7682.2	7682.2	6.6	-11.0	27.0
700.0	10366.8	10366.8	3.2	-17.0	21.0
670.2	11520.6	11520.6	1.2	-18.1	22.0
615.8	13737.4	13737.4	-3.8	-22.3	22.0
598.6	14471.2	14471.2	-4.7	-22.6	23.0
548.4	16719.1	16719.1	-8.8	-26.6	22.0
500.0	19045.6	19045.6	-14.8	-31.7	22.0
444.0	21958.4	21958.4	-22.5	-37.9	23.0
400.0	24453.6	24453.6	-27.6	-41.9	24.0
342.6	28050.5	28050.5	-36.9	-49.6	25.0
300.0	31024.5	31024.5	-44.8		
277.6	32719.1	32719.1	-48.6		
267.8	33496.8	33496.8	-49.0		
250.0	34972.3	34972.3	-52.5		
234.4	36334.1	36334.1	-55.6		
212.2	38408.8	38408.8	-58.5		
200.0	39636.4	39636.4	-58.1		
183.0	41469.9	41469.9	-60.5		
167.0	43331.6	43331.6	-64.2		
150.0	45491.3	45491.3	-65.4		
140.4	46812.4	46812.4	-67.2		
126.0	48974.4	48974.4	-65.4		
119.2	50085.1	50085.1	-66.4		
112.0	51332.5	51332.5	-65.4		
100.0	53605.3	53605.3	-65.8		
85.2	56795.8	56795.8	-68.3		
70.0	60702.0	60702.0	-66.8		
66.4	61753.8	61753.8	-67.5		
63.2	62742.4	62742.4	-64.9		
50.0	67491.9	67491.9	-62.3		
38.8	72709.1	72709.1	-58.9		
30.0	78062.0	78062.0	-57.6		

STATION ALTITUDE 4051.00 FEET MSL
 11 DEC. 80
 ASCENSION NO. 290

UPPER AIR DATA
 3460030290
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 11

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
4051.0	487.0	-5.5	87.0	1152.8	637.8	50.0	2.9	1.000275
4500.0	471.9	-1.1	60.5	1110.8	644.2	54.0	3.7	1.000266
5000.0	455.6	2.6	51.2	1079.0	647.5	56.8	4.6	1.000259
5500.0	439.6	3.5	45.9	1055.5	648.5	58.6	5.5	1.000253
6000.0	424.0	3.4	42.6	1036.5	648.3	59.7	4.6	1.000247
6500.0	408.7	3.3	39.4	1017.6	648.1	326.8	5.5	1.000242
7000.0	393.7	4.8	33.6	993.3	650.0	309.7	9.0	1.000235
7500.0	379.1	6.3	28.4	969.9	651.7	310.3	10.8	1.000229
8000.0	364.7	6.2	26.3	952.4	651.5	313.5	10.3	1.000224
8500.0	350.5	5.6	25.2	937.0	650.8	325.1	6.9	1.000220
9000.0	336.6	4.9	24.1	921.8	650.0	334.6	4.2	1.000216
9500.0	323.0	4.3	22.9	906.9	649.2	315.6	2.1	1.000211
10000.0	309.7	3.7	21.8	892.3	648.5	306.0	.6	1.000207
10500.0	296.5	3.0	21.1	878.0	647.6	90.0	1.0	1.000204
11000.0	283.5	2.1	21.5	864.3	646.6	74.4	1.8	1.000200
11500.0	270.7	1.2	22.0	850.9	645.6	61.4	2.5	1.000197
12000.0	258.0	.1	22.0	838.2	644.3	59.1	4.2	1.000194
12500.0	245.6	-1.0	22.0	825.8	642.9	32.0	6.1	1.000190
13000.0	233.4	-2.1	22.0	813.6	641.6	41.2	7.2	1.000187
13500.0	221.4	-3.3	22.0	801.6	640.2	49.4	8.3	1.000184
14000.0	209.6	-4.1	22.4	788.9	639.2	62.4	9.1	1.000181
14500.0	197.9	-4.8	23.0	775.6	638.4	70.9	10.2	1.000178
15000.0	186.4	-5.7	22.8	763.3	637.3	71.9	11.7	1.000175
15500.0	175.1	-6.6	22.5	751.1	636.2	71.5	13.0	1.000172
16000.0	164.0	-7.5	22.3	739.2	635.1	66.6	14.0	1.000169
16500.0	153.1	-8.4	22.1	727.4	634.0	62.7	15.0	1.000166
17000.0	142.3	-9.5	22.0	716.3	632.7	60.7	15.3	1.000163
17500.0	131.7	-10.8	22.0	705.7	631.1	59.2	15.6	1.000160
18000.0	121.2	-12.1	22.0	695.3	629.8	60.4	16.4	1.000158
18500.0	111.0	-13.4	22.0	685.0	628.0	61.6	17.2	1.000155
19000.0	100.9	-14.7	22.0	674.9	626.4	62.8	18.3	1.000153
19500.0	90.8	-16.0	22.2	664.7	624.8	64.3	19.6	1.000150
20000.0	80.9	-17.3	22.3	654.7	623.2	67.2	21.4	1.000148
20500.0	71.2	-18.6	22.5	644.8	621.6	70.1	22.8	1.000145
21000.0	61.7	-20.0	22.7	635.1	620.0	74.0	23.2	1.000143
21500.0	52.4	-21.3	22.8	625.6	618.3	79.3	23.0	1.000141
22000.0	43.2	-22.6	23.0	616.1	616.7	86.2	22.5	1.000139
22500.0	34.1	-23.6	23.2	605.8	615.5	91.9	23.5	1.000136
23000.0	25.1	-24.6	23.4	595.7	614.2	96.5	25.0	1.000134
23500.0	16.3	-25.7	23.6	585.8	612.9	99.0	27.1	1.000132

UPPER AIR DATA
 3460030290
 JALLEN
 TABLE 11 (Cont)

STATION ALTITUDE 4051.00 FEET MSL
 11 DEC. 80 0740 HRS MST
 ASCENSION NO. 290

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	407.7	-26.7	-41.1	23.0	576.1	611.7	100.0	29.2	1.000129
24500.0	399.2	-27.7	-42.0	24.0	566.5	610.4	100.3	30.8	1.000127
25000.0	390.7	-29.0	-43.0	24.2	557.4	608.8	99.0	32.2	1.000125
25500.0	382.4	-30.3	-44.1	24.3	548.5	607.1	97.0	33.0	1.000123
26000.0	374.2	-31.6	-45.2	24.4	539.7	605.5	94.7	33.8	1.000121
26500.0	366.3	-32.9	-46.3	24.6	531.0	603.9	93.2	34.6	1.000119
27000.0	358.5	-34.2	-47.3	24.7	522.5	602.3	91.6	35.2	1.000117
27500.0	350.8	-35.5	-48.4	24.6	514.2	600.6	89.6	35.6	1.000115
28000.0	343.3	-36.8	-49.5	25.0	506.0	599.0	89.1	36.0	1.000113
28500.0	335.8	-38.1	-52.1	21.2**	497.6	597.3	87.9	36.3	1.000111
29000.0	328.4	-39.4	-55.0	17.0**	489.4	595.6	87.9	36.1	1.000109
29500.0	321.1	-40.8	-58.4	12.8**	481.4	593.9	88.2	35.1	1.000107
30000.0	314.0	-42.1	-62.5	8.6**	473.4	592.2	87.0	34.4	1.000106
30500.0	307.1	-43.4	-68.4	4.4**	465.7	590.5	84.1	34.1	1.000104
31000.0	300.3	-44.7	-88.1	.2**	458.0	588.8	81.3	34.6	1.000102
31500.0	293.5	-45.9			449.9	587.3	78.7	36.0	1.000100
32000.0	286.9	-47.0			441.9	585.9	77.4	35.4	1.000098
32500.0	280.4	-48.1			434.1	584.4	77.4	32.6	1.000097
33000.0	274.0	-48.7			425.4	583.6	79.1	29.2	1.000095
33500.0	267.8	-49.0			416.2	583.3	80.5	25.0	1.000093
34000.0	261.6	-50.2			408.7	581.7	96.4	21.4	1.000091
34500.0	255.6	-51.4			401.4	580.2	106.0	18.9	1.000089
35000.0	249.7	-52.6			394.3	578.6	118.1	17.2	1.000088
35500.0	243.8	-53.7			387.1	577.1	132.1	13.3	1.000086
36000.0	238.1	-54.8			380.0	575.6	157.9	9.5	1.000085
36500.0	232.5	-55.8			372.8	574.3	202.3	9.3	1.000083
37000.0	227.0	-56.5			365.1	573.4	236.3	14.5	1.000081
37500.0	221.7	-57.2			357.6	572.5	250.0	21.9	1.000080
38000.0	216.4	-57.9			350.3	571.5	257.6	29.5	1.000078
38500.0	211.3	-58.5			342.8	570.8	262.4	36.5	1.000076
39000.0	206.2	-58.3			334.4	571.0	267.6	39.3	1.000074
39500.0	201.3	-58.1			326.2	571.2	271.1	41.8	1.000073
40000.0	196.5	-58.6			319.0	570.7	272.2	43.4	1.000071
40500.0	191.8	-59.2			312.3	569.8	271.8	45.1	1.000070
41000.0	187.2	-59.9			305.8	568.9	269.1	47.1	1.000068
41500.0	182.7	-60.6			299.4	568.0	267.5	48.5	1.000067
42000.0	178.3	-61.6			293.5	566.7	267.7	48.4	1.000065
42500.0	174.0	-62.5			287.8	565.4	268.2	48.2	1.000064
43000.0	169.7	-63.5			282.1	564.0	269.5	47.2	1.000063
43500.0	165.6	-64.3			276.2	563.0	270.8	46.2	1.000062

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

UPPER AIR DATA
 3460030290
 JALLFN

STATION ALTITUDE 4051.00 FEET MSL
 11 DEC. 80
 0740 HRS MST
 ASCENSION NO. 290

GEODETIC COORDINATES
 33.16712 LAT UEG
 106.49511 LON LEG

TABLE 11 (Cont)

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
44000.0	161.5	-64.6		269.8	562.6	271.5	46.1	1.000060
44500.0	157.6	-64.8		263.5	562.3	272.1	46.3	1.000059
45000.0	153.7	-65.1		257.4	561.9	273.0	46.6	1.000057
45500.0	149.9	-65.4		251.4	561.5	273.8	47.2	1.000056
46000.0	146.2	-66.1		246.0	560.6	273.0	47.3	1.000055
46500.0	142.6	-66.8		240.7	559.7	282.2	47.1	1.000054
47000.0	139.1	-67.0		235.1	559.3	285.9	46.1	1.000052
47500.0	135.7	-66.6		228.8	559.9	289.9	43.9	1.000051
48000.0	132.3	-66.2		222.7	560.4	293.5	42.0	1.000050
48500.0	129.0	-65.8		216.8	561.0	293.9	40.6	1.000048
49000.0	125.8	-65.4		211.0	561.5	294.0	39.4	1.000047
49500.0	122.7	-65.9		206.3	560.9	287.8	39.0	1.000046
50000.0	119.7	-66.3		201.6	560.3	281.6	39.1	1.000045
50500.0	116.8	-66.1		196.4	560.6	274.3	39.6	1.000044
51000.0	113.9	-65.7		191.2	561.2	267.0	40.8	1.000043
51500.0	111.1	-65.4		186.3	561.5	263.8	42.8	1.000041
52000.0	108.3	-65.5		181.8	561.4	263.6	45.1	1.000040
52500.0	105.7	-65.6		177.4	561.2	264.4	46.1	1.000040
53000.0	103.1	-65.7		173.1	561.1	268.1	43.6	1.000039
53500.0	100.5	-65.8		168.9	561.0	271.7	41.2	1.000038
54000.0	98.0	-66.1		165.0	560.6	272.0	37.3	1.000037
54500.0	95.6	-66.5		161.2	560.0	272.2	33.4	1.000036
55000.0	93.2	-66.9		157.5	559.5	272.3	34.1	1.000035
55500.0	90.9	-67.3		153.9	559.0	272.4	35.0	1.000034
56000.0	88.7	-67.7		150.3	558.4	275.0	33.6	1.000033
56500.0	86.5	-68.1		146.9	557.9	273.5	31.8	1.000033
57000.0	84.3	-68.2		143.4	557.7	280.1	29.4	1.000032
57500.0	82.2	-68.0		139.7	558.0	280.3	26.6	1.000031
58000.0	80.2	-67.8		136.1	558.2	279.6	24.9	1.000030
58500.0	78.2	-67.6		132.6	558.5	277.1	25.0	1.000030
59000.0	76.3	-67.5		129.1	558.7	274.0	25.2	1.000029
59500.0	74.4	-67.3		125.8	559.0	274.1	24.4	1.000028
60000.0	72.5	-67.1		122.6	559.3	273.4	23.7	1.000027
60500.0	70.7	-66.9		119.4	559.5	272.0	22.7	1.000027
61000.0	69.0	-67.0		116.5	559.4	271.0	21.8	1.000026
61500.0	67.3	-67.3		113.8	559.9	272.0	21.8	1.000025
62000.0	65.6	-66.9		110.8	559.6	274.7	22.6	1.000025
62500.0	64.0	-65.5		107.3	561.3	270.2	22.9	1.000024
63000.0	62.4	-64.8		104.3	562.4	277.0	22.7	1.000023
63500.0	60.9	-64.5		101.6	562.8	278.4	22.4	1.000023

STATION ALTITUDE 4051.00 FEET MSL
 11 DEC. 80
 ASCENDING NO. 290
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UPPER AIR DATA
 3460030290
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT UEG
 106.49511 LONG UEG

TABLE 11 (Cont)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
04000.0	59.4	-64.2		99.0	563.1	281.7	21.8	1.000022
04500.0	58.0	-63.9		96.5	563.5	285.1	21.2	1.000021
05000.0	56.5	-63.7		94.0	563.9	285.6	21.6	1.000021
05500.0	55.2	-63.4		91.6	564.2	286.1	21.9	1.000020
06000.0	53.8	-63.1		89.3	564.6	288.0	22.3	1.000020
06500.0	52.5	-62.8		87.0	565.0	291.2	22.6	1.000019
07000.0	51.2	-62.6		84.7	565.3	294.4	23.0	1.000019
07500.0	50.0	-62.3		82.6	565.7	299.7	24.1	1.000018
08000.0	48.8	-62.0		80.5	566.1	304.7	25.4	1.000018
08500.0	47.6	-61.6		78.4	566.6	308.4	25.5	1.000017
09000.0	46.5	-61.3		76.4	567.0	310.9	23.3	1.000017
09500.0	45.4	-61.0		74.5	567.4	313.9	21.1	1.000017
70000.0	44.3	-60.7		72.6	567.9	310.0	18.7	1.000016
70500.0	43.2	-60.3		70.7	568.3	302.3	16.5	1.000016
71000.0	42.2	-60.0		68.9	568.8	291.7	15.1	1.000015
71500.0	41.1	-59.7		67.2	569.2	277.5	16.9	1.000015
72000.0	40.2	-59.4		65.4	569.6	266.6	19.6	1.000015
72500.0	39.2	-59.0		63.8	570.1	262.9	21.9	1.000014
73000.0	38.3	-58.8		62.2	570.3	264.9	23.3	1.000014
73500.0	37.4	-58.7		60.7	570.5	260.7	24.8	1.000014
74000.0	36.5	-58.6		59.2	570.7	269.3	25.9	1.000013
74500.0	35.6	-58.5		57.8	570.8	272.2	26.9	1.000013
75000.0	34.8	-58.3		56.4	571.0	274.8	28.0	1.000013
75500.0	33.9	-58.2		55.0	571.1	272.7	29.2	1.000012
76000.0	33.1	-58.1		53.7	571.3	270.6	30.4	1.000012
76500.0	32.3	-58.0		52.4	571.5			1.000012
77000.0	31.6	-57.9		51.1	571.6			1.000011
77500.0	30.8	-57.7		49.8	571.8			1.000011
78000.0	30.1	-57.6		48.6	571.9			1.000011

STATION ALTITUDE 4021.00 FEET MSL
 11 DEC. 80 0740 HRS MST
 ASCENSION NO. 290

MANDATORY LEVELS
 3460030290
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT LEG
 106.49511 LON DEG

TABLE 12

PRESSURE GEOPOTENTIAL MILLIBARS	FLLT	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUMID. PERCENT	WIND DATA	
					DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5169.	3.6	-6.4	48.	57.0	4.9
800.0	6783.	3.6	-9.7	37.	309.4	8.1
750.0	8515.	5.5	-12.8	25.	325.7	6.7
700.0	10357.	3.2	-17.0	21.	80.9	.6
650.0	12314.	-4.6	-19.6	22.	32.4	5.5
600.0	14395.	-8.7	-22.6	23.	70.0	10.0
550.0	16624.	-14.4	-26.5	22.	62.1	15.0
500.0	19020.	-21.6	-31.7	22.	62.9	18.4
450.0	21602.	-27.6	-37.2	23.	81.0	22.9
400.0	24414.	-35.6	-41.9	24.	100.4	30.6
350.0	27514.	-44.8	-48.5	25.	89.4	35.7
300.0	30965.	-52.5			81.2	34.6
250.0	34809.	-58.1			117.0	17.3
200.0	39544.	-62.3			271.3	42.2
175.0	42279.	-65.4			267.9	48.4
150.0	45373.	-65.5			275.7	47.1
125.0	48907.	-65.8			292.0	39.2
100.0	53445.	-67.8			271.8	40.6
80.0	57858.	-66.8			279.5	24.9
70.0	60500.	-64.3			272.2	22.4
60.0	63568.	-62.3			280.1	22.1
50.0	67245.	-59.3			299.3	24.0
40.0	71708.	-57.6			265.7	19.9
30.0	77737.					

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

DATE
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