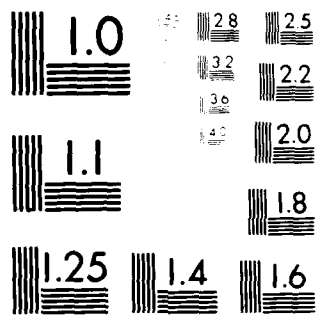


AD-A109 930 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 13/13
148188 LANCE, MISSILE NUMBER 4579, ROUND NUMBER 371-APT, 13 NOV--ETC(U)
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November 1981

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AD A109930

METEOROLOGICAL DATA REPORT
14818B Lance
Missile Number 4579
Round Number 371-APT
13 November 1981

by

DONALD C. KELLER
Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

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ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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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 14818B LANCE, Missile Number 4579, Round Number 371-APT presented in tabular form.		

JAN 22 1982
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INTRODUCTION

14818B Lance, Missile Number 4579, Round Number 371-APT, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 0511 MST, 13 Nov 1981. The scheduled launch time was 0500 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 speed and direction, and cloud cover were made at the LC-39 Met Site at T-0 minutes.

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

b. Upper Air:

(1) Low level wind data were obtained from single theodolite pilot-balloon observations at:

SITE AND ALTITUDE

LC-39 1860 Meters
LC-39 3000 Meters

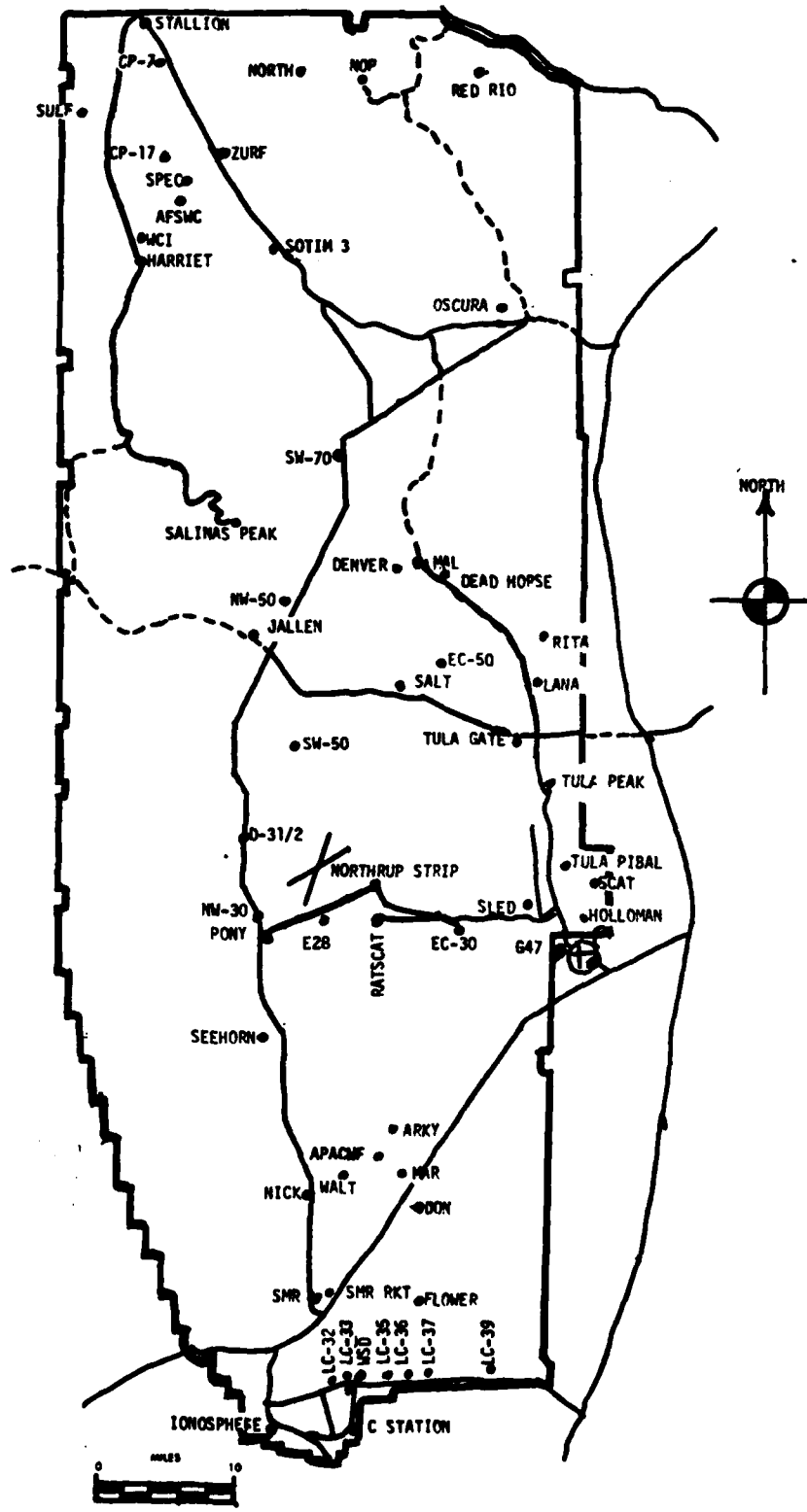
(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to high as possible in 500-foot increments.

SITE AND TIME

WSD 0512 MST
SMR 0500 MST

Accession For	
NTIS	<input checked="" type="checkbox"/>
DTIC	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Dist. Statement	
A	
DTIC	
COPY	
INSPECTED	
S	

WSMR METEOROLOGICAL SITES



PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-39

DATE 13 DAY NOV MONTH 1987 YEAR

X = 530,938.82 Y = 186,564.96 H = 4,063.80

TIME M S T	PRESSURE mbs	TEMPERATURE of °C	DEW POINT of °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	WIND		VISIBIL- ITY
						DIRECTION degs Tn	SPEED kts	
0512	879.6	-0.4	-6.4	64		C	A L M	10+

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	HGT	AMT	HGT	AMT	HGT	
							C L E A R

PSYCHROMETRIC COMPUTATION

TIME: MST	0512
DRY BULB TEMP.	-0.4
WET BULB TEMP.	-2.5
WET BULB DEPR.	2.1
DEW POINT	-6.4
RELATIVE HUMID.	64

TABLE 4

LAUNCH and IMPACT AREA COMPUTER MET MESSAGES
13 November 1981

WSD 0512 MST

METCM1324064

131220122881

00000000 27420881

01610008 28140870

02566009 28800845

03581010 28730806

04531014 28350759

05528016 27960714

06549022 27650672

07560022 27510632

08575016 27210594

09586017 26840557

10559023 26420523

11583022 26090490

12578023 25620444

13579025 24820388

14575033 23890337

15579038 23060292

16582052 22270251

SMR 0500 MST

METCM1325064

131200122883

00000000 27340883

01610007 28240873

02625004 28890847

03506011 28810808

04504012 28430761

05477014 27990717

06519023 27680674

07524023 27610634

08532017 27280596

09545019 26900559

10524022 26520525

11527020 26120492

12531022 25550445

13532025 24750389

14536031 23870338

15539041 23030293

16543048 22210252

STATION ALTITUDE 3989.00 FEET MSL
 13 NOV. 61 0512 HRS MST
 ASCENSION NO. 696

SIGNIFICANT LEVEL DATA
 317002069b
 WHITE SANDS
 TABLE 5

GEODETTIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
881.1	3989.0	1.0	53.0
862.4	4568.4	13.1	44.0
850.0	4969.0	14.1	37.0
817.8	6039.7	14.5	34.0
700.0	10280.1	4.6	41.0
657.8	11936.9	1.9	31.0
629.7	13094.2	1.9	28.0
568.4	15781.6	-3.7	30.0
508.7	18625.0	-10.9	35.0
500.0	19060.7	-11.2	32.0
460.1	21140.9	-16.1	35.0
436.9	22420.6	-17.0	29.0
400.0	24574.3	-22.9	32.0
341.3	28320.7	-33.7	38.0
318.7	29889.4	-37.7	50.0
300.0	31252.8	-41.0	
287.5	32200.9	-43.3	
250.0	35246.3	-51.2	
228.8	37134.8	-53.3	
223.4	37642.1	-52.8	
218.0	38163.7	-51.7	
200.0	39998.8	-53.3	
156.0	45185.9	-60.5	
150.0	45992.2	-60.0	
120.9	50343.0	-68.6	
100.0	54071.5	-71.1	

UPPER AIR DATA
 3170020696
 WHITE SANDS
 TABLE 6

STATION ALTITUDE 3989.00 FEET MSL
 13 NOV. 81 0512 HRS MST
 ASCENSION NO. 696

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.00	881.1	1.0	-7.5	53.0	118.0	645.5	.0	.0	1.000267
4000.0	880.7	1.2	-7.3	52.8	116.5	645.8	332.4	.0	1.000266
4500.0	864.6	11.7	.2	45.1	1054.6	658.4	332.4	2.3	1.000264
5000.0	844.1	14.1	-.4	36.9	1026.9	661.2	332.4	4.5	1.000256
5500.0	833.9	14.3	-.7	35.5	1007.9	661.4	332.4	6.7	1.000251
6000.0	819.0	14.5	-1.1	34.1	989.3	661.6	329.8	9.0	1.000246
6500.0	804.1	13.4	-1.8	34.8	975.0	660.3	323.8	11.4	1.000242
7000.0	789.5	12.3	-2.5	35.6	961.3	659.0	315.8	12.7	1.000238
7500.0	775.1	11.1	-3.2	36.4	947.8	657.6	304.1	13.2	1.000234
8000.0	761.1	9.9	-4.0	37.2	934.5	656.2	299.0	13.8	1.000230
8500.0	747.2	8.8	-4.7	38.1	921.4	654.8	297.2	14.2	1.000226
9000.0	733.7	7.6	-5.5	38.9	908.5	653.4	296.9	15.1	1.000222
9500.0	720.3	6.4	-6.3	39.7	895.8	652.0	297.0	16.2	1.000218
10000.0	707.2	5.3	-7.1	40.5	883.3	650.7	298.9	17.5	1.000214
10500.0	694.2	4.2	-8.2	39.7	870.3	649.4	300.9	18.8	1.000210
11000.0	681.3	3.4	-10.0	36.7	856.8	648.4	305.6	20.3	1.000205
11500.0	668.7	2.6	-11.8	33.6	843.5	647.4	309.8	21.6	1.000200
12000.0	656.2	1.9	-13.5	30.8	830.1	646.5	314.5	22.4	1.000196
12500.0	644.0	1.9	-14.0	29.5	814.6	646.5	317.2	22.4	1.000192
13000.0	631.9	1.9	-14.5	28.2	799.4	646.5	317.8	21.1	1.000188
13500.0	620.0	1.1	-15.2	28.3	786.8	645.5	318.3	19.5	1.000185
14000.0	608.3	.0	-16.0	28.7	775.0	644.2	318.9	17.7	1.000182
14500.0	596.9	-1.0	-16.7	29.0	763.3	643.0	320.4	16.6	1.000178
15000.0	585.6	-2.1	-17.5	29.4	751.8	641.7	322.7	16.0	1.000175
15500.0	574.5	-3.1	-18.3	29.8	740.5	640.5	324.8	15.9	1.000172
16000.0	563.6	-4.3	-19.0	30.4	729.5	639.1	326.2	16.4	1.000170
16500.0	552.7	-5.5	-19.8	31.3	718.8	637.6	326.7	17.2	1.000167
17000.0	542.0	-6.8	-20.6	32.1	708.3	636.1	325.6	18.6	1.000164
17500.0	531.5	-8.1	-21.4	33.0	697.9	634.6	324.2	20.1	1.000161
18000.0	521.3	-9.3	-22.3	33.9	687.8	633.0	321.7	21.6	1.000159
18500.0	511.2	-10.6	-23.1	34.8	677.8	631.5	320.0	22.8	1.000156
19000.0	501.2	-11.2	-24.4	32.4	666.0	630.8	320.6	22.8	1.000153
19500.0	491.3	-12.2	-25.3	32.6	655.6	629.5	321.5	22.7	1.000150
20000.0	481.6	-13.4	-26.1	33.4	645.5	628.0	323.2	22.0	1.000148
20500.0	472.0	-14.6	-26.9	34.1	635.7	626.6	324.8	21.6	1.000145
21000.0	462.7	-15.8	-27.7	34.8	625.9	625.2	325.8	21.9	1.000143
21500.0	453.5	-16.4	-28.7	33.3	614.9	624.4	325.9	22.2	1.000140
22000.0	444.4	-16.7	-29.8	31.0	603.4	624.0	325.2	22.5	1.000137
22500.0	435.5	-17.2	-30.9	29.1	592.5	623.4	324.1	23.0	1.000135
23000.0	426.7	-18.6	-31.9	29.8	583.6	621.7	322.9	23.5	1.000132

STATION ALTITUDE 3989.00 FEET MSL
 13 NOV. 81
 ASCENSION NO. 696

UPPER AIR DATA
 317002069H
 WHITE SANDS
 TABLE 6 CON'T

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION, DEGREES (T _H)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	410.0	-20.0	30.5	574.9	620.0	323.1	24.4	1.000130
24000.0	409.5	-21.3	31.2	566.3	618.3	323.3	25.4	1.000128
24500.0	408.2	-22.7	31.9	557.9	616.6	323.6	25.1	1.000126
25000.0	392.9	-24.1	32.7	549.4	614.9	323.8	24.7	1.000124
25500.0	384.6	-25.6	33.5	541.1	613.1	324.1	24.7	1.000122
26000.0	376.6	-27.0	34.3	532.8	611.3	324.3	24.9	1.000120
26500.0	368.7	-28.5	35.1	524.7	609.5	324.2	26.5	1.000118
27000.0	360.9	-29.9	35.9	516.8	607.7	323.9	28.6	1.000116
27500.0	353.4	-31.3	36.7	509.0	605.9	323.8	30.4	1.000114
28000.0	346.0	-32.8	37.5	501.3	604.1	323.8	31.9	1.000113
28500.0	338.6	-34.2	39.4	493.5	602.3	324.4	33.1	1.000111
29000.0	331.3	-35.4	43.2	485.5	600.7	325.7	33.8	1.000109
29500.0	324.2	-36.7	47.0	477.5	599.1	326.6	34.5	1.000107
30000.0	317.1	-38.0	45.9**	469.7	597.5	326.8	35.1	1.000105
30500.0	310.2	-39.2	27.6**	461.8	595.9	327.0	35.6	1.000103
31000.0	303.4	-40.4	9.3**	454.1	594.4	326.6	35.8	1.000101
31500.0	296.7	-41.6		446.4	592.8	326.2	36.2	1.000099
32000.0	290.1	-42.8		438.8	591.3	325.9	37.7	1.000098
32500.0	283.6	-44.1		431.3	589.6	325.7	39.7	1.000096
33000.0	277.1	-45.4		423.9	588.0	325.6	43.7	1.000094
33500.0	270.9	-46.7		416.6	586.3	325.7	47.6	1.000093
34000.0	264.7	-48.0		409.5	584.6	326.7	51.2	1.000091
34500.0	258.7	-49.3		402.6	582.9	327.5	54.6	1.000090
35000.0	252.8	-50.6		395.7	581.2	327.3	53.6	1.000088
35500.0	247.0	-51.5		388.2	580.0	327.1	52.5	1.000086
36000.0	241.3	-52.0		380.2	579.3	326.2	48.9	1.000085
36500.0	235.7	-52.6		372.3	578.6	325.2	45.0	1.000083
37000.0	230.3	-53.2		364.6	577.8	321.0	41.1	1.000081
37500.0	224.9	-53.9		355.8	578.1	315.4	37.6	1.000079
38000.0	219.7	-52.0		346.1	579.3	308.0	38.6	1.000077
38500.0	214.6	-52.0		338.0	579.4	301.2	41.4	1.000075
39000.0	209.6	-52.4		330.8	578.8	297.1	44.6	1.000074
39500.0	204.7	-52.9		323.8	578.2	295.6	47.8	1.000072
40000.0	200.0	-53.3		316.9	577.6	294.4	50.8	1.000071
40500.0	195.3	-54.0		310.4	576.7	294.0	52.3	1.000069
41000.0	190.6	-54.7		304.0	575.8	293.6	53.9	1.000068
41500.0	186.1	-55.4		297.7	574.9	292.4	54.6	1.000066
42000.0	181.7	-56.1		291.6	574.0	291.1	55.1	1.000065
42500.0	177.4	-56.8		285.6	573.1	288.5	53.8	1.000064
43000.0	173.2	-57.5		279.8	572.1	284.6	51.4	1.000062

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

STATION ALTITUDE 3989.00 FEET MSL
 13 NOV. 81 0512 HRS MST
 ASCENSION NO. 096

UPPER AIR DATA
 317002069h
 WHITE SANDS
 TABLE 6 CON'T

GEODEIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION (DEGREES(TN))	SPEED KNOTS	
43500.0	169.1	-58.2		274.0	571.2	281.2	49.6	1.000061
44000.0	165.1	-58.9		268.4	570.3	278.9	48.7	1.000060
44500.0	161.2	-59.5		262.9	569.4	277.2	47.8	1.000059
45000.0	157.4	-60.2		257.5	568.4	277.1	46.8	1.000057
45500.0	153.6	-60.3		251.5	568.4	276.9	46.5	1.000056
46000.0	149.9	-60.0		245.1	568.8	276.7	48.5	1.000055
46500.0	146.3	-61.0		240.2	567.4	276.5	50.4	1.000053
47000.0	142.7	-62.0		235.4	566.1	278.7	51.9	1.000052
47500.0	139.2	-63.0		230.7	564.8	280.9	53.5	1.000051
48000.0	135.8	-64.0		226.1	563.5	284.6	54.2	1.000050
48500.0	132.5	-65.0		221.7	562.1	290.0	54.3	1.000049
49000.0	129.2	-65.9		217.3	560.8	295.3	54.9	1.000048
49500.0	126.1	-66.9		213.0	559.4	296.0	47.1	1.000047
50000.0	123.0	-67.9		208.7	558.1	296.8	39.0	1.000046
50500.0	119.9	-68.7		204.4	557.0	295.6	32.4	1.000046
51000.0	116.9	-69.0		199.6	556.6	290.2	28.2	1.000044
51500.0	114.0	-69.4		194.9	556.1	282.9	24.4	1.000043
52000.0	111.1	-69.7		190.3	555.7	285.5	27.6	1.000042
52500.0	108.3	-70.0		185.8	555.2	288.1	31.2	1.000041
53000.0	105.6	-70.4		181.4	554.7			1.000040
53500.0	103.0	-70.7		177.2	554.3			1.000039
54000.0	100.4	-71.1		173.0	553.8			1.000039

STATION ALTITUDE 3989.00 FEET MSL
 13 NOV. 61 0512 HRS MST
 ASCENSION NO. 096

MANDATORY LEVELS
 317002069b
 WHITE SANDS
 TABLE 7

GEODEIC COORDINATES
 32.40043 LAT DEG
 116.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
				DIRECTION (DEGREES(TN))	SPEED KNOTS
850.0	4965.	14.1	37.	332.4	4.4
800.0	6643.	13.1	35.	322.5	12.1
750.0	8410.	9.0	38.	297.5	14.1
700.0	10270.	4.6	41.	299.9	18.2
650.0	12240.	1.9	30.	316.7	22.9
600.0	14352.	-.7	29.	319.8	16.8
550.0	16611.	-5.8	31.	326.4	17.5
500.0	19034.	-11.2	32.	320.7	22.8
450.0	21657.	-16.5	32.	325.6	22.3
400.0	24533.	-22.9	32.	323.6	25.0
350.0	27687.	-32.0	37.	323.8	31.1
300.0	31191.	-41.0		326.4	35.9
250.0	35169.	-51.2		327.2	53.1
200.0	39902.	-53.3		294.4	50.7
175.0	42699.	-57.2		286.3	52.4
150.0	45868.	-60.0		276.7	48.3
125.0	49539.	-67.3		296.2	44.5
100.0	53905.	-71.1			

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

STATION ALTITUDE 3997.30 FEET MSL
 13 NOV. 81
 ASCENSION NO. 91

SIGNIFICANT LEVEL DATA
 317000091
 S M R
 TABLE 8

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
883.4	3997.3	.0	-7.0	59.0
869.1	4436.7	12.2	1.8	49.0
863.3	4621.8	14.8	-9	34.0
850.0	5053.0	15.2	-7.0	21.0
820.3	6041.5	15.4	-7.4	20.0
800.9	6705.7	14.3	-8.3	20.0
700.0	10373.3	4.7	-11.8	29.0
670.9	11506.3	2.9	-18.4	19.0
635.1	12965.4	3.2	-20.2	16.0
500.0	19171.9	-10.8	-33.0	14.0
458.5	21337.1	-16.9	-28.7	35.0
431.3	22842.0	-18.8	-34.1	20.0
400.0	24670.1	-24.0	-39.2	23.0
345.3	28137.0	-33.2	-43.9	33.0
319.3	29929.3	-38.2	-44.7	50.0
300.0	31332.4	-41.4		
293.7	31805.5	-42.6		
250.0	35315.7	-51.9		
229.9	37095.2	-54.3		
208.9	39122.7	-53.3		
200.0	40043.0	-55.0		
184.4	41748.3	-56.2		
150.0	45986.5	-64.9		
140.4	47317.7	-64.6		
136.2	47927.2	-66.1		
134.3	48209.4	-64.3		
125.0	49670.0	-60.6		
110.0	52316.2	-57.2		
100.0	54305.7	-57.1		

UPPER AIR DATA
 3170060091
 S M R
 TABLE 9

STATION ALTITUDE 3997.30 FEET MSL
 13 NOV. 81 0500 HRS MST
 ASCENSION NO. 91

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON 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
3997.3	883.4	.0	-7.0	59.0	1124.9	644.4	.0	.0	1.000269
4000.0	883.3	.1	-7.0	58.9	1124.5	644.5	293.2	.0	1.000269
4500.0	867.1	13.1	1.1	43.9	1052.3	660.1	293.2	2.3	1.000265
5000.0	851.6	15.2	-6.0	22.6	1027.3	662.1	293.2	4.5	1.000247
5500.0	836.4	15.3	-7.2	20.5	1008.6	662.2	293.2	6.7	1.000241
6000.0	821.5	15.4	-7.4	20.0	990.3	662.3	288.6	8.7	1.000237
6500.0	806.9	14.6	-8.0	20.0	975.2	661.4	282.8	10.5	1.000233
7000.0	792.3	13.5	-8.5	20.7	961.3	660.1	281.3	10.8	1.000229
7500.0	777.9	12.2	-8.9	21.9	948.2	658.6	281.5	10.3	1.000226
8000.0	763.7	10.9	-9.3	23.2	935.2	657.1	281.6	10.2	1.000223
8500.0	749.8	9.6	-9.7	24.4	922.5	655.6	281.5	10.3	1.000219
9000.0	736.2	8.3	-10.2	25.6	909.9	654.0	277.4	11.0	1.000216
9500.0	722.8	7.0	-10.8	26.9	897.6	652.5	272.5	12.0	1.000213
10000.0	709.7	5.7	-11.3	28.1	885.4	651.0	273.5	15.0	1.000210
10500.0	696.7	4.5	-12.4	27.9	873.0	649.6	277.7	17.9	1.000206
11000.0	683.8	3.7	-15.2	23.5	859.5	648.6	288.8	20.6	1.000201
11500.0	671.1	2.9	-18.4	19.1	846.1	647.5	293.7	22.4	1.000196
12000.0	658.6	3.0	-19.0	18.0	830.1	647.6	296.2	23.4	1.000192
12500.0	646.3	3.1	-19.6	17.0	814.4	647.8	292.8	22.7	1.000188
13000.0	634.3	3.1	-20.2	16.0	799.2	647.8	291.7	21.6	1.000184
13500.0	622.1	2.0	-21.3	15.8	787.2	646.4	294.9	19.9	1.000181
14000.0	610.3	.9	-22.3	15.7	775.4	645.1	298.0	18.5	1.000178
14500.0	598.6	-.3	-23.3	15.5	763.8	643.7	301.1	17.2	1.000175
15000.0	587.2	-1.4	-24.4	15.3	752.3	642.4	303.1	17.0	1.000172
15500.0	576.0	-2.5	-25.4	15.2	741.1	641.1	304.8	17.0	1.000169
16000.0	565.0	-3.6	-26.4	15.0	730.0	639.7	305.7	18.0	1.000166
16500.0	554.2	-4.8	-27.5	14.9	719.1	638.4	305.7	19.0	1.000164
17000.0	543.6	-5.9	-28.5	14.7	708.4	637.0	301.3	20.2	1.000161
17500.0	533.3	-7.0	-29.5	14.5	697.8	635.6	297.9	21.3	1.000158
18000.0	523.1	-8.2	-30.6	14.4	687.4	634.3	295.7	21.9	1.000156
18500.0	513.1	-9.3	-31.6	14.2	677.2	632.9	294.9	21.9	1.000153
19000.0	503.3	-10.4	-32.6	14.1	667.2	631.6	295.8	21.1	1.000151
19500.0	493.5	-11.7	-33.7	17.2	657.4	630.0	296.1	20.2	1.000149
20000.0	483.7	-13.1	-30.3	22.0	647.8	628.3	295.6	19.3	1.000147
20500.0	474.1	-14.5	-29.4	26.9	638.4	626.6	295.6	18.8	1.000145
21000.0	464.7	-16.0	-28.9	31.7	629.2	624.9	296.1	18.5	1.000143
21500.0	455.5	-17.1	-29.4	33.4	619.4	623.5	296.5	20.5	1.000141
22000.0	446.3	-17.7	-31.6	28.4	608.5	622.7	296.9	23.3	1.000138
22500.0	437.3	-18.4	-34.1	23.4	597.8	621.9	299.1	24.7	1.000135
23000.0	428.5	-19.2	-36.3	20.3	587.8	620.8	301.1	25.3	1.000133

STATION ALTITUDE 3997.30 FEET MSL
 13 NOV. 81 0500 HRS MST
 ASCENSION NO. 91

UPPER AIR DATA
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 S M R
 TABLE 9 CONT

GEODETL COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION (T)	WIND SPEED KNOTS	INDEX OF REFRACTION
23500.0	419.0	-20.7	-37.1	21.1	579.1	619.1	303.1	24.3	1.000130
24000.0	411.2	-22.1	-38.0	21.9	570.5	617.3	303.3	23.4	1.000128
24500.0	402.0	-23.5	-38.9	22.7	562.0	615.6	301.6	22.7	1.000126
25000.0	394.4	-24.9	-39.5	24.0	553.4	613.9	299.4	23.0	1.000124
25500.0	386.2	-26.2	-40.1	25.4	544.7	612.3	297.1	23.7	1.000122
26000.0	378.1	-27.5	-40.8	26.8	536.1	610.6	296.5	25.1	1.000120
26500.0	370.1	-28.9	-41.4	28.3	527.7	609.0	296.2	26.4	1.000119
27000.0	362.4	-30.2	-42.2	29.7	519.5	607.3	297.3	27.5	1.000117
27500.0	354.8	-31.5	-42.9	31.2	511.4	605.6	298.6	28.6	1.000115
28000.0	347.3	-32.8	-43.7	32.6	503.4	604.0	300.5	29.7	1.000113
28500.0	339.9	-34.2	-43.9	36.4	495.5	602.2	302.2	31.2	1.000111
29000.0	332.5	-35.6	-44.0	41.2	487.6	600.5	303.6	33.1	1.000109
29500.0	325.3	-37.0	-44.3	45.9	479.9	598.7	304.3	35.3	1.000108
30000.0	318.3	-38.4	-45.3	47.5**	472.2	597.0	304.7	37.7	1.000106
30500.0	311.3	-39.5	-50.5	29.7**	464.1	595.5	304.3	38.6	1.000104
31000.0	304.5	-40.6	-58.9	11.8**	456.2	594.0	303.8	39.4	1.000102
31500.0	297.0	-41.0			448.4	592.5	303.3	40.0	1.000100
32000.0	291.1	-43.1			440.8	590.9	302.8	40.7	1.000098
32500.0	284.5	-44.4			433.3	589.2	303.4	42.0	1.000097
33000.0	278.0	-45.8			426.0	587.5	304.0	43.3	1.000095
33500.0	271.7	-47.1			418.7	585.7	304.1	44.9	1.000093
34000.0	265.6	-48.4			411.6	584.0	304.4	46.7	1.000092
34500.0	259.5	-49.7			404.7	582.3	305.4	48.9	1.000090
35000.0	253.6	-51.1			397.9	580.6	306.1	50.8	1.000089
35500.0	247.0	-52.1			390.7	579.2	306.0	51.2	1.000087
36000.0	242.1	-52.8			382.7	578.3	305.8	51.1	1.000085
36500.0	236.4	-53.5			375.0	577.4	304.6	45.0	1.000084
37000.0	230.9	-54.2			367.4	576.5	303.0	39.0	1.000082
37500.0	225.5	-54.1			358.7	576.6	298.0	36.0	1.000080
38000.0	220.3	-53.9			349.9	576.9	292.0	33.8	1.000078
38500.0	215.1	-53.6			341.4	577.2	284.1	38.3	1.000076
39000.0	210.1	-53.4			333.0	577.6	276.7	44.3	1.000074
39500.0	205.2	-54.0			325.2	576.7	265.4	57.3	1.000073
40000.0	200.4	-54.9			319.9	575.5	260.1	67.8	1.000071
40500.0	195.7	-55.3			313.0	575.0	261.2	66.1	1.000070
41000.0	191.1	-55.7			306.1	574.5	263.7	60.6	1.000068
41500.0	186.6	-56.0			299.4	574.1	270.1	48.7	1.000067
42000.0	182.2	-56.7			293.2	573.1	271.9	43.8	1.000065
42500.0	177.0	-57.7			287.5	571.8	267.2	45.3	1.000064
43000.0	173.5	-58.0			281.9	570.4	263.5	45.8	1.000063

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

STATION ALTITUDE 3997.30 FEET MSL
 13 NOV. 61 0500 HRS MST
 ASCENSION NO. 91

UPPER AIR DATA
 3170060091
 S M H
 TABLE 9 CON'T

GEODETIC COORDINATES
 32.44034 LAT DEG
 106.42307 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA (IRREGULARITIES)	INDEX OF REFRACTION
43000.0	162.3	-59.8		276.5	569.0	260.8	1.000062
44000.0	162.2	-60.8		271.1	567.7	258.5	1.000050
45000.0	161.3	-61.8		265.9	566.3	257.3	1.000059
46000.0	157.4	-62.9		260.7	564.9	254.1	1.000058
45500.0	153.6	-63.9		255.7	563.5	244.5	1.000057
46000.0	149.9	-64.9		250.7	562.2	237.0	1.000056
46500.0	146.2	-64.8		244.5	562.4	232.3	1.000054
47000.0	142.6	-64.7		238.3	562.5	210.5	1.000053
47500.0	139.1	-65.0		232.9	562.0	177.5	1.000052
48000.0	135.7	-65.6		227.8	561.2	136.8	1.000051
48500.0	132.4	-63.6		220.1	564.0	104.1	1.000049
49000.0	129.2	-62.3		213.4	565.7	56.2	1.000048
49500.0	126.0	-61.0		207.0	567.4	100.4	1.000046
50000.0	123.0	-60.2		201.2	568.5	126.8	1.000045
50500.0	120.1	-59.5		195.8	569.4	121.7	1.000044
51000.0	117.2	-58.9		190.6	570.2	117.8	1.000042
51500.0	114.4	-58.2		185.5	571.1	199.6	1.000041
52000.0	111.7	-57.6		180.5	572.0	280.4	1.000040
52500.0	109.0	-57.2		175.9	572.5	276.1	1.000039
53000.0	106.5	-57.2		171.7	572.5	221.7	1.000038
53500.0	103.9	-57.1		167.6	572.6		1.000037
54000.0	101.5	-57.1		163.6	572.6		1.000036

STATION ALTITUDE 3997.30 FEET MSL
 13 NOV. 81 0500 HRS MST
 ASCENSION NO. 91

MANDATORY LEVELS
 3170060091
 S M R
 TABLE 10

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5049.	15.2	-7.0	21.	21.	293.2	4.7
800.0	6731.	14.2	-8.3	20.	20.	281.2	11.1
750.0	8502.	9.6	-9.7	24.	24.	281.5	10.3
700.0	10363.	4.7	-11.8	29.	29.	274.3	17.3
650.0	12335.	3.1	-19.4	17.	17.	293.9	22.9
600.0	14453.	-1	-23.2	16.	16.	300.9	17.3
550.0	16716.	-5.2	-27.9	15.	15.	303.6	19.5
500.0	19145.	-10.8	-33.0	14.	14.	296.1	20.8
450.0	21765.	-17.5	-30.7	30.	30.	296.7	22.1
400.0	24629.	-24.0	-39.2	23.	23.	301.0	22.5
350.0	27773.	-32.4	-43.4	32.	32.	299.8	29.3
300.0	31270.	-41.4				303.5	39.8
250.0	35239.	-51.9				306.0	51.0
200.0	39947.	-55.0				260.2	67.7
175.0	42730.	-58.4				264.4	46.3
150.0	45863.	-64.9				237.2	23.3
125.0	49528.	-60.6				116.7	5.5
100.0	54138.	-57.1					

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

END

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