

AD-A129 668

14823B LANCE MISSILE NUMBER 4850 30 APRIL 1983(U) ARMY
ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WSMR NM
ATMOSPHERIC SCIENCES LAB D C KELLER APR 83

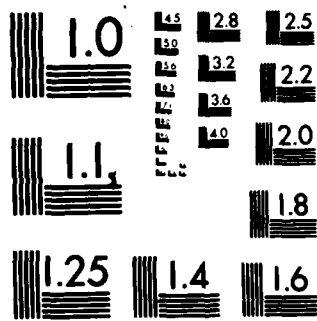
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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1298	2. GOVT ACCESSION NO. AD-A129 668	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 14823B Lance Missile Number 4850		5. TYPE OF REPORT & PERIOD COVERED
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) White Sands Meteorological Team		8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02
9. PERFORMING ORGANIZATION NAME AND ADDRESS		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002		12. REPORT DATE April 83
		13. NUMBER OF PAGES =31
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
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 14823B Lance, Missile Number 4850 are presented in tabular form.		

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INTRODUCTION

14823B Lance, Missile Number 4850, Round Number 385-APT, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 0500 MDT, 30 April 1983. The scheduled launch time was 0400 MDT.

DISCUSSION

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

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-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 RPTS T-9 pibal observation at:

SITE AND ALTITUDE

LC-36 9000 FT

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

SITE AND TIME

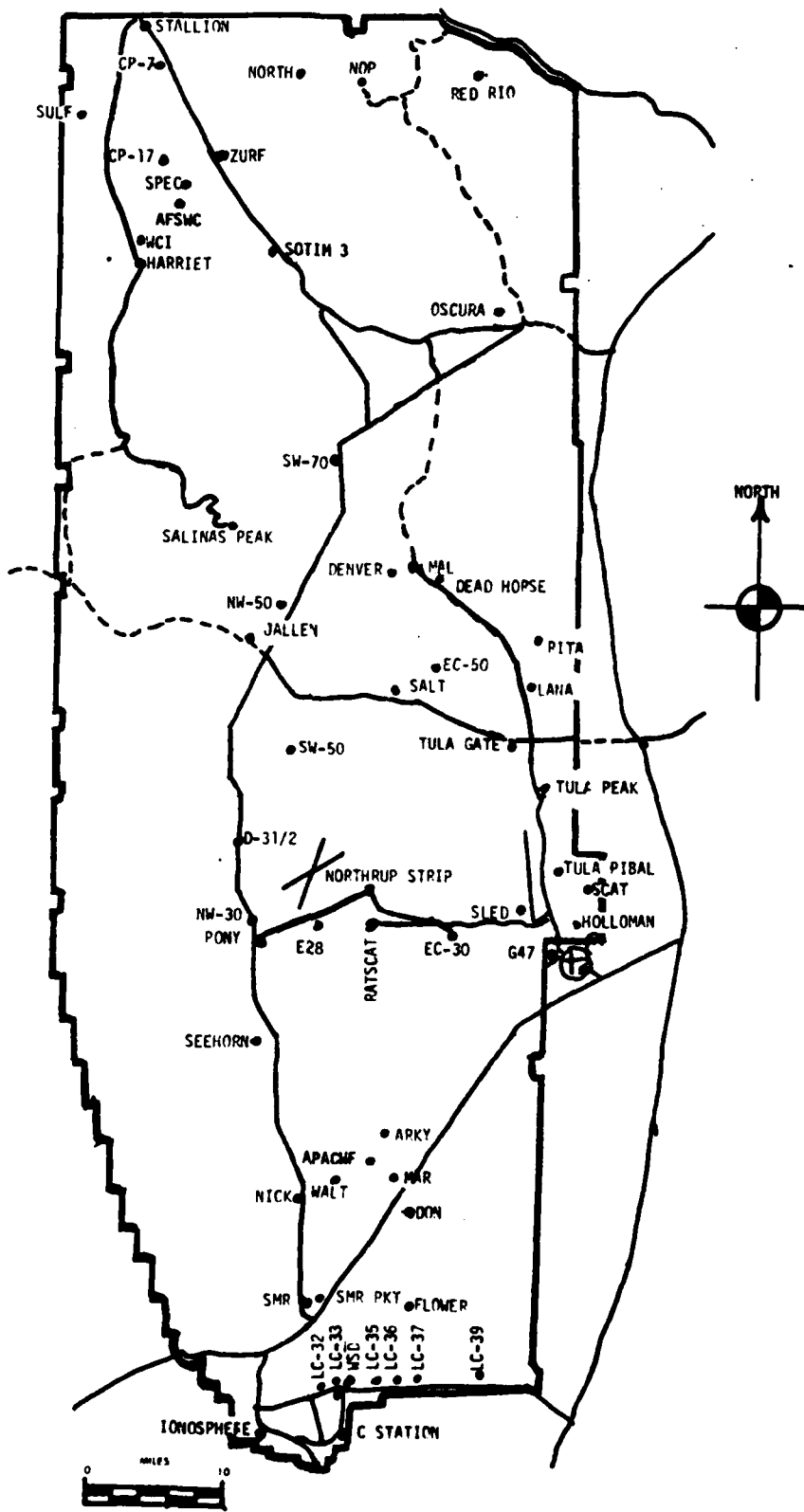
WSD 0500 MDT
NW 30 0300 MDT
JALLEN 0500 MDT



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NTS GRAF	<input checked="" type="checkbox"/>
NTS TAB	<input type="checkbox"/>
NTS Record	<input type="checkbox"/>
Justification	
Distribution/	
Availability Codes	
Work and/or	
Int. Special	

A

WSMR METEOROLOGICAL SITES



COMPUTER MET MESSAGE DATA

30 APRIL 1983

WSD 0500 MDT

METCM1324064

301100122874

00231002	28630874
01462007	28950864
02473008	28960839
03379008	28750800
04390014	28460754
05433028	28140710
06449041	27890668
07460054	27610628
08457062	27270590
09459060	26930554
10461053	26600520
11466053	26290488
12470072	25880442
13459078	25210387
14465080	24450337
15460090	23680293
16463083	22960253
17467094	22140218
18468087	21280186
19467083	20950158
20470083	20680135
21483073	20330114
22483056	20120096
23466040	20130081

NW-30 0300 MDT

METCM1329065

300900122875

00000000	29070875
01277005	29190864
02406012	29010839
03401023	28670801
04422034	28250754
05428046	27900710
06419044	27740667
07429048	27390627
08467059	27170589
09456064	27100554
10460059	26790520
11465067	26380487
12469085	25790442
13466103	25290387
14464106	24440337
15469112	23710293
16469140	22920253
17459131	22160218
18457122	21310187
19466137	20910158
20469104	20590125
21481118	20170114
22495061	20050096
23479040	20390081
24466031	20820069
25146018	20980059
26088012	21320050

JALLEN 0500 MDT

METCM1332065

301100124872

00320009	29010872
01330015	29060362
02350019	28850837
03398019	28520798
04431027	28140751
05436043	27960707
06422042	27760665
07450043	27550625
08458049	27210588
09463053	26870552
10466070	26530518
11468069	26200485
12471082	25640440
13461092	24940384
14457104	24260335
15464125	23520290
16474136	22850251
17469128	21910215
18465118	21190184
19460124	20800156
20463102	20560133
21485112	20460112
22432063	20030095
23476052	20260080
24461032	20890068
25473021	21060058
26483007	21430049

STATION ALTITUDE 3989.00 FEET NSL
 30 APR. 83
 ASCENDING NO. 410

SIGNIFICANT LEVEL DATA
 12000, 0210
 WHITE SANDS
 TABLE 5

GEOMETRIC COORDINATES
 32.40045 LAT DEG
 106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
874.3	3089.0	12.9	25.0
865.3	4276.2	16.6	32.0
850.0	4774.4	16.2	30.0
816.1	5907.0	14.8	27.0
787.4	6097.3	12.9	22.0
773.8	7377.6	12.9	20.0
720.7	9319.6	7.9	18.0
717.0	9458.7	7.1	17.0
714.2	9564.3	6.7	16.0
707.6	9815.4	8.5	16.0
700.0	10108.2	8.3	16.0
675.1	11085.8	5.8	16.0
647.9	12187.9	4.3	16.0
545.3	16719.6	-4.9	15.0
500.0	18942.8	-9.3	16.0
465.7	20739.0	-12.4	15.0
462.6	20906.9	-12.1	15.0
443.4	21969.1	-14.3	34.0
435.7	22405.7	-15.0	54.0
432.7	22577.6	-15.4	61.0
421.0	23256.8	-17.1	65.0
410.9	23855.0	-18.4	68.0
400.0	24514.6	-19.2	65.0
371.9	26284.3	-23.3	70.0
362.2	26918.6	-25.3	69.0
351.3	27646.8	-26.8	65.0
348.7	27823.2	-27.2	71.0
344.7	28096.8	-27.4	77.0
300.0	31335.1	-35.5	98.0
287.4	32314.7	-37.5	51.0
281.4	32793.7	-38.0	42.0
270.3	33044.6	-38.7	40.0
269.4	33777.5	-40.1	
250.0	35442.5	-44.3	
235.1	36790.1	-47.4	
200.0	40240.1	-56.7	
193.3	40948.4	-58.9	
176.7	42788.1	-62.9	
164.6	44223.9	-64.1	
160.0	44797.4	-63.1	

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

SIGNIFICANT LEVEL DATA
 1200020210
 WHITE SANDS

STATION ALTITUDE 3489.00 FEET SL
 30 APR. 63 0500 MDT
 ASCENSION NO. 210

TABLE 5

CORE ID	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
	150.0	46104.0
	129.9	48986.1
	100.0	54125.5
	85.3	57220.0
	72.1	60485.0
	70.0	61063.6
	69.3	61264.6

UPPER AIR DATA
 1200020210
 WHITE SANDS
 TABLE 6

STATION ALTITUDE 3989.00 FEET MSL
 30 APR. 63 0500 PDT
 ASCENDING NO. 210

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

GEOMETRIC ALTITUDE, MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3989.0	874.3	12.9	35.0	1062.4	659.6	130.0	1.9	1.000261
4000.0	874.0	13.0	34.9	1061.4	659.8	131.3	1.9	1.000261
4500.0	850.4	16.4	31.1	1030.0	663.8	195.4	2.2	1.000256
5000.0	843.1	15.9	29.4	1013.7	663.2	221.9	3.9	1.000250
5500.0	828.1	15.3	28.1	997.9	662.4	231.3	5.9	1.000245
6000.0	813.4	14.6	26.5	982.6	661.6	234.4	7.9	1.000239
6500.0	798.8	13.7	24.0	968.5	660.4	218.9	8.6	1.000233
7000.0	784.5	12.9	21.6	953.9	659.4	206.5	9.8	1.000227
7500.0	770.3	12.6	19.9	937.9	659.0	214.4	11.2	1.000222
8000.0	756.4	11.3	19.4	925.1	657.5	221.0	12.7	1.000218
8500.0	742.7	10.0	18.8	912.6	655.9	229.1	15.4	1.000214
9000.0	729.2	8.7	18.3	900.2	654.4	235.3	18.7	1.000210
9500.0	715.9	6.9	16.6	889.6	652.3	239.7	24.0	1.000206
10000.0	702.8	6.4	16.0	880.8	654.0	242.8	30.6	1.000202
10500.0	689.9	7.3	16.0	856.2	652.7	247.1	31.3	1.000199
11000.0	677.3	6.0	16.0	844.4	651.2	250.9	30.8	1.000195
11500.0	664.7	5.2	16.0	831.2	650.3	253.0	32.4	1.000192
12000.0	652.5	4.6	16.0	817.8	649.5	254.2	35.0	1.000189
12500.0	640.3	3.7	15.9	805.1	648.4	255.2	37.6	1.000186
13000.0	628.2	2.7	15.8	792.9	647.2	256.9	40.7	1.000182
13500.0	616.4	1.6	15.7	780.9	646.0	258.4	43.7	1.000179
14000.0	604.7	.6	15.6	769.0	644.8	259.4	46.5	1.000176
14500.0	593.3	-.4	15.5	757.4	643.6	260.0	48.8	1.000173
15000.0	582.2	-1.4	15.4	745.9	642.4	260.5	51.2	1.000170
15500.0	571.2	-2.4	15.3	734.6	641.2	260.3	51.4	1.000168
16000.0	560.4	-3.4	15.2	723.5	640.0	260.0	51.4	1.000165
16500.0	549.9	-4.5	15.1	701.6	637.5	259.7	51.2	1.000162
17000.0	539.4	-5.5	15.0	690.6	636.4	259.5	51.0	1.000160
17500.0	528.9	-6.4	15.4	679.8	635.4	259.6	51.8	1.000157
18000.0	518.7	-7.4	15.6	669.2	635.2	259.7	53.0	1.000154
18500.0	508.7	-8.4	15.8	658.7	634.0	260.6	53.6	1.000152
19000.0	498.9	-9.4	16.0	648.7	632.8	261.4	54.0	1.000149
19500.0	489.1	-10.3	15.7	647.9	631.8	261.5	53.9	1.000147
20000.0	479.5	-11.1	15.4	637.3	630.7	261.8	54.8	1.000144
20500.0	470.1	-12.0	15.1	626.9	629.7	262.6	58.3	1.000142
21000.0	460.9	-12.3	16.7	615.3	629.3	263.6	62.3	1.000139
21500.0	451.8	-13.3	25.6	605.5	628.1	265.0	67.0	1.000138
22000.0	442.9	-14.3	35.4	595.7	626.9	265.7	71.3	1.000137
22500.0	434.1	-15.2	57.8	585.7	626.9	264.9	74.4	1.000137
23000.0	425.4	-16.5	63.5	576.8	624.5	263.9	76.9	1.000135

STATION ALTITUDE 3389.00 FEET MSL
 30 APR. 83 0500 MDT
 ASCENSION NO. 210

UPPER AIR DATA
 1200020210
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 6 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEGREE CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
23500.0	410.9	-17.6	-22.4	66.2	567.8	623.0	262.2	77.4	1.000132
24000.0	406.5	-18.6	-23.1	67.3	558.5	621.9	260.5	77.8	1.000130
24500.0	400.2	-19.2	-24.1	65.1	548.6	621.1	259.6	77.8	1.000127
25000.0	392.1	-20.3	-24.9	66.4	539.8	619.7	258.8	77.9	1.000125
25500.0	384.1	-21.5	-25.8	67.8	531.3	618.3	258.6	78.1	1.000123
26000.0	376.3	-22.6	-26.7	69.2	522.9	616.8	258.4	78.3	1.000121
26500.0	368.6	-24.0	-27.9	69.7	515.0	615.1	258.9	78.4	1.000118
27000.0	361.0	-25.5	-29.5	68.6	507.4	613.5	259.7	78.5	1.000116
27500.0	353.5	-26.5	-30.9	65.8	499.0	612.0	260.5	79.3	1.000114
28000.0	346.1	-27.3	-30.4	74.9	490.2	611.0	261.1	81.0	1.000112
28500.0	338.8	-28.4	-30.8	79.6	482.0	609.6	261.5	82.3	1.000110
29000.0	331.6	-29.7	-31.6	82.9	474.2	608.1	261.3	82.1	1.000108
29500.0	324.6	-30.9	-32.5	86.1	466.5	606.5	260.9	82.0	1.000106
30000.0	317.7	-32.2	-33.3	89.3	459.0	604.9	260.1	82.4	1.000105
30500.0	310.9	-33.4	-34.2	92.6	451.6	603.3	259.3	83.4	1.000103
31000.0	304.3	-34.7	-35.1	95.8	444.4	601.7	258.7	86.5	1.000101
31500.0	297.8	-35.8	-36.9	90.1	437.1	600.2	258.5	87.5	1.000099
32000.0	291.4	-36.9	-40.8	66.1	429.5	598.9	258.9	85.9	1.000097
32500.0	285.1	-37.7	-44.7	47.5	421.7	597.8	259.9	83.4	1.000095
33000.0	278.8	-38.6	-47.0	40.4	414.1	596.7	261.0	80.5	1.000093
33500.0	272.7	-39.6	-56.1	15.1**	406.7	595.4	261.6	81.1	1.000091
34000.0	266.7	-40.7			399.7	594.0	262.0	82.3	1.000089
34500.0	260.8	-41.9			392.9	592.4	262.3	84.5	1.000088
35000.0	255.0	-43.2			386.3	590.8	262.6	86.8	1.000086
35500.0	249.3	-44.4			379.8	589.2	262.9	89.3	1.000085
36000.0	243.7	-45.6			373.1	587.7	263.1	91.9	1.000083
36500.0	238.2	-46.7			366.5	586.2	263.2	93.9	1.000082
37000.0	232.8	-48.0			360.1	584.6	263.2	95.2	1.000080
37500.0	227.4	-49.3			353.9	582.9	263.1	94.8	1.000079
38000.0	222.1	-50.7			347.8	581.1	262.9	93.5	1.000077
38500.0	217.0	-52.0			341.8	579.3	262.7	91.9	1.000076
39000.0	212.0	-53.4			336.0	577.6	262.3	90.2	1.000075
39500.0	207.1	-54.7			330.2	575.8	262.1	88.6	1.000074
40000.0	202.3	-56.1			324.6	574.0	262.1	87.1	1.000072
40500.0	197.5	-57.5			319.1	572.1	262.2	85.6	1.000071
41000.0	192.8	-59.0			313.7	570.1	263.0	84.5	1.000070
41500.0	188.2	-60.1			307.7	568.6	263.7	83.7	1.000069
42000.0	183.6	-61.2			301.8	567.2	264.5	83.8	1.000067
42500.0	179.2	-62.3			296.0	565.7	265.2	83.9	1.000066
43000.0	174.9	-63.1			290.0	564.7	265.1	83.5	1.000065

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

STATION ALTITUDE 3489.00 FEET MSL
 30 APR. 83
 ASCENSION NO. 210

UPPER AIR DATA
 1200020210
 WHITE SANDS

3489.00 FEET MSL
 0500 MDT

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 6 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INJEX OF REFRACTION
43500.0	170.6	-63.5		283.5	564.1	265.0	83.1	1.000063
44000.0	160.4	-63.9		277.1	563.5	264.1	84.7	1.000062
44500.0	162.4	-63.6		270.0	563.9	263.1	86.2	1.000060
45000.0	150.4	-63.2		262.9	564.5	262.4	88.3	1.000059
45500.0	154.5	-63.5		256.8	564.0	261.7	90.5	1.000057
46000.0	150.0	-63.8		250.9	563.6	261.4	91.3	1.000056
46500.0	147.1	-64.4		245.4	562.9	261.6	89.8	1.000055
47000.0	143.4	-65.0		240.0	562.1	261.8	88.2	1.000053
47500.0	139.9	-65.5		234.8	561.3	262.8	83.8	1.000052
48000.0	136.9	-66.1		229.6	560.5	264.1	78.6	1.000051
48500.0	133.1	-66.7		224.6	559.7	265.7	74.6	1.000050
49000.0	129.6	-67.3		219.7	558.9	267.5	72.4	1.000049
49500.0	126.6	-67.8		214.7	558.2	268.9	72.4	1.000048
50000.0	123.4	-68.3		209.8	557.6	269.7	74.5	1.000047
50500.0	120.3	-68.8		205.1	556.9	270.7	74.6	1.000046
51000.0	117.3	-69.3		200.4	556.2	271.7	73.5	1.000045
51500.0	114.3	-69.8		195.9	555.5	272.6	71.2	1.000044
52000.0	111.4	-70.3		191.4	554.8	273.4	68.1	1.000043
52500.0	108.6	-70.9		187.1	554.1	274.4	65.1	1.000042
53000.0	105.9	-71.4		182.8	553.4	274.1	62.8	1.000041
53500.0	103.2	-71.9		178.7	552.7	273.2	60.8	1.000040
54000.0	100.6	-72.4		174.6	552.0	272.2	58.9	1.000039
54500.0	98.1	-72.3		170.2	552.1	270.5	57.7	1.000038
55000.0	95.6	-72.1		165.7	552.4	268.5	56.7	1.000037
55500.0	93.2	-71.9		161.3	552.7	266.5	55.9	1.000036
56000.0	90.8	-71.7		157.0	553.0	265.5	54.3	1.000035
56500.0	88.5	-71.4		152.9	553.3	264.4	52.7	1.000034
57000.0	86.3	-71.2		148.8	553.6	263.5	50.6	1.000033
57500.0	84.1	-71.3		145.1	553.5	263.2	46.9	1.000032
58000.0	81.9	-71.7		141.7	553.0	262.8	43.2	1.000032
58500.0	79.9	-72.0		138.3	552.5	261.0	40.6	1.000031
59000.0	77.8	-72.4		135.1	552.0	258.1	39.1	1.000030
59500.0	75.9	-72.8		131.9	551.5	253.0	38.7	1.000029
60000.0	73.9	-73.1		128.8	551.0			1.000029
60500.0	72.0	-73.4		125.6	550.7			1.000028
61000.0	70.2	-68.6		119.6	557.2			1.000027

STATION ALTITUDE 3940.00 FEET MSL
 30 APR. 63
 ASCENSION NO. 210

MANDATORY LEVELS
 1200020210
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 7

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA		
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS	SPEED KNOTS
850.0	4771.	16.2	-1.4	30.	213.6	5.0	
800.0	6454.	13.7	-6.3	24.	220.1	8.5	
750.0	8228.	10.7	-11.9	19.	224.6	13.8	
700.0	10098.	8.3	-16.0	16.	243.7	30.8	
650.0	12008.	4.4	-19.2	16.	254.4	35.5	
600.0	14209.	.2	-22.9	16.	259.6	47.5	
550.0	16476.	-4.4	-27.1	15.	259.7	51.2	
500.0	18916.	-9.3	-30.4	16.	261.4	54.0	
450.0	21567.	-13.5	-28.3	27.	265.3	67.8	
400.0	24474.	-19.2	-24.1	65.	259.6	77.8	
350.0	27694.	-27.0	-31.1	68.	260.8	80.1	
300.0	31273.	-35.5	-35.7	98.	258.4	88.0	
250.0	35365.	-44.3			262.9	88.9	
200.0	40143.	-56.7			262.0	86.4	
175.0	42875.	-63.1			265.1	83.6	
150.0	45979.	-63.0			261.4	91.0	
125.0	49608.	-68.1			269.3	73.4	
100.0	53959.	-72.5			272.1	58.5	
80.0	58278.	-72.0			261.4	40.8	
70.0	60855.	-68.0					

STATION ALTITUDE 4010.00 FEET PSL
 30 APR. 63
 ASCENSION NO. 11 0300 MDT

SIGNIFICANT LEVEL DATA
 1200220011
 11M 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LONG DEG

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT
874.6	4010.4	17.1	.7	33.0
863.6	4365.8	19.0	-2.6	23.0
850.0	4811.4	17.1	-2.5	26.0
747.6	8348.6	8.1	-2.8	46.0
718.0	9438.9	5.1	-3.2	55.0
708.2	9807.6	5.0	-6.5	37.0
700.0	10119.6	4.8	-14.5	23.0
680.0	10544.3	5.6	-19.0	15.0
602.8	14085.7	-1.7	-24.9	15.0
558.4	16087.2	-1.5	-24.7	15.0
547.2	16610.1	-2.9	-25.8	15.0
524.2	17730.2	-4.8	-28.1	14.0
500.0	18945.2	-7.9	-30.6	14.0
435.6	22414.4	-16.2	-36.1	16.0
420.4	23290.3	-18.3	-37.8	16.0
400.0	24511.4	-18.6	-38.1	16.0
376.4	25995.4	-21.4	-39.3	18.0
366.7	26627.0	-23.0	-40.6	18.0
332.1	28080.8	-30.7	-34.9	66.0
321.4	29745.7	-31.3	-34.0	77.0
300.0	31341.5	-34.8	-35.0	98.0
277.8	33092.9	-39.2	-42.8	68.0
250.0	35443.6	-44.9		
223.6	37873.8	-50.0		
200.0	40240.9	-56.5		
181.0	42303.7	-61.6		
166.2	44035.3	-64.2		
150.0	46105.9	-63.9		
122.4	50153.8	-70.2		
114.2	51507.1	-72.1		
106.6	52845.9	-71.8		
102.0	53554.7	-70.4		
100.0	54093.9	-71.8		
92.0	55705.2	-74.6		
80.2	58384.4	-67.9		
75.0	59710.2	-69.3		
70.0	61085.5	-64.7		
64.0	62260.9	-65.7		
64.2	62828.0	-62.5		
59.4	64405.4	-64.1		

GEODETIC COORDINATES
 32.84497 LAT DEG
 106.49714 LON DEG

SIGNIFICANT LEVEL DATA
 12002,0011
 NW 30

TABLE 8 Cont'd

STATION ALTITUDE 4110.00 FEET MSL
 30 APR. 63 0300 MDT
 ASCENSION NO. 11

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
50.0	67914.0	-61.2	
46.7	69330.4	-56.4	
37.4	73956.8	-59.5	
30.0	78566.8	-55.0	
20.0	87225.1	-50.6	
16.6	91300.3	-44.6	
11.1	100295.5	-41.0	

STATION ALTITUDE 4010.00 FEET MSL
 30 APR. 63 0300 MDT
 ASCENDING NO. 11

UPPER AIR DATA
 1200220011
 NW 30

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 9

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUMIDITY PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
4010.4	874.6	17.1	33.0	1046.8	664.6	.0	.0	1.000262
4500.0	859.5	18.4	23.9	1024.6	666.0	225.1	4.9	1.000251
5000.0	844.2	16.6	27.1	1012.6	663.9	225.1	10.0	1.000249
5500.0	829.0	15.3	29.9	998.7	662.5	225.1	15.0	1.000246
6000.0	814.1	14.1	32.7	985.0	661.1	225.4	20.0	1.000244
6500.0	799.5	12.8	35.5	971.5	659.6	228.9	24.5	1.000241
7000.0	785.1	11.5	38.4	958.3	658.1	231.5	29.0	1.000238
7500.0	771.0	10.3	41.2	945.3	656.7	234.6	32.1	1.000235
8000.0	757.1	9.0	44.0	932.5	655.2	237.1	35.1	1.000232
8500.0	743.4	7.7	47.2	919.9	653.7	238.6	36.9	1.000229
9000.0	729.8	6.3	51.4	907.4	652.1	240.0	38.7	1.000226
9500.0	716.4	5.1	52.0	894.8	650.6	239.8	41.3	1.000222
10000.0	703.1	4.9	28.4	879.9	650.0	239.4	44.0	1.000208
10500.0	690.1	5.5	15.8	862.1	650.6	238.9	45.9	1.000199
11000.0	677.3	4.7	15.0	848.6	649.6	238.1	46.2	1.000195
11500.0	664.6	3.6	15.0	835.9	648.3	237.4	46.5	1.000192
12000.0	652.2	2.6	15.0	823.4	647.1	236.6	46.8	1.000189
12500.0	640.0	1.6	15.0	811.1	645.9	239.5	46.1	1.000186
13000.0	628.0	.5	15.0	798.9	644.7	242.2	45.5	1.000183
13500.0	616.3	-5	15.0	787.0	643.5	247.8	46.0	1.000180
14000.0	604.8	-1.5	15.0	775.2	642.2	255.4	48.1	1.000177
14500.0	593.3	-1.7	15.0	760.9	642.1	262.8	55.5	1.000174
15000.0	582.1	-1.6	15.0	746.4	642.1	263.6	64.9	1.000170
15500.0	571.1	-1.6	15.0	732.1	642.2	259.0	66.9	1.000167
16000.0	560.3	-1.5	15.0	718.1	642.3	255.8	65.9	1.000164
16500.0	549.6	-2.6	15.0	707.3	641.0	255.8	62.6	1.000161
17000.0	539.2	-3.6	14.7	696.4	639.8	257.0	57.9	1.000159
17500.0	528.9	-4.4	14.2	685.3	638.8	258.4	56.6	1.000156
18000.0	518.7	-5.5	14.0	674.9	637.5	259.9	56.1	1.000153
18500.0	508.7	-6.8	14.0	665.0	636.0	260.8	59.6	1.000151
19000.0	498.9	-8.0	14.0	655.3	634.4	261.6	63.0	1.000148
19500.0	489.1	-9.2	14.3	645.4	633.0	262.3	66.6	1.000146
20000.0	479.5	-10.4	14.6	635.6	631.6	262.7	70.1	1.000144
20500.0	470.0	-11.6	14.9	625.9	630.1	263.1	73.6	1.000141
21000.0	460.3	-12.8	15.2	616.4	628.7	263.5	75.8	1.000139
21500.0	451.7	-14.0	15.5	607.1	627.2	263.8	77.0	1.000137
22000.0	442.8	-15.2	15.8	597.9	625.8	264.0	76.2	1.000135
22500.0	434.1	-16.4	16.0	588.9	624.3	264.2	79.6	1.000133
23000.0	425.4	-17.6	16.0	579.8	622.8	264.3	81.6	1.000131
23500.0	416.8	-18.4	16.0	569.8	621.9	264.1	90.6	1.000128

GEODETIC COORDINATES
32.88497 LAT DEG
106.49714 LON DEG

UPPER AIR DATA
1200220011
NW 30

STATION ALTITUDE 4310.00 FEET MSL
30 APR 63
ASCESSION NO. 11
0300 MDT

TABLE 9 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
24000.0	400.4	-18.5	-38.0	16.0	558.6	621.8	263.4	102.0	1.000126
24500.0	400.2	-18.6	-38.1	16.0	547.6	621.6	262.6	111.6	1.000123
25000.0	392.1	-19.5	-38.5	16.7	538.4	620.5	261.6	115.0	1.000121
25500.0	384.1	-20.5	-38.9	17.3	529.5	619.3	260.9	111.5	1.000119
26000.0	376.3	-21.4	-39.3	18.0	520.7	618.2	260.4	103.8	1.000117
26500.0	368.6	-22.7	-40.4	18.0	512.6	616.6	260.2	100.3	1.000115
27000.0	361.0	-24.2	-38.3	25.6	505.1	614.7	260.2	98.6	1.000114
27500.0	353.5	-25.9	-36.5	35.8	497.8	612.7	260.5	99.8	1.000113
28000.0	346.1	-27.5	-35.5	46.0	490.6	610.7	260.9	102.7	1.000111
28500.0	338.9	-29.1	-35.0	56.2	483.6	608.7	261.2	105.6	1.000110
29000.0	331.8	-30.7	-34.9	66.3	476.6	606.7	261.8	106.8	1.000108
29500.0	324.8	-31.1	-34.3	73.5	467.3	606.2	262.4	108.1	1.000106
30000.0	317.9	-31.9	-34.1	80.3	458.8	605.3	262.9	110.5	1.000104
30500.0	311.1	-33.0	-34.4	86.9	451.0	603.9	263.2	113.6	1.000103
31000.0	304.5	-34.1	-34.7	93.5	443.4	602.5	263.4	116.5	1.000101
31500.0	297.9	-35.2	-35.7	95.3	436.0	601.1	263.6	119.3	1.000099
32000.0	291.5	-36.5	-37.8	86.7	428.8	599.5	263.7	122.1	1.000097
32500.0	285.1	-37.7	-40.1	78.2	421.8	597.8	263.8	125.0	1.000095
33000.0	278.9	-39.0	-42.4	69.6	414.9	596.2	263.5	127.9	1.000093
33500.0	272.8	-40.2	-45.5	56.2**	407.8	594.7	263.1	130.7	1.000092
34000.0	266.7	-41.4	-49.2	41.8**	400.9	593.1	262.9	133.0	1.000090
34500.0	260.8	-42.6	-53.9	27.3**	394.1	591.5	263.1	135.4	1.000088
35000.0	255.0	-43.8	-60.9	12.8**	387.4	590.0	264.0	137.0	1.000086
35500.0	249.4	-45.0			380.8	588.4	270.0	124.3	1.000085
36000.0	243.7	-46.1			373.8	587.1			1.000083
36500.0	238.2	-47.1			367.1	585.7			1.000082
37000.0	232.8	-48.2			360.4	584.3			1.000080
37500.0	227.5	-49.2			353.9	583.0			1.000079
38000.0	222.3	-50.3			347.5	581.5			1.000077
38500.0	217.1	-51.7			341.5	579.7			1.000076
39000.0	212.0	-53.1			335.7	577.9			1.000075
39500.0	207.1	-54.5			329.9	576.1			1.000073
40000.0	202.3	-55.8			324.3	574.3			1.000072
40500.0	197.5	-57.1			318.5	572.6			1.000071
41000.0	192.8	-58.4			312.7	570.9			1.000070
41500.0	188.2	-59.6			307.0	569.3			1.000068
42000.0	183.7	-60.8			301.4	567.6			1.000067
42500.0	179.3	-61.9			295.6	566.2			1.000066
43000.0	174.9	-62.6			289.4	565.2			1.000064
43500.0	170.6	-63.4			283.4	564.2			1.000063

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

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

UPPER AIR DATA
 1200220011
 NW 30

STATION ALTITUDE 4010.40 FEET ASL
 30 APR. 63 0300 MDT
 ASCENSION NO. 11

GEODETIC COORDINATES
 32.88497 LAT DEG
 106.49714 LON DEG

TABLE 9 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
44000.0	160.5	-64.1		277.5	563.2			1.000062
44500.0	162.4	-64.1		270.7	563.2			1.000060
45000.0	156.4	-64.1		264.0	563.3			1.000059
45500.0	154.6	-64.0		257.4	563.4			1.000057
46000.0	150.8	-63.9		251.1	563.5			1.000056
46500.0	147.1	-64.5		245.5	562.7			1.000055
47000.0	143.4	-65.3		240.4	561.7			1.000054
47500.0	139.9	-66.1		235.3	560.6			1.000052
48000.0	136.4	-66.8		230.3	559.6			1.000051
48500.0	133.0	-67.6		225.4	558.5			1.000050
49000.0	129.7	-68.4		220.7	557.4			1.000049
49500.0	126.5	-69.2		216.0	556.4			1.000048
50000.0	123.3	-70.0		211.5	555.3			1.000047
50500.0	120.2	-70.7		206.9	554.3			1.000046
51000.0	117.2	-71.4		202.4	553.4			1.000045
51500.0	114.2	-72.1		197.9	552.4			1.000044
52000.0	111.3	-72.0		192.8	552.5			1.000043
52500.0	108.5	-71.9		187.8	552.7			1.000042
53000.0	105.8	-71.5		182.7	553.2			1.000041
53500.0	103.1	-70.5		177.2	554.6			1.000039
54000.0	100.5	-71.6		173.6	553.1			1.000039
54500.0	97.9	-72.5		170.0	551.8			1.000038
55000.0	95.4	-73.4		166.4	550.6			1.000037
55500.0	93.0	-74.2		162.8	549.4			1.000036
56000.0	90.6	-73.9		158.4	550.0			1.000035
56500.0	88.3	-72.6		153.4	551.7			1.000034
57000.0	86.1	-71.4		148.6	553.4			1.000033
57500.0	83.9	-70.1		144.0	555.1			1.000032
58000.0	81.8	-68.9		139.5	556.8			1.000031
58500.0	79.7	-68.0		135.4	558.0			1.000030
59000.0	77.7	-68.6		132.4	557.2			1.000029
59500.0	75.8	-69.1		129.4	556.5			1.000029
60000.0	73.9	-68.3		125.7	557.5			1.000028
60500.0	72.1	-66.7		121.6	559.8			1.000027
61000.0	70.3	-65.0		117.6	562.1			1.000026
61500.0	68.6	-65.1		114.8	562.0			1.000026
62000.0	66.9	-65.5		112.2	561.4			1.000025
62500.0	65.2	-64.4		108.9	562.9			1.000024
63000.0	63.7	-62.7		105.4	565.2			1.000023
63500.0	62.1	-63.2		103.0	564.5			1.000023

XX WIND DATA IN ALI, DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

UPPER AIR DATA
 1200220011
 11W 30

STATION ALTITUDE 4010.00 FEET MSL
 30 APR. 83
 0300 MDT
 ASCENSION NO. 11

GEODETIC COORDINATES
 12.84497 LAT DEG
 106.49714 LONG DEG

TABLE 9 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
64000.0	60.6	-63.7		100.8	563.4			1.000022
64500.0	59.1	-64.0		98.5	563.4			1.000022
65000.0	57.7	-63.6		95.9	563.9			1.000021
65500.0	56.3	-63.2		93.4	564.5			1.000021
66000.0	54.9	-62.8		91.0	565.0			1.000020
66500.0	53.6	-62.4		88.6	565.6			1.000020
67000.0	52.3	-62.0		86.3	566.2	326.3	22.2	1.000019
67500.0	51.0	-61.5		84.0	566.7	339.7	15.4	1.000019
68000.0	49.8	-60.9		81.7	567.6	349.8	11.0	1.000018
68500.0	48.6	-60.2		79.2	569.8	334.5	8.6	1.000018
69000.0	47.4	-59.5		76.7	572.1	310.5	7.1	1.000017
69500.0	46.3	-58.5		74.5	573.4	284.8	10.0	1.000017
70000.0	45.2	-56.8		72.8	573.0	271.9	13.9	1.000016
70500.0	44.2	-57.2		71.2	572.5	267.1	16.2	1.000016
71000.0	43.1	-57.5		69.6	572.1	266.0	16.2	1.000015
71500.0	42.1	-57.9		68.1	571.6	264.9	16.2	1.000015
72000.0	41.1	-58.2		66.6	571.2	265.3	11.7	1.000015
72500.0	40.1	-58.5		65.1	570.7	266.6	6.8	1.000014
73000.0	39.2	-58.9		63.7	570.3	276.0	1.7	1.000014
73500.0	38.2	-59.2		62.2	569.8	78.0	3.9	1.000014
74000.0	37.3	-59.5		60.8	569.5	81.2	9.5	1.000014
74500.0	36.4	-59.0		59.3	570.1	80.2	16.8	1.000013
75000.0	35.6	-58.5		57.7	570.8	79.6	24.4	1.000013
75500.0	34.7	-58.0		56.2	571.4	79.1	31.0	1.000013
76000.0	33.9	-57.5		54.8	572.1	78.4	35.8	1.000012
76500.0	33.1	-57.0		53.4	572.7	77.8	40.6	1.000012
77000.0	32.3	-56.5		52.0	573.4	78.1	41.5	1.000012
77500.0	31.6	-56.0		50.7	574.0	78.5	41.4	1.000011
78000.0	30.8	-55.6		49.3	574.7	79.0	40.6	1.000011
78500.0	30.1	-55.1		48.1	575.3	79.7	38.0	1.000011
79000.0	29.4	-54.8		46.9	575.7	80.6	35.3	1.000010
79500.0	28.7	-54.5		45.8	576.0	81.0	30.8	1.000010
80000.0	28.1	-54.3		44.6	576.4	81.2	25.1	1.000010
80500.0	27.4	-54.0		43.6	576.7	81.5	19.5	1.000010
81000.0	26.8	-53.8		42.5	577.0	81.5	14.9	1.000009
81500.0	26.1	-53.5		41.5	577.4	81.6	10.3	1.000009
82000.0	25.5	-53.3		40.5	577.7	82.0	7.1	1.000009
82500.0	25.0	-53.0		39.5	578.0	83.3	6.1	1.000009
83000.0	24.4	-52.7		38.5	578.4	85.1	5.1	1.000009
83500.0	23.8	-52.5		37.6	578.7	89.7	4.2	1.000008

AX WIND DATA INCLUDES TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 46,100.00 FEET MSL
 30 APR. 63 0300 MDT
 ASCENSION NO. 11

UPPER AIR DATA
 1200220011
 NW 30

GEOMETRIC COORDINATES
 32-44497 LAT DEG
 106-49714 LONG DEG

TABLE 9 Cont'd

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		
84000.0	23.3	-52.2		36.7	579.0	97.4		3.4	1.000008
84500.0	22.7	-52.0		35.8	579.4	108.6		2.8	1.000008
85000.0	22.2	-51.7		34.9	579.7	117.7		2.7	1.000008
85500.0	21.7	-51.5		34.1	580.0	126.6		2.8	1.000008
86000.0	21.2	-51.2		33.2	580.4	123.1		3.5	1.000007
86500.0	20.7	-51.0		32.4	580.7	109.1		5.7	1.000007
87000.0	20.2	-50.7		31.7	581.0	103.1		8.0	1.000007
87500.0	19.8	-50.2		30.9	581.7	100.4		10.1	1.000007
88000.0	19.3	-49.5		30.1	582.7	99.5		11.5	1.000007
88500.0	18.9	-48.7		29.3	583.6	98.8		12.9	1.000007
89000.0	18.4	-48.0		28.5	584.6	99.6		13.4	1.000006
89500.0	18.0	-47.3		27.8	585.5	103.0		12.2	1.000006
90000.0	17.6	-46.5		27.1	586.5	107.1		11.2	1.000006
90500.0	17.2	-45.8		26.4	587.4	112.1		10.2	1.000006
91000.0	16.8	-45.0		25.7	588.4	118.5		9.2	1.000006
91500.0	16.5	-44.5		25.1	589.1	126.3		8.4	1.000006
92000.0	16.1	-44.3		24.5	589.3	130.6		8.3	1.000005
92500.0	15.7	-44.1		23.9	589.6	126.3		9.4	1.000005
93000.0	15.4	-43.9		23.4	589.8	122.9		10.6	1.000005
93500.0	15.0	-43.7		22.8	590.1	120.0		11.7	1.000005
94000.0	14.7	-43.5		22.3	590.4	117.1		12.9	1.000005
94500.0	14.4	-43.3		21.8	590.6	114.6		14.1	1.000005
95000.0	14.1	-43.1		21.3	590.9	114.5		14.6	1.000005
95500.0	13.8	-42.9		20.8	591.1	125.4		12.1	1.000005
96000.0	13.5	-42.7		20.3	591.4	141.1		10.3	1.000005
96500.0	13.2	-42.5		19.9	591.6	162.0		9.5	1.000004
97000.0	12.9	-42.3		19.4	591.9	189.2		10.8	1.000004
97500.0	12.6	-42.1		19.0	592.1	207.5		13.8	1.000004
98000.0	12.3	-41.9		18.5	592.4				1.000004
98500.0	12.0	-41.7		18.1	592.7				1.000004
99000.0	11.8	-41.5		17.7	592.9				1.000004
99500.0	11.5	-41.3		17.3	593.2				1.000004
100000.0	11.2	-41.1		16.9	593.4				1.000004

STATION ALTITUDE 4010.40 FEET HSL
 30 APR. 43
 ASCENDING NO. 11 0300 MDT

MANDATORY LEVELS
 1200220011
 NW 30

GEODETIC COORDINATES
 32.84497 LAT DEG
 106.49714 LON DEG

TABLE 10

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
450.0	4808.	17.1	-2.5	26.	225.1	8.0	
400.0	6491.	12.8	-2.0	35.	228.9	24.5	
750.0	8255.	8.3	-2.7	40.	237.9	30.0	
700.0	10110.	4.0	-14.5	23.	239.3	44.6	
650.0	12087.	2.4	-21.5	15.	237.3	46.6	
600.0	14191.	-1.7	-24.9	15.	258.2	49.1	
550.0	16463.	-2.5	-25.6	15.	255.8	62.8	
500.0	18919.	-7.9	-30.6	14.	281.5	62.6	
450.0	21574.	-14.2	-34.8	16.	263.8	77.2	
400.0	24472.	-18.6	-38.1	16.	262.6	111.6	
350.0	27694.	-26.6	-36.0	41.	260.7	101.2	
300.0	31280.	-34.8	-35.0	98.	263.5	118.3	
250.0	35367.	-44.9			269.1	126.1	
200.0	40145.	-56.5			9999.0XX	9999.0XX	
175.0	42883.	-62.6			9999.0	9999.0XX	
150.0	45983.	-63.0			9999.0	9999.0XX	
125.0	49600.	-69.5			9999.0	9999.0XX	
100.0	53929.	-71.8			9999.0	9999.0XX	
80.0	58244.	-68.0			9999.0	9999.0XX	
70.0	60879.	-64.7			9999.0	9999.0XX	
60.0	63976.	-63.9			9999.0	9999.0XX	
50.0	67663.	-61.2			352.4	11.7	
40.0	72279.	-58.6			266.7	6.6	
30.0	78236.	-55.0			79.8	37.8	
25.0	82075.	-53.0			83.0	6.3	
20.0	86822.	-50.6			101.6	8.9	
15.0	93091.	-43.7			119.9	11.8	

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

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

STATION ALTITUDE 4051.00 FEET MSL
 30 APR. 63
 ASCENSI,ON NO. 70

SIGNIFICANT LEVELL DATA
 1200030070
 JALLEN

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 11

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
072.2	16.1	.3	34.0
067.5	17.4	-0.8	29.0
050.0	15.0	-3.1	27.0
774.4	9.4	-4.5	37.0
747.9	7.2	-6.5	37.0
718.2	6.1	-15.1	20.0
700.0	6.5	-18.2	15.0
672.3	4.5	-19.1	16.0
633.3	2.8	-20.5	16.0
500.0	-9.0	-32.2	14.0
481.1	-11.7	-33.0	15.0
421.1	-19.4	-36.1	21.0
400.0	-22.3	-28.5	57.0
378.6	-24.1	-32.2	47.0
376.5	-24.5	-30.2	59.0
362.4	-26.8	-28.4	86.0
338.2	-30.0	-30.3	97.0
316.7	-33.6	-35.7	81.0
300.0	-36.8	-39.6	75.0
285.8	-39.2	-42.4	71.0
278.5	-39.3	-44.9	55.0
250.0	-44.6		
200.0	-58.6		
192.0	-58.8		
172.1	-64.7		
150.0	-65.2		
129.1	-68.5		
114.3	-67.3		
100.0	-72.3		
93.8	-74.2		
89.5	-72.3		
81.7	-73.0		
78.7	-68.7		
74.7	-67.9		
73.1	-64.5		
70.0	-63.9		
58.0	-64.7		
55.0	-59.5		
50.0	-58.6		
39.6	-59.3		

GEODETIC COORDINATES
33°16'71" LAT DEG
106°49'51" LON DEG

SIGNIFICANT LEVEL DATA
120030070
JALLEN

TABLE 11 Cont'd

STATION ALTITUDE 4051.00 FFFI MSL
30 APR. 63
ASCENSION NO. 70 0500 MDT

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
36.7 74180.7	-57.1	

UPPER AIR DATA
1200030070
JALLEN

UPPER AIR DATA
1200030070
JALLEN

STATION ALTITUDE 4051.00 FLFT MSL
30 APR. 63
ASCENSION NO. 70

0500 MDT

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEG REE(S) TN	WIND SPEED KNOTS	INDEX OF REFRACTION
4051.0	872.2	16.1	.3	34.0	1047.6	663.5	180.0	8.9	1.000262
4500.0	859.3	16.6	-2.0	28.0	1029.7	663.9	192.6	11.0	1.000253
5000.0	843.0	15.2	-3.2	27.9	1016.1	662.3	201.8	13.7	1.000248
5500.0	827.8	14.0	-3.4	29.8	1002.2	660.9	207.8	16.6	1.000245
6000.0	812.9	12.7	-3.6	31.8	988.4	659.4	214.9	18.1	1.000242
6500.0	798.3	11.5	-3.9	33.7	974.9	658.0	223.2	18.9	1.000239
7000.0	783.9	10.2	-4.3	35.7	961.6	656.5	229.6	20.4	1.000235
7500.0	769.8	9.0	-4.9	37.0	948.4	655.1	234.3	22.4	1.000232
8000.0	755.7	7.9	-5.9	37.0	935.0	653.7	240.4	25.9	1.000227
8500.0	741.9	7.0	-7.9	33.6	921.0	652.6	245.7	30.9	1.000221
9000.0	728.2	6.5	-11.7	25.8	906.1	651.9	248.6	37.1	1.000214
9500.0	714.9	6.2	-15.6	19.1	890.7	651.4	245.5	41.6	1.000207
10000.0	701.7	6.5	-17.9	15.5	873.5	651.7	242.5	44.6	1.000202
10500.0	688.8	5.7	-18.6	15.4	859.8	650.8	239.9	43.7	1.000198
11000.0	676.0	4.8	-19.0	15.9	846.7	649.7	240.1	42.5	1.000195
11500.0	663.5	4.1	-19.4	16.0	833.0	649.0	243.3	40.9	1.000192
12000.0	651.2	3.6	-19.8	16.0	819.1	648.3	246.6	40.8	1.000189
12500.0	639.1	3.1	-20.3	16.0	805.5	647.7	249.8	42.5	1.000185
13000.0	627.0	2.3	-21.0	15.9	792.6	646.4	252.2	44.3	1.000182
13500.0	615.1	1.2	-21.9	15.8	780.4	645.5	252.6	46.2	1.000179
14000.0	603.4	.2	-22.9	15.6	768.4	644.3	252.9	48.1	1.000176
14500.0	591.9	-.8	-23.8	15.4	756.7	643.1	254.0	50.8	1.000173
15000.0	580.6	-1.8	-24.8	15.3	745.1	641.9	255.0	53.6	1.000170
15500.0	569.5	-2.9	-25.7	15.1	733.7	640.6	256.4	54.6	1.000167
16000.0	558.7	-3.9	-26.7	14.9	722.4	639.4	258.2	54.6	1.000164
16500.0	548.0	-4.9	-27.6	14.8	711.4	638.2	260.0	54.9	1.000162
17000.0	537.6	-5.9	-28.6	14.6	700.5	637.0	261.8	56.2	1.000159
17500.0	527.3	-7.0	-29.6	14.5	689.9	635.7	263.1	58.3	1.000156
18000.0	517.3	-8.0	-30.5	14.3	679.3	634.5	263.0	62.8	1.000154
18500.0	507.4	-9.0	-31.5	14.1	669.0	633.3	263.1	65.6	1.000151
19000.0	497.7	-10.0	-32.3	14.1	658.7	632.0	263.7	65.2	1.000149
19500.0	487.9	-11.0	-32.7	14.6	648.2	630.9	264.3	64.4	1.000147
20000.0	478.3	-12.0	-33.1	15.3	638.0	629.6	264.9	63.2	1.000144
20500.0	468.8	-13.2	-33.5	16.2	628.0	628.2	264.7	63.8	1.000142
21000.0	459.4	-14.4	-33.9	17.1	618.3	626.8	264.4	64.9	1.000140
21500.0	450.3	-15.5	-34.4	18.0	608.7	625.4	264.2	66.8	1.000137
22000.0	441.3	-16.7	-34.9	18.9	599.3	624.0	264.0	68.9	1.000135
22500.0	432.5	-17.9	-35.4	19.8	590.0	622.5	263.9	71.7	1.000133
23000.0	423.9	-19.0	-35.9	20.8	580.9	621.1	263.9	75.0	1.000131
23500.0	415.3	-20.2	-33.0	30.1	571.7	619.7	263.7	78.4	1.000130

UPPER AIR DATA
 1200030070
 JALLERI

STATION ALTITUDE 4051.00 FEET MSL
 30 APR. 83 0500 MDT
 ASCENSION NO. 70

GEOMETRIC COORDINATES
 33.16712 LAT DEG
 106.49551 LON DEG

TABLE 12 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TRN)	WIND SPEED KNOTS	INDEX OF REFRACTION
24000.0	400.0	-21.3	45.1	562.6	616.3	262.8	82.5	1.000128
24500.0	398.6	-22.4	56.3	553.4	617.0	262.0	86.7	1.000127
25000.0	390.4	-23.1	52.6	543.6	616.2	260.4	89.7	1.000124
25500.0	382.4	-23.8	48.8	533.9	615.3	258.7	92.6	1.000122
26000.0	374.5	-24.8	62.8	525.1	614.1	257.5	93.5	1.000120
26500.0	366.7	-26.1	77.6	516.8	612.5	256.4	93.8	1.000119
27000.0	359.1	-27.2	87.5	508.3	611.1	256.3	92.9	1.000117
27500.0	351.5	-28.2	90.8	499.7	609.9	256.4	91.7	1.000115
28000.0	344.2	-29.2	94.2	491.2	608.7	256.0	91.8	1.000113
28500.0	336.9	-30.2	96.1	482.9	607.4	257.3	92.4	1.000111
29000.0	329.8	-31.4	90.9	475.0	605.9	258.2	97.3	1.000108
29500.0	322.8	-32.6	85.6	467.2	604.4	259.1	102.7	1.000106
30000.0	315.9	-33.7	80.7	459.5	602.9	259.9	109.7	1.000104
30500.0	309.1	-35.0	78.3	452.1	601.2	260.5	116.1	1.000102
31000.0	302.4	-36.3	75.9	444.8	599.6	260.7	121.6	1.000100
31500.0	295.9	-37.5	73.9	437.3	598.1	260.9	127.5	1.000099
32000.0	289.4	-38.6	72.0	429.7	596.7	260.8	133.8	1.000097
32500.0	283.1	-39.2	65.1	421.5	595.4	260.9	138.0	1.000095
33000.0	276.9	-39.6	52.0**	412.9	595.4	261.1	141.0	1.000093
33500.0	270.7	-40.7	40.6**	405.7	594.0	261.6	134.6	1.000091
34000.0	264.7	-41.8	29.2**	398.6	592.6	262.1	126.7	1.000089
34500.0	258.9	-42.9	17.8**	391.6	591.2	262.9	117.7	1.000087
35000.0	253.1	-44.0	6.3**	384.8	589.7	263.9	110.0	1.000086
35500.0	247.4	-45.3		378.2	588.1	264.9	105.4	1.000084
36000.0	241.7	-46.7		371.8	586.2	265.9	102.5	1.000083
36500.0	236.4	-48.2		365.6	584.3	266.7	102.2	1.000081
37000.0	230.6	-49.7		359.5	582.4	267.6	100.5	1.000080
37500.0	225.3	-51.1		353.5	580.5	268.4	97.6	1.000079
38000.0	220.1	-52.6		347.6	578.6	269.4	94.0	1.000077
38500.0	215.0	-54.1		341.9	576.6	270.6	88.1	1.000076
39000.0	210.0	-55.5		336.2	574.7	272.0	82.2	1.000075
39500.0	205.2	-57.0		330.7	572.8	271.0	83.8	1.000074
40000.0	200.4	-58.5		325.2	570.8	270.0	85.8	1.000072
40500.0	195.7	-58.7		319.9	570.5	272.6	87.1	1.000071
41000.0	191.0	-59.1		310.8	570.0	272.6	87.1	1.000069
41500.0	186.4	-60.4		305.2	568.2	276.8	86.3	1.000068
42000.0	181.9	-61.7		299.6	566.5			1.000067
42500.0	177.5	-63.0		294.2	564.7			1.000066
43000.0	173.2	-64.4		288.9	562.9			1.000064
43500.0	168.9	-65.8		282.4	562.4			1.000063

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

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

UPPER AIR DATA
 1200030070
 JALLEN

STATION ALTITUDE 4051.00 FEET MSL
 30 APR. 83
 ASCENSION NO. 70 0500 MDT

GEODETIC COORDINATES
 33-16712 LAT DEG
 106.49511 LON DEG

TABLE 12 Cont'd

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	WIND POINT DEGREE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
							DIRECTION DEGREES(TN)	SPEED KNOTS	
44000.0	164.8	-64.9			275.6	562.3			1.000061
44500.0	160.7	-64.9			268.9	562.1			1.000060
45000.0	156.8	-65.0			262.4	562.0			1.000058
45500.0	152.9	-65.1			256.1	561.9			1.000057
46000.0	149.2	-65.3			250.0	561.6			1.000056
46500.0	145.5	-65.8			244.4	560.9			1.000054
47000.0	141.9	-66.4			239.0	560.2			1.000053
47500.0	138.3	-66.9			233.7	559.5			1.000052
48000.0	134.9	-67.4			228.4	558.8			1.000051
48500.0	131.6	-67.9			223.4	558.1			1.000050
49000.0	128.3	-68.5			218.4	557.4			1.000049
49500.0	125.1	-68.3			212.7	557.7			1.000047
50000.0	122.0	-68.0			207.2	558.0			1.000046
50500.0	119.0	-67.7			201.7	558.4			1.000045
51000.0	116.0	-67.5			196.5	558.7			1.000044
51500.0	113.1	-67.7			191.8	558.4			1.000043
52000.0	110.3	-68.6			187.8	557.1			1.000042
52500.0	107.5	-69.6			184.0	555.8			1.000041
53000.0	104.8	-70.6			180.2	554.5			1.000040
53500.0	102.2	-71.5			176.5	553.2			1.000039
54000.0	99.6	-72.4			172.8	551.9			1.000038
54500.0	97.0	-73.2			169.1	550.9			1.000038
55000.0	94.6	-74.0			165.4	549.8			1.000037
55500.0	92.1	-73.5			160.8	550.5			1.000036
56000.0	89.8	-72.4			155.8	551.9			1.000035
56500.0	87.5	-72.5			151.9	551.9			1.000034
57000.0	85.3	-72.7			148.2	551.6			1.000033
57500.0	83.1	-72.9			144.5	551.3			1.000032
58000.0	81.0	-72.0			140.3	552.5			1.000031
58500.0	78.9	-69.1			134.8	555.6			1.000030
59000.0	77.0	-68.4			130.9	557.5			1.000029
59500.0	75.1	-68.0			127.4	558.0			1.000028
60000.0	73.2	-64.7			122.3	562.4			1.000027
60500.0	71.4	-64.2			119.0	563.2			1.000027
61000.0	69.7	-63.9			116.0	563.5			1.000026
61500.0	68.0	-64.0			113.2	563.4			1.000025
62000.0	66.3	-64.1			110.5	563.2			1.000025
62500.0	64.7	-64.3			107.9	563.1			1.000024
63000.0	63.1	-64.4			105.3	562.9			1.000023
63500.0	61.6	-64.5			102.8	562.8	288.0	34.7	1.000023

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

UPPER AIR DATA
 1200030070
 JALLEN

STATION ALTITUDE 4051.00 FEET MSL
 30 APR. 63 0500 MDT
 ASCENSION NO. 70

GEOMETRIC ALTITUDE 4051.00 FEET MSL
 30 APR. 63 0500 MDT
 ASCENSION NO. 70

GEOMETRIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 12 Cont'd

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	
64000.0	60.0	-64.6		100.3	562.6	279.7	40.6	1.000022
64500.0	59.6	-64.4		97.8	562.9	273.6	47.0	1.000022
65000.0	57.2	-62.5		94.5	565.4	272.1	46.1	1.000021
65500.0	55.8	-60.6		91.4	568.0	271.6	43.0	1.000020
66000.0	54.4	-59.4		88.7	569.6	271.2	37.6	1.000020
66500.0	53.1	-59.2		86.5	569.9	270.8	30.1	1.000019
67000.0	51.9	-58.9		84.4	570.2	270.2	23.3	1.000019
67500.0	50.6	-58.7		82.3	570.5	268.7	19.7	1.000018
68000.0	49.4	-58.6		80.3	570.6	266.6	16.0	1.000018
68500.0	48.3	-58.7		78.4	570.5	267.4	9.4	1.000017
69000.0	47.1	-58.8		76.5	570.4	274.2	2.4	1.000017
69500.0	46.0	-58.9		74.7	570.3	76.4	6.5	1.000017
70000.0	44.9	-58.9		73.0	570.2	78.4	16.5	1.000016
70500.0	43.8	-59.0		71.3	570.1	76.6	25.6	1.000016
71000.0	42.8	-59.1		69.6	570.0	78.2	33.0	1.000015
71500.0	41.8	-59.1		68.0	569.9	78.1	40.2	1.000015
72000.0	40.8	-59.2		66.4	569.8	78.8	44.9	1.000015
72500.0	39.8	-59.3		64.8	569.7	79.4	49.6	1.000014
73000.0	38.8	-58.7		63.1	570.4			1.000014
73500.0	37.9	-58.0		61.4	571.4			1.000014
74000.0	37.0	-57.4		59.8	572.3			1.000013

MANDATORY LEVELS
 1200030070
 JALLEN

STATION ALTITUDE 1051.00 FEET MSL
 30 APR. 63 0500 MDT
 ASCENSION NO. 70

GEODETIC COORDINATES
 33.16712 LAT DEG
 106.49511 LON DEG

TABLE 13

PRESSURE GEOPOTENTIAL MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUMIDITY PERCENT	WIND DATA	
			DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	15.8	27.	198.0	12.4
800.0	11.6	34.	222.3	16.8
750.0	7.4	37.	242.9	27.8
700.0	6.5	15.	242.2	44.5
650.0	3.5	16.	240.9	40.9
600.0	-1.1	16.	253.3	49.0
550.0	-4.7	15.	259.8	54.8
500.0	-9.8	14.	263.5	65.3
450.0	-15.6	18.	264.2	60.9
400.0	-22.3	57.	262.1	85.8
350.0	-28.4	92.	256.4	91.6
300.0	-36.8	75.	260.8	123.5
250.0	-44.6		264.4	107.6
200.0	-58.6		269.9	65.9
175.0	-63.8		9999.0XX	9999.0XX
150.0	-65.2		9999.0	9999.0XX
125.0	-68.2		9999.0	9999.0XX
100.0	-72.3		9999.0	9999.0XX
80.0	-70.6		9999.0	9999.0XX
70.0	-63.9		9999.0	9999.0XX
60.0	-64.6		279.9	40.4
50.0	-58.6		267.9	18.0
40.0	-59.3		79.2	48.3

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

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

7-8
DTIC