AD-A087 467 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 13/13
19309D MLRS, MISSILE NUMBERS 1113, 1105, ROUND NUMBERS V-121, V--ETC(U)
FEB 80
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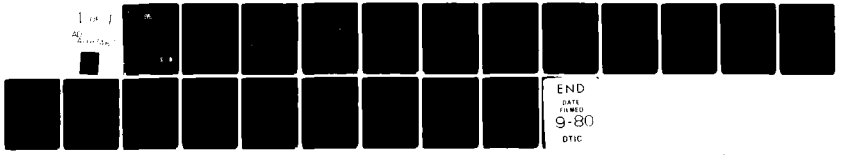

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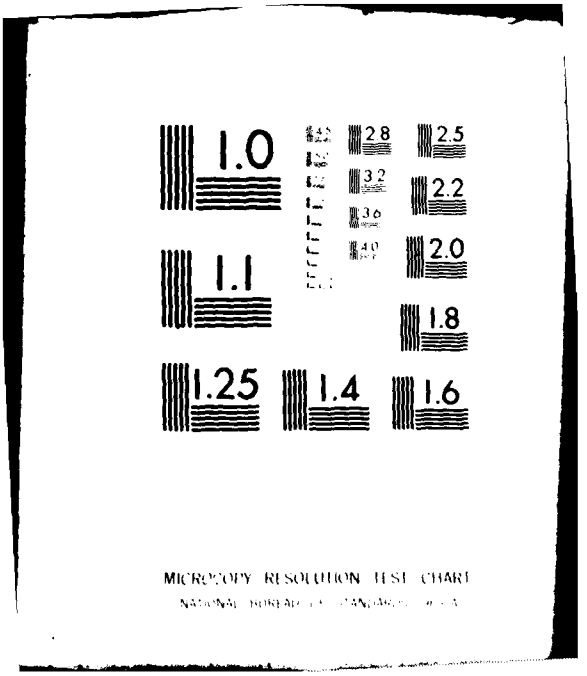
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4.0
MICROCOPY RESOLUTION TEST CHART

DR 1136
FEBRUARY 1980
AD

LEVEL II

12

METEOROLOGICAL DATA REPORT

19309D MLRS
Missile Numbers 1113, 1105
Round Numbers V-121, V-122
14 February 1980

by

White Sands Meteorological Team

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

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

Meteorological data gathered for the launching of 19309D MLRS, Missile Numbers 1113, 1105, Round Numbers, V-121, V-122 are presented in tabular form.

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UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Date Entered)

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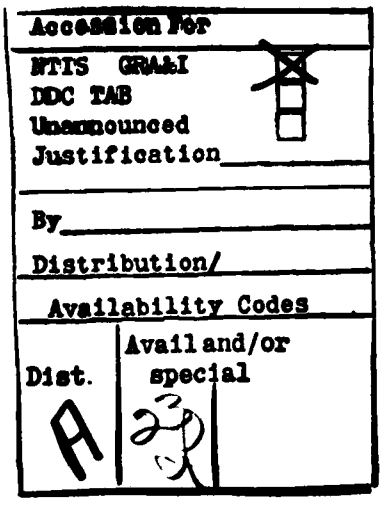
CONTENTS



INTRODUCTION

19309D MLRS, Missile Numbers 1113, 1105, Round Numbers V-121 V-122, were launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 0520:01, 0520:05 MST, 14 February 1980.

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 (^{o}F), relative humidity, dew point (^{o}F), wind direction and speed, and cloud cover were made at the "C" Station Met Site.

      (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	
NICK	2km
LC-39	2km

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

SITE AND TIME	
LC-37	0430 MST
WSD	0440 MST

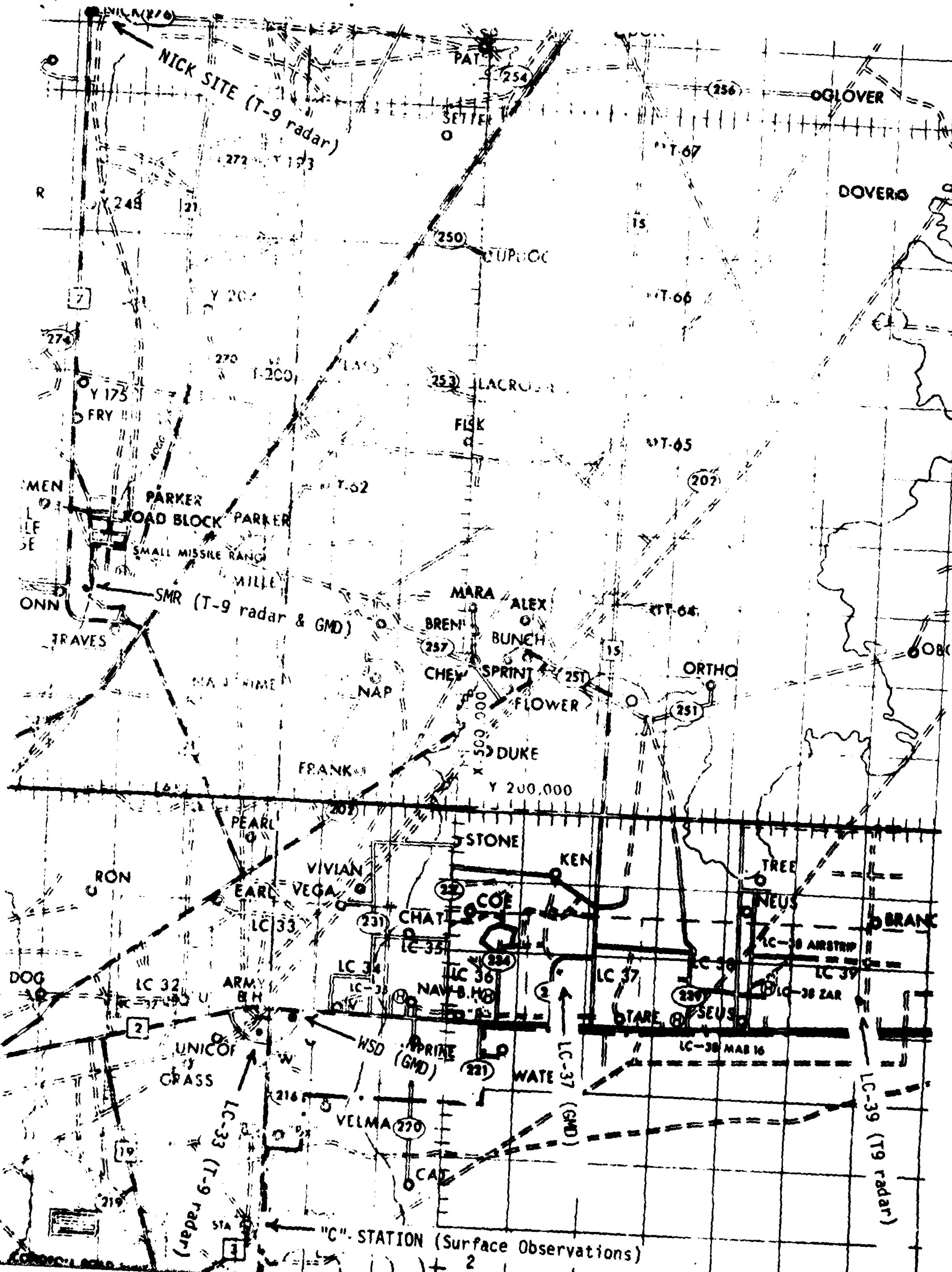

NICK SITE (T-9 radar)
PAT
SETTER
GLOVER
T-67
DOVER
Y 248
TUPUOC
T-66
Y 175
FRY
LACROSSE
FISK
T-65
T-62
PARKER
ROAD BLOCK
PARKER
SMALL MISSILE RANGE
SMR (T-9 radar & GMD)
MARA
ALEX
BREN
BUNCH
T-64
TRAVES
CHEW
SPRINT
ORTHO
NAP
FLOWER
DUKE
FRANK
Y 200,000
PEARL
STONE
KEN
TREE
RON
VIVIAN
EARL
VEGA
COE
CHAT
NEUS
LC 33
LC-35
LC 34
LC 36
LC 37
LC 39
LC-38 AIRSTRIP
LC-38 ZAR
DOG
LC 32
ARMY B.H.
NAV B.H.
TARE
SEUS
LC-38 MAB 16
WSD (GMD)
SPRINT
UNICOF
GRASS
WATE
LC-37 (GMD)
LC-39 (T9 radar)
VELMA
CAT
LC-33 (T-9 radar)
"C" STATION (Surface Observations)

TABLE 1

SURFACE OBSERVATIONS OBTAINED FROM "C" STATION ON 14 February 1980

TIME MST	SKY CONDITIONS	PVLG VSBY	WEATHER & OBSTRUCTIONS TO VISION	[illegible]	[illegible]	[illegible]	[illegible]	SPEED
0058	E600VC	10	RW-	25.925	49	47	160	10
0158	E600VC	10	RW-	25.920	48	47	160	08
0258	E600VC	10	RW-	25.920	49	47	170	13
0358	E600VC	10	RW-	25.925	50	44	140	05
0458	E600VC	15		25.950	49	43	200	12
0558	30SCTE500VC	15	RW-	25.965	48	44	170	11
0658	30SCTE550VC	40		25.935	47	44	170	18
0758	30SCTE55BKN90BKN250BKN	40		25.985	48	43	170	17
0858	30SCT55SCTE250BKN	40		25.990	54	43	160	17
0958	30SCT55SCT90SCTE250BKN	40		26.015	57	50	270	14
1058	30SCTE55BKN250BKN	40		26.030	56	43	190	13
1158	30SCT55SCTE80BKN250BKN	40		25.995	58	43	220	13
1258	30SCTE55BKN80BKN250BKN	40		25.970	58	43	170	11
1358	E55BKN80BKN2500VC	40		25.940	58	31	190	14
1458	E55BKN80BKN250BKN	40		25.940	60	43	190	16
1558	E55BKN80BKN250BKN	40		25.935	60	46	150	11
1658	E55BKN120BKN250BKN	40		25.935	61	44	220	08
1758	E40BKN120BKN2500VC	30		25.970	54	55	200	09
1858	E40BKN	10	RW-	25.970	55	46	220	06
1958	40SCT120SCT	10		25.970	57	43	210	14
2058	40SCT120SCT	10		25.975	57	43	170	12
2158	40SCT120SCT	10		25.975	53	45	E090	12
2258	40SCT	10		25.975	54	45	100	12
2358	40SCT	10		25.975	54	55	130	12

PILOT BALLOON MEASURED WIND DATA

TABLE 2

RELEASED FROM NICK DATE 14 February 1980 TIME 0500 MST

TRACKER COORDINATES (WSTM) X= 470,734.56 Y= 255,775.64 H= 4126.54

NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH

HEIGHTS ARE METERS AGL X OR FEET AGL ____.

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC	035	02
90	MISG	MISG
150	247	15
210	246	18
270	248	17
330	238	14
390	246	11
500	237	12
650	239	14
800	248	11
950	254	08
1150	242	16
1350	254	28
1550	260	29
1750	259	25
2000	249	28

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

PILOT BALLOON MEASURED WIND DATA

TABLE 3

RELEASED FROM LC-39 DATE 14 February 1980 TIME 0520 MST

TRACKER COORDINATES (WSTM) X= 530,938.82 Y= 186,564.96 H= 4063.75

NOTE: WIND DIRECTIONS ARE REFERENCED TO **TRUE NORTH**

HEIGHTS ARE METERS AGL X OR FEET AGL ____.

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS
SFC		CALM
90	239	05
150	221	18
210	225	21
270	233	19
330	240	18
390	235	15
500	236	10
650	254	11
800	255	13
950	250	15
1150	254	18
1350	251	16
1550	243	17
1750	244	19
2000	251	25

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

HEIGHT AGL	DIRECTION DEGREES	SPEED KTS

STATION ALTITUDE 4047.27 FEET MSL
19 FEB. 80 0430 HRS MST
ASCENSION NO. 15

SIGNIFICANT LEVEL DATA
045018U013
LC-37

GEODETIC COORDINATES
32.41141 LAT DEG
106.30852 LON DEG

TABLE 4

PRESSURE MILLIBARS	GEOPOTENTIAL ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
876.9	4047.3	9.5	7.3	86.0
850.0	4897.2	9.1	4.5	73.0
789.0	6914.8	4.8	.9	76.0
727.6	9065.5	.0	-.3	98.0
700.0	10081.1	-2.1	-2.2	99.0
596.8	14202.6	-8.6	-8.7	99.0
554.4	16071.1	-12.0	-12.9	93.0
500.0	18646.5	-17.1	-18.6	88.0
447.8	21337.3	-23.0	-24.3	89.0
400.0	24023.7	-29.6	-31.7	82.0
345.4	27400.0	-38.2	-41.8	70.0
300.0	30541.1	-47.1	-50.7	86.0
274.6	32446.3	-52.6		
250.0	3443[illegible].6	-54.2		
240.6	3524[illegible].7	-53.9		
231.6	3605 .2	-54.4		
200.0	39155.8	-53.1		
176.4	41814.0	-54.7		
168.8	42744.2	-54.0		
150.0	45231.9	-55.9		
132.0	47892.4	-59.4		
118.0	50179.2	-64.6		
104.6	52600.1	-66.0		
100.0	53497.1	-67.5		
85.7	5653[illegible].4	-71.0		
82.0	5741 .0	-66.7		
72.4	5987[illegible].2	-69.9		
70.0	6054 .9	-68.6		
67.0	6141 .9	-66.5		
63.4	62517.1	-66.0		

STATION ALTITUDE 4047.27 FEET MSL
14 FEB. 60 0430 HRS MST
ASCENSION NO. 15

UPPER AIR DATA
04501B0015
LC-37

GEODETIC COORDINATES
32.41141 LAT DEG
106.30852 LON DEG

TABLE 5

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(T,N)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4047.3	876.9	9.5	7.3	86.0	1076.0	656.4	170.0	6.0	1.000268
4500.0	862.5	9.3	5.9	79.1	1059.5	656.1	207.1	6.6	1.000260
5000.0	846.8	8.9	4.3	73.2	1042.0	655.5	231.9	9.6	1.000272
5500.0	831.3	7.8	3.9	73.9	1027.0	654.2	244.0	13.4	1.000266
6000.0	816.0	6.7	2.9	74.6	1012.2	652.9	250.5	17.5	1.000261
6500.0	801.1	5.7	1.7	75.4	997.6	651.6	254.2	19.8	1.000256
7000.0	786.4	4.6	.9	76.9	983.2	650.3	257.1	21.4	1.000251
7500.0	771.7	3.5	.7	82.0	968.7	649.0	260.2	22.2	1.000248
8000.0	757.3	2.4	.5	87.1	954.5	647.7	263.5	22.4	1.000244
8500.0	743.2	1.3	.1	92.2	940.6	646.4	263.4	22.7	1.000241
9000.0	729.4	.1	-.2	97.3	926.8	645.0	261.6	22.9	1.000237
9500.0	715.7	-.9	-1.1	98.4	913.0	643.8	256.5	23.5	1.000232
10000.0	702.2	-1.9	-2.1	98.9	899.3	642.5	250.6	24.5	1.000227
10500.0	688.7	-2.8	-2.8	99.0	885.0	641.5	248.1	25.7	1.000223
11000.0	675.5	-3.5	-3.7	99.0	870.6	640.5	247.3	26.8	1.000218
11500.0	662.6	-4.3	-4.5	99.0	856.5	639.5	248.9	27.6	1.000214
12000.0	649.9	-5.1	-5.3	99.0	842.7	638.6	251.6	28.2	1.000210
12500.0	637.4	-5.9	-6.0	99.0	829.1	637.6	252.3	28.7	1.000205
13000.0	625.2	-6.7	-6.8	99.0	815.6	636.6	252.3	29.2	1.000201
13500.0	613.2	-7.5	-7.6	99.0	802.5	635.6	251.6	30.9	1.000197
14000.0	601.5	-8.3	-8.0	99.0	789.5	634.7	251.9	32.7	1.000193
14500.0	589.8	-9.1	-9.4	98.0	776.8	633.6	254.3	34.3	1.000189
15000.0	578.3	-10.1	-10.5	96.4	764.4	632.5	255.8	35.7	1.000185
15500.0	567.0	-11.0	-11.6	94.8	752.1	631.3	256.3	36.7	1.000181
16000.0	556.0	-11.9	-12.7	93.2	740.1	630.2	255.6	37.1	1.000178
16500.0	544.9	-12.8	-13.8	92.2	728.3	629.0	253.5	36.6	1.000174
17000.0	534.1	-13.8	-15.0	91.2	716.6	627.8	252.3	36.1	1.000170
17500.0	523.5	-14.8	-16.1	90.2	705.1	626.5	252.1	35.6	1.000167
18000.0	513.1	-15.8	-17.2	89.3	693.8	625.3	251.8	35.9	1.000164
18500.0	502.9	-16.8	-18.3	88.3	682.8	624.1	251.4	36.9	1.000160
19000.0	492.8	-17.9	-19.3	88.1	671.8	622.8	249.5	38.0	1.000157
19500.0	482.8	-19.0	-20.4	88.3	661.1	621.4	246.5	39.2	1.000154
20000.0	473.0	-20.1	-21.5	88.5	650.5	620.0	243.1	40.1	1.000151
20500.0	463.4	-21.2	-22.5	88.7	640.2	618.7	239.4	41.0	1.000149
21000.0	454.0	-22.3	-23.6	88.9	630.0	617.3	237.1	41.4	1.000146
21500.0	444.7	-23.4	-24.7	88.6	619.9	615.9	236.4	41.2	1.000143
22000.0	435.5	-24.6	-26.1	87.3	610.1	614.5	237.0	40.9	1.000140
22500.0	426.4	-25.9	-27.5	86.0	600.4	612.8	239.6	40.2	1.000138
23000.0	417.6	-27.1	-29.4	84.7	590.9	611.3	241.2	40.4	1.000135
23500.0	408.9	-28.3	-30.2	83.4	581.5	609.7	241.0	41.5	1.000133

STATION ALTITUDE 4047.27 FEET MSL
19 FEB. 80 0430 HRS MST
ASCENSION NO. 13

UPPER AIR DATA
045018001S
LC-37

GEODETIC COORDINATES
32.41141 LAT DEG
106.30852 LON DEG

TABLE 5 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES TRUE	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
24000.0	400.4	-29.5	-31.6	82.1	572.3	608.2	240.2	43.4	1.000130
24500.0	391.8	-30.8	-33.1	80.3	563.0	606.8	239.0	45.9	1.000128
25000.0	383.4	-32.1	-34.5	78.5	553.9	605.0	238.5	47.6	1.000125
25500.0	375.2	-33.4	-36.1	76.8	544.9	603.4	238.5	48.8	1.000123
26000.0	367.2	-34.6	-37.5	75.0	536.1	601.8	238.2	48.9	1.000121
26500.0	359.3	-35.9	-38.9	73.2	527.4	600.1	237.7	48.2	1.000119
27000.0	351.6	-37.2	-40.4	71.4	518.9	598.5	237.2	48.1	1.000117
27500.0	344.0	-38.5	-41.9	69.9	510.5	596.9	236.8	48.2	1.000115
28000.0	336.5	-39.9	-43.3	69.2	502.2	595.1	236.5	48.5	1.000113
28500.0	329.9	-41.3	-44.6	68.6	494.1	593.2	236.3	49.0	1.000111
29000.0	321.5	-42.7	-46.2	68.0	486.1	591.4	236.0	49.1	1.000109
29500.0	314.4	-44.1	-47.7	67.3	478.2	589.6	235.8	49.1	1.000107
30000.0	307.4	-45.6	-49.1	66.7	470.5	587.7	235.4	48.8	1.000105
30500.0	300.6	-47.0	-50.6	66.1	462.9	585.9	235.0	48.4	1.000104
31000.0	293.7	-48.4	-54.3	50.1**	455.2	584.0	234.0	47.6	1.000102
31500.0	286.9	-49.9	-59.0	32.8**	447.7	582.1	232.7	46.7	1.000100
32000.0	280.3	-51.3	-65.3	15.5**	440.2	580.3	234.7	49.2	1.000098
32500.0	273.9	-52.6			432.7	578.5	237.6	53.3	1.000096
33000.0	267.5	-53.0			423.4	578.0	242.9	58.5	1.000094
33500.0	261.3	-53.4			414.3	577.4	247.9	64.5	1.000092
34000.0	255.2	-53.8			405.4	576.9	251.8	68.4	1.000090
34500.0	249.2	-54.2			396.5	576.5	255.0	72.6	1.000088
35000.0	243.4	-54.0			386.9	576.7	256.7	77.3	1.000086
35500.0	237.7	-54.1			378.0	576.6	258.0	81.4	1.000084
36000.0	232.2	-54.4			369.7	576.2	258.8	83.9	1.000082
36500.0	226.7	-54.2			360.8	576.4	259.6	85.9	1.000080
37000.0	221.4	-54.0			352.0	576.7	260.4	87.3	1.000078
37500.0	216.3	-53.8			343.5	577.0	261.2	88.6	1.000077
38000.0	211.2	-53.6			335.1	577.3	262.2	89.8	1.000075
38500.0	206.3	-53.4			327.0	577.5	262.9	89.8	1.000073
39000.0	201.5	-53.2			319.1	577.8	263.6	89.7	1.000071
39500.0	196.8	-53.5			311.8	577.6	263.8	89.0	1.000069
40000.0	192.2	-53.6			305.0	577.2	264.1	88.6	1.000068
40500.0	187.7	-53.9			298.2	576.8	264.2	89.3	1.000066
41000.0	183.3	-54.2			291.7	576.4	264.3	90.6	1.000065
41500.0	179.0	-54.5			285.3	576.0	264.4	92.4	1.000064
42000.0	174.9	-54.6			278.7	576.0	264.0	93.6	1.000062
42500.0	170.8	-54.2			271.7	576.5	263.5	94.7	1.000061
43000.0	166.8	-54.2			265.3	576.5	262.4	96.2	1.000059
43500.0	162.9	-54.6			259.6	576.0	261.1	97.8	1.000058

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

STATION ALTITUDE 4047.27 FEET MSL
14 FEB. 80 0430 HRS MST
ASCENSION NO. 13

UPPER AIR DATA
04501A0013
LC-37

GEODETIC COORDINATES
32.41141 LAT DEG
106.30852 LON DEG

TABLE 5 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGR.	TEMPERATURE DEWPOINT DEGREE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
44000.0	159.0	-55.0			253.9	575.5	260.1	100.0	1.000057
44500.0	155.3	-55.3			248.4	575.0	259.1	102.2	1.000055
45000.0	151.7	-55.7			243.0	574.5	258.2	102.2	1.000054
45500.0	148.1	-56.3			237.8	573.7	257.4	102.1	1.000053
46000.0	144.6	-56.9			232.9	572.9	256.3	100.4	1.000052
46500.0	141.1	-57.6			228.1	572.0	255.2	98.8	1.000051
47000.0	137.8	-58.2			223.3	571.1	254.2	94.3	1.000050
47500.0	134.5	-58.9			218.7	570.3	253.1	89.8	1.000049
48000.0	131.3	-59.6			214.2	569.2	251.9	83.5	1.000048
48500.0	128.1	-60.8			210.2	567.7	250.4	76.3	1.000047
49000.0	125.0	-61.9			206.2	566.2	248.8	69.3	1.000046
49500.0	122.0	-63.1			202.3	564.7	247.3	62.5	1.000045
50000.0	119.0	-64.2			198.5	563.2	245.7	56.1	1.000044
50500.0	116.1	-64.8			194.2	562.4	246.0	52.5	1.000043
51000.0	113.3	-65.1			189.6	562.0	247.0	49.9	1.000042
51500.0	110.5	-65.4			185.2	561.6	249.2	49.5	1.000041
52000.0	107.8	-65.7			180.9	561.2	251.0	51.8	1.000040
52500.0	105.1	-65.9			176.7	560.8	252.2	56.2	1.000039
53000.0	102.5	-66.7			173.0	559.8	251.6	60.0	1.000039
53500.0	100.0	-67.5			169.4	558.7	250.6	63.8	1.000038
54000.0	97.5	-68.1			165.6	557.9	249.8	64.4	1.000037
54500.0	95.0	-68.7			161.9	557.1	248.9	61.9	1.000036
55000.0	92.7	-69.2			158.3	556.3	248.7	59.1	1.000035
55500.0	90.3	-69.8			154.8	555.5	251.2	55.2	1.000034
56000.0	88.1	-70.4			151.3	554.8	254.1	51.5	1.000034
56500.0	85.9	-71.0			147.9	554.0	257.9	52.3	1.000033
57000.0	83.7	-68.7			142.7	557.0	261.6	53.7	1.000032
57500.0	81.6	-66.8			137.8	559.6	263.0	56.0	1.000031
58000.0	79.6	-67.5			134.8	558.7	263.1	58.8	1.000030
58500.0	77.6	-68.1			131.9	557.8	263.1	60.4	1.000029
59000.0	75.7	-68.8			129.0	557.0	263.0	58.8	1.000029
59500.0	73.8	-69.4			126.2	556.1	262.8	57.2	1.000028
60000.0	71.9	-69.7			123.2	555.7	264.2	54.4	1.000027
60500.0	70.1	-68.7			119.5	557.1	265.7	51.5	1.000027
61000.0	68.4	-67.5			115.9	558.7	266.4	51.3	1.000026
61500.0	66.7	-66.5			112.4	560.1	266.9	51.6	1.000025
62000.0	65.1	-66.2			109.5	560.4			1.000024
62500.0	63.5	-66.0			106.7	560.7			1.000024

STATION ALTITUDE 4047.27 FEET MSL
14 FEB. 80 0430 MNS MST
ASCENSION NO. 13

MANDATORY LEVELS
0450180013
LC-37

GEODETIC COORDINATES
32.41141 LAT DEG
106.30852 LON DEG

TABLE 6

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4894.	9.1	4.5	73.	228.1	8.8
800.0	6534.	5.6	1.6	75.	254.4	19.9
750.0	8256.	1.8	.3	90.	264.6	22.6
700.0	10071.	-2.1	-2.2	99.	250.0	24.7
650.0	11996.	-5.1	-5.3	99.	251.6	28.2
600.0	14050.	-8.4	-8.5	99.	252.2	32.9
550.0	16251.	-12.4	-13.3	93.	254.5	36.8
500.0	18621.	-17.1	-18.6	88.	251.3	37.2
450.0	21187.	-22.7	-24.0	89.	236.8	41.3
400.0	23984.	-29.6	-31.7	82.	240.1	43.5
350.0	27060.	-37.4	-40.7	71.	237.1	48.1
300.0	30481.	-47.1	-50.7	66.	235.0	48.3
250.0	34362.	-54.2			254.7	71.9
200.0	39064.	-53.1			263.6	89.5
175.0	41877.	-54.6			264.1	93.6
150.0	45112.	-55.9			257.9	102.1
125.0	48872.	-61.9			248.8	69.5
100.0	53334.	-67.5			250.6	63.5
80.0	57713.	-67.3			263.1	58.1
70.0	60336.	-68.6			265.8	51.4

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STATION ALTITUDE 3989.00 FEET MSL
19 FEB. 60 0440 HRS MST
ASCENSION NO. 83

SIGNIFICANT LEVEL DATA
04500200B3
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
878.4	3989.0	9.8	7.2	84.0
865.8	4383.9	9.9	4.7	70.0
850.0	4886.9	9.6	3.6	67.0
815.0	6028.5	6.6	2.5	75.0
784.6	7051.0	4.4	1.9	84.0
726.8	9085.1	.0	-.1	99.0
700.0	10074.5	-.7	-1.0	98.0
688.8	10497.5	-2.2	-2.3	99.0
547.4	16391.2	-12.4	-12.9	96.0
500.0	18649.0	-16.9	-18.4	68.0
421.6	22786.3	-26.2	-28.0	80.0
400.0	24030.0	-29.5	-32.8	73.0
338.6	27865.0	-39.4	-42.1	75.0
332.0	28307.6	-40.6	-44.2	68.0
307.0	30042.3	-46.1	-49.9	65.0
300.0	30545.6	-47.6		
276.8	32278.9	-52.1		
254.4	34065.1	-55.3		
250.0	34431.7	-55.3		
207.4	38376.3	-53.3		
200.0	39149.2	-52.1		
162.2	43597.0	-54.3		
150.0	45241.4	-56.4		
131.0	48056.9	-59.4		
113.4	50990.1	-66.0		
110.2	51561.3	-67.3		
103.6	52790.9	-66.9		
100.0	53492.8	-68.7		
94.6	54587.0	-69.7		
85.8	56536.8	-63.4		
72.2	59980.8	-70.1		
70.0	60591.1	-68.3		
64.4	62248.7	-66.9		
50.0	67305.0	-66.4		
47.6	68285.6	-67.9		
38.6	72485.0	-64.4		
34.7	74617.8	-68.3		
30.0	77532.8	-64.4		
24.0	82049.0	-64.1		

STATION ALTITUDE 3989.00 FEET MSL
14 FEB. 80 0440 HRS MST
ASCENSION NO. 89

UPPER AIR DATA
045002008 3
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	878.4	9.8	7.2	84.0	1076.7	656.8	150.0	5.1	1.000288
4000.0	878.0	9.8	7.2	83.6	1076.3	656.8	150.9	5.0	1.000288
4500.0	862.1	9.8	4.5	69.3	1057.4	656.6	206.9	4.3	1.000275
5000.0	846.5	9.3	3.7	67.8	1040.3	655.9	242.3	7.1	1.000270
5500.0	831.0	8.0	3.1	71.3	1026.2	654.4	255.3	11.1	1.000265
6000.0	815.9	6.7	2.5	74.8	1012.2	652.8	261.4	15.2	1.000261
6500.0	800.8	5.6	2.3	79.1	997.5	651.5	264.3	19.1	1.000257
7000.0	786.1	4.5	2.0	83.6	982.9	650.3	266.1	22.3	1.000254
7500.0	771.5	3.4	1.5	87.3	968.4	649.0	267.3	22.5	1.000250
8000.0	757.1	2.3	1.0	91.0	954.2	647.7	266.8	22.1	1.000245
8500.0	743.0	1.3	.5	94.7	940.1	646.4	265.4	21.2	1.000241
9000.0	729.1	.2	-.0	98.4	926.3	645.1	256.8	21.1	1.000237
9500.0	715.4	-.3	-.5	98.6	910.6	644.5	248.3	21.6	1.000233
10000.0	702.0	-.6	-.9	98.1	894.6	644.1	241.7	22.8	1.000229
10500.0	688.7	-2.2	-2.3	99.0	883.0	642.2	237.5	24.3	1.000223
11000.0	675.4	-3.1	-3.2	98.7	868.9	641.1	236.0	25.5	1.000219
11500.0	662.4	-3.9	-4.1	98.5	854.9	640.0	238.9	26.7	1.000214
12000.0	649.6	-4.8	-5.0	98.2	841.2	639.0	240.5	28.1	1.000210
12500.0	637.1	-5.7	-5.9	98.0	827.8	637.9	242.7	29.2	1.000205
13000.0	624.8	-6.5	-6.8	97.7	814.5	636.8	245.8	30.0	1.000201
13500.0	612.7	-7.4	-7.7	97.5	801.5	635.8	250.5	31.2	1.000197
14000.0	600.9	-8.3	-8.6	97.2	788.7	634.7	256.5	33.0	1.000193
14500.0	589.3	-9.1	-9.5	97.0	776.1	633.6	258.0	34.4	1.000189
15000.0	577.9	-10.0	-10.4	96.7	763.6	632.6	257.7	35.4	1.000185
15500.0	566.8	-10.9	-11.3	96.5	751.4	631.5	254.9	35.3	1.000182
16000.0	555.8	-11.7	-12.2	96.2	739.4	630.4	252.5	35.2	1.000178
16500.0	545.0	-12.6	-13.2	95.6	727.6	629.3	252.6	35.4	1.000174
17000.0	534.2	-13.6	-14.4	93.8	716.0	628.1	252.0	35.7	1.000171
17500.0	523.6	-14.6	-15.6	92.1	704.6	626.8	251.1	36.0	1.000167
18000.0	513.2	-15.6	-16.8	90.3	693.3	625.6	249.7	36.3	1.000164
18500.0	503.0	-16.6	-18.0	88.5	682.3	624.3	248.0	36.8	1.000160
19000.0	492.8	-17.7	-19.3	87.3	671.4	623.0	248.8	38.2	1.000157
19500.0	482.8	-18.8	-20.5	86.4	660.6	621.6	248.9	39.2	1.000154
20000.0	472.9	-19.9	-21.7	85.4	650.1	620.2	248.9	39.8	1.000151
20500.0	463.3	-21.1	-23.0	84.4	639.7	618.8	248.0	40.1	1.000148
21000.0	453.8	-22.2	-24.2	83.5	629.5	617.4	246.3	40.3	1.000145
21500.0	444.6	-23.3	-25.4	82.5	619.5	616.0	245.4	40.5	1.000143
22000.0	435.5	-24.4	-26.7	81.5	609.6	614.6	244.6	40.7	1.000140
22500.0	426.6	-25.6	-27.9	80.6	599.9	613.2	244.5	41.3	1.000137
23000.0	417.8	-26.8	-29.3	78.8	590.5	611.7	244.3	42.0	1.000135

STATION ALTITUDE 3989.00 FEET MSL
14 FEB. 80 0440 HRS MST
ASCENSION NO. 83

UPPER AIR DATA
045002U083
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	409.1	-28.1	-31.0	76.0	581.3	610.0	243.6	43.5	1.000132
24000.0	400.5	-29.4	-32.7	73.2	572.2	608.3	243.0	44.7	1.000130
24500.0	391.9	-30.7	-33.9	73.2	563.0	606.7	242.7	45.5	1.000128
25000.0	383.5	-32.0	-35.1	73.5	553.8	605.1	242.0	45.1	1.000125
25500.0	375.2	-33.3	-36.3	73.8	544.9	603.4	240.7	43.7	1.000123
26000.0	367.2	-34.6	-37.6	74.0	536.1	601.8	239.9	42.7	1.000121
26500.0	359.3	-35.9	-38.8	74.3	527.4	600.2	239.2	42.0	1.000119
27000.0	351.6	-37.2	-40.0	74.5	518.9	598.5	239.8	43.0	1.000117
27500.0	344.0	-38.5	-41.2	74.8	510.5	596.9	240.5	44.4	1.000115
28000.0	336.6	-39.8	-42.7	72.9	502.3	595.2	240.4	45.5	1.000113
28500.0	329.1	-41.2	-44.8	67.7	494.3	593.5	240.2	46.5	1.000111
29000.0	321.8	-42.8	-46.4	66.8	486.6	591.5	239.8	47.0	1.000109
29500.0	314.6	-44.4	-48.1	65.9	479.0	589.5	239.5	47.3	1.000107
30000.0	307.6	-46.0	-49.7	65.1	471.6	587.2	239.0	48.4	1.000106
30500.0	300.6	-47.5	-69.5	5.9**	464.0	585.3	238.5	49.7	1.000103
31000.0	293.7	-48.8			456.1	583.5	239.1	51.4	1.000102
31500.0	287.0	-50.1			448.2	581.9	240.0	53.3	1.000100
32000.0	280.4	-51.4			440.5	580.2	242.8	55.1	1.000098
32500.0	273.9	-52.5			432.5	578.7	246.0	57.0	1.000096
33000.0	267.5	-53.4			424.1	577.5	249.8	60.7	1.000094
33500.0	261.3	-54.3			415.9	576.3	253.2	64.9	1.000093
34000.0	255.2	-55.2			407.8	575.2	256.5	68.5	1.000091
34500.0	249.2	-55.3			399.4	575.1	259.3	72.3	1.000089
35000.0	243.4	-55.0			388.6	575.4	261.2	76.4	1.000087
35500.0	237.7	-54.8			379.1	575.7	262.6	80.6	1.000084
36000.0	232.1	-54.5			369.8	576.1	263.0	84.9	1.000082
36500.0	226.7	-54.3			360.7	576.4	263.3	88.0	1.000080
37000.0	221.4	-54.0			351.9	576.7	263.6	89.0	1.000078
37500.0	216.2	-53.7			343.3	577.1	264.3	88.6	1.000076
38000.0	211.1	-53.5			334.6	577.4	265.4	87.0	1.000075
38500.0	206.2	-53.1			326.4	577.9	266.0	85.9	1.000073
39000.0	201.4	-52.3			317.7	578.9	266.6	85.1	1.000071
39500.0	196.7	-52.3			310.3	579.0	266.4	84.3	1.000069
40000.0	192.1	-52.5			303.4	578.7	266.4	83.7	1.000068
40500.0	187.7	-52.8			296.7	578.3	266.6	83.4	1.000066
41000.0	183.3	-53.0			290.1	578.0	267.2	84.3	1.000065
41500.0	179.0	-53.3			283.6	577.7	267.5	87.2	1.000063
42000.0	174.9	-53.5			277.4	577.4	267.2	89.5	1.000062
42500.0	170.8	-53.8			271.2	577.0	266.5	91.4	1.000060
43000.0	166.8	-54.0			265.2	576.7	265.8	90.0	1.000059

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

STATION ALTITUDE 3989.00 FEET MSL
19 FEB. 60 0440 HRS MST
ASCENSION NO. 83

UPPER AIR DATA
04500200B3
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
43500.0	162.9	-54.3			259.3	576.4	265.2	85.6	1.000058
44000.0	159.1	-54.8			253.9	575.6	264.6	80.3	1.000057
44500.0	155.4	-55.5			248.6	574.8	263.9	74.0	1.000055
45000.0	151.7	-56.1			243.5	574.0	262.3	69.7	1.000054
45500.0	148.1	-56.7			238.4	573.2	259.4	67.9	1.000053
46000.0	144.6	-57.2			233.3	572.5	256.1	68.8	1.000052
46500.0	141.2	-57.7			228.3	571.8	252.6	73.6	1.000051
47000.0	137.8	-58.3			223.5	571.1	250.5	78.1	1.000050
47500.0	134.6	-58.8			218.7	570.4	249.5	82.0	1.000049
48000.0	131.4	-59.3			214.0	569.7	248.5	85.8	1.000048
48500.0	128.2	-60.4			209.9	568.2	248.1	86.9	1.000047
49000.0	125.1	-61.5			205.9	566.7	247.9	86.8	1.000046
49500.0	122.0	-62.6			201.9	565.2	247.7	86.6	1.000045
50000.0	119.1	-63.8			198.1	563.7	248.4	85.7	1.000044
50500.0	116.2	-64.9			194.3	562.2	249.3	84.8	1.000043
51000.0	113.3	-66.0			190.6	560.7	250.3	84.5	1.000042
51500.0	110.5	-67.2			186.9	559.1	252.0	86.6	1.000042
52000.0	107.8	-67.2			182.3	559.1	253.6	88.7	1.000041
52500.0	105.1	-67.0			177.6	559.4	255.2	90.1	1.000040
53000.0	102.5	-67.4			173.6	558.8	257.0	90.7	1.000039
53500.0	100.0	-68.7			170.3	557.0	258.6	88.8	1.000038
54000.0	97.5	-69.2			166.4	556.4	260.2	80.3	1.000037
54500.0	95.0	-69.6			162.6	555.8	261.5	71.9	1.000036
55000.0	92.7	-68.4			157.6	557.5	262.1	63.3	1.000035
55500.0	90.4	-66.7			152.5	559.7	262.5	55.4	1.000034
56000.0	88.1	-65.1			147.6	561.9	262.5	48.2	1.000033
56500.0	86.0	-63.5			142.8	564.1	262.5	41.4	1.000032
57000.0	83.8	-64.3			139.8	563.0	263.0	36.8	1.000031
57500.0	81.8	-65.3			137.0	561.7	263.6	32.2	1.000031
58000.0	79.7	-66.2			134.2	560.4	264.8	29.5	1.000030
58500.0	77.8	-67.2			131.5	559.1	266.5	29.7	1.000029
59000.0	75.8	-68.2			128.9	557.7	268.3	29.9	1.000029
59500.0	74.0	-69.2			126.3	556.4	269.6	31.5	1.000028
60000.0	72.1	-70.0			123.7	555.2	270.5	33.9	1.000028
60500.0	70.3	-68.6			119.7	557.2	271.4	36.3	1.000027
61000.0	68.6	-68.0			116.4	558.1	270.9	40.0	1.000026
61500.0	66.9	-67.5			113.3	558.8	270.0	44.4	1.000025
62000.0	65.2	-67.1			110.3	559.2	269.3	48.7	1.000025
62500.0	63.6	-66.9			107.4	559.5	269.2	51.3	1.000024
63000.0	62.0	-66.8			104.7	559.6	269.2	53.2	1.000023

UPPER AIR DATA

STATION ALTITUDE 3989.00 FEET MSL
14 FEB. 68 0440 HRS MST
ASCENSION NO. 85

045002U063
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8 (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
63500.0	60.5	-66.8			102.1	559.7	269.2	55.2	1.000025
64000.0	59.0	-66.7			99.6	559.7	269.7	56.9	1.000022
64500.0	57.5	-66.7			97.1	559.8	270.1	58.5	1.000022
65000.0	56.1	-66.6			94.7	559.9	270.6	59.2	1.000021
65500.0	54.7	-66.6			92.3	559.9	271.3	59.2	1.000021
66000.0	53.4	-66.5			90.0	560.0	272.2	57.7	1.000020
66500.0	52.1	-66.5			87.7	560.1	275.5	48.2	1.000020
67000.0	50.8	-66.4			85.6	560.1	280.3	38.9	1.000019
67500.0	49.5	-66.7			83.5	559.8	286.2	31.3	1.000019
68000.0	48.3	-67.5			81.8	558.7	294.4	24.8	1.000018
68500.0	47.1	-67.7			79.9	558.4	302.5	20.8	1.000018
69000.0	45.9	-67.3			77.7	558.9	299.9	21.4	1.000017
69500.0	44.8	-66.9			75.7	559.5	297.4	22.0	1.000017
70000.0	43.7	-66.5			73.7	560.1	290.6	24.3	1.000016
70500.0	42.6	-66.1			71.7	560.6	284.8	27.0	1.000016
71000.0	41.6	-65.6			69.8	561.2	280.0	30.3	1.000016
71500.0	40.5	-65.2			67.9	561.8	276.1	34.1	1.000015
72000.0	39.5	-64.8			66.1	562.3	273.1	38.1	1.000015
72500.0	38.6	-64.4			64.4	562.8	271.1	40.3	1.000014
73000.0	37.6	-65.3			63.1	561.6	273.2	42.5	1.000014
73500.0	36.7	-66.3			61.8	560.4	274.3	42.6	1.000014
74000.0	35.8	-67.2			60.5	559.1	276.7	40.8	1.000013
74500.0	34.9	-68.1			59.3	557.9	279.3	39.1	1.000013
75000.0	34.0	-67.8			57.8	558.3	282.4	36.5	1.000013
75500.0	33.2	-67.1			56.1	559.2	285.9	33.9	1.000013
76000.0	32.4	-66.5			54.6	560.1	290.4	31.8	1.000012
76500.0	31.6	-65.8			53.1	561.0	296.0	30.5	1.000012
77000.0	30.8	-65.1			51.6	561.9	302.1	29.4	1.000011
77500.0	30.0	-64.4			50.2	562.8	309.1	28.9	1.000011
78000.0	29.3	-64.4			48.9	562.9	316.4	29.0	1.000011
78500.0	28.6	-64.3			47.7	563.0	323.4	28.8	1.000011
79000.0	27.9	-64.3			46.5	563.0	330.2	27.4	1.000010
79500.0	27.2	-64.3			45.4	563.0	337.6	26.4	1.000010
80000.0	26.6	-64.2			44.3	563.1	343.7	24.9	1.000010
80500.0	25.9	-64.2			43.2	563.1	349.8	23.2	1.000010
81000.0	25.3	-64.2			42.1	563.2			1.000009
81500.0	24.7	-64.1			41.1	563.2			1.000009
82000.0	24.1	-64.1			40.1	563.3			1.000009

STATION ALTITUDE 3989.00 FEET MSL
19 FEB. 88 0440 HRS MST
ASCENSION NO. 83

MANDATORY LEVELS
04500200B3
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 9

PRESSURE	GEOPOTENTIAL	TEMPERATURE		REL.HUM.	WIND DATA	
		AIR	DEWPOINT	PERCENT	DIRECTION	SPEED
MILLIBARS	FEET	DEGREES CENTIGRADE			DEGREES(TN)	KNOTS
850.0	4883.	9.6	3.8	67.	237.1	6.3
800.0	6524.	5.5	2.3	79.	264.4	19.3
750.0	8246.	1.8	.8	93.	266.2	21.6
700.0	10065.	-.7	-1.0	98.	240.8	23.1
650.0	11994.	-4.8	-5.0	98.	240.5	28.1
600.0	14049.	-8.3	-8.7	97.	257.2	33.2
550.0	16251.	-12.2	-12.7	96.	252.5	35.3
500.0	18623.	-16.9	-18.4	80.	248.6	37.2
450.0	21191.	-22.6	-24.7	83.	245.8	40.4
400.0	23990.	-29.5	-32.8	73.	243.0	44.7
350.0	27067.	-37.4	-40.2	75.	239.9	43.3
300.0	30486.	-47.6			238.5	49.8
250.0	34358.	-55.3			258.9	71.6
200.0	39056.	-52.1			266.0	64.9
175.0	41894.	-53.5			267.3	69.4
150.0	45121.	-56.4			261.0	68.9
125.0	48881.	-61.5			247.9	60.8
100.0	53329.	-68.7			258.5	69.4
80.0	57758.	-66.1			264.5	29.4
70.0	60385.	-68.3			271.5	36.6
60.0	63436.	-66.8			269.3	55.6
50.0	67055.	-66.4			283.4	54.5
40.0	71484.	-65.0			274.0	30.0
30.0	77207.	-64.4			309.0	28.9
25.0	80867.	-64.2				

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