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ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/2
12823A LANCE, MISSILE NUMBER 4240, ROUND NUMBER 354 ECL, 10 JUL--ETC(U)
JUL 80

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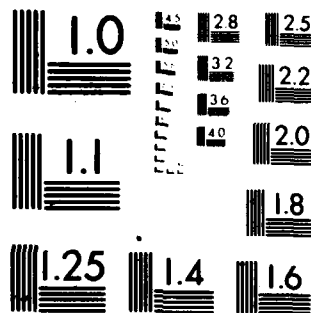
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INTRODUCTION

12823A LANCE, Missile Number 4240, Round Number 354 ECL,
was launched from Don Site, White Sands Missile Range (WSMR), New Mexico,
at 0735 MDT on 10 July 1980. The scheduled launch time was
0730 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 Don Met Site at T-0 minutes.

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

b. Upper Air

(1) Low level wind data were obtained from RAPTS T-9 pibal observation at:

SITE AND ALTITUDE

Don 0728 MDT 1260 meters

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

SITE AND TIME

WSD 0720 MDT

HMN 0630 MDT

TABLE 1. Surface Observations Taken at 0730 MDT,
 10 July 1980, at Don Site, 12823A LANCE,
 Missile Number 4240, Round Number 354 ECL.

ELEVATION	3997	FT/MSL
PRESSURE	882.7	MBS
TEMPERATURE	24.7	°C
RELATIVE HUMIDITY	48	:
DEW POINT	13.0	°C
DENSITY	1025	GM/M ³
WIND SPEED	calm	KTS
WIND DIRECTION		DEGREES
CLOUD COVER	1	CU
	2	CI

STATION ALTITUDE 5989.00 FEET MSL
 10 JULY 80
 ASCENSION 110. 36 / 0720 HRS MDT

SIGNIFICANT LEVEL DATA
 1920120367
 WHITE SANDS

GEODEIC COORDINATES
 52.40043 LAT DEG
 106.37033 LON DEG

TABLE 3.

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MFL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
802.6	3089.0	22.1	15.9	68.0
871.4	4355.8	24.5	13.7	51.0
850.0	5070.5	22.9	12.2	51.0
763.6	8121.2	18.9	8.0	52.0
700.0	10551.5	12.5	5.9	64.0
662.0	12083.3	8.8	3.2	68.0
653.0	12455.0	8.0	.7	60.0
635.4	13194.6	5.5	-1.2	62.0
609.6	14304.8	3.1	-7.9	44.0
601.0	14483.9	3.8	-13.4	27.0
567.6	16207.6	2.7	-15.8	24.0
534.8	17779.3	-1.2	-19.1	24.0
500.0	19537.2	-3.1	-21.8	22.0
442.8	22655.6	-10.7	-27.7	23.0
400.0	25195.3	-17.3	-32.5	25.0
373.4	26480.6	-21.0	-35.7	25.0
360.2	27754.8	-21.5	-36.2	25.0
328.6	29763.2	-26.0	-39.4	27.0
316.4	30862.1	-27.6	-40.4	28.0
300.0	32113.5	-31.2	-43.3	29.0
263.8	35068.4	-38.7	-49.9	29.0
250.0	36276.7	-41.4		
200.0	41138.1	-53.4		
174.0	44045.5	-60.4		
150.0	47056.0	-65.8		
139.8	48454.2	-69.4		
131.8	49610.3	-70.7		
124.0	50809.0	-68.6		
109.0	53325.7	-73.8		
77.8	59084.5	-71.4		
70.0	62119.9	-63.8		
		-60.5		

STATION ALTITUDE 5989.00 FEET MSL
10 JULY 69
ASCENSION NO. 367 0720 HRS MDT

SIGNIFICANT LEVEL DATA
1920020367
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 3 (continued)

GEOMETRIC ALTITUDE	TEMPERATURE	REL. HUM.
MILLIBARS MSL FEET	AIR DEWPOINT DEGREES CENTIGRADE	PERCENT
65.0 63612.0	-65.5	
50.0 68073.6	-58.4	
30.0 79011.5	-49.7	
20.0 88679.6	-05.3	
12.6 99013.8	-39.9	

STATION ALTITUDE 3989.00 FEET MSL
 10 JULY RU 0720 HRS MDT
 ASCENSION NO. 307

UPPER AIR DATA
 1920020507
 WHITE SARUS

TABLE 4.

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE					SPEED KNOTS	REFRACTION	
3989.0	882.0	22.1	15.9	69.0	1033.3	672.0		0	1.000309	
4000.0	882.3	22.2	15.9	67.5	1032.7	672.1	108.1	0	1.000309	
4500.0	867.0	23.1	13.4	51.0	1009.0	674.0	108.1	1.2	1.000291	
5000.0	852.1	23.1	12.4	51.0	995.7	672.6	108.1	2.4	1.000284	
5500.0	837.3	22.3	11.8	51.1	980.9	671.8	108.1	3.6	1.000279	
6000.0	822.7	21.0	11.2	51.3	966.1	671.0	107.6	4.1	1.000273	
6500.0	808.4	21.0	10.6	51.5	951.5	670.2	108.2	3.5	1.000268	
7000.0	794.3	20.4	10.1	51.6	937.1	669.4	118.2	3.9	1.000263	
7500.0	780.3	19.7	9.5	51.0	923.0	668.6	130.1	4.9	1.000258	
8000.0	765.9	19.1	9.0	52.0	909.1	667.8	127.4	6.5	1.000254	
8500.0	753.3	17.9	8.4	53.9	896.7	666.5	123.2	7.7	1.000249	
9000.0	740.8	16.6	7.9	56.3	884.9	664.9	111.2	8.2	1.000245	
9500.0	728.8	15.3	7.3	58.8	873.2	663.4	100.9	8.7	1.000241	
10000.0	714.0	14.0	6.6	61.3	861.8	661.8	92.1	9.4	1.000237	
10500.0	701.3	12.6	6.0	63.7	850.6	660.3	86.2	10.5	1.000233	
11000.0	688.7	11.4	5.1	65.2	839.0	658.8	82.2	11.8	1.000228	
11500.0	676.2	10.2	4.3	66.5	827.5	657.3	79.3	14.2	1.000224	
12000.0	664.0	9.0	3.4	67.8	816.2	655.8	77.3	16.5	1.000219	
12500.0	651.9	7.9	2.6	60.1	805.2	654.3	75.5	17.8	1.000210	
13000.0	640.0	6.2	1.7	61.5	795.5	652.2	74.2	18.4	1.000205	
13500.0	628.2	4.8	0.9	57.0	784.9	650.5	73.2	17.9	1.000199	
14000.0	616.6	3.0	0.0	48.9	773.8	649.1	76.6	16.9	1.000192	
14500.0	605.2	3.5	0.0	35.2	760.8	648.5	85.2	15.8	1.000183	
15000.0	593.9	3.6	0.0	26.4	746.7	648.5	97.0	15.9	1.000177	
15500.0	582.9	3.2	0.0	25.4	733.8	648.0	108.9	17.2	1.000173	
16000.0	572.0	2.8	0.0	24.4	721.2	647.6	113.6	18.0	1.000170	
16500.0	561.3	2.0	0.0	24.0	710.0	646.6	115.7	20.3	1.000167	
17000.0	550.8	0.7	0.0	24.0	699.9	645.1	117.6	20.5	1.000164	
17500.0	540.3	0.5	0.0	24.0	689.9	643.6	119.6	20.3	1.000161	
18000.0	530.3	-1.4	0.0	23.7	679.3	642.5	123.6	20.9	1.000158	
18500.0	520.2	-2.0	0.0	23.2	667.0	641.8	127.7	21.6	1.000155	
19000.0	510.4	-2.5	0.0	22.6	656.4	641.2	129.7	22.6	1.000152	

STATION ALTITUDE 3983.00 FEET ASL
 10 JULY 68
 ASCENSION IS. 367

UPPER AIR DATA
 1920020307
 WHITE SANDS

0720 HRS MDT

TABLE 4 (continued)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DIRECTION (DEGREES (T))	WIND SPEED KNOTS	INDEX OF REFRACTION
19500.0	500.7	-3.1	-21.7	22.0	645.3	640.5	131.2	23.6	1.000149
20000.0	491.1	-4.2	-22.6	22.1	635.6	639.1	131.4	23.7	1.000147
20500.0	481.6	-5.4	-23.6	22.3	626.3	637.6	131.3	23.7	1.000144
21000.0	472.3	-6.7	-24.5	22.5	617.0	636.2	132.2	23.2	1.000142
21500.0	463.2	-7.9	-25.5	22.6	607.9	634.7	133.7	22.6	1.000140
22000.0	454.3	-9.1	-26.5	22.8	599.0	633.2	135.6	21.5	1.000137
22500.0	445.5	-10.3	-27.4	23.0	590.2	631.8	137.9	20.1	1.000135
23000.0	436.7	-11.6	-28.4	23.3	581.4	630.2	139.3	18.4	1.000133
23500.0	428.1	-12.9	-29.3	23.7	572.7	628.6	139.3	16.4	1.000131
24000.0	419.6	-14.2	-30.3	24.1	564.2	627.1	138.4	14.8	1.000128
24500.0	411.3	-15.5	-31.2	24.5	555.9	625.5	135.2	14.1	1.000126
25000.0	403.1	-16.8	-32.2	24.8	547.6	623.9	131.7	13.4	1.000124
25500.0	395.1	-18.0	-33.1	25.0	539.1	622.4	125.1	15.0	1.000122
26000.0	387.1	-19.1	-34.1	25.0	530.5	621.1	119.9	16.9	1.000120
26500.0	379.2	-20.2	-35.0	25.0	522.1	619.7	114.3	18.1	1.000118
27000.0	371.6	-21.1	-35.8	25.0	513.3	618.6	108.8	19.1	1.000116
27500.0	364.0	-21.4	-36.1	25.0	503.5	618.3	104.4	19.3	1.000114
28000.0	356.5	-22.0	-36.5	25.2	494.4	617.5	100.4	18.8	1.000112
28500.0	349.2	-23.0	-37.2	25.7	486.2	616.2	95.8	18.9	1.000110
29000.0	342.0	-24.0	-38.0	26.1	478.2	615.0	91.1	19.6	1.000108
29500.0	335.0	-25.1	-38.7	26.6	470.3	613.7	85.9	20.7	1.000106
30000.0	328.1	-26.1	-39.4	27.0	462.5	612.4	80.9	22.0	1.000104
30500.0	321.3	-27.0	-40.0	27.6	454.5	611.3	76.4	22.8	1.000102
31000.0	314.6	-28.0	-40.7	28.1	446.9	610.0	72.4	23.5	1.000101
31500.0	307.9	-29.4	-41.9	28.5	440.1	608.2	69.7	23.6	1.000099
32000.0	301.5	-30.9	-43.0	28.9	433.4	606.4	68.5	23.6	1.000097
32500.0	295.0	-32.2	-44.1	29.0	426.4	604.8	69.7	23.3	1.000096
33000.0	288.6	-33.5	-45.3	29.0	419.4	603.2	70.5	23.4	1.000094
33500.0	282.4	-34.7	-46.4	29.0	412.6	601.6	71.2	23.7	1.000093
34000.0	276.4	-36.0	-47.5	29.0	405.9	600.0	73.3	24.0	1.000091
34500.0	270.4	-37.3	-48.7	29.0	399.3	598.4	75.8	24.2	1.000089
35000.0	264.6	-38.5	-49.8	29.0	392.8	596.8	78.9	24.1	1.000088

UPPER AIR DATA
 1920020307
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
 10 JULY 60 0720 HRS MDT
 ASCENSION 120. 307

GEODETIC COORDINATES
 32.40083 LAT DEG
 106.37033 LON DEG

TABLE 4 (continued)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMP RATE PER CENT	WIND DIRECTION DEGREES (TRUE)	WIND SPEED KNOTS	DENSITY GM/CM ³ METEOROLOGICAL	SOUND SPEED KNOTS	INDEX OF REFRACTION
35500.0	218.0	-39.7	-59.5	82.0	24.1	386.1	595.3	1.000086
36000.0	253.1	-40.8	-63.4	82.6	24.3	379.4	593.9	1.000085
36500.0	287.5	-42.0		82.9	24.5	372.9	592.4	1.000083
37000.0	321.8	-43.2		81.3	24.6	366.3	590.8	1.000082
37500.0	356.3	-44.4		79.5	24.8	360.0	589.2	1.000080
38000.0	391.0	-45.7		75.2	24.7	353.7	587.6	1.000079
38500.0	425.7	-46.9		70.6	24.8	347.6	586.0	1.000077
39000.0	460.6	-48.1		69.7	25.1	341.5	584.4	1.000076
39500.0	495.6	-49.4		69.7	25.5	335.6	582.8	1.000075
40000.0	530.7	-50.6		71.4	24.7	329.8	581.2	1.000073
40500.0	565.9	-51.8		73.8	23.4	324.2	579.6	1.000072
41000.0	601.3	-53.1		74.2	22.2	318.6	578.0	1.000071
41500.0	636.6	-54.3		72.4	21.2	312.8	576.4	1.000070
42000.0	671.9	-55.5		70.3	20.7	307.1	574.8	1.000068
42500.0	707.4	-56.7		68.0	21.1	301.5	573.2	1.000067
43000.0	742.9	-57.9		66.5	21.2	296.0	571.6	1.000066
43500.0	778.6	-59.1		66.0	20.8	290.7	570.0	1.000065
44000.0	814.4	-60.3		65.3	20.7	285.4	568.4	1.000064
44500.0	850.1	-61.2		64.5	21.1	279.7	567.1	1.000062
45000.0	886.0	-62.1		64.1	21.1	274.0	565.9	1.000061
45500.0	922.0	-63.0		64.0	21.0	268.5	564.7	1.000060
46000.0	958.0	-63.9		65.6	19.9	263.1	563.5	1.000059
46500.0	994.2	-64.8		70.4	17.8	257.8	562.3	1.000057
47000.0	1030.4	-65.7		78.5	16.7	252.6	561.1	1.000056
47500.0	1066.7	-66.9		90.1	17.7	247.8	559.4	1.000055
48000.0	1103.0	-68.2		90.4	18.4	243.2	557.7	1.000054
48500.0	1139.5	-69.5		102.0	17.4	238.5	556.0	1.000053
49000.0	1176.0	-70.0		105.3	16.0	233.2	554.3	1.000052
49500.0	1212.5	-70.6		104.3	11.8	227.9	554.5	1.000051
50000.0	1249.2	-70.0		102.1	7.6	221.0	552.2	1.000049
50500.0	1286.0	-69.1		92.1	5.1	215.1	550.4	1.000048
51000.0	1322.8	-69.0		66.7	3.0	209.5	556.0	1.000047

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

UPPER AIR DATA
 1920020357
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
 10 JULY 60
 ASCENSION NO. 307

REL. HUM. PERCENT 205.3
 DENSITY GM/CM³ 1.000046
 WIND DATA

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LONG DEG

TABLE 4 (continued)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
51500.0	119.7	-70.0	205.3	555.2	61.0	4.6	1.000046	
52000.0	116.7	-71.1	201.1	553.8	59.0	6.3	1.000045	
52500.0	113.7	-72.1	197.0	552.4	70.9	8.8	1.000044	
53000.0	110.4	-73.1	193.0	551.0	77.7	11.6	1.000043	
53500.0	108.0	-73.5	188.5	550.4	81.3	14.2	1.000042	
54000.0	105.3	-72.8	183.1	551.4	83.7	16.8	1.000041	
54500.0	102.6	-72.1	177.8	552.4	83.4	18.7	1.000040	
55000.0	100.0	-71.4	172.6	553.4	81.8	20.2	1.000038	
55500.0	97.5	-70.6	167.7	554.4	80.7	21.3	1.000037	
56000.0	95.1	-69.9	162.9	555.4	80.9	19.7	1.000036	
56500.0	92.7	-69.1	158.3	556.9	81.1	18.0	1.000035	
57000.0	90.4	-68.3	153.8	557.5	83.3	17.2	1.000034	
57500.0	88.2	-67.6	149.4	558.6	87.0	16.9	1.000033	
58000.0	86.0	-66.8	145.2	559.6	90.0	16.9	1.000032	
58500.0	83.8	-66.1	141.0	560.6	91.9	17.1	1.000031	
59000.0	81.8	-65.3	137.0	561.7	93.7	16.9	1.000030	
59500.0	79.7	-64.5	133.1	562.7	95.4	15.1	1.000029	
60000.0	77.7	-63.8	129.4	563.7	97.8	13.3	1.000028	
60500.0	75.8	-63.0	126.3	563.5	102.9	11.7	1.000027	
61000.0	74.0	-62.1	123.3	563.2	109.5	10.3	1.000026	
61500.0	72.2	-61.3	120.4	563.0	112.0	10.1	1.000025	
62000.0	70.4	-60.5	117.5	562.8	113.5	10.1	1.000024	
62500.0	68.7	-59.8	114.8	562.4	114.3	10.8	1.000023	
63000.0	67.0	-59.1	112.2	561.9	114.2	12.5	1.000022	
63500.0	65.4	-58.4	109.6	561.5	113.7	14.2	1.000021	
64000.0	63.8	-57.6	106.7	562.1	107.3	15.2	1.000020	
64500.0	62.2	-56.8	103.8	563.0	101.8	16.4	1.000019	
65000.0	60.7	-56.0	101.0	563.9	94.0	17.4	1.000018	
65500.0	59.3	-55.2	98.2	564.8	85.4	18.6	1.000017	
66000.0	57.8	-54.4	95.6	565.6	79.5	19.9	1.000016	
66500.0	56.4	-53.7	93.0	566.5	79.6	20.5	1.000015	
67000.0	55.1	-53.0	90.4	567.4	79.7	21.1	1.000014	

STATION ALTITUDE 3909.00 FEET MSL
 10 JULY 67
 ASCENSION IS. 307

UPPER AIR DATA
 1920020307
 WHITE SAILS

0720 HRS MDT

TABLE 4 (continued)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY 6M/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION (DEGREES TRUE)	WIND DATA SPEED (KNOTS)	INDEX OF REFRACTION
67500.0	53.7	-60.4		88.0	568.3	80.9	20.6	1.000020
68000.0	52.8	-59.7		85.6	569.2	82.4	20.0	1.000019
68500.0	51.8	-59.0		83.3	570.1	83.9	19.8	1.000019
69000.0	49.9	-58.4		81.0	570.9	85.2	20.3	1.000018
69500.0	48.4	-58.0		79.0	571.5	86.4	21.0	1.000018
70000.0	47.6	-57.6		77.0	572.0	86.9	23.7	1.000017
70500.0	46.5	-57.2		75.1	572.5	87.4	26.5	1.000017
71000.0	45.8	-56.8		73.2	573.1	88.5	28.3	1.000016
71500.0	44.4	-56.4		71.3	573.6	89.9	29.8	1.000016
72000.0	43.4	-56.0		69.5	574.1	91.2	30.9	1.000015
72500.0	42.3	-55.6		67.8	574.7	92.4	30.5	1.000015
73000.0	41.4	-55.2		66.1	575.2	93.7	30.1	1.000015
73500.0	40.4	-54.8		64.4	575.7	94.5	29.9	1.000014
74000.0	39.5	-54.4		62.8	576.2	93.9	30.4	1.000014
74500.0	38.5	-54.0		61.2	576.8	93.3	30.9	1.000014
75000.0	37.6	-53.6		59.7	577.3	92.3	31.3	1.000013
75500.0	36.8	-53.2		58.2	577.8	90.4	31.8	1.000013
76000.0	35.9	-52.8		56.8	578.4	88.5	32.3	1.000013
76500.0	35.1	-52.4		55.3	578.9	87.7	32.8	1.000012
77000.0	34.3	-52.0		53.9	579.4	80.3	33.3	1.000012
77500.0	33.5	-51.6		52.6	579.9	89.0	33.7	1.000012
78000.0	32.7	-51.2		51.3	580.5	89.9	34.1	1.000011
78500.0	31.9	-50.8		50.0	581.0	91.0	34.5	1.000011
79000.0	31.2	-50.4		48.7	581.5	92.2	35.0	1.000011
79500.0	30.4	-50.0		47.5	582.0	92.7	35.5	1.000011
80000.0	29.7	-49.6		46.4	582.5	92.7	36.0	1.000010
80500.0	29.1	-49.4		45.3	582.8	92.8	36.6	1.000010
81000.0	28.4	-49.1		44.2	583.1	93.1	37.0	1.000010
81500.0	27.8	-48.9		43.1	583.4	93.6	37.3	1.000010
82000.0	27.1	-48.6		42.1	583.8	94.2	37.6	1.000009
82500.0	26.5	-48.4		41.1	584.1	94.6	37.3	1.000009
83000.0	25.9	-48.1		40.1	584.4	94.8	35.8	1.000009

STATION ALTITUDE 3989.00 FEET MSL
 10 JULY 69 0720 HRS MDT
 ASCENSION NO. 367

UPPER AIR DATA
 1920020367
 WHITE SANDS

TABLE 4 (continued)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (STAT)	WIND SPEED KNOTS	INDEX OF REFRACTION
83500.0	25.3	-47.9	39.2	564.7	95.0	34.3	1.000009	
84000.0	24.8	-47.6	38.3	585.1	95.0	33.1	1.000009	
84500.0	24.2	-47.4	37.4	585.4	93.7	33.5	1.000008	
85000.0	23.7	-47.1	36.5	585.7	92.4	33.8	1.000008	
85500.0	23.1	-46.9	35.6	586.0	91.2	34.2	1.000008	
86000.0	22.6	-46.6	34.8	586.3	89.7	36.2	1.000008	
86500.0	22.1	-46.4	33.9	586.7	88.5	38.2	1.000008	
87000.0	21.6	-46.1	33.1	587.0	84.5	40.4	1.000007	
87500.0	21.1	-45.9	32.4	587.3	82.8	41.4	1.000007	
88000.0	20.6	-45.6	31.6	587.6	81.2	42.3	1.000007	
89000.0	19.7	-45.1	30.8	587.9	79.6	43.2	1.000007	
89500.0	19.3	-44.9	30.1	588.3	79.3	43.4	1.000007	
90000.0	18.9	-44.6	29.4	588.6	79.6	43.1	1.000006	
90500.0	18.4	-44.3	28.7	588.9	79.9	42.8	1.000006	
91000.0	18.0	-44.1	28.1	589.3	80.6	42.3	1.000006	
91500.0	17.6	-43.8	27.4	589.6	81.9	41.5	1.000006	
92000.0	17.2	-43.6	26.8	590.0	83.3	40.7	1.000006	
92500.0	16.9	-43.3	26.2	590.3	84.9	40.4	1.000006	
93000.0	16.5	-43.0	25.6	590.6	86.9	43.4	1.000006	
93500.0	16.1	-42.8	25.0	591.0	88.6	46.5	1.000006	
94000.0	15.8	-42.5	24.4	591.3	90.2	49.6	1.000005	
94500.0	15.4	-42.3	23.8	591.6	92.9	49.8	1.000005	
95000.0	15.1	-42.0	23.3	592.0	95.8	49.8	1.000005	
95500.0	14.7	-41.7	22.7	592.3	98.7	50.0	1.000005	
96000.0	14.4	-41.5	22.2	592.6	100.7	48.1	1.000005	
96500.0	14.1	-41.2	21.7	593.0	101.9	43.5	1.000005	
97000.0	13.8	-41.0	21.2	593.3	103.4	39.0	1.000005	
97500.0	13.5	-40.7	20.7	593.6	105.2	34.5	1.000005	
98000.0	13.2	-40.4	20.2	594.0			1.000005	
98500.0	12.9	-40.2	19.7	594.3			1.000004	
99000.0	12.6	-39.9	19.3	594.6			1.000004	
			18.8	595.0			1.000004	

STATION ALTITUDE 3900.00 FEET MSL
 10 JULY 89
 ASCENSION I.O. 307

MANDATORY LEVELS
 1920020307
 WHITE SANDS

GEODETTIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

0720 HRS MDT

TABLE 5.

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5057.	22.9	12.2	51.	108.1	2.6
800.0	6776.	20.6	10.3	52.	111.6	3.6
750.0	8620.	17.6	8.3	54.	120.1	7.8
700.0	10541.	12.5	5.9	64.	85.0	10.6
650.0	12567.	7.6	.4	60.	75.3	17.9
600.0	14711.	3.8		27.	89.6	15.6
550.0	17020.	.6		24.	117.8	20.8
500.0	19509.	-3.1	-21.8	22.	131.3	23.6
450.0	22212.	-9.7	-26.9	23.	136.6	20.8
400.0	25152.	-17.3	-32.5	25.	129.2	13.9
350.0	28307.	-22.2	-37.2	26.	96.4	18.8
300.0	32048.	-31.2	-43.3	29.	68.7	23.5
250.0	36176.	-41.4			82.8	24.4
200.0	41037.	-53.4			73.8	22.0
175.0	43814.	-60.1			65.5	20.7
150.0	46927.	-65.8			79.2	16.8
125.0	50503.	-68.0			88.0	4.5
100.0	54824.	-71.4			81.9	20.1
80.0	59223.	-64.6			95.0	15.5
70.0	61905.	-54.5			113.8	10.1
60.0	64963.	-63.3			90.5	17.8
50.0	68712.	-58.4			85.1	20.2
40.0	73358.	-54.6			94.4	30.0
30.0	79408.	-49.7			92.7	35.8
25.0	83400.	-47.7			95.2	35.6
20.0	88260.	-45.3			79.2	43.5
15.0	94605.	-41.0			98.9	50.0

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

STATION ALTITUDE 4126.59 FEET MSL
 10 JULY 80
 ASCENSION NO. 233
 0630 HRS MDT

SIGNIFICANT LEVEL DATA
 1920010233
 HOLLOWAY

GEODETIC COORDINATES
 32.88865 LAT DEG
 106.09965 LON DEG

TABLE 6.

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT PERCENT	REL. HUM. PERCENT
878.5	4126.6	17.5	10.1	58.0
868.8	4443.2	24.8	11.4	73.0
850.0	5074.5	29.6	9.0	37.0
806.6	6579.4	21.9	8.8	43.0
757.2	8369.1	17.5	6.1	47.0
700.0	10558.6	12.9	4.1	55.0
662.2	12083.2	9.1	1.8	60.0
607.0	14827.0	2.0	-1.4	78.0
595.5	14934.5	1.7	-17.2	23.0
549.4	19207.7	2.5	-20.0	17.0
580.6	15607.6	3.1	-22.6	13.0
563.4	16406.2	1.0	-22.0	15.0
521.4	18441.7	-2.8	-29.0	15.0
500.0	19530.9	-4.1	-28.4	13.0
450.0	22229.2	-10.7	-32.9	14.0
447.7	22358.8	-11.0	-33.2	14.0
400.0	25172.3	-17.1	-38.1	14.0
369.8	27093.4	-21.5	-41.1	15.0
356.2	28010.3	-22.7	-41.5	16.0
300.0	32067.9	-32.3	-48.5	18.0
292.0	32694.2	-33.5	-49.5	18.0
250.0	36244.5	-38.8		
219.8	39008.0	-44.7		
200.0	41102.0	-54.5		
181.2	43162.2	-59.4		
167.0	44733.4	-62.7		
150.0	46986.6	-68.2		
132.2	49461.0	-72.5		
125.0	50554.7	-69.5		
108.2	53368.9	-73.2		
100.0	54093.4	-72.7		
92.8	56356.7	-68.5		

STATION ALTITUDE 4126.59 FEET MSL
 10 JULY 60
 ASCENDING TO 233 0630 HRS MDT

SIGNIFICANT LEVEL DATA
 1920010233
 HOLLOWAY

GEODETTIC COORDINATES
 32.88865 LAT DEG
 106.09965 LON DEG

TABLE 6 (continued)

GEOMETRIC ALTITUDE METERS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
81.4	-68.0	
70.0	-63.9	
50.0	-56.5	
34.6	-52.3	

UPPER AIR DATA
 1920010233
 HOLLOWAY

STATION ALTITUDE 4126.59 FEET MSL
 10 JULY 80 0630 HRS MDT
 ASCENSION IS. 233

GEOMETRIC COORDINATES
 32.88865 LAT DEG
 106.09965 LON DEG

TABLE 7.

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	
4126.6	878.5	18.5	58.0	1083.8	667.1	0	0	1.000288
4500.0	867.1	24.9	42.5	1007.7	674.5	62.0	62.0	1.000282
5000.0	852.2	25.5	37.7	988.6	675.1	62.0	62.0	1.000273
5500.0	837.5	24.6	38.7	974.7	674.0	62.0	62.0	1.000268
6000.0	823.0	23.3	40.7	961.9	672.6	62.0	62.0	1.000265
6500.0	808.6	22.1	42.7	949.3	671.2	90.5	90.5	1.000261
7000.0	794.7	20.9	43.9	936.8	669.7	110.0	110.0	1.000256
7500.0	780.8	19.6	45.1	924.4	668.3	133.6	133.6	1.000252
8000.0	767.1	18.4	46.2	912.2	666.8	152.6	152.6	1.000247
8500.0	753.7	17.2	47.5	899.9	665.4	174.7	174.7	1.000243
9000.0	740.3	16.2	49.3	887.2	664.2	194.2	194.2	1.000239
9500.0	727.1	15.1	51.1	874.6	663.0	174.1	174.1	1.000235
10000.0	714.2	14.1	53.0	862.3	661.7	116.9	116.9	1.000231
10500.0	701.5	13.0	54.8	850.1	660.5	75.7	75.7	1.000228
11000.0	688.8	11.8	56.4	838.5	659.0	70.4	70.4	1.000223
11500.0	676.4	10.6	59.1	827.1	657.5	73.1	73.1	1.000219
12000.0	664.2	9.3	59.7	815.9	656.1	74.4	74.4	1.000215
12500.0	652.0	7.8	63.2	805.2	654.3	73.2	73.2	1.000212
13000.0	640.0	6.3	67.0	794.8	652.5	72.3	72.3	1.000208
13500.0	628.3	4.8	70.9	784.5	650.7	73.7	73.7	1.000205
14000.0	616.7	3.3	74.7	774.4	648.9	75.1	75.1	1.000201
14500.0	605.3	2.0	70.1	764.2	647.2	84.6	84.6	1.000195
15000.0	594.0	1.7	21.6	751.7	646.4	95.4	95.4	1.000175
15500.0	583.0	2.9	14.1	735.1	647.5	106.1	106.1	1.000169
16000.0	572.1	2.5	14.0	722.6	647.0	117.0	117.0	1.000166
16500.0	561.4	1.6	15.0	711.4	646.0	119.3	119.3	1.000164
17000.0	550.8	.9	15.0	700.9	644.6	119.7	119.7	1.000161
17500.0	540.4	-.7	15.0	690.5	643.3	121.2	121.2	1.000158
18000.0	530.2	-1.8	14.0	680.4	641.9	123.6	123.6	1.000156
18500.0	520.2	-2.9	14.0	670.2	640.6	132.0	132.0	1.000153
19000.0	510.3	-3.5	14.0	658.9	639.9	138.7	138.7	1.000150
19500.0	500.6	-4.1	13.1	647.8	639.2	143.5	143.5	1.000147

STATION ALTITUDE 0126.59 FEET MSL
 10 JULY 68
 ASCENSION I.D. 233

UPPER AIR DATA
 1920010233
 HOLLOWAN

GEODETIC COORDINATES
 32.88865 LAT DEG
 106.09965 LONG DEG

TABLE 7 (continued)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	WIND DIRECTION (DEGREES TRUE)	WIND SPEED KNOTS	INDEX OF REFRACTION
20000.0	490.9	-5.2	13.2	630.1	146.1	24.0	1.000145
20500.0	481.4	-6.5	13.4	628.7	146.2	23.5	1.000143
21000.0	472.1	-7.7	13.5	619.4	146.7	22.2	1.000140
21500.0	463.0	-8.9	13.7	610.2	148.0	19.7	1.000138
22000.0	454.0	-10.1	13.9	601.2	149.8	15.9	1.000136
22500.0	445.2	-11.5	14.0	592.1	156.7	12.6	1.000134
23000.0	436.4	-12.4	14.0	582.8	126.7	18.0	1.000132
23500.0	427.7	-13.5	14.0	573.6	123.1	23.7	1.000129
24000.0	419.2	-14.6	14.0	564.6	122.5	25.7	1.000127
24500.0	410.9	-15.6	14.0	555.8	122.6	26.2	1.000125
25000.0	402.8	-16.7	14.0	547.1	122.7	26.6	1.000123
25500.0	394.7	-17.9	14.2	538.4	122.8	27.1	1.000121
26000.0	386.7	-19.0	14.4	529.9	122.8	25.6	1.000119
26500.0	378.9	-20.1	14.7	521.6	122.7	23.2	1.000117
27000.0	371.2	-21.3	15.0	513.4	122.7	20.8	1.000115
27500.0	363.0	-22.0	15.4	504.4	117.8	18.5	1.000113
28000.0	355.2	-22.7	16.0	495.4	109.8	16.6	1.000111
28500.0	348.8	-23.9	16.2	487.3	100.7	15.7	1.000109
29000.0	341.5	-25.1	16.5	479.4	91.4	15.5	1.000108
29500.0	334.3	-26.2	16.7	471.7	86.8	16.0	1.000106
30000.0	327.4	-27.4	17.0	464.0	83.8	16.8	1.000104
30500.0	320.5	-28.6	17.2	456.5	81.7	17.8	1.000102
31000.0	313.8	-29.8	17.5	449.2	80.0	18.8	1.000101
31500.0	307.3	-31.0	17.7	441.9	77.9	19.2	1.000099
32000.0	300.9	-32.1	18.0	434.8	75.8	19.5	1.000097
32500.0	294.5	-33.1	18.0	427.3	74.1	19.7	1.000096
33000.0	288.1	-34.0	16.4**	419.6	72.6	19.9	1.000094
33500.0	281.9	-34.7	13.9**	411.8	72.4	20.9	1.000092
34000.0	275.8	-35.4	11.4**	404.2	72.6	22.1	1.000090
34500.0	269.8	-36.2	9.8**	396.7	74.5	23.5	1.000089
35000.0	264.0	-36.9	6.3**	389.3	77.1	24.9	1.000087
35500.0	258.3	-37.7	3.0**	382.1	78.7	26.2	1.000085

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

STATION ALTITUDE 4126.59 FEET MSL
 10 JULY 89
 ASCENSION NO. 232

UPPER AIR DATA
 1920010233
 HOLLOWMAN

GLONETIC COORDINATES
 32.88865 LAT DEG
 106.09965 LONG DEG

TABLE 7 (continued)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KILOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KILOTS	INDEX OF REFRACTION
3000.0	452.7	-38.4	1.2**	375.0	596.9	79.5	27.2	1.000004
3050.0	447.1	-39.8		368.9	595.1	79.3	27.7	1.000002
3100.0	441.6	-41.7		363.6	592.7	77.5	27.4	1.000001
3150.0	436.2	-43.6		358.5	590.2	75.7	27.1	1.000010
3200.0	430.9	-45.5		353.4	587.8	73.9	26.4	1.000079
3250.0	425.7	-47.4		348.4	585.3	72.1	25.8	1.000078
3300.0	420.7	-49.4		343.5	582.8	70.6	25.3	1.000077
3350.0	415.6	-51.9		337.8	581.1	68.9	24.9	1.000075
3400.0	410.6	-53.1		331.6	579.5	68.5	25.2	1.000074
3450.0	405.7	-54.3		325.8	578.0	68.0	25.5	1.000073
3500.0	401.0	-54.3		319.8	576.4	67.1	25.3	1.000071
3550.0	396.2	-55.4		314.0	574.8	65.9	25.0	1.000070
3600.0	391.6	-56.6		308.2	573.2	63.6	24.1	1.000069
3650.0	387.0	-57.8		302.6	571.7	60.2	22.7	1.000067
3700.0	382.6	-59.0		297.1	570.1	57.4	21.6	1.000066
3750.0	378.2	-60.1		291.4	568.7	55.4	20.9	1.000065
3800.0	373.9	-61.1		285.7	567.4	56.0	20.0	1.000064
3850.0	369.7	-62.0		280.1	566.0	60.3	19.0	1.000062
3900.0	365.6	-63.1		274.7	564.6	65.0	18.3	1.000061
3950.0	361.5	-64.4		269.5	562.9	68.8	19.1	1.000060
4000.0	357.7	-65.7		264.6	561.1	72.2	20.0	1.000059
4050.0	353.7	-67.0		259.6	559.4	73.7	20.4	1.000058
4100.0	349.9	-68.2		254.8	557.7	75.1	20.9	1.000057
4150.0	346.1	-69.1		249.5	556.5	80.0	20.7	1.000056
4200.0	342.4	-70.0		244.2	555.3	84.3	20.2	1.000054
4250.0	338.8	-70.8		239.1	554.1	95.9	20.1	1.000053
4300.0	335.3	-71.7		234.1	552.9	98.2	19.2	1.000052
4350.0	331.9	-72.4		228.9	552.0	100.7	18.3	1.000051
4400.0	328.6	-71.0		221.6	553.9	97.9	14.6	1.000049
4450.0	325.4	-69.6		214.6	555.7	89.8	10.1	1.000048
4500.0	322.2	-70.1		209.6	555.2	77.5	6.7	1.000047
4550.0	319.1	-70.7		205.0	554.3	67.1	4.8	1.000046

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

UPPER AIR DATA
 1920010233
 HOLLOWAY

STATION ALTITUDE 4120.59 FEET MSL
 10 JULY PD 0630 HRS MDT
 ASCENSION ISO. 233

GEODETIC COORDINATES
 32.88865 LAT DEG
 106.09965 LON DEG

TABLE 7 (continued)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KINOTS	WIND DATA		INDEX OF REFRACTION
		AIR	DEWPOINT				DIRECTION DEGREE(S) (M)	SPEED KINOTS	
52000.0	116.1	-71.4			200.4	553.4	44.7	3.2	1.000045
52500.0	113.1	-72.1			146.0	552.5	61.7	4.5	1.000044
53000.0	110.3	-72.7			141.6	551.5	72.1	6.3	1.000043
53500.0	107.5	-73.2			187.2	550.9	76.8	8.4	1.000042
54000.0	104.7	-73.0			182.3	551.2	77.5	10.9	1.000041
54500.0	102.1	-72.8			177.5	551.4	78.0	13.4	1.000040
55000.0	99.5	-72.4			172.6	552.0	75.9	14.6	1.000038
55500.0	97.0	-71.0			167.0	554.0	72.9	15.3	1.000037
56000.0	94.5	-69.5			161.7	555.9	71.0	15.6	1.000036
56500.0	92.1	-68.5			156.0	557.4	71.2	14.9	1.000035
57000.0	89.8	-68.4			152.8	557.5	71.3	14.3	1.000034
57500.0	87.6	-68.3			148.9	557.6	75.8	14.5	1.000033
58000.0	85.4	-68.2			145.2	557.7	82.5	14.8	1.000032
58500.0	83.3	-68.1			141.5	557.9	85.4	15.3	1.000032
59000.0	81.2	-67.9			137.9	558.1	86.5	15.7	1.000031
59500.0	79.2	-67.3			134.0	559.0	88.5	16.1	1.000030
60000.0	77.3	-66.6			130.3	559.9	92.3	16.6	1.000029
60500.0	75.4	-65.9			126.7	560.8	95.8	17.3	1.000028
61000.0	73.5	-65.2			123.1	561.8	96.2	18.4	1.000027
61500.0	71.7	-64.5			119.7	562.7	96.5	19.5	1.000027
62000.0	69.9	-63.9			116.4	563.6	95.8	19.3	1.000026
62500.0	68.2	-63.3			113.3	564.3	93.8	17.8	1.000025
63000.0	66.6	-62.8			110.3	565.0	91.4	16.2	1.000025
63500.0	65.0	-62.3			107.4	565.7	91.3	15.1	1.000024
64000.0	63.5	-61.7			104.6	566.4	92.2	14.1	1.000023
64500.0	61.9	-61.2			101.8	567.2	93.3	13.1	1.000023
65000.0	60.4	-60.7			99.1	567.9	93.2	14.4	1.000022
65500.0	59.0	-60.1			96.5	568.6	93.1	15.9	1.000021
66000.0	57.5	-59.6			93.9	569.3	92.9	16.8	1.000021
66500.0	56.2	-59.1			91.5	570.0	92.0	15.7	1.000020
67000.0	54.9	-58.5			89.0	570.7	90.9	14.6	1.000020
67500.0	53.5	-58.0			86.7	571.4	89.9	14.1	1.000019

STATION ALTITUDE 4126.59 FEET MSL
 10 JULY 80
 ASCENSION 140. 233

UPPER AIR DATA
 1920010233
 HOLLOWAN

0630 HRS MDT

GEODETIC COORDINATES
 32.88865 LAT DEG
 106.09965 LON DEG

TABLE 7 (continued)

GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METEM	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
					DIRECTION (DEGREES) SITN)	SPEED KNOTS	
68000.0	52.5	52.5	84.4	572.1	89.0	14.2	1.000019
69500.0	51.0	51.0	82.2	572.8	88.1	14.2	1.000018
71000.0	49.8	49.8	80.0	573.5	89.0	17.2	1.000018
72500.0	48.6	48.6	78.1	573.8	89.7	20.5	1.000017
74000.0	47.5	47.5	76.2	574.2	90.3	23.7	1.000017
75500.0	46.4	46.4	74.3	574.6	92.2	25.6	1.000017
77000.0	45.3	45.3	72.5	574.9	93.9	27.4	1.000016
78500.0	44.2	44.2	70.7	575.3	95.3	29.2	1.000016
80000.0	43.2	43.2	68.9	575.6	95.4	29.4	1.000015
81500.0	42.2	42.2	67.3	576.0	95.4	29.5	1.000015
83000.0	41.2	41.2	65.6	576.3	95.4	29.6	1.000015
84500.0	40.3	40.3	64.0	576.7	95.0	29.5	1.000014
86000.0	39.3	39.3	62.4	577.0	94.6	29.3	1.000014
87500.0	38.4	38.4	60.9	577.4	94.2	29.2	1.000014
89000.0	37.5	37.5	59.4	577.7			1.000013
90500.0	36.6	36.6	57.9	578.1			1.000013
92000.0	35.8	35.8	56.5	578.5			1.000013
93500.0	34.9	34.9	55.1	578.8			1.000012

STATION ALTITUDE 4126.59 FEET MSL
 10 JULY 60
 ASCENSION #2. 233

MANDATORY LEVELLS
 1920110233
 HOLLOWMAN

GEODETIC COORDINATES
 32.88865 LAT DEG
 106.09965 LON DEG

TABLE 8.

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE		REL. HUMID. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5071.	25.6	9.8	37.	62.0	2.4
800.0	6808.	21.3	8.4	44.	103.2	6.8
750.0	8630.	16.0	5.9	48.	179.7	11.5
700.0	10500.	12.0	4.1	55.	73.9	9.7
650.0	12576.	7.6	1.2	64.	73.0	15.7
600.0	14718.	1.8	-8.9	45.	89.5	15.3
550.0	17021.	.4	-23.2	15.	119.8	15.8
500.0	19504.	-4.1	-28.4	13.	143.7	23.0
450.0	22105.	-10.7	-32.9	14.	150.9	13.1
400.0	25131.	-17.1	-38.1	14.	122.7	26.8
350.0	28372.	-23.7	-42.2	16.	102.4	15.8
300.0	32004.	-32.3	-48.5	18.	75.5	19.6
250.0	36165.	-38.8			79.9	27.6
200.0	41002.	-54.5			66.9	25.3
175.0	43766.	-60.8			54.0	20.3
150.0	46860.	-68.2			75.0	20.8
125.0	50409.	-69.5			89.1	9.8
100.0	54725.	-72.7			76.8	14.5
80.0	59102.	-67.5			87.1	15.9
70.0	61764.	-63.9			96.0	19.5
60.0	64889.	-60.5			93.2	14.7
50.0	68650.	-56.5			88.7	16.4
40.0	73323.	-54.0			95.0	29.5

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