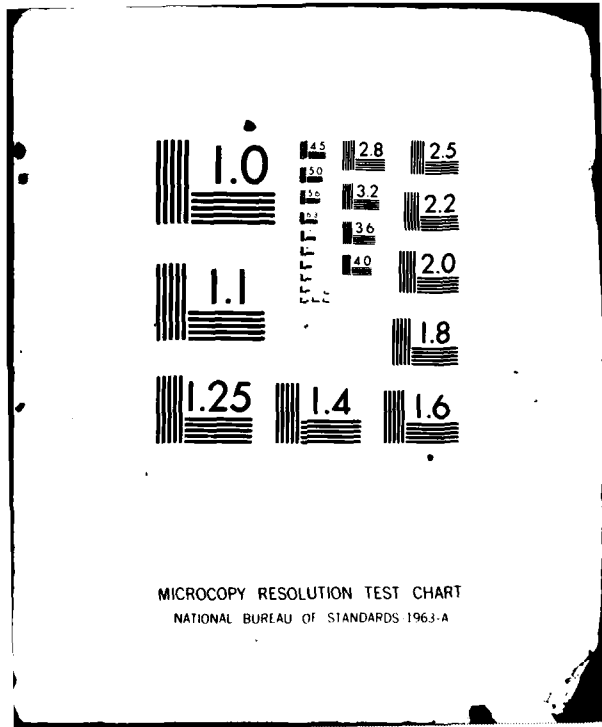


AD-A109 931 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2
148188 LANCE, MISSILE NUMBER 4573, ROUND NUMBER 372-APT, 16 NOV--ETC(U)
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November 1981

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METFOROLOGICAL DATA REPORT

14818B Lance
Missile Number 4573
Round Number 372-APT
16 November 87 *1981*

**DTIC
SELECTED
JAN 22 1982**
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by

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Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 14818B Lance, Missile Number 4573, Round Number 372-APT presented in tabular form.		

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INTRODUCTION

14818B Lance, Missile Number 4573, Round Number 372-APT, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 0845 MST, 16 Nov 1981. The scheduled launch time was 0845 MST.

DISCUSSION

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

1. Observations.

a. Surface:

(1) Standard surface observation to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind speed and direction, and cloud cover were made at the LC-39 Met Site at T-0 minutes.

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

b. Upper Air:

(1) Low level wind data were obtained from Single Theodolite Tracked pibal observations at:

SITE AND ALTITUDE

LC-39 3 KM

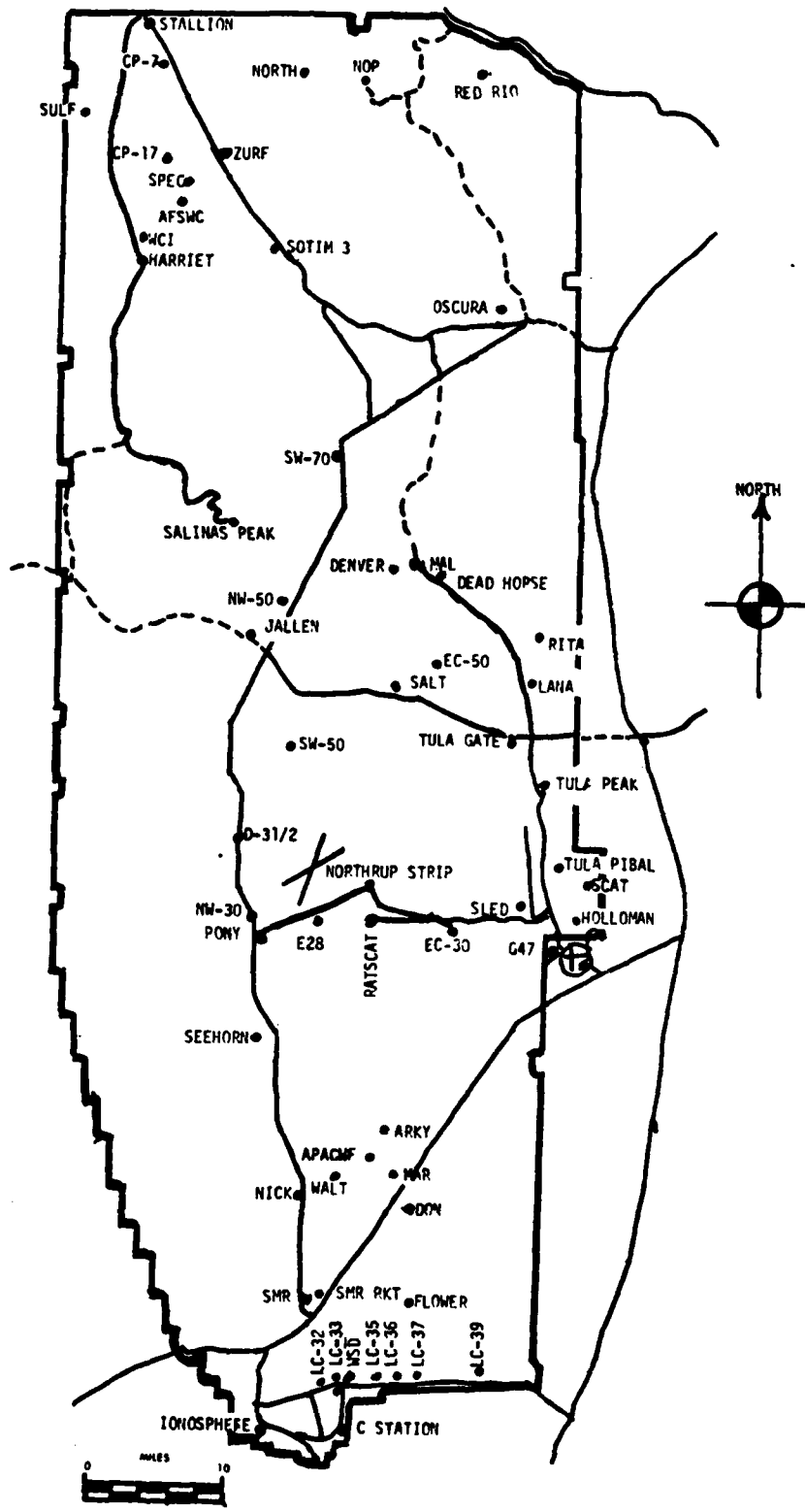
(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to high as possible in 500-foot increments.

SITE AND TIME

LC-37 0845 MST
SMR 0900 MST

Accession For	
NTIS	<input checked="" type="checkbox"/>
DTIC	<input type="checkbox"/>
Other	<input type="checkbox"/>
Date	
By	
Title	
Author	
Subject	
Number	
1	
A	
DTIC	
COPY	
INSPECTED	
3	

WSMR METEOROLOGICAL SITES



PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-39

DATE 16 DAY NOV MONTH 1981 YEAR

X= 530,938.82 Y= 186,564.96 H= 4,063.75

TIME M S T	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	WIND			VISIBIL- ITY
						DIRECTION degs Tr	SPEED kts	CHARACTER kts	
0845	882.6	13.6	-1.1	36		C	A	M	50

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

PSYCHROMETRIC COMPUTATION

TIME: MST	0845
DRY BULB TEMP.	13.6
WET BULB TEMP.	6.5
WET BULB DEPR.	7.1
DEW POINT	-1.1
RELATIVE HUMID.	36

TABLE 4

Launch And Impact Area Computer Met Messages
16 Nov 1981

LC-37 0845 MST
METCM1324063
161580124883
00000000 28590883
01628007 28750873
02618006 28980847
03539003 28890808
04486008 28710762
05450008 28400718
06442013 28140676
07445017 27820636
08470018 27470598
09472020 27110562
10440018 26790527
11446017 26370494
12470018 25720448
13484021 24860392
14542022 24030341
15578027 23240295
16598032 22430254

SMR 0900 MST
METCM1325064
161600122884
00160002 28660884
01567005 28760873
02021004 28970848
03535004 28940809
04558006 28750763
05451010 28530719
06447013 28250677
07458017 27910637
08470018 27580599
09470022 27270563
10447020 27000529
11450019 26600496
12468019 25980450
13495024 25150394
14544023 24310343
15576028 23530298
16603029 22710257

STATION ALTITUDE 4051.37 FEET MSL
 16 NOV. 61
 ASCENSION NO. 224

SIGNIFICANT LEVEL DATA
 320180224
 LC-37

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LONG DEG

TABLE 5

GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
883.1	12.3	31.0
668.2	14.7	35.0
650.0	16.3	33.0
764.8	13.5	33.0
700.0	8.9	34.0
674.4	7.7	29.0
614.0	2.7	28.0
589.2	.1	29.0
555.2	-3.2	28.0
530.8	-5.1	26.0
500.0	-9.8	28.0
400.0	-23.3	27.0
351.8	-31.7	29.0
338.6	-33.5	29.0
300.0	-39.8	29.0
250.0	-50.1	
226.2	-53.1	
200.0	-58.2	
150.0	-65.9	
100.0	-74.6	
89.3	-70.9	
85.4	-72.6	
70.0	-66.6	
58.6	-61.2	
50.0	-59.5	
44.6	-59.5	
39.8	-56.7	
30.0	-56.0	
24.6	-51.6	
20.0	-54.3	
14.4	-49.9	

STATION ALTITUDE 4051.17 FEET MSL
 16 NOV. 51
 0844 HRS MST
 ASCENSION NO. 224

UPPER AIR DATA
 3200180224
 LC-37
 TABLE 6

SEUDITIC COORDINATES
 32.40175 LAT UEG
 106.31232 LONG UEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE				DIRECTION DEGREES (TN)	SPEED KNOTS	
4051.4	843.1	12.3	-4.3	31.0	1075.7	650.8	0	0	1.000260
4500.0	863.9	14.6	-0.8	34.8	1049.3	661.7	345.6	1.1	1.000260
5000.0	883.4	16.0	-0.1	33.4	1025.4	663.3	345.6	2.4	1.000256
5500.0	898.2	15.9	-0.3	33.0	1007.4	663.3	345.6	3.6	1.000252
6000.0	923.2	15.5	-0.7	33.0	991.1	662.7	335.6	4.2	1.000247
6500.0	908.6	15.0	-1.1	33.0	975.0	662.2	309.8	4.5	1.000243
7000.0	794.1	14.5	-1.6	33.0	959.3	661.6	290.9	5.4	1.000239
7500.0	780.0	14.0	-2.0	33.0	943.8	661.0	277.7	6.7	1.000235
8000.0	760.1	13.5	-2.4	33.0	928.5	660.5	271.1	7.4	1.000231
8500.0	752.2	12.6	-3.1	33.2	914.7	659.4	266.9	7.4	1.000226
9000.0	738.7	11.7	-3.9	33.4	901.3	658.3	262.7	7.7	1.000222
9500.0	723.3	10.7	-4.6	33.6	888.0	657.2	258.9	8.1	1.000218
10000.0	712.2	9.8	-5.4	33.8	875.0	656.0	253.2	8.9	1.000214
10500.0	699.3	8.9	-6.2	33.9	862.1	654.9	248.6	9.8	1.000210
11000.0	686.6	8.3	-7.7	31.4	848.3	654.2	247.1	11.4	1.000205
11500.0	674.0	7.7	-9.2	29.0	834.7	653.4	246.3	13.1	1.000201
12000.0	661.6	6.7	-10.2	28.6	822.3	652.2	246.8	15.3	1.000197
12500.0	649.4	5.7	-11.1	28.6	810.1	651.0	248.3	16.6	1.000193
13000.0	637.4	4.7	-12.1	28.4	798.0	649.8	251.1	17.0	1.000190
13500.0	625.6	3.7	-13.0	28.2	786.2	648.7	254.9	17.0	1.000186
14000.0	614.1	2.7	-13.9	28.0	774.5	647.5	259.8	16.7	1.000183
14500.0	602.6	1.5	-14.8	28.5	763.3	646.0	263.5	17.5	1.000180
15000.0	591.3	0.3	-15.6	28.9	752.4	644.6	266.3	18.9	1.000177
15500.0	580.1	-0.8	-16.6	28.7	741.2	643.3	268.2	19.2	1.000174
16000.0	569.2	-1.8	-17.7	28.4	730.0	642.0	268.2	19.3	1.000170
16500.0	558.4	-2.9	-18.8	28.1	719.1	640.8	261.1	19.3	1.000167
17000.0	547.8	-3.8	-19.8	27.4	707.8	639.7	255.5	19.3	1.000164
17500.0	537.3	-4.6	-20.9	26.5	696.4	638.7	249.9	19.4	1.000161
18000.0	527.0	-5.7	-22.0	26.2	685.8	637.4	248.6	18.2	1.000158
18500.0	516.8	-7.2	-23.0	26.9	676.5	636.5	248.1	16.8	1.000156
19000.0	506.8	-8.7	-24.1	27.5	667.3	635.7	249.2	16.4	1.000153
19500.0	496.9	-10.2	-25.2	28.0	657.9	634.9	250.6	16.3	1.000151
20000.0	487.0	-11.4	-26.3	27.9	647.7	634.5	252.7	16.6	1.000148
20500.0	477.2	-12.6	-27.4	27.8	637.8	634.0	254.8	16.8	1.000146
21000.0	467.7	-13.8	-28.5	27.7	628.0	633.5	257.3	17.2	1.000143
21500.0	458.3	-15.1	-29.6	27.6	618.4	633.0	259.5	17.7	1.000141
22000.0	449.1	-16.3	-30.7	27.5	608.9	632.5	261.3	18.4	1.000138
22500.0	440.2	-17.5	-31.8	27.4	599.6	632.0	263.1	19.1	1.000136
23000.0	431.3	-18.7	-32.9	27.3	590.4	631.5	265.2	19.9	1.000134
23500.0	422.7	-20.0	-34.0	27.2	581.4	631.0	267.3	20.6	1.000132

STATION ALTITUDE 4051.37 FLT I MSL
 16 NOV. 61 0845 HRS MST
 ASCENDING NO. 224

UPPER AIR DATA
 320110224
 LC-37

GEODETLIC COORDINATES
 32.40175 LAT UEG
 106.51232 LONG UEG

TABLE 6 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		WEL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION, DEGREES(TN)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE					SPEED KNOTS	ANGLE OF REFRACTION	
2400.0	414.3	-21.2	-35.1	27.2	572.0	618.5	209.3	21.4	1.000129	
2450.0	400.0	-22.4	-36.2	27.1	563.9	617.0	271.9	22.1	1.000127	
2500.0	397.7	-23.7	-37.3	27.1	555.3	615.4	274.9	22.9	1.000125	
2550.0	389.4	-25.1	-38.4	27.4	546.7	613.7	276.8	22.5	1.000123	
2600.0	381.3	-26.4	-39.5	27.7	538.5	612.0	277.9	20.9	1.000121	
2650.0	373.3	-27.8	-40.6	28.1	530.0	610.3	281.9	19.5	1.000119	
2700.0	365.5	-29.2	-41.7	28.4	521.9	608.5	289.8	18.6	1.000117	
2750.0	357.9	-30.6	-42.8	28.7	513.9	606.8	299.0	19.5	1.000115	
2800.0	350.4	-31.9	-43.9	29.0	505.9	605.2	306.2	21.1	1.000113	
2850.0	342.9	-32.9	-44.8	29.0	497.2	603.9	307.1	21.7	1.000111	
2900.0	335.6	-34.0	-45.7	29.0	488.7	602.5	307.9	22.9	1.000109	
2950.0	328.3	-35.1	-46.7	29.0	480.4	601.1	308.5	24.4	1.000108	
3000.0	321.2	-36.3	-47.8	29.0	472.2	599.6	311.1	25.8	1.000106	
3050.0	314.2	-37.4	-48.8	29.0	464.2	598.2	314.9	27.3	1.000104	
3100.0	307.4	-38.5	-49.8	29.0	456.4	596.7	318.5	28.1	1.000102	
3150.0	300.7	-39.7	-50.8	29.0	448.7	595.3	322.1	28.2	1.000100	
3200.0	294.0	-40.9	-52.9	25.8**	441.0	593.7	325.5	28.0	1.000099	
3250.0	287.4	-42.2	-55.3	22.2**	433.5	592.0	328.9	27.1	1.000097	
3300.0	280.9	-43.5	-57.8	18.6**	426.2	590.4	331.6	27.0	1.000095	
3350.0	274.6	-44.8	-60.6	14.9**	418.9	588.7	335.1	27.8	1.000093	
3400.0	268.5	-46.1	-63.7	11.3**	411.8	587.1	334.5	29.0	1.000092	
3450.0	262.4	-47.4	-67.5	7.7**	404.9	585.4	335.6	30.4	1.000090	
3500.0	256.5	-48.6	-72.8	4.1**	398.1	583.7	337.8	31.6	1.000089	
3600.0	245.0	-50.7	-86.6	.5**	391.4	582.1	340.1	32.9	1.000087	
3650.0	239.3	-51.4			383.7	581.0	339.8	33.7	1.000085	
3700.0	233.8	-52.1			376.0	579.2	339.1	34.4	1.000084	
3750.0	228.4	-52.8			368.5	578.0	338.0	34.6	1.000082	
3800.0	223.1	-53.7			361.1	576.3	336.8	34.8	1.000080	
3850.0	217.8	-54.7			354.1	574.4	337.4	35.3	1.000079	
3900.0	212.7	-55.7			347.3	572.8	338.4	35.9	1.000077	
3950.0	207.7	-56.6			340.6	571.5	339.8	37.2	1.000076	
4000.0	202.8	-57.6			334.1	570.2	341.3	38.6	1.000074	
4050.0	198.0	-58.5			327.8	569.9	339.9	41.3	1.000073	
4100.0	193.2	-59.1			321.2	570.8	337.9	44.4	1.000072	
4150.0	188.5	-59.8			314.4	569.9	335.8	46.9	1.000070	
4200.0	183.9	-60.4			307.7	569.1	333.4	49.3	1.000069	
4250.0	179.4	-61.1			301.2	568.2	332.4	50.7	1.000067	
4300.0	175.1	-61.8			294.8	567.3	331.9	51.5	1.000066	
4350.0	170.9	-62.4			288.6	566.4	331.8	51.9	1.000064	
4400.0	167.0	-62.4			282.4	565.5	331.9	51.8	1.000063	

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

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

UPPER AIR DATA
3200180224
LC-37

TABLE 6 CONT

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 61
ASCENSION NO. 224
0845 HRS MST

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED KNOTS	DIRECTION (DEGREES(TN))	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE					SPEED KNOTS	DIRECTION (DEGREES(TN))	
44000.0	166.7	-63.1			276.5	564.7	332.5	51.5	1.000062	
44500.0	162.7	-63.7			270.6	563.8	333.1	50.5	1.000060	
45000.0	159.7	-64.4			264.9	562.9	334.0	49.5	1.000059	
45500.0	154.9	-65.0			259.3	562.0	334.2	48.4	1.000058	
46000.0	151.1	-65.7			253.8	561.1	334.4	47.3	1.000057	
46500.0	147.4	-66.3			248.2	560.3	334.7	44.6	1.000055	
47000.0	143.7	-66.8			242.6	559.6	335.1	40.7	1.000054	
47500.0	140.0	-67.4			237.1	558.8	334.9	37.5	1.000053	
48000.0	136.5	-67.9			231.7	558.1	333.5	35.3	1.000052	
48500.0	133.1	-68.5			226.5	557.4	331.3	33.6	1.000050	
49000.0	129.7	-69.0			221.4	556.6	328.6	33.5	1.000049	
49500.0	126.5	-69.6			216.4	555.9	322.0	33.7	1.000048	
50000.0	123.3	-70.1			211.5	555.1	318.5	32.9	1.000047	
50500.0	120.2	-70.7			206.7	554.4	315.0	32.1	1.000046	
51000.0	117.1	-71.2			202.1	553.6	312.5	31.0	1.000045	
51500.0	114.2	-71.8			197.5	552.9	310.8	29.6	1.000044	
52000.0	111.3	-72.3			193.1	552.1	309.5	28.3	1.000043	
52500.0	108.5	-72.8			188.7	551.4	311.4	27.7	1.000042	
53000.0	105.8	-73.4			184.5	550.6	313.4	27.1	1.000041	
53500.0	103.1	-73.9			180.3	549.9	317.0	26.3	1.000040	
54000.0	100.5	-74.5			176.3	549.1	321.2	25.6	1.000039	
54500.0	98.0	-73.9			171.3	549.9	325.0	23.9	1.000038	
55000.0	95.5	-73.1			166.2	551.0	328.8	21.2	1.000037	
55500.0	93.0	-72.2			161.3	552.2	333.5	18.6	1.000036	
56000.0	90.7	-71.4			156.5	553.4	337.5	16.5	1.000035	
56500.0	88.4	-71.3			152.5	553.5	342.5	14.5	1.000034	
57000.0	86.1	-72.3			149.4	552.1	345.3	13.5	1.000033	
57500.0	83.9	-72.1			145.4	552.4	345.0	13.2	1.000032	
58000.0	81.8	-71.3			141.3	553.5	345.0	13.0	1.000031	
58500.0	79.8	-70.6			137.2	554.5	341.8	14.0	1.000031	
59000.0	77.8	-69.8			133.3	555.6	339.0	15.0	1.000030	
59500.0	75.8	-69.0			129.4	556.6	338.0	15.6	1.000029	
60000.0	73.9	-68.3			125.7	557.7	339.1	15.7	1.000028	
60500.0	72.1	-67.5			122.1	558.7	340.2	15.7	1.000027	
61000.0	70.3	-66.7			118.6	559.7	340.4	12.5	1.000026	
61500.0	68.6	-66.0			115.3	560.8	358.9	9.0	1.000026	
62000.0	66.9	-65.2			112.0	561.8	23.8	6.2	1.000025	
62500.0	65.2	-64.5			108.9	562.8	67.3	5.5	1.000024	
63000.0	63.7	-63.7			105.9	563.8	101.1	7.7	1.000024	
63500.0	62.1	-63.0			102.9	564.8	102.5	7.6	1.000023	

STATION ALTITUDE 4051.37 FEET MSI
 16 NOV. 51 0845 HRS MST
 ASCENSION NO. 224

UPPER AIR DATA
 3200180224
 LC-37

TABLE 6 CONT

GEODETIC COORDINATES
 12.40175 LAT DEG
 106.31232 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION, DEGREES (TN)	SPEED KNOTS	
64000.0	60.6	-62.2		100.1	565.8	98.0		1.000022
64500.0	59.1	-61.5		97.3	560.8	92.8		1.000022
65000.0	57.7	-61.0		94.7	567.4	88.1		1.000021
65500.0	56.3	-60.8		92.3	567.7	81.0		1.000021
66000.0	54.9	-60.5		90.0	568.1	83.6		1.000020
66500.0	53.6	-60.3		87.8	568.4	92.3		1.000020
67000.0	52.3	-60.0		85.5	568.8	102.2		1.000019
67500.0	51.1	-59.7		83.4	569.1	105.4		1.000019
68000.0	49.9	-59.5		81.3	569.4	108.4		1.000018
68500.0	48.7	-59.5		79.4	569.4	151.7		1.000018
69000.0	47.5	-59.5		77.5	569.4	180.7		1.000017
69500.0	46.4	-59.5		75.6	569.4	198.5		1.000017
70000.0	45.3	-59.5		73.8	569.4	220.1		1.000016
70500.0	44.2	-59.3		72.0	569.7	235.2		1.000016
71000.0	43.1	-58.7		70.1	570.5	248.9		1.000016
71500.0	42.1	-58.1		68.2	571.3	270.1		1.000015
72000.0	41.1	-57.5		66.4	572.1	287.1		1.000015
72500.0	40.1	-56.9		64.7	572.9	283.5		1.000014
73000.0	39.2	-56.7		63.1	573.2	280.3		1.000014
73500.0	38.3	-56.6		61.6	573.3	278.8		1.000014
74000.0	37.4	-56.5		60.1	573.4	277.7		1.000013
74500.0	36.5	-56.5		58.7	573.4	277.9		1.000013
75000.0	35.6	-56.4		57.3	573.5	284.3		1.000013
75500.0	34.8	-56.4		55.9	573.6	290.2		1.000012
76000.0	34.0	-56.3		54.6	573.7	293.5		1.000012
76500.0	33.2	-56.2		53.3	573.8	295.1		1.000012
77000.0	32.4	-56.2		52.0	573.8	298.4		1.000012
77500.0	31.6	-56.1		50.8	573.9	287.4		1.000011
78000.0	30.9	-56.1		49.6	574.0	276.5		1.000011
78500.0	30.2	-56.0		48.4	574.1	284.8		1.000011
79000.0	29.5	-55.6		47.2	574.6	285.0		1.000011
79500.0	28.8	-55.1		46.0	575.3	247.1		1.000010
80000.0	28.1	-54.6		44.8	576.0	237.4		1.000010
80500.0	27.4	-54.0		43.6	576.7	226.2		1.000010
81000.0	26.8	-53.5		42.5	577.4	216.5		1.000009
81500.0	26.2	-53.0		41.4	578.1	220.2		1.000009
82000.0	25.6	-52.5		40.4	578.7	224.4		1.000009
82500.0	25.0	-51.9		39.3	579.4	227.8		1.000009
83000.0	24.4	-51.7		38.4	579.7	235.9		1.000009
83500.0	23.8	-52.0		37.0	579.3	242.8		1.000008

GEODETIC COORDINATES
32°40'17.5" LAT UEG
106°31'23.2" LON UEG

UPPLR AIR DATA
3200180224
LC-37

TABLE 6 CONT

STATION ALTITUDE 4051.37 FEET MSL
16 NOV. 61 0845 HRS MST
ASCENSION NO. 224

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	"IND DATA		INDEX OF REFRACTION
						WIND DIRECTION (DEGREES(TN))	WIND SPEED KNOTS	
84000.0	23.3	-52.3		36.7	578.9	247.3	20.5	1.000008
84500.0	22.7	-52.6		35.9	578.5	249.0	20.6	1.000008
85000.0	22.2	-52.9		35.2	578.1	250.7	20.6	1.000008
85500.0	21.7	-53.2		34.4	577.7	251.5	20.5	1.000008
86000.0	21.2	-53.5		33.6	577.3	251.8	20.2	1.000007
86500.0	20.7	-53.8		32.9	576.9	252.0	19.9	1.000007
87000.0	20.2	-54.1		32.2	576.5	252.5	19.0	1.000007
87500.0	19.8	-54.1		31.4	576.5	253.0	17.9	1.000007
88000.0	19.3	-53.8		30.7	576.9	253.7	16.8	1.000007
88500.0	18.9	-53.5		29.9	577.4	254.6	16.1	1.000007
89000.0	18.4	-53.2		29.2	577.8	255.6	15.5	1.000006
89500.0	18.0	-52.9		28.5	578.2	256.9	14.8	1.000006
90000.0	17.6	-52.6		27.8	578.6	260.7	14.3	1.000006
90500.0	17.2	-52.3		27.1	579.0	264.7	13.7	1.000006
91000.0	16.8	-52.0		26.4	579.4	268.7	13.0	1.000006
91500.0	16.4	-51.6		25.8	579.8	272.4	11.6	1.000006
92000.0	16.0	-51.3		25.2	580.2	277.0	10.2	1.000006
92500.0	15.7	-51.0		24.6	580.6			1.000005
93000.0	15.3	-50.7		24.0	581.0			1.000005
93500.0	14.9	-50.4		23.4	581.4			1.000005
94000.0	14.6	-50.1		22.8	581.9			1.000005

STATION ALTITUDE 4051.37 FEET MSL
 16 NOV. 51
 ASCENSION NO. 224

MANDATORY LEVELS
 3200100224
 LC-37

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LONG DEG

TABLE 7

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIR. (KNOTS)	SPEED (KNOTS)	
850.0	5108.	16.3	.0	33.	345.6	2.7	
800.0	6794.	14.7	-1.4	33.	298.1	5.0	
750.0	8578.	12.5	-3.2	33.	260.2	7.4	
700.0	10464.	8.9	-6.1	34.	248.7	9.7	
650.0	12466.	5.7	-11.1	29.	248.2	10.6	
600.0	14598.	1.2	-15.0	29.	264.2	17.8	
550.0	16873.	-3.6	-19.0	28.	250.8	19.3	
500.0	19319.	-9.8	-24.8	28.	250.1	16.4	
450.0	21955.	-16.2	-30.6	26.	261.2	18.4	
400.0	24824.	-23.3	-37.0	27.	274.1	22.7	
350.0	27975.	-31.9	-43.9	29.	306.2	21.2	
300.0	31491.	-39.8	-50.9	29.	322.3	28.3	
250.0	35489.	-50.1			340.1	33.0	
200.0	40192.	-58.2			338.8	42.9	
175.0	42928.	-61.8			331.8	51.9	
150.0	46029.	-65.9			334.5	47.0	
125.0	49625.	-69.8			320.2	33.3	
100.0	53934.	-74.6			321.9	25.5	
80.0	58243.	-70.6			342.3	13.8	
70.0	60868.	-66.6			347.2	12.1	
60.0	63962.	-61.9			90.3	0.3	
50.0	67688.	-59.5			107.8	2.3	
40.0	72284.	-56.8			283.3	5.0	
30.0	78277.	-56.0			263.2	5.9	
25.0	82117.	-52.0			227.0	16.5	
20.0	86841.	-54.3			252.7	18.5	
15.0	92944.	-50.4					

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

STATION ALTITUDE 3997.30 FEET MSL
 16 NOV. 61 0900 HRS MST
 ASCENSION NO. 92

SIGNIFICANT LEVEL DATA
 32000000%,
 5 H H

GEODETIC COORDINATES
 32.48034 LAT DEG
 106.42507 LONG DEG

TABLE 8

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
683.9	3997.3	12.8	32.0
850.0	5081.7	16.3	24.0
803.0	6667.1	15.7	24.0
700.0	10456.4	10.7	23.0
562.8	16302.6	-9	18.0
537.8	17491.9	-2.2	18.0
500.0	19378.7	-6.8	16.0
400.0	24956.5	-20.8	19.0
318.7	30334.6	-34.5	48.0
300.0	31718.2	-37.3	22.0
250.0	35774.6	-47.7	22.0
226.3	37919.5	-52.2	
200.0	40527.1	-56.7	
186.9	41936.6	-58.5	
150.0	46441.8	-63.5	

STATION ALTITUDE 3997.30 FEET MSL
 16 NOV. 51 0900 HRS MST
 ASCENSION NO. 92

UPPER AIR DATA
 3200060092
 S M K
 TABLE 9

RESULTS, COORDINATES
 32.48034 LAT DEG
 106.42307 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION, DEGREES(TN)	WIND DATA, SPEED KNOTS	INDEX OF REFRACTION
3997.3	883.9	12.8	32.0	1074.7	659.4	90.0	1.9	1.000261
4000.0	883.8	12.8	32.0	1074.5	659.5	89.9	1.9	1.000261
4500.0	850.0	14.4	28.3	1049.4	661.3	86.4	2.0	1.000255
5000.0	852.5	16.0	24.6	1024.9	663.2	46.5	2.3	1.000249
5500.0	837.3	16.1	24.0	1006.3	663.3	32.8	2.8	1.000244
6000.0	822.5	16.0	24.0	989.1	663.1	330.5	2.5	1.000240
6500.0	807.8	15.8	24.0	972.1	662.8	307.9	3.8	1.000236
7000.0	793.4	15.3	23.9	956.4	662.3	319.4	4.4	1.000232
7500.0	779.1	14.6	23.8	941.4	661.5	319.4	4.9	1.000228
8000.0	765.1	13.9	23.6	926.7	660.7	311.4	5.5	1.000224
8500.0	751.4	13.3	23.5	912.2	659.9	287.3	7.2	1.000220
9000.0	737.9	12.6	23.4	898.0	659.1	273.2	8.6	1.000216
9500.0	724.7	12.0	23.3	884.0	658.4	261.6	9.4	1.000212
10000.0	711.7	11.3	23.1	870.1	657.6	250.2	9.9	1.000208
10500.0	698.9	10.6	23.0	856.6	656.6	241.2	10.5	1.000205
11000.0	685.9	9.6	22.5	843.8	655.6	247.1	11.7	1.000201
11500.0	673.3	8.6	22.1	831.2	654.4	252.2	13.0	1.000197
12000.0	660.8	7.6	21.7	818.8	653.2	256.7	14.4	1.000193
12500.0	648.6	6.6	21.3	806.6	652.0	257.5	15.6	1.000190
13000.0	636.6	5.7	20.8	794.6	650.9	258.3	16.5	1.000186
13500.0	624.8	4.7	20.4	782.7	649.7	261.0	16.9	1.000183
14000.0	613.3	3.7	20.0	771.1	648.5	263.1	17.5	1.000180
14500.0	602.0	2.7	19.5	759.6	647.3	264.5	18.3	1.000176
15000.0	590.8	1.7	19.1	748.3	646.1	265.2	19.5	1.000173
15500.0	579.9	.7	18.7	737.2	644.9	265.7	20.8	1.000170
16000.0	569.2	-.3	18.3	726.2	643.7	264.6	21.6	1.000167
16500.0	558.6	-1.1	18.0	714.8	642.6	263.5	22.0	1.000164
17000.0	548.0	-1.7	18.0	702.7	642.1	261.0	21.5	1.000162
17500.0	537.6	-2.2	18.0	690.8	641.5	257.0	20.5	1.000159
18000.0	527.3	-3.4	17.5	680.7	640.0	251.3	19.3	1.000156
18500.0	517.3	-4.7	16.9	670.8	638.5	248.4	18.9	1.000153
19000.0	507.4	-5.9	16.4	661.0	637.1	247.7	18.7	1.000151
19500.0	497.6	-7.1	16.1	651.3	635.6	251.8	18.6	1.000148
20000.0	487.7	-8.4	16.3	641.4	634.1	253.1	18.7	1.000146
20500.0	478.1	-9.6	16.6	631.7	632.6	258.0	18.8	1.000143
21000.0	468.6	-10.9	16.9	622.2	631.0	260.0	18.8	1.000141
21500.0	459.3	-12.1	17.1	612.8	629.5	261.8	18.8	1.000139
22000.0	450.2	-13.4	17.4	603.6	628.0	264.2	19.4	1.000137
22500.0	441.3	-14.6	17.7	594.5	626.5	266.5	20.1	1.000134
23000.0	432.6	-15.9	17.9	585.6	624.9	268.9	21.1	1.000132

STATION ALTITUDE 3997.30 FEET MSL
 16 NOV. 61
 ASCENSION NO. 92

UPPER AIR DATA
 32000009Z
 S M H

GEOMETRIC COORDINATES
 32.44034 LAT DEG
 106.42307 LON DEG

TABLE 9 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KILOMETERS	INDEX OF REFRACTION	WIND DATA DIRECTION (DEGREES TRUE)	SPEED (KNOTS)	INDEX OF REFRACTION
23500.0	424.0	-17.1	-35.6	18.2	576.6	623.4	1.000130	267.7	22.1	1.000130
24000.0	415.6	-18.4	-36.5	18.5	568.2	621.9	1.000128	272.1	23.3	1.000128
24500.0	407.4	-19.7	-37.4	18.8	559.7	620.3	1.000126	275.8	24.4	1.000126
25000.0	399.3	-20.9	-38.3	19.0	551.3	618.8	1.000124	279.0	25.1	1.000124
25500.0	390.9	-22.2	-39.3	19.3	542.5	617.2	1.000122	281.4	25.1	1.000122
26000.0	382.7	-23.5	-40.2	19.6	533.9	615.7	1.000120	282.9	24.1	1.000120
26500.0	374.7	-24.7	-41.2	19.9	525.4	614.1	1.000118	287.6	23.6	1.000118
27000.0	366.9	-26.0	-42.1	20.1	517.1	612.5	1.000116	294.3	23.7	1.000116
27500.0	359.2	-27.3	-43.1	20.4	508.9	610.9	1.000114	298.9	23.8	1.000114
28000.0	351.7	-28.6	-44.1	20.7	500.9	609.3	1.000112	302.9	23.8	1.000112
28500.0	344.4	-29.8	-45.0	21.0	493.0	607.7	1.000110	304.4	23.6	1.000110
29000.0	337.2	-31.1	-46.0	21.3	485.2	606.1	1.000109	306.6	23.1	1.000109
29500.0	330.1	-32.4	-47.0	21.5	477.6	604.5	1.000107	306.7	23.5	1.000107
30000.0	323.2	-33.6	-48.0	21.8	470.1	602.9	1.000105	309.4	24.3	1.000105
30500.0	316.4	-34.8	-48.9	22.0	462.5	601.4	1.000103	314.2	25.1	1.000103
31000.0	309.6	-35.8	-49.8	22.0	454.4	600.2	1.000102	320.0	26.1	1.000102
31500.0	302.9	-36.9	-50.7	22.0	446.5	598.9	1.000100	323.8	27.2	1.000100
32000.0	296.2	-38.0	-52.3	20.5**	438.9	597.4	1.000098	331.3	28.4	1.000098
32500.0	289.6	-39.3	-54.6	17.8**	431.5	595.8	1.000096	333.3	28.6	1.000096
33000.0	283.2	-40.6	-57.0	15.0**	424.2	594.1	1.000095	334.5	28.5	1.000095
33500.0	276.9	-41.9	-59.6	12.3**	417.1	592.5	1.000093	333.7	27.5	1.000093
34000.0	270.8	-43.2	-62.5	9.6**	410.1	590.8	1.000091	333.7	27.0	1.000091
34500.0	264.7	-44.4	-66.0	6.9**	403.2	589.2	1.000090	335.6	27.2	1.000090
35000.0	258.1	-45.7	-70.4	4.2**	396.5	587.5	1.000088	337.9	27.5	1.000088
35500.0	252.1	-47.0	-78.1	1.5**	389.9	585.9	1.000087	341.0	28.1	1.000087
36000.0	247.4	-48.2			383.1	584.3	1.000085	343.4	28.7	1.000085
36500.0	241.7	-49.2			376.0	583.0	1.000084	344.8	28.9	1.000084
37000.0	236.2	-50.3			369.1	581.6	1.000082	345.1	29.6	1.000082
37500.0	230.8	-51.3			362.4	580.2	1.000081	342.9	31.4	1.000081
38000.0	225.4	-52.3			355.7	578.9	1.000079	341.0	33.3	1.000079
38500.0	220.2	-53.2			348.7	577.8	1.000078	339.6	35.5	1.000078
39000.0	215.0	-54.1			341.9	576.6	1.000076	338.7	37.8	1.000076
39500.0	210.0	-54.9			335.2	575.5	1.000075	339.8	38.9	1.000075
40000.0	205.1	-55.8			328.6	574.4	1.000072	340.6	40.0	1.000072
40500.0	200.3	-56.7			322.2	573.2	1.000070	340.1	42.7	1.000070
41000.0	195.5	-57.3			315.5	572.4	1.000069	339.4	45.7	1.000069
41500.0	190.9	-57.9			309.0	571.5	1.000067	339.1	48.0	1.000067
42000.0	186.3	-58.6			302.5	570.7	1.000066	339.0	50.1	1.000066
42500.0	181.8	-59.1			296.0	569.9	1.000066	338.4	52.0	1.000066
43000.0	177.4	-59.7			289.6	569.2	1.000066	337.5	53.7	1.000066

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

STATION ALTITUDE 3997.30 FEET MSL
 16 NOV. 61 0900 HRS MST
 ASCENSION NO. 92

UPPER AIR DATA
 320060092
 S M K

GEOMETRIC ALTITUDE 3997.30 FEET MSL
 16 NOV. 61 0900 HRS MST
 ASCENSION NO. 92

UPPER AIR DATA
 320060092
 S M K

..EQUATORIAL COORDINATES
 32.44034 LAT DEG
 106.42307 LON DEG

TABLE 9 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	WIND DIRECTION IN DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	173.2	-60.2		283.3	330.8	55.0	1.000063
44000.0	169.0	-60.8		277.2	330.2	55.6	1.000062
44500.0	164.9	-61.3		271.2			1.000060
45000.0	160.9	-61.9		265.4			1.000059
45500.0	157.1	-62.5		259.7			1.000058
46000.0	153.3	-63.0		254.1			1.000057

STATION ALTITUDE 3997.30 FEET MSL
 16 NOV. 81
 ASCENSION NO. 92

MANDATORY LEVELS
 320000092
 S M R

GEODETIC COORDINATES
 32.44034 LAT DEG
 106.42307 LON DEG

TABLE 10

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT	#INJ DATA	
				DI. LCTN DEGREE(S)N	SPEED KNOTS
850.0	5078.	16.3	24.	44.0	7.4
800.0	6766.	-4.9	24.	514.5	4.1
750.0	8553.	-7.2	24.	283.4	7.4
700.0	10446.	-9.6	23.	240.5	10.4
650.0	12456.	-13.8	21.	257.5	15.5
600.0	14595.	-18.5	19.	264.8	18.5
550.0	16804.	-22.7	18.	261.5	21.6
500.0	19351.	-26.3	18.	250.7	14.6
450.0	22016.	-32.9	17.	264.4	19.4
400.0	24914.	-20.8	19.	278.7	25.0
350.0	28102.	-38.3	21.	304.0	23.9
300.0	31654.	-37.3	22.	328.1	27.6
250.0	35696.	-47.7		342.5	28.5
200.0	40429.	-56.7		340.1	42.8
175.0	43184.	-60.0		357.1	54.7
150.0	46316.	-63.5			

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

