

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC

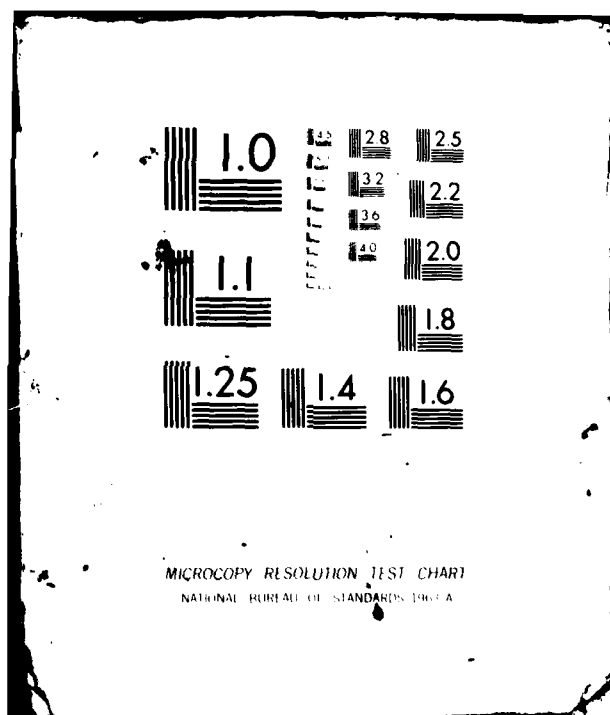
12829A LANCE MISSILE NUMBER 2518, ROUND NUMBER 3690ST.(U)

NOV 81 D C KELLER

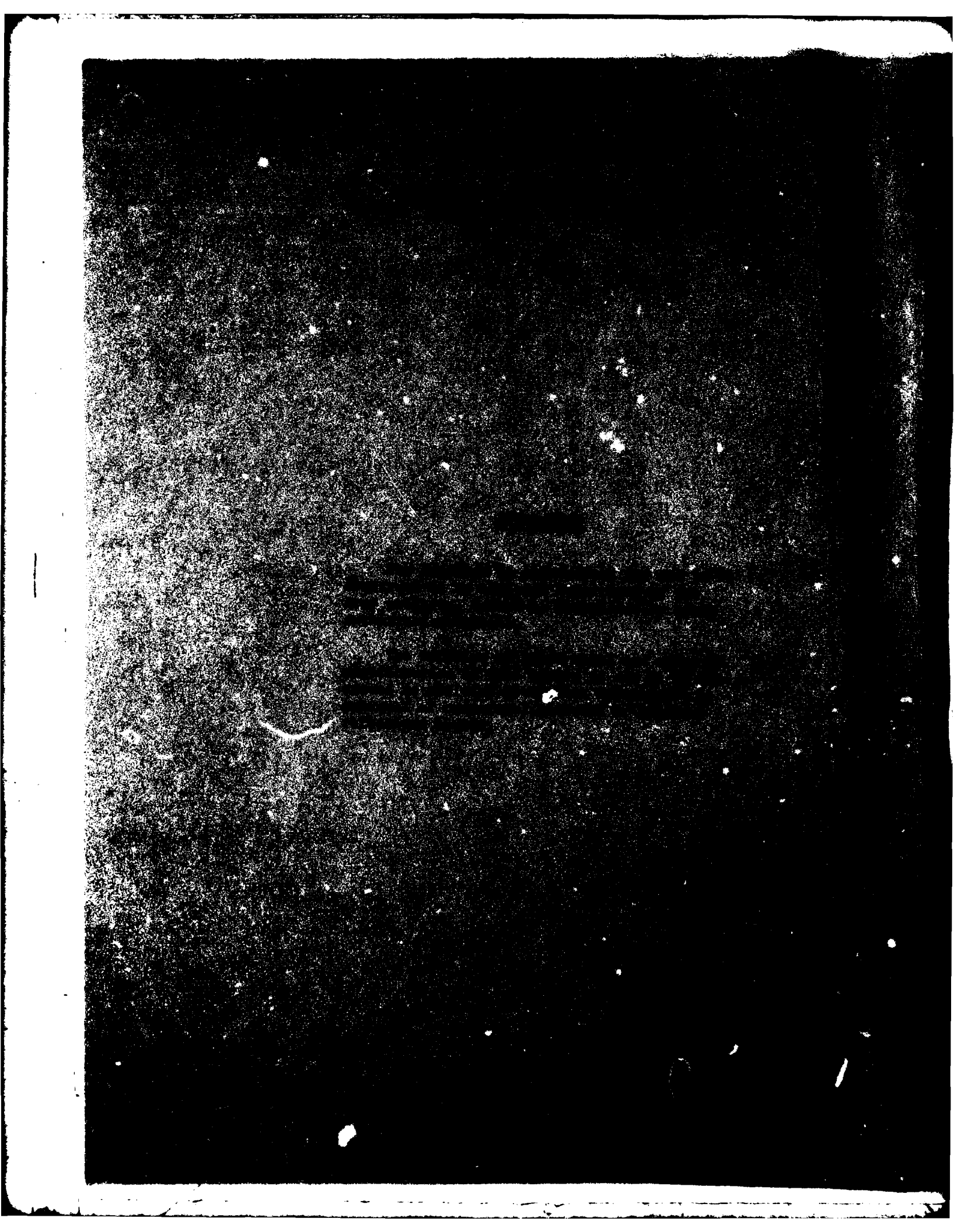
ERADCOM/ASL-DR-1210

NL

END
DATE
FILMED
2 82
DTIC



AD A108776



SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

EA-1000/AS

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1210	2. GOVT ACCESSION NO. AD-A208	3. RECIPIENT'S CATALOG NUMBER 776
4. TITLE (and Subtitle) 12829A LANCE Missile Number 2518 Round Number 369-DST		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) White Sands Meteorological Team		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS		8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, NM 88002		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research & Development Cmd Adelphi, MD 20783		12. REPORT DATE 2 Nov 1981
		13. NUMBER OF PAGES 37
		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 12829A LANCE, Missile Number 2518, Round Number 369-DST presented in tabular form.		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

410012

CONTENTS

	PAGE
INTRODUCTION-----	1
DISCUSSION-----	1
GENERAL AREA MAP-----	2
LAUNCH AREA DIAGRAM-----	3
TABLES:	
1. Surface Observations taken at 1354 MST at LC-33-----	4
2. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 1354 MST-----	5
3. Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3, and 4, taken at 1354 MST-----	5
4. LC-33 Pilot-Balloon Measured Wind Data at 1331 MST-----	6
5. LC-33 Pilot-Balloon Measured Wind Data at 1356 MST-----	7
6. Launch, Mid-Range, and Impact Areas Computer Met Messages-----	8
7. WSD Significant Level Data at 1320 MST-----	9
8. WSD Upper Air Data at 1320 MST-----	11
9. WSD Mandatory Levels at 1320 MST-----	17
10. E-28 Significant Level Data at 1200 MST-----	18
11. E-28 Upper Air Data at 1200 MST-----	20
12. E-28 Mandatory Levels at 1200 MST-----	26
13. JAL Significant Level Data at 1320 MST-----	27
14. JAL Upper Air Data at 1320 MST-----	28
15. JAL Mandatory Levels at 1320 MST-----	33

Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	

DTIC
ELECTE
DEC 22 1981
S D

INTRODUCTION

12829A LANCE, Missile Number 2518, Round Number 369-DST, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1354 MST, 02 Nov 1981. The scheduled launch time was 1330 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. Observation.

a. Surface:

(1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3), wind speed and direction, and cloud cover were made at the LC-33 Met Site at T-0 minutes;

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air:

(1) Low level wind data were obtained from NIKE-HERC Radar Tracked pibot balloon observations at:

SITE AND ALTITUDE

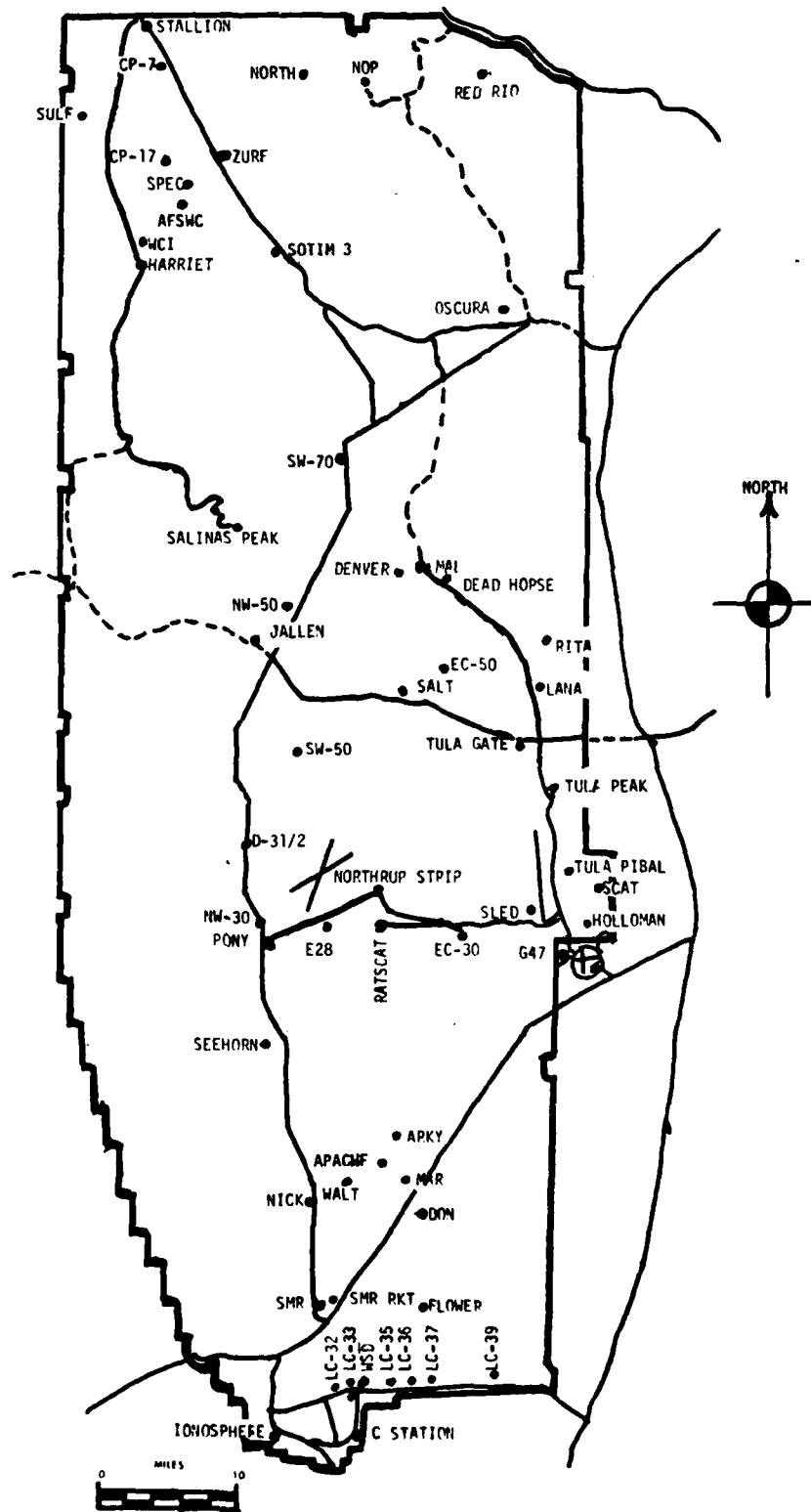
LC-33 3000 meters

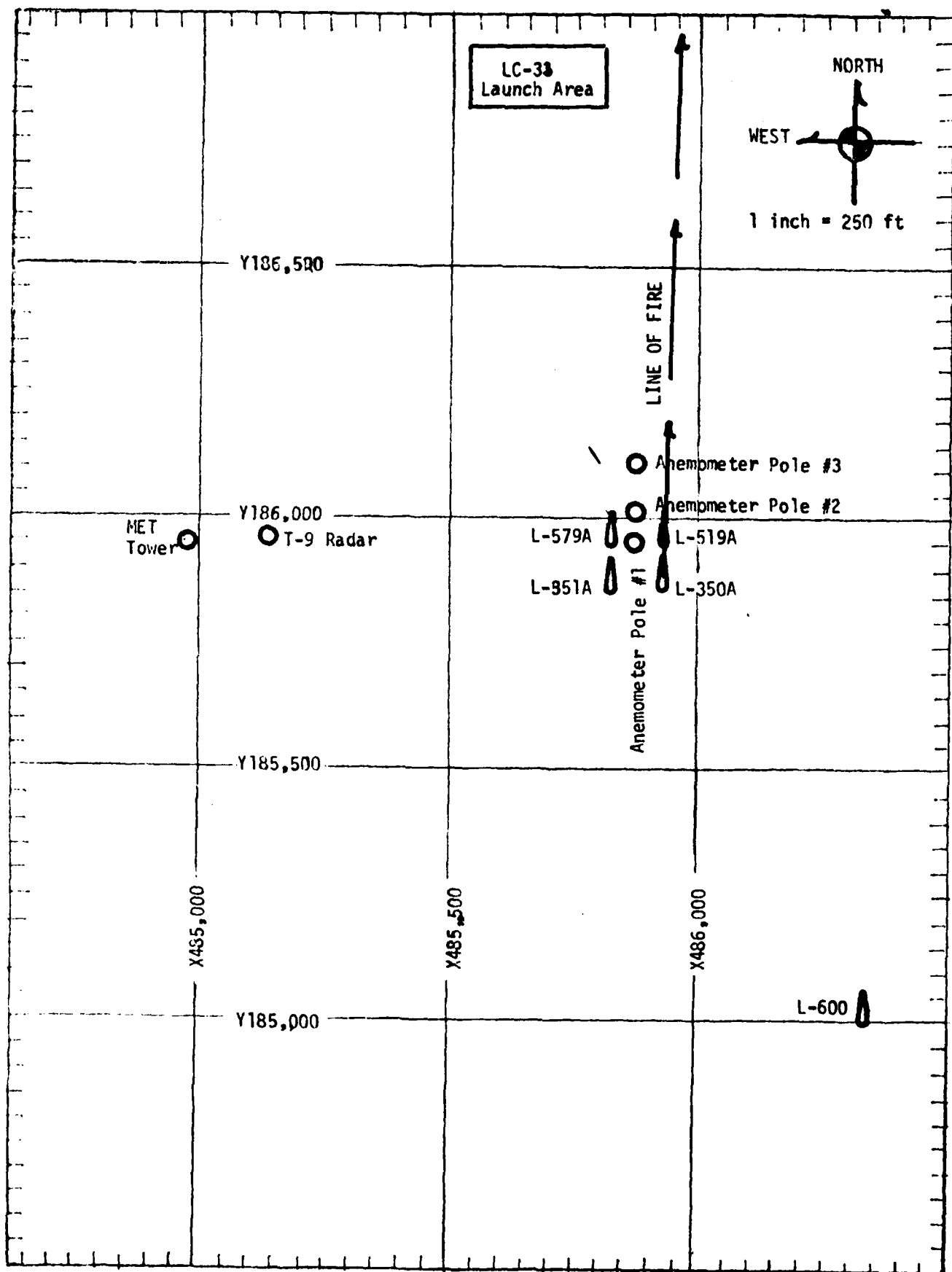
(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to high as possible in 500-foot increments.

SITE AND TIME

WSD	1320 MST
E-28	1200 MST
JAL	1320 MST

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

STATION LC-33									
TABLE 1		DATE 02 Nov 1981		X=484,982.64		Y=185,957.53		H=3983.00	
TIME M S J	PRESSURE inbs	TEMPERATURE °C	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	DIRECTION degs	SPEED kts	CHARACTER kts	VISIBILITY
1354	885.3	19.8	-3.6	20		320	02		40

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

PSYCHROMETRIC COMPUTATION

TIME: MST	1354
DRY BULB TEMP.	19.8
WET BULB TEMP.	8.5
WET BULB DEPR.	11.3
DEW POINT	-3.6
RELATIVE HUMID.	20

TABLE 2

LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.93 Y186,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	010	03	T-30	327	03	T-30	025	02
T-20	005	03	T-20	327	02	T-20	029	02
T-10	003	01	T-10	341	03	T-10	042	03
T-0	009	03	T-0	342	03	T-0	042	03
T+10	009	03	T+10	350	03	T+10	041	03

TABLE 3

LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	310	01	T-30	C A L M	
T-20	319	02	T-20	330	01
T-10	313	03	T-10	C A L M	
T-0	330	03	T-0	298	01
T+10	333	03	T+10	312	01

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KTS	T-TIME SEC	DIR DEG	SPEED KTS
T-30	C A L M		T-30	293	01
T-20	351	01	T-20	299	02
T-10	345	01	T-10	285	02
T-0	345	01	T-0	279	03
T+10	328	02	T+10	278	03

PILOT BALLOON MEASURED WIND DATA

TABLE 4

RELEASED FROM WSD

DATE 02 Nov 1981

TIME 1331 MST

COORDINATES (WSTM) X= 488,580.00 Y= 185,045.00 H= 3989.50

NOTE: WIND DIRECTIONS ARE REFERENCED TO _____

HEIGHTS ARE METERS AGL X OR FEET AGL .

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS
sfc	340	02
60	MISG	MISG
120	337	07
180	284	06
240	293	04
300	241	04
360	245	01
420	241	05
480	316	03
540	288	03
600	273	03
660	330	05
720	283	04
780	316	03
840	308	04
900	289	05
960	313	07
1020	347	06
1080	309	04
1140	320	05
1200	285	05
1260	300	08
1320	302	07
1380	309	08
1440	316	09
1500	305	07
1560	339	02
1620	320	06
1680	323	04
1740	027	05

[illegible][illegible]

PILOT BALLOON MEASURED WIND DATA

TABLE 5

RELEASED FROM WSD DATE 02 Nov 1981 TIME 1356 MST

COORDINATES (WSTM) X= 488,580.00 Y= 185,045.00 H= 3989.50

NOTE: WIND DIRECTIONS ARE REFERENCED TO _____

HEIGHTS ARE METERS AGL X OR FEET AGL_____.

HEIGHT AGL	DIRECTION DEGREES	SPEED KNOTS
sfc	320	02
60	M I	S G
120	280	08
180	313	03
240	327	01
300	006	03
360	339	04
420	309	03
480	328	04
540	343	04
600	001	01
660	332	01
720	282	03
780	300	03
840	249	03
900	270	05
960	283	06
1020	297	06
1080	315	07
1140	285	08
1200	304	04
1260	309	04
1320	334	07
1380	328	06
1440	337	07
1500	327	07
1560	320	05
1620	351	05
1680	010	01
1740	018	06

[illegible][illegible]

TABLE 6

Launch, Mid-Range, and Impact Area Computer Met Messages
02 November 1981

WSD 1320 MST	E-28 1200 MST	JAL 1320 MST
METCM1324064	METCM1329064	METCM1332065
022020122885	021900119890	022020124883
00000000 29400885	00000000 28600890	00320004 29170883
01525005 29250874	01082002 28550879	01344004 29100873
02548003 28950849	02220003 28550853	02469002 28830847
03515003 28530810	03418003 28410813	03362007 28490808
04505008 28030762	04487006 28070766	04444006 28090761
05620005 27680717	05003004 27690720	05509008 27690715
06020012 27380674	06632007 27340677	06628016 27380673
07597019 27190633	07604018 27160636	07610023 27130632
08593025 26980595	08602025 26980597	08601028 26910593
09585028 26690558	09596030 26650560	09594034 26610557
10573030 26370523	10587030 26370526	10597029 26310522
11548025 26010490	11574028 26090493	11576032 25980489
12540024 25450444	12569026 25460446	12560032 25410443
13547024 24630387	13554026 24670389	13559029 24670386
14560036 23920337	14575039 23980338	14570042 23960336
15560035 23010291	15576038 23110293	15561045 23120291
16562040 22210251	16566041 22290252	16559047 22300250
17556039 21920215	17562038 21900216	17573043 21890215
18528030 21880184	18551031 21890185	18560035 21850184
19527029 21450157	19530030 21500158	19552034 21640157
20559033 20990134	20573035 21130135	20574035 21110134
21549028 20950114	21562023 20960115	21652030 21020114
22563017 20870097	22558018 20800098	22578019 20990097
23011010 20790082	23032011 20820083	23054014 20940083
24605009 21040070	24600005 20930070	24068002 21060070
25060010 21200060	25030008 21160060	25078013 21160060
26203013 21200051	26160009 21180051	26185013 21250051

STATION ALTITUDE 3989.00 FEET MSL
2 NOV. 81 1320 HRS MST
ASCENSION NO. 672

SIGNIFICANT LEVEL DATA
3060020672
WHITE SANDS
TABLE 7

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
084.7 3989.0	20.2 -8.1	14.0
080.8 4113.7	19.3 -1.2	25.0
850.0 5111.1	15.7 -3.2	27.0
758.8 8218.0	6.0 -8.6	34.0
731.0 9219.8	4.7 -10.6	32.0
700.0 10373.6	1.6 -12.2	35.0
639.6 12748.6	-1.6 -18.1	27.0
622.0 13478.7	-1.6 -18.1	27.0
604.2 14236.4	-3.0 -19.8	26.0
535.0 17370.5	-8.5 -24.9	25.0
500.0 19083.9	-12.2 -28.6	24.0
454.2 21476.3	-17.3 -32.1	26.0
400.0 24559.1	-25.6 -36.7	28.0
351.6 27602.1	-31.2 -43.6	28.0
318.2 29898.5	-37.9 -48.9	30.0
300.0 31224.4	-41.5	
268.4 33677.3	-47.8	
250.0 35209.5	-51.2	
234.2 36597.0	-54.5	
223.2 37614.1	-53.6	
200.0 39935.7	-54.3	
187.2 41335.7	-53.4	
164.0 44121.0	-56.8	
150.0 45968.4	-60.7	
127.0 49351.7	-64.7	
123.4 49932.4	-63.5	
102.6 53670.1	-63.7	
100.0 54188.9	-64.3	
78.8 58983.1	-65.7	
70.0 61373.6	-63.1	
65.6 62699.7	-60.8	
50.0 68265.7	-61.8	
44.8 70535.5	-57.4	
38.2 73861.3	-57.8	
30.0 78956.2	-53.1	
25.2 82675.4	-52.9	
20.0 87671.2	-47.4	
17.3 90833.4	-49.2	
10.0 102897.2	-43.5	
8.4 106820.5	-39.4	

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

SIGNIFICANT LEVEL DATA
 30600206/2
 WHITE SANDS
 TABLE 7 CONT

STATION ALTITUDE 3989.00 FEET MSL
 2 NOV. 61 1320 HRS MST
 ASCENSION NO. 072

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
7.0 110953.9		-40.2	
6.6 112288.8		-39.2	

STATION ALTITUDE 3989.00 FEET MSL
2 NOV. 61 1320 HRS MST
ASCENSION NO. 672

UPPER AIR DATA
306020672
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	*IND. DATA DIRECTION, DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	884.7	20.2	-8.1	14.0	1049.1	667.7	0.0	0.0	1.000248
4000.0	884.4	20.1	-7.3	15.0	1048.9	667.7	296.3	0.0	1.000249
4500.0	868.7	17.9	-2.0	25.8	1037.4	665.4	296.3	0.6	1.000255
5000.0	853.4	16.1	-3.0	26.8	1025.6	663.3	296.3	1.3	1.000251
5500.0	838.0	14.5	-3.8	27.9	1012.8	661.4	296.3	1.9	1.000247
6000.0	822.8	12.9	-4.7	29.0	1000.0	659.6	296.3	2.5	1.000243
6500.0	807.9	11.4	-5.5	30.1	987.4	657.7	293.9	3.3	1.000239
7000.0	793.3	9.8	-6.4	31.3	975.0	655.9	289.9	4.1	1.000235
7500.0	779.0	8.2	-7.3	32.4	962.7	654.1	287.1	4.8	1.000231
8000.0	764.9	6.7	-8.2	33.5	950.7	652.2	284.5	5.2	1.000228
8500.0	750.9	5.6	-9.2	33.4	936.8	651.0	291.0	4.9	1.000224
9000.0	737.0	5.0	-10.1	32.4	921.8	650.2	306.9	4.6	1.000219
9500.0	723.3	3.9	-10.9	32.7	908.1	649.0	326.7	5.9	1.000215
10000.0	709.9	2.6	-11.6	34.0	895.6	647.4	342.5	7.0	1.000212
10500.0	696.6	1.4	-12.5	34.6	882.7	646.0	354.8	8.5	1.000208
11000.0	683.5	.8	-13.7	32.9	868.3	645.1	2.0	10.6	1.000204
11500.0	670.7	.1	-14.9	31.2	854.2	644.3	6.2	13.0	1.000200
12000.0	658.1	-.6	-16.2	29.5	840.2	643.5	354.7	14.8	1.000196
12500.0	645.7	-1.3	-17.5	27.8	826.5	642.7	345.9	17.0	1.000192
13000.0	633.5	-1.6	-18.1	27.0	812.0	642.3	338.6	18.8	1.000188
13500.0	621.5	-2.6	-18.2	26.3	796.7	642.2	333.7	20.8	1.000185
14000.0	609.7	-3.5	-19.2	25.9	784.3	641.1	333.4	22.3	1.000182
14500.0	598.1	-4.3	-20.2	25.8	771.9	640.0	332.5	24.0	1.000178
15000.0	586.6	-5.2	-21.0	25.6	759.6	639.0	331.4	25.8	1.000175
15500.0	575.3	-6.1	-21.8	25.4	747.5	637.9	331.2	27.0	1.000172
16000.0	564.2	-7.0	-22.7	25.3	735.5	636.9	329.2	27.5	1.000169
16500.0	553.4	-7.8	-23.5	25.1	723.8	635.8	327.9	27.9	1.000166
17000.0	542.7	-8.8	-24.3	24.9	712.3	634.7	327.3	28.0	1.000163
17500.0	532.3	-9.9	-25.2	24.6	701.0	633.6	325.1	28.3	1.000160
18000.0	521.9	-10.9	-26.3	24.3	690.1	632.3	321.0	28.6	1.000158
18500.0	511.7	-12.0	-27.3	24.0	679.5	631.0	316.9	28.5	1.000155
19000.0	501.7	-13.1	-28.4	24.0	669.0	629.7	312.1	27.3	1.000152
19500.0	491.7	-14.2	-29.2	24.3	658.4	628.4	308.0	26.3	1.000150
20000.0	481.9	-15.2	-29.9	24.8	648.0	627.1	307.0	25.5	1.000147
20500.0	472.4	-16.3	-30.7	25.2	637.7	625.8	306.5	24.7	1.000145
21000.0	463.0	-17.4	-31.4	25.6	627.7	624.5	307.1	23.9	1.000142
21500.0	453.8	-18.7	-32.2	26.0	617.8	623.2	307.1	23.1	1.000140
22000.0	444.5	-20.1	-33.2	26.3	608.4	621.5	305.6	22.0	1.000138
22500.0	435.4	-21.4	-34.3	26.7	599.2	619.9	303.0	22.1	1.000135
23000.0	426.6	-21.4	-35.3	27.0	590.1	618.2	299.4	23.3	1.000133

STATION ALTITUDE 3989.00 FEET MSL
2 NOV. 81
ASCENSION NO. 072

UPPER AIR DATA
306020672
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 8 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	417.8	-22.7	27.3	581.2	616.5	299.6	23.9	1.000131
24000.0	409.3	-24.1	27.6	572.4	614.9	301.4	24.2	1.000129
24500.0	401.0	-25.4	28.0	563.8	613.2	304.3	24.0	1.000127
25000.0	392.6	-26.4	28.0	554.2	612.0	307.7	23.7	1.000125
25500.0	384.4	-27.3	28.0	544.6	610.9	309.7	24.5	1.000122
26000.0	376.3	-28.3	28.0	535.2	609.7	311.0	25.7	1.000120
26500.0	368.4	-29.2	28.0	526.0	608.6	312.2	27.5	1.000118
27000.0	360.7	-30.1	28.0	516.9	607.4	313.3	29.9	1.000116
27500.0	353.1	-31.0	28.0	508.0	606.3	313.7	32.2	1.000114
28000.0	345.6	-32.4	28.3	499.9	604.6	313.7	34.2	1.000112
28500.0	338.1	-33.8	28.8	492.1	602.7	313.9	35.8	1.000110
29000.0	330.9	-35.3	29.2	484.5	600.9	315.1	36.3	1.000109
29500.0	323.8	-36.7	29.7	477.0	599.0	316.1	36.8	1.000107
30000.0	316.8	-38.2	29.7**	469.6	597.2	316.9	37.4	1.000105
30500.0	309.8	-39.5	16.4**	462.0	595.5	317.7	38.0	1.000103
31000.0	303.0	-40.9	5.1**	454.5	593.7	317.1	38.3	1.000101
31500.0	296.3	-42.2		446.9	592.0	316.3	38.5	1.000100
32000.0	289.6	-43.5		439.3	590.4	315.8	38.3	1.000098
32500.0	283.1	-44.8		431.9	588.7	315.9	37.5	1.000096
33000.0	276.8	-46.1		424.6	587.1	316.0	36.9	1.000095
33500.0	270.6	-47.3		417.4	585.4	315.8	36.7	1.000093
34000.0	264.4	-48.5		410.1	583.9	315.4	36.7	1.000091
34500.0	258.4	-49.6		402.7	582.4	314.6	36.9	1.000090
35000.0	252.4	-50.7		395.4	581.0	314.1	37.3	1.000088
35500.0	246.6	-51.9		388.3	579.5	313.7	37.9	1.000086
36000.0	240.9	-53.1		381.3	577.9	313.2	38.9	1.000085
36500.0	235.3	-54.3		374.5	576.4	312.5	40.1	1.000083
37000.0	229.8	-54.1		365.5	576.5	312.3	40.8	1.000081
37500.0	224.4	-53.7		356.2	577.1	312.5	41.1	1.000079
38000.0	219.2	-53.7		347.9	577.1	313.1	40.4	1.000078
38500.0	214.0	-53.9		340.0	576.9	314.3	38.7	1.000076
39000.0	209.0	-54.0		332.3	576.7	314.0	37.0	1.000074
39500.0	204.2	-54.2		324.8	576.5	310.3	35.5	1.000072
40000.0	199.4	-54.3		317.3	576.4	306.3	34.1	1.000071
40500.0	194.7	-53.9		309.5	576.8	301.8	32.7	1.000069
41000.0	190.2	-53.6		301.8	577.2	296.9	31.6	1.000067
41500.0	185.7	-53.6		294.7	577.2	297.1	30.7	1.000066
42000.0	181.4	-54.2		288.6	576.4	297.4	29.9	1.000064
42500.0	177.1	-54.8		282.6	575.6	299.7	30.0	1.000063
43000.0	173.0	-55.4		276.8	574.8	302.3	30.5	1.000062

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

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

UPPER AIR DATA
3060020672
WHITE SANDS
TABLE 8 CONT

STATION ALTITUDE 3989.00 FEET MSL
2 NOV. 81 1320 HRS MST
ASCENSION NO. 072

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
43500.0	160.9	-56.0		271.0	574.0	303.0	30.6	1.000000
44000.0	164.9	-56.7		265.4	573.2	301.8	30.1	1.000059
44500.0	161.0	-57.6		260.2	572.0	300.3	29.7	1.000058
45000.0	157.2	-58.7		255.3	570.6	296.2	29.8	1.000057
45500.0	153.4	-59.7		250.4	569.2	292.1	30.0	1.000056
46000.0	149.8	-60.7		245.6	567.8	294.8	30.8	1.000055
46500.0	146.1	-61.3		240.3	567.0	299.0	32.1	1.000054
47000.0	142.6	-61.9		235.1	566.2	304.5	33.3	1.000052
47500.0	139.1	-62.5		230.1	565.4	309.8	34.2	1.000051
48000.0	135.7	-63.1		225.1	564.6	313.8	35.1	1.000050
48500.0	132.4	-63.7		220.3	563.8	313.0	34.0	1.000049
49000.0	129.2	-64.3		215.5	563.0	312.1	32.9	1.000048
49500.0	126.1	-64.4		210.4	562.9	311.2	32.5	1.000047
50000.0	123.0	-63.5		204.4	564.1	310.4	32.3	1.000046
50500.0	120.0	-63.5		199.4	564.0	310.4	32.1	1.000044
51000.0	117.1	-63.6		194.6	564.0	311.3	31.9	1.000043
51500.0	114.2	-63.6		189.8	564.0	312.0	31.4	1.000042
52000.0	111.4	-63.6		185.2	563.9	312.4	29.0	1.000041
52500.0	108.7	-63.6		180.7	563.9	312.7	26.6	1.000040
53000.0	106.1	-63.7		176.4	563.9	311.8	23.9	1.000039
53500.0	103.5	-63.7		172.1	563.8	310.4	21.2	1.000038
54000.0	100.9	-64.1		168.2	563.3	310.2	18.8	1.000037
54500.0	98.5	-64.4		164.3	562.9	311.5	16.7	1.000037
55000.0	96.0	-64.5		160.4	562.7	314.5	14.7	1.000036
55500.0	93.7	-64.7		156.6	562.5	324.7	13.3	1.000035
56000.0	91.4	-64.8		152.8	562.3	336.7	12.5	1.000034
56500.0	89.1	-65.0		149.2	562.1	342.6	12.6	1.000033
57000.0	87.0	-65.1		145.6	561.9	346.9	12.9	1.000032
57500.0	84.8	-65.3		142.2	561.7	350.3	12.9	1.000032
58000.0	82.7	-65.4		138.8	561.5	353.0	12.2	1.000031
58500.0	80.7	-65.6		135.4	561.3	356.1	11.5	1.000030
59000.0	78.7	-65.7		132.2	561.1	.2	9.5	1.000029
59500.0	76.8	-65.1		128.6	561.9	6.4	7.6	1.000029
60000.0	74.9	-64.6		125.2	562.6	3.2	6.1	1.000028
60500.0	73.1	-64.1		121.6	563.3	345.9	5.3	1.000027
61000.0	71.3	-63.5		118.5	564.1	328.0	5.2	1.000026
61500.0	69.6	-62.9		115.3	564.9	337.0	6.9	1.000026
62000.0	67.9	-62.0		112.0	566.1	343.4	8.7	1.000025
62500.0	66.2	-61.1		108.9	567.2	353.0	9.8	1.000024
63000.0	64.6	-60.9		106.1	567.6	1.9	11.1	1.000024

STATION ALTITUDE 3989.00 FEET MSL
2 NOV. 61 1320 HRS MST
ASCENSION NO. 072

UPPER AIR DATA
3060020672
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 3 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA	INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE			KNOTS	KNOTS	DIRECTION, DEGREES (TN)	
63500.0	63.1	-60.9			103.6	567.5		11.6	1.000023
64000.0	61.6	-61.0			101.1	567.4		23.4	1.000023
64500.0	60.1	-61.1			98.7	567.3		36.3	1.000022
65000.0	58.6	-61.2			96.4	567.2		52.2	1.000021
65500.0	57.2	-61.3			94.1	567.0		66.0	1.000021
66000.0	55.8	-61.4			91.9	566.9		82.1	1.000020
66500.0	54.5	-61.5			89.7	566.8		96.6	1.000020
67000.0	53.2	-61.6			87.6	566.7		104.7	1.000019
67500.0	51.9	-61.7			85.5	566.5		112.1	1.000019
68000.0	50.7	-61.8			83.5	566.4		116.5	1.000019
68500.0	49.4	-61.3			81.3	567.0		117.3	1.000018
69000.0	48.3	-60.4			79.0	568.3		113.9	1.000018
69500.0	47.1	-59.4			76.8	569.6		94.3	1.000017
70000.0	46.0	-58.4			74.6	570.9		77.6	1.000017
70500.0	44.9	-57.5			72.5	572.1		69.8	1.000016
71000.0	43.8	-57.5			70.8	572.2		65.2	1.000016
71500.0	42.8	-57.5			69.1	572.1		62.5	1.000015
72000.0	41.8	-57.6			67.5	572.0		63.3	1.000015
72500.0	40.8	-57.6			65.9	571.9		64.2	1.000015
73000.0	39.8	-57.7			64.4	571.8		65.6	1.000014
73500.0	38.9	-57.8			62.9	571.8		67.9	1.000014
74000.0	37.9	-57.7			61.4	571.9		70.7	1.000014
74500.0	37.1	-57.2			59.8	572.5		77.0	1.000013
75000.0	36.2	-56.7			58.3	573.1		84.1	1.000013
75500.0	35.3	-56.3			56.8	573.7		87.1	1.000013
76000.0	34.5	-55.8			55.3	574.3		80.7	1.000012
76500.0	33.7	-55.4			53.9	574.9		76.4	1.000012
77000.0	32.9	-54.9			52.5	575.5		73.6	1.000012
77500.0	32.1	-54.4			51.2	576.1		71.1	1.000011
78000.0	31.4	-54.0			49.9	576.7		69.2	1.000011
78500.0	30.7	-53.5			48.6	577.4		73.3	1.000011
79000.0	29.9	-53.1			47.4	577.9		87.3	1.000011
79500.0	29.2	-53.1			46.3	577.9		139.8	1.000010
80000.0	28.6	-53.0			45.2	578.0		177.2	1.000010
80500.0	27.9	-53.0			44.2	578.0		196.4	1.000010
81000.0	27.3	-53.0			43.1	578.0		161.9	1.000010
81500.0	26.6	-53.0			42.1	578.1		164.1	1.000009
82000.0	26.0	-52.9			41.1	578.1		155.1	1.000009
82500.0	25.4	-52.9			40.2	578.2		163.4	1.000009
83000.0	24.8	-52.5			39.2	578.6		169.4	1.000009

STATION ALTITUDE 3989.00 FEET MSL
2 NOV. 61 1320 HRS MST
ASCENSION NO. 672

UPPER AIR DATA
306020672
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8 CONT

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	
83500.0	24.3	-52.0			38.2	579.4	174.4	7.6	1.000009
84000.0	23.7	-51.4			37.2	580.1	179.7	7.6	1.000008
84500.0	23.2	-50.9			36.3	580.8	184.9	7.8	1.000008
85000.0	22.6	-50.3			35.4	581.5	192.5	7.7	1.000008
85500.0	22.1	-49.8			34.5	582.2	219.0	7.2	1.000008
86000.0	21.6	-49.2			33.6	583.0	243.9	8.2	1.000007
86500.0	21.1	-48.7			32.8	583.7	261.0	10.3	1.000007
87000.0	20.6	-48.1			31.9	584.4	268.7	12.6	1.000007
87500.0	20.2	-47.6			31.1	585.1	273.6	15.1	1.000007
88000.0	19.7	-47.6			30.4	585.1	277.4	17.6	1.000007
88500.0	19.3	-47.9			29.8	584.7	277.2	18.3	1.000007
89000.0	18.8	-48.2			29.1	584.4	275.6	18.3	1.000006
89500.0	18.4	-48.4			28.5	584.0	274.1	18.3	1.000006
90000.0	18.0	-48.7			27.9	583.6	272.1	18.7	1.000006
90500.0	17.6	-49.0			27.3	583.2	269.8	19.6	1.000006
91000.0	17.2	-49.1			26.7	583.1	267.7	20.5	1.000006
91500.0	16.8	-48.9			26.1	583.4	266.0	21.4	1.000006
92000.0	16.4	-48.6			25.5	583.7	265.2	22.2	1.000006
92500.0	16.0	-48.4			24.9	584.0	264.4	22.9	1.000006
93000.0	15.7	-48.2			24.3	584.3	263.7	23.7	1.000005
93500.0	15.3	-47.9			23.7	584.6	264.5	23.8	1.000005
94000.0	15.0	-47.7			23.2	584.9	265.4	23.8	1.000005
94500.0	14.6	-47.5			22.6	585.3	266.2	23.8	1.000005
95000.0	14.3	-47.2			22.1	585.6	266.0	23.7	1.000005
95500.0	14.0	-47.0			21.6	585.9	265.1	23.6	1.000005
96000.0	13.7	-46.8			21.1	586.2	264.3	23.5	1.000005
96500.0	13.4	-46.5			20.6	586.5	262.1	24.2	1.000005
97000.0	13.1	-46.3			20.1	586.8	258.4	26.0	1.000004
97500.0	12.8	-46.1			19.6	587.1	255.3	27.8	1.000004
98000.0	12.5	-45.8			19.1	587.4	252.7	29.4	1.000004
98500.0	12.2	-45.6			18.7	587.7	250.5	30.2	1.000004
99000.0	11.9	-45.3			18.3	588.0	248.4	31.1	1.000004
99500.0	11.7	-45.1			17.8	588.3	246.9	31.9	1.000004
100000.0	11.4	-44.9			17.4	588.6	246.9	32.1	1.000004
100500.0	11.2	-44.6			17.0	588.9	246.9	32.4	1.000004
101000.0	10.9	-44.4			16.6	589.2	247.0	32.8	1.000004
101500.0	10.7	-44.2			16.2	589.5	248.2	35.1	1.000004
102000.0	10.4	-43.9			15.8	589.8	249.3	37.5	1.000004
102500.0	10.2	-43.7			15.5	590.1	250.2	39.8	1.000003
103000.0	10.0	-43.4			15.1	590.5	248.6	41.3	1.000003

STATION ALTITUDE 3989.00 FEET MSL
2 NOV. 81 1320 HRS MST
ASCENSION NO. 672

UPPER AIR DATA
3060020072
WHITE SANDS
TABLE 8 CON'T

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
103500.0	9.7	-42.9		14.7	591.2	246.9	42.7	1.000003
104000.0	9.5	-42.3		14.4	591.9	245.4	44.2	1.000003
104500.0	9.3	-41.8		14.0	592.5	246.0	46.6	1.000003
105000.0	9.1	-41.3		13.7	593.2	248.3	49.4	1.000003
105500.0	8.9	-40.8		13.4	593.9	249.8	52.2	1.000003
106000.0	8.7	-40.3		13.0	594.5	253.0	54.1	1.000003
106500.0	8.5	-39.7		12.7	595.2	257.3	55.7	1.000003
107000.0	8.3	-39.4		12.4	595.6	261.3	57.6	1.000003
107500.0	8.2	-39.5		12.2	595.5	264.2	58.8	1.000003
108000.0	8.0	-39.6		11.9	595.3	265.7	58.7	1.000003
108500.0	7.8	-39.7		11.6	595.2	267.3	58.7	1.000003
109000.0	7.6	-39.8		11.4	595.1	268.6	58.9	1.000003
109500.0	7.5	-39.9		11.1	595.0	269.4	59.8	1.000002
110000.0	7.3	-40.0		10.9	594.8	270.2	60.7	1.000002
110500.0	7.1	-40.1		10.7	594.7	270.9	61.7	1.000002
111000.0	7.0	-40.2		10.4	594.6			1.000002
111500.0	6.8	-39.8		10.2	595.1			1.000002
112000.0	6.7	-39.4		10.0	595.6			1.000002

STATION ALTITUDE 3989.00 FEET MSL
 2 NOV. 61 1320 HRS MST
 ASCENSION NO. 672

MANDATORY LEVELS
 3060020672
 WHITE SANDS
 TABLE 9

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.57033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	WIND DATA	
					DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	5107.	15.7	-3.2	27.	296.3	1.4
800.0	6778.	10.5	-6.0	31.	291.4	3.8
750.0	8524.	5.6	-9.2	33.	291.7	4.8
700.0	10363.	1.6	-12.2	35.	352.0	8.0
650.0	12313.	-1.0	-17.0	28.	348.9	16.2
600.0	14401.	-3.3	-20.1	26.	333.5	23.7
550.0	16642.	-7.2	-23.6	25.	327.7	27.9
500.0	19057.	-12.2	-28.6	24.	311.3	27.1
450.0	21672.	-17.9	-32.6	26.	306.5	22.7
400.0	24518.	-25.6	-38.7	28.	304.6	24.0
350.0	27658.	-31.5	-43.8	28.	313.7	32.9
300.0	31162.	-41.5			316.8	38.4
250.0	35133.	-51.2			33.9	37.6
200.0	39840.	-54.3			307.0	34.3
175.0	42651.	-55.1			300.9	30.3
150.0	45844.	-60.7			294.2	30.7
125.0	49529.	-64.0			311.0	33.4
100.0	54022.	-64.3			310.6	13.1
80.0	58486.	-65.6			357.2	10.9
70.0	61163.	-63.1			335.1	6.3
60.0	64300.	-61.1			36.3	11.7
50.0	68009.	-61.8			116.9	10.7
40.0	72611.	-57.7			65.1	12.4
30.0	78619.	-53.1			83.0	5.1
25.0	82477.	-52.7			167.3	6.5
20.0	87261.	-47.4			274.8	15.7
15.0	93475.	-47.7			265.2	23.8
10.0	102341.	-43.5			249.1	40.8
7.0	110311.	-40.2				

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

STATION ALTITUDE 3912.75 FEET MSL
2 NOV. 61 1200 HRS MST
ASCENSION NO. 146

SIGNIFICANT LEVEL DATA
3060290146
L-28

GEODEIC COORDINATES
32.89927 LAT DEG
106.40591 LON DEG

TABLE 1J

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
889.7	3912.7	12.5	-6.0	27.0
877.0	4307.7	11.5	-5.9	29.0
857.8	4915.6	12.2	-5.3	29.0
850.0	5166.6	11.8	-5.6	29.0
813.3	6376.1	10.7	-7.5	27.0
709.9	10041.3	2.4	-9.8	40.0
700.0	10413.7	1.5	-10.9	39.0
682.9	11066.5	.0	-13.3	36.0
620.9	13560.4	-2.4	-20.7	23.0
601.1	14404.6	-3.1	-20.8	24.0
552.3	16589.2	-7.6	-25.1	23.0
527.3	17770.2	-9.5	-27.7	21.0
500.0	19115.5	-11.5	-29.4	21.0
400.0	24595.0	-25.2	-39.4	25.0
355.7	27368.2	-30.9	-44.0	26.0
309.7	30556.1	-37.9	-49.8	27.0
300.0	31273.1	-41.1		
250.0	35267.5	-50.9		
227.9	37236.0	-54.5		
222.7	37723.0	-54.5		
221.1	37875.5	-53.3		
200.0	39995.2	-55.0		
191.2	40946.1	-53.4		
178.6	42388.9	-54.4		
160.8	44586.3	-58.3		
150.0	46026.4	-59.0		
136.2	48007.0	-62.3		
116.8	51133.1	-62.8		
114.2	51589.4	-64.0		
100.0	54266.5	-65.0		
92.5	55832.7	-65.6		
70.0	61447.2	-64.0		
58.4	65139.7	-60.9		
50.0	68321.5	-61.9		
43.2	71340.1	-57.7		
36.4	74916.1	-57.3		
30.0	78986.8	-54.3		
23.7	84007.2	-52.4		
20.0	87683.1	-47.1		
10.0	102888.8	-47.0		

GEODETIC COORDINATES
 32.89927 LAT DEG
 106.40591 LON DEG

SIGNIFICANT LEVEL DATA
 3060290146
 E-28
 TABLE TO CONT

STATION ALTITUDE 3912.75 FEET MSL
 2 NOV. 81 1200 HRS MST
 ASCENSION NO. 146

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
7.0 110825.8	-41.1	
6.5 112495.1	-41.6	

STATION ALTITUDE 3912.75 FEET MSL
2 NOV. 81 1200 HRS MST
ASCENSION NO. 146

UPPER AIR DATA
3060290140
E-28
TABLE 11

GEODETIC COORDINATES
32.89927 LAT UEG
106.40591 LON UEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3912.7	889.7	12.5	27.0	1083.2	659.0	0	0	1.000260
4000.0	880.9	12.3	27.4	1080.6	658.7	164.7	.1	1.000259
4500.0	870.9	11.7	29.0	1063.1	658.1	164.7	.8	1.000256
5000.0	855.2	12.1	29.0	1042.6	658.5	164.7	1.5	1.000251
5500.0	839.7	11.5	28.4	1025.9	657.8	164.7	2.1	1.000247
6000.0	824.5	11.0	27.6	1009.0	657.3	200.7	2.3	1.000242
6500.0	809.6	10.4	27.4	993.0	656.8	241.8	3.7	1.000238
7000.0	794.7	9.3	29.2	978.6	655.3	291.8	1.5	1.000234
7500.0	780.1	8.2	31.0	964.5	653.9	12.8	3.1	1.000231
8000.0	765.7	7.0	32.8	950.6	652.6	332.5	4.0	1.000228
8500.0	751.7	5.9	34.5	936.9	651.3	307.1	5.5	1.000224
9000.0	737.9	4.8	36.3	923.5	650.0	279.2	6.9	1.000221
9500.0	724.3	3.6	38.1	910.2	648.6	271.6	6.4	1.000218
10000.0	711.0	2.5	39.9	897.2	647.3	285.9	2.8	1.000214
10500.0	697.7	1.3	38.6	884.4	645.9	348.2	2.6	1.000210
11000.0	684.6	.2	36.3	871.6	644.4	354.2	5.7	1.000206
11500.0	671.7	-.4	33.7	857.0	643.7	353.1	9.1	1.000201
12000.0	659.0	-.9	31.1	842.4	643.1	350.1	12.8	1.000197
12500.0	646.5	-1.4	28.5	828.0	642.5	345.1	15.7	1.000193
13000.0	634.3	-1.9	25.9	813.9	641.9	339.9	18.1	1.000188
13500.0	622.3	-2.3	23.3	800.0	641.3	338.2	20.3	1.000184
14000.0	610.5	-2.8	23.5	786.0	640.8	337.7	22.4	1.000181
14500.0	598.9	-3.3	24.0	772.6	640.2	338.0	24.5	1.000178
15000.0	587.4	-4.3	23.7	760.7	639.0	338.7	26.6	1.000175
15500.0	576.1	-5.4	23.5	749.0	637.7	337.7	28.1	1.000172
16000.0	565.1	-6.4	23.3	737.5	636.5	336.1	29.3	1.000169
16500.0	554.2	-7.4	23.0	726.2	635.2	334.2	29.7	1.000166
17000.0	543.5	-8.3	22.3	714.4	634.2	332.3	29.9	1.000163
17500.0	532.9	-9.1	21.5	702.7	633.2	331.0	30.5	1.000160
18000.0	522.5	-9.8	21.0	691.0	632.3	329.9	31.0	1.000157
18500.0	512.3	-10.6	21.0	679.4	631.4	327.9	30.5	1.000154
19000.0	502.3	-11.3	21.0	668.0	630.5	325.9	29.9	1.000152
19500.0	492.2	-12.5	21.3	657.5	629.1	323.5	28.6	1.000149
20000.0	482.3	-13.7	21.6	647.4	627.6	321.1	27.5	1.000147
20500.0	472.6	-15.0	22.0	637.4	626.1	320.0	27.9	1.000144
21000.0	463.1	-16.2	22.4	627.6	624.6	320.2	28.2	1.000142
21500.0	453.7	-17.5	22.7	618.0	623.0	320.2	27.7	1.000140
22000.0	444.6	-18.7	23.1	608.5	621.5	319.9	26.9	1.000137
22500.0	435.6	-20.0	23.5	599.2	620.0	317.7	24.6	1.000135
23000.0	426.8	-21.2	23.8	590.1	618.4	315.2	22.8	1.000133

STATION ALTITUDE 3912.75 FEET MSL
2 NOV. 61 1200 HRS MST
ASCENSION NO. 146

UPPER AIR DATA
3060290146
E-28

GEODETIC COORDINATES
32.89927 LAT DEG
106.40591 LONG DEG

TABLE 11 CONT'D

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CELSIUS	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	410.2	-22.5	24.2	581.1	616.9	312.6	22.2	1.000131
24000.0	404.8	-23.7	24.6	572.2	613.3	312.3	22.7	1.000129
24500.0	401.6	-25.0	24.9	563.5	613.8	313.4	24.2	1.000127
25000.0	395.2	-26.0	25.1	554.2	612.5	313.1	25.2	1.000125
25500.0	385.0	-27.1	25.3	544.9	611.2	312.6	26.1	1.000122
26000.0	376.9	-28.1	25.5	535.7	609.9	313.6	27.9	1.000120
26500.0	369.0	-29.1	25.7	526.7	608.6	315.7	29.8	1.000118
27000.0	361.3	-30.1	25.9	517.9	607.3	320.1	32.0	1.000116
27500.0	353.7	-31.2	26.0	509.1	606.0	322.9	34.1	1.000114
28000.0	346.1	-32.3	26.2	500.5	604.7	324.0	35.8	1.000112
28500.0	338.6	-33.4	26.4	492.0	603.3	324.1	37.3	1.000110
29000.0	331.4	-34.5	26.5	483.6	601.9	323.6	38.8	1.000108
29500.0	324.2	-35.6	26.7	475.4	600.5	323.5	39.3	1.000106
30000.0	317.3	-36.7	26.8	467.4	599.1	324.2	39.5	1.000105
30500.0	310.5	-37.8	27.0	459.5	597.7	324.6	39.5	1.000103
31000.0	303.7	-39.9	10.3*	453.5	595.0	324.9	39.4	1.000101
31500.0	296.9	-41.7		446.8	592.7	325.3	39.7	1.000100
32000.0	290.2	-42.9		439.1	591.2	325.7	40.1	1.000098
32500.0	283.7	-44.1		431.4	589.6	323.8	40.3	1.000096
33000.0	277.3	-45.3		424.0	588.0	321.6	40.6	1.000094
33500.0	271.0	-46.6		416.7	586.4	320.0	40.2	1.000093
34000.0	264.9	-47.8		409.5	584.8	318.4	39.8	1.000091
34500.0	258.9	-49.0		402.4	583.2	318.6	40.2	1.000090
35000.0	253.1	-50.2		395.5	581.6	318.7	40.6	1.000088
35500.0	247.3	-51.3		388.3	580.2	318.5	40.9	1.000087
36000.0	241.5	-52.2		380.9	579.0	318.2	41.2	1.000085
36500.0	235.9	-53.2		373.6	577.8	318.4	40.7	1.000083
37000.0	230.4	-54.1		366.4	576.6	318.5	40.2	1.000082
37500.0	225.1	-54.5		358.6	576.1	318.1	40.7	1.000080
38000.0	219.8	-53.4		348.4	577.5	317.6	41.3	1.000078
38500.0	214.7	-53.8		340.9	577.0	316.6	39.5	1.000076
39000.0	209.6	-54.2		333.6	576.5	315.3	37.6	1.000074
39500.0	204.7	-54.6		326.4	575.9	313.9	34.5	1.000073
40000.0	200.0	-55.0		319.3	575.4	312.2	31.4	1.000071
40500.0	195.3	-54.2		310.6	576.5	311.2	30.4	1.000069
41000.0	190.7	-53.4		302.4	577.5	310.4	29.9	1.000067
41500.0	186.3	-53.8		295.8	577.0	309.5	30.5	1.000066
42000.0	181.9	-54.1		289.3	576.5	308.7	31.3	1.000064
42500.0	177.7	-54.6		283.2	575.9	308.4	31.8	1.000063
43000.0	173.5	-55.5		277.6	574.8	308.0	32.0	1.000062

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

GEODETIC COORDINATES
32.89927 LAT DEG
106.40591 LON DEG

UPPER AIR DATA
3060290146
E-28

TABLE 11 CONT

STATION ALTITUDE 3912.75 FEET MSL
2 NOV. 81
ASCENSION NO. 146

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR 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
43500.0	169.4	-56.4		272.2	573.6	308.4	32.0	1.000061
44000.0	165.4	-57.3		266.8	572.4	304.6	31.3	1.000059
44500.0	161.5	-58.1		261.6	571.2	300.6	30.8	1.000058
45000.0	157.6	-58.5		255.8	570.8	297.2	31.2	1.000057
45500.0	153.9	-58.7		250.0	570.4	294.1	32.0	1.000056
46000.0	150.2	-59.0		244.3	570.1	295.7	32.6	1.000054
46500.0	146.6	-59.8		239.3	569.1	303.5	33.3	1.000053
47000.0	143.0	-60.6		234.5	567.9	310.7	34.4	1.000052
47500.0	139.6	-61.5		229.7	566.8	316.1	34.9	1.000051
48000.0	136.2	-62.3		225.1	565.7	321.3	35.7	1.000050
48500.0	132.9	-62.4		219.7	565.6	321.8	33.8	1.000049
49000.0	129.7	-62.5		214.5	565.5	320.5	31.0	1.000048
49500.0	126.6	-62.5		209.3	565.4	319.4	28.6	1.000047
50000.0	123.5	-62.6		204.3	565.3	318.8	26.7	1.000046
50500.0	120.5	-62.7		199.5	565.2	318.0	24.9	1.000044
51000.0	117.6	-62.8		194.7	565.1	319.8	24.2	1.000043
51500.0	114.7	-63.8		190.8	563.7	321.7	23.6	1.000042
52000.0	111.9	-64.2		186.5	563.2	322.7	23.2	1.000042
52500.0	109.2	-64.3		182.1	563.0	322.6	23.0	1.000041
53000.0	106.5	-64.5		177.8	562.7	322.5	22.9	1.000040
53500.0	103.9	-64.7		173.6	562.4	317.7	21.5	1.000039
54000.0	101.3	-64.9		169.5	562.2	312.4	20.3	1.000038
54500.0	98.8	-65.1		165.5	561.9	310.3	18.9	1.000037
55000.0	96.4	-65.3		161.6	561.7	310.9	17.3	1.000036
55500.0	94.0	-65.5		157.8	561.4	313.3	15.6	1.000035
56000.0	91.7	-65.6		153.9	561.3	326.3	13.8	1.000034
56500.0	89.5	-65.4		150.1	561.5	342.0	12.9	1.000033
57000.0	87.3	-65.3		146.3	561.7	355.4	12.4	1.000033
57500.0	85.2	-65.1		142.6	561.9	8.5	12.2	1.000032
58000.0	83.1	-65.0		139.0	562.1	20.3	11.8	1.000031
58500.0	81.0	-64.8		135.5	562.3	32.6	10.3	1.000030
59000.0	79.0	-64.7		132.1	562.5	48.1	9.3	1.000029
59500.0	77.1	-64.6		128.8	562.7	51.6	7.1	1.000029
60000.0	75.2	-64.4		125.5	562.9	56.6	4.8	1.000028
60500.0	73.4	-64.3		122.4	563.0	30.0	3.0	1.000027
61000.0	71.6	-64.1		119.3	563.2	341.2	4.2	1.000027
61500.0	69.8	-64.0		116.3	563.5	321.3	7.1	1.000026
62000.0	68.1	-63.5		113.2	564.0	324.9	6.6	1.000025
62500.0	66.5	-63.1		110.3	564.6	329.8	5.9	1.000025
63000.0	64.9	-62.7		107.4	565.2	337.7	6.2	1.000024

GEODETIC COORDINATES
32.89927 LAT DEG
106.40591 LON DEG

UPPER AIR DATA
306n29014n
E-28
TABLE 11 CONT

STATION ALTITUDE 3912.75 FEET MSL
2 NOV. 61 1200 HRS MST
ASCENSION NO. 146

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
63500.0	63.3	-62.3		104.6	565.7	345.7	7.5	1.000023
64000.0	61.8	-61.9		101.8	566.3	351.1	8.9	1.000023
64500.0	60.3	-61.4		99.2	566.9	3.4	9.0	1.000022
65000.0	58.8	-61.0		96.6	567.4	17.5	9.2	1.000022
65500.0	57.4	-61.0		94.2	567.4	30.5	9.9	1.000021
66000.0	56.0	-61.2		92.0	567.2	47.0	9.0	1.000020
66500.0	54.6	-61.3		89.9	567.0	66.9	8.9	1.000020
67000.0	53.3	-61.5		87.8	566.8	80.4	9.4	1.000020
67500.0	52.0	-61.6		85.7	566.6	80.2	8.4	1.000019
68000.0	50.8	-61.8		83.7	566.4	79.8	7.4	1.000019
68500.0	49.6	-61.7		81.6	566.6	80.7	6.6	1.000018
69000.0	48.4	-61.0		79.4	567.5	83.5	6.2	1.000018
69500.0	47.2	-60.3		77.3	568.4	86.6	5.8	1.000017
70000.0	46.1	-59.6		75.2	569.4	85.4	6.1	1.000017
70500.0	45.0	-58.9		73.1	570.3	81.6	6.8	1.000016
71000.0	43.9	-58.2		71.2	571.2	78.5	7.6	1.000016
71500.0	42.9	-57.7		69.3	571.9	76.3	8.7	1.000015
72000.0	41.9	-57.6		67.7	571.9	74.7	9.9	1.000015
72500.0	40.9	-57.6		66.0	572.0	73.4	11.1	1.000015
73000.0	39.9	-57.5		64.5	572.1	73.1	10.8	1.000014
73500.0	39.0	-57.5		62.9	572.2	73.0	10.4	1.000014
74000.0	38.0	-57.4		61.4	572.2	72.8	9.9	1.000014
74500.0	37.1	-57.3		59.9	572.3	70.4	9.3	1.000013
75000.0	36.3	-57.2		58.5	572.4	67.7	8.8	1.000013
75500.0	35.4	-56.9		57.0	572.9	64.4	8.5	1.000013
76000.0	34.6	-56.5		55.6	573.4	61.1	9.7	1.000012
76500.0	33.8	-56.1		54.2	573.9	58.5	10.9	1.000012
77000.0	33.0	-55.8		52.8	574.4	56.8	11.4	1.000012
77500.0	32.2	-55.4		51.5	574.9	55.8	10.5	1.000011
78000.0	31.4	-55.0		50.2	575.4	54.7	9.7	1.000011
78500.0	30.7	-54.7		49.0	575.9	53.1	8.1	1.000011
79000.0	30.0	-54.3		47.7	576.3	50.0	5.6	1.000011
79500.0	29.3	-54.1		46.6	576.6	42.2	3.2	1.000010
80000.0	28.6	-53.9		45.5	576.8	40.1	2.1	1.000010
80500.0	27.9	-53.7		44.4	577.1	48.6	1.7	1.000010
81000.0	27.3	-53.5		43.3	577.3	63.7	1.3	1.000010
81500.0	26.7	-53.3		42.3	577.6	92.2	1.1	1.000009
82000.0	26.0	-53.2		41.2	577.8	122.4	1.2	1.000009
82500.0	25.4	-53.0		40.2	578.1	142.0	1.6	1.000009
83000.0	24.8	-52.8		39.3	578.3	153.6	1.9	1.000009

STATION ALTITUDE 3912.75 FEET MSL
2 NOV. 81 1200 HRS MST
ASCENSION NO. 146

UPPER AIR DATA
3060290146
E-28
TABLE 11 CONT

GEODETIC COORDINATES
32.89927 LAT DEG
106.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
83500.0	24.3	-52.6			38.3	578.6	162.5	2.3	1.000009
84000.0	23.7	-52.4			37.4	578.8	168.6	2.6	1.000008
84500.0	23.2	-51.7			36.4	579.8	191.1	3.5	1.000008
85000.0	22.6	-51.0			35.5	580.7	206.1	5.0	1.000008
85500.0	22.1	-50.2			34.6	581.6	213.9	6.7	1.000008
86000.0	21.6	-49.5			33.7	582.6	218.5	8.5	1.000007
86500.0	21.1	-48.8			32.8	583.5	221.5	10.3	1.000007
87000.0	20.6	-48.1			31.9	584.5	223.7	12.1	1.000007
87500.0	20.2	-47.4			31.1	585.4	230.4	12.4	1.000007
88000.0	19.7	-47.1			30.4	585.7	242.4	11.7	1.000007
88500.0	19.3	-47.1			29.7	585.7	255.0	11.7	1.000007
89000.0	18.8	-47.1			29.0	585.7	267.1	12.3	1.000006
89500.0	18.4	-47.1			28.4	585.7	277.2	13.8	1.000006
90000.0	18.0	-47.1			27.7	585.7	285.2	15.5	1.000006
90500.0	17.6	-47.1			27.1	585.8	287.3	16.9	1.000006
91000.0	17.2	-47.1			26.5	585.8	279.7	17.2	1.000006
91500.0	16.8	-47.1			25.9	585.8	272.5	17.8	1.000006
92000.0	16.4	-47.1			25.3	585.8	266.2	18.7	1.000006
92500.0	16.1	-47.1			24.7	585.8	261.6	19.6	1.000005
93000.0	15.7	-47.1			24.2	585.8	257.5	20.6	1.000005
93500.0	15.3	-47.1			23.6	585.8	254.0	21.8	1.000005
94000.0	15.0	-47.1			23.1	585.8	255.1	23.7	1.000005
94500.0	14.7	-47.1			22.6	585.8	256.1	25.7	1.000005
95000.0	14.3	-47.1			22.1	585.8	256.9	27.6	1.000005
95500.0	14.0	-47.0			21.6	585.8	258.0	28.6	1.000005
96000.0	13.7	-47.0			21.1	585.8	259.2	29.4	1.000005
96500.0	13.4	-47.0			20.6	585.8	260.2	30.2	1.000005
97000.0	13.1	-47.0			20.2	585.8	261.2	31.0	1.000004
97500.0	12.8	-47.0			19.7	585.8	261.6	31.7	1.000004
98000.0	12.5	-47.0			19.3	585.8	261.6	32.4	1.000004
98500.0	12.2	-47.0			18.8	585.8	262.1	33.0	1.000004
99000.0	11.9	-47.0			18.4	585.8	262.4	33.7	1.000004
99500.0	11.7	-47.0			18.0	585.8	259.6	34.7	1.000004
100000.0	11.4	-47.0			17.6	585.8	257.0	35.8	1.000004
100500.0	11.2	-47.0			17.2	585.8	254.5	36.9	1.000004
101000.0	10.9	-47.0			16.8	585.8	252.2	38.0	1.000004
101500.0	10.7	-47.0			16.4	585.8	250.5	37.0	1.000004
102000.0	10.4	-47.0			16.0	585.9	248.7	36.0	1.000004
102500.0	10.2	-47.0			15.7	585.9	246.7	35.0	1.000003
103000.0	10.0	-46.9			15.3	586.0	245.0	34.6	1.000003

STATION ALTITUDE 3912.75 FEET MSL
 2 NOV. 81 1200 HRS MST
 ASCENSION NO. 146

UPPER AIR DATA
 306n29014n
 E-28
 TABLE 11 CONT

GEODETIC COORDINATES
 32.89927 LAT UEG
 106.40591 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION IN DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
103500.0	9.7	-46.5		15.0	586.4	249.4	36.8	1.000003
104000.0	9.5	-46.2		14.6	586.9	252.7	39.3	1.000003
104500.0	9.3	-45.8		14.3	587.4	255.7	41.8	1.000003
105000.0	9.1	-45.4		13.9	587.9	257.8	44.4	1.000003
105500.0	8.9	-45.1		13.6	588.4	257.1	47.1	1.000003
106000.0	8.7	-44.7		13.3	588.8	256.5	49.8	1.000003
106500.0	8.5	-44.3		12.9	589.3	256.0	52.5	1.000003
107000.0	8.3	-43.9		12.6	589.8	255.1	54.7	1.000003
107500.0	8.1	-43.6		12.3	590.3	252.4	54.8	1.000003
108000.0	7.9	-43.2		12.0	590.8	249.7	55.0	1.000003
108500.0	7.8	-42.8		11.8	591.2	247.0	55.4	1.000003
109000.0	7.6	-42.5		11.5	591.7			1.000003
109500.0	7.4	-42.1		11.2	592.2			1.000002
110000.0	7.3	-41.7		10.9	592.7			1.000002
110500.0	7.1	-41.3		10.7	593.1			1.000002
111000.0	6.9	-41.2		10.4	593.4			1.000002
111500.0	6.8	-41.3		10.2	593.2			1.000002
112000.0	6.6	-41.5		10.0	593.0			1.000002

STATION ALTITUDE 3912.75 FEET MSL
2 NOV. 81 1200 HRS MST
ASCENSION NO. 146

MANDATORY LEVELS
306n290146
E-28
TABLE 12

GEODETIC COORDINATES
32.89927 LAT DEG
106.40591 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5163.	11.8	-5.6	29.	164.7	1.7
800.0	6821.	9.7	-7.6	29.	260.4	2.4
750.0	8566.	5.8	-8.6	35.	302.5	5.6
700.0	10404.	1.5	-10.9	39.	342.2	2.0
650.0	12350.	-1.2	-16.9	29.	347.0	15.0
600.0	14436.	-3.2	-20.9	24.	338.0	24.3
550.0	16675.	-7.8	-25.3	23.	333.5	29.8
500.0	19089.	-11.5	-29.4	21.	325.4	29.7
450.0	21707.	-18.0	-34.0	23.	320.2	27.5
400.0	24555.	-25.2	-39.4	25.	313.5	24.4
350.0	27695.	-31.7	-44.7	26.	323.4	34.9
300.0	31212.	-41.1			325.1	39.5
250.0	35192.	-50.9			318.6	40.8
200.0	39400.	-55.0			312.3	31.5
175.0	42711.	-55.2			308.5	31.9
150.0	45904.	-59.0			295.8	32.6
125.0	49613.	-62.6			319.1	27.7
100.0	54101.	-65.0			310.0	19.7
80.0	58560.	-64.8			39.2	9.8
70.0	61239.	-64.0			323.3	8.6
60.0	64357.	-61.4			5.0	9.0
50.0	68067.	-61.9			79.7	6.8
40.0	72659.	-57.5			73.2	10.9
30.0	78653.	-54.3			50.4	5.9
25.0	82500.	-52.8			150.2	1.8
20.0	87276.	-47.1			233.7	12.1
15.0	93526.	-47.1			255.0	23.5
10.0	102337.	-47.0			245.4	34.4
7.0	110189.	-41.1				

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

STATION ALTITUDE 4051.00 FEET MSL
2 NOV. 61
ASCENSION NO. 181

SIGNIFICANT LEVEL DATA
3060030181
JALLEN

TABLE 13

GEODETIC COORDINATES
33.16712 LAT UEG
106.49511 LONG UEG

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
882.9	4051.0	17.4	55.0
878.1	4204.0	18.1	18.0
850.0	5111.2	14.7	20.0
713.8	9856.9	3.1	35.0
700.0	10375.8	2.3	29.0
634.0	12981.8	-2.3	26.0
616.4	13716.4	-2.3	21.0
557.6	16308.9	-7.1	16.0
500.0	19076.7	-12.2	15.0
462.0	21046.9	-16.7	16.0
400.0	24551.8	-24.8	18.0
345.4	28013.6	-32.1	19.0
332.4	28901.8	-33.9	19.0
300.0	31237.0	-40.1	19.0
250.0	35242.7	-50.6	
241.9	35947.8	-51.9	
212.6	38682.8	-55.3	
200.0	39972.0	-53.7	
155.8	45227.7	-56.6	
150.0	46019.3	-57.5	
139.4	47532.2	-61.3	
125.9	49605.2	-63.6	
109.2	52493.7	-62.5	
100.0	54280.2	-63.7	
88.2	56829.4	-62.5	
81.6	58405.4	-64.6	
70.0	61514.5	-62.3	
50.0	68403.9	-60.7	
34.8	75953.9	-55.2	
30.0	79097.8	-53.7	
24.0	83861.0	-52.0	
20.0	87820.7	-46.2	
16.2	92441.9	-47.8	
13.8	95962.1	-45.9	

STATION ALTITUDE 4051.00 FEET MSL
2 NOV. 61 1320 HRS MST
ASCENSION NO. 181

UPPER AIR DATA
3060030181
JALLEN

GEOGRAPHIC COORDINATES
33.16712 LAT UEG
106.49511 LON UEG

TABLE 14

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	
4051.0	882.9	17.4	8.3	55.0	1053.6	665.6	180.0	4.1	1.000284
4500.0	868.8	17.0	-7.0	18.7	1041.5	664.1	188.0	4.5	1.000248
5000.0	853.4	15.1	-7.8	19.8	1029.8	661.9	195.3	5.0	1.000245
5500.0	837.9	13.7	-8.0	21.2	1015.9	660.4	201.1	5.6	1.000242
6000.0	822.6	12.5	-8.1	22.8	1001.6	659.0	205.6	6.2	1.000239
6500.0	807.7	11.3	-8.3	24.4	987.6	657.6	206.0	6.1	1.000235
7000.0	792.9	10.1	-8.5	26.0	973.8	656.1	203.9	5.6	1.000232
7500.0	778.5	8.9	-8.8	27.6	960.2	654.7	224.6	5.0	1.000229
8000.0	764.3	7.6	-9.2	29.1	946.8	653.3	248.7	5.3	1.000226
8500.0	750.3	6.4	-9.6	30.7	933.6	651.9	259.2	7.1	1.000222
9000.0	736.7	5.2	-10.0	32.3	920.6	650.4	267.9	8.2	1.000219
9500.0	723.2	4.0	-10.5	33.9	907.9	649.0	280.2	8.2	1.000216
10000.0	710.0	2.9	-11.6	33.3	894.8	647.7	301.2	7.9	1.000212
10500.0	696.7	2.1	-14.1	28.9	880.9	646.7	327.4	8.8	1.000206
11000.0	683.6	1.2	-15.1	28.3	867.1	645.6	343.9	11.9	1.000203
11500.0	670.7	.3	-16.1	27.7	853.6	644.6	356.0	16.0	1.000199
12000.0	658.1	-6	-17.2	27.1	840.3	643.5	352.6	19.1	1.000195
12500.0	645.7	-1.4	-18.2	26.6	827.2	642.4	349.6	22.1	1.000192
13000.0	633.6	-2.3	-19.2	25.9	814.2	641.4	344.1	23.0	1.000188
13500.0	621.5	-2.3	-20.8	22.5	798.9	641.4	340.1	24.2	1.000184
14000.0	609.7	-2.8	-22.3	20.5	785.2	640.7	338.9	25.6	1.000180
14500.0	598.0	-3.8	-23.7	19.5	772.8	639.6	337.7	27.7	1.000177
15000.0	586.6	-4.7	-25.0	18.5	760.7	638.5	336.6	30.8	1.000174
15500.0	575.3	-5.6	-26.3	17.6	748.8	637.4	335.5	32.7	1.000171
16000.0	564.3	-6.5	-27.7	16.6	737.0	636.3	334.3	33.9	1.000167
16500.0	553.4	-7.5	-28.9	15.9	725.3	635.1	334.0	33.4	1.000165
17000.0	542.6	-8.4	-29.8	15.8	713.7	634.0	334.0	32.3	1.000162
17500.0	532.0	-9.3	-30.7	15.6	702.2	632.9	334.9	30.6	1.000159
18000.0	521.7	-10.2	-31.6	15.4	690.9	631.8	335.6	29.1	1.000156
18500.0	511.5	-11.1	-32.4	15.2	679.9	630.7	332.6	29.8	1.000154
19000.0	501.5	-12.1	-33.3	15.0	669.0	629.6	329.6	30.7	1.000151
19500.0	491.6	-13.2	-34.1	15.2	658.5	628.2	325.7	32.4	1.000149
20000.0	481.8	-14.3	-34.9	15.5	648.3	626.9	322.2	34.1	1.000146
20500.0	472.2	-15.5	-35.6	15.7	638.3	625.5	319.3	33.1	1.000144
21000.0	462.9	-16.6	-36.4	16.0	628.4	624.1	316.6	32.2	1.000142
21500.0	453.5	-17.7	-37.2	16.3	618.4	622.7	316.1	31.1	1.000139
22000.0	444.2	-18.9	-38.0	16.5	608.6	621.2	315.4	30.4	1.000137
22500.0	435.2	-20.1	-38.8	16.8	598.9	619.8	314.2	30.5	1.000135
23000.0	426.4	-21.2	-39.6	17.1	589.4	618.4	313.1	30.1	1.000132
23500.0	417.7	-22.4	-40.4	17.4	580.1	617.0	312.0	28.6	1.000130

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LONG DEG

UPPER AIR DATA
3060030181
JALLEN

TABLE 14 CONT

STATION ALTITUDE 4051.00 FEET MSL
2 NOV. 61 1320 HRS MST
ASCENSION NO. 181

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (TN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
24000.0	409.2	-23.5	17.7	570.9	615.6	311.0	27.3	1.000128
24500.0	400.9	-24.7	18.0	561.9	614.1	311.3	27.2	1.000126
25000.0	392.5	-25.7	18.1	552.6	612.8	311.8	27.2	1.000124
25500.0	384.2	-26.8	18.3	543.3	611.5	313.3	29.4	1.000122
26000.0	376.2	-27.9	18.4	534.2	610.2	315.0	31.6	1.000120
26500.0	368.3	-28.9	18.6	525.2	608.9	318.3	34.0	1.000118
27000.0	360.6	-30.0	18.7	516.5	607.6	320.7	36.4	1.000116
27500.0	353.0	-31.0	18.9	507.8	606.2	321.6	38.7	1.000114
28000.0	345.6	-32.1	19.0	499.4	604.9	322.0	40.9	1.000112
28500.0	338.2	-33.1	19.0	490.8	603.6	321.4	42.2	1.000110
29000.0	331.0	-34.2	18.2**	482.4	602.3	320.7	43.3	1.000108
29500.0	323.8	-35.5	14.1**	474.6	600.6	319.8	43.5	1.000106
30000.0	316.7	-36.8	10.1**	466.9	598.9	319.0	43.8	1.000104
30500.0	309.9	-38.1	6.0**	459.3	597.2	318.5	45.1	1.000102
31000.0	303.1	-39.5	1.9**	451.9	595.5	317.9	45.6	1.000101
31500.0	296.4	-40.8		444.4	593.8	316.9	43.0	1.000099
32000.0	289.8	-42.1		436.9	592.2	315.5	41.4	1.000097
32500.0	283.2	-43.4		429.5	590.5	313.7	42.2	1.000096
33000.0	276.9	-44.7		422.2	588.8	312.6	45.2	1.000094
33500.0	270.6	-46.0		415.1	587.1	312.8	50.1	1.000092
34000.0	264.5	-47.3		408.1	585.4	313.3	50.7	1.000091
34500.0	258.6	-48.7		401.3	583.7	314.2	49.4	1.000089
35000.0	252.8	-50.0		394.6	582.0	315.0	48.1	1.000088
35500.0	247.0	-51.1		387.5	580.6	315.8	46.6	1.000086
36000.0	241.3	-52.0		380.1	579.4	316.6	45.4	1.000085
36500.0	235.7	-52.6		372.2	578.6	317.3	45.5	1.000083
37000.0	230.2	-53.2		364.6	577.8	318.1	45.7	1.000081
37500.0	224.8	-53.8		357.1	576.9	319.8	46.4	1.000080
38000.0	219.6	-54.5		349.7	576.1	321.5	47.2	1.000078
38500.0	214.4	-55.1		342.6	575.3	323.0	44.5	1.000076
39000.0	209.4	-54.9		334.3	575.5	324.6	39.1	1.000074
39500.0	204.5	-54.3		325.5	576.3	325.1	34.6	1.000073
40000.0	199.7	-53.7		317.1	577.1	322.6	32.1	1.000071
40500.0	195.0	-54.0		310.0	576.7	319.5	31.0	1.000069
41000.0	190.5	-54.3		303.1	576.4	316.1	35.1	1.000068
41500.0	186.0	-54.5		296.4	576.0	313.4	39.1	1.000066
42000.0	181.6	-54.8		289.8	575.6	313.7	38.5	1.000065
42500.0	177.4	-55.1		283.4	575.3	314.0	37.8	1.000063
43000.0	173.2	-55.4		277.0	574.9	313.6	37.3	1.000062
43500.0	169.1	-55.6		270.9	574.6	312.7	36.8	1.000060

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

STATION ALTITUDE 4051.00 FEET MSL
2 NOV. 61 1320 HRS MST
ASCENSION NO. 181

UPPER AIR DATA
3060030181
JALLEN

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LONG DEG

TABLE 14 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
44000.0	165.2	-55.9		264.9	574.2	311.0	36.2	1.000059
44500.0	161.3	-56.2		259.0	573.8	309.7	35.2	1.000058
45000.0	157.5	-56.5		253.2	573.5	307.7	34.2	1.000056
45500.0	153.8	-56.9		247.7	572.9	310.0	33.0	1.000055
46000.0	150.1	-57.5		242.5	572.1	313.0	31.8	1.000054
46500.0	146.5	-58.7		238.1	570.5	310.7	31.7	1.000053
47000.0	143.0	-60.0		233.7	568.8	319.2	32.6	1.000052
47500.0	139.6	-61.2		229.5	567.1	321.1	33.5	1.000051
48000.0	136.2	-61.8		224.6	566.3	320.0	34.6	1.000050
48500.0	132.9	-62.4		219.7	565.6	319.0	35.6	1.000049
49000.0	129.7	-62.9		214.9	564.9	318.7	36.0	1.000048
49500.0	126.6	-63.5		210.3	564.1	318.7	36.1	1.000047
50000.0	123.5	-63.4		205.1	564.2	318.8	35.7	1.000046
50500.0	120.5	-63.3		199.9	564.4	319.4	34.3	1.000045
51000.0	117.5	-63.1		194.9	564.7	319.9	32.9	1.000043
51500.0	114.7	-62.9		190.0	564.9	320.0	31.0	1.000042
52000.0	111.9	-62.7		185.2	565.2	320.6	29.1	1.000041
52500.0	109.2	-62.5		180.5	565.4	321.0	27.1	1.000040
53000.0	106.5	-62.8		176.4	565.0	322.0	25.0	1.000039
53500.0	103.9	-63.2		172.4	564.5	320.8	22.9	1.000038
54000.0	101.4	-63.5		168.5	564.1	319.4	19.1	1.000037
54500.0	98.9	-63.6		164.5	564.0	322.0	17.5	1.000036
55000.0	96.5	-63.4		160.3	564.3	320.9	15.9	1.000035
55500.0	94.2	-63.1		156.2	564.6	338.3	15.3	1.000034
56000.0	91.9	-62.9		152.2	564.9	353.9	16.4	1.000033
56500.0	89.6	-62.7		148.4	565.2	6.1	18.1	1.000032
57000.0	87.5	-62.7		144.8	565.1	14.0	18.0	1.000032
57500.0	85.3	-63.4		141.7	564.2	23.0	18.4	1.000031
58000.0	83.2	-64.1		138.7	563.3	33.8	14.6	1.000030
58500.0	81.2	-64.5		135.0	562.7	53.5	10.8	1.000029
59000.0	79.2	-64.2		132.1	563.2	74.4	8.2	1.000028
59500.0	77.3	-63.8		128.6	563.7	90.4	5.6	1.000027
60000.0	75.4	-63.4		125.3	564.2	121.3	3.8	1.000026
60500.0	73.6	-63.1		122.0	564.7	100.0	2.0	1.000025
61000.0	71.8	-62.7		118.8	565.2	24.5	1.4	1.000024
61500.0	70.1	-62.3		115.7	565.7	37.5	6.1	1.000023
62000.0	68.4	-62.2		112.9	565.8	37.7	8.7	1.000022
62500.0	66.7	-62.1		110.1	566.0	32.7	11.2	1.000021
63000.0	65.1	-62.0		107.4	566.2	32.7		
63500.0	63.5	-61.8		104.7	566.3			

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LONG DEG

UPPER AIR DATA
306030101
JALLEN

TABLE 14 CONT

STATION ALTITUDE 4051.00 FEET MSL
2 NOV. 61
ASCENSION NO. 181

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
64000.0	62.0	-61.7		102.2	566.5	29.5	13.8	1.000023
64500.0	60.5	-61.6		99.6	566.6	40.2	13.1	1.000022
65000.0	59.0	-61.5		97.2	566.8	52.5	12.8	1.000022
65500.0	57.6	-61.4		94.8	566.9	64.7	12.4	1.000021
66000.0	56.2	-61.3		92.4	567.1	78.6	11.0	1.000021
66500.0	54.9	-61.1		90.2	567.2	95.7	10.4	1.000020
67000.0	53.5	-61.0		87.9	567.4	102.0	9.8	1.000020
67500.0	52.3	-60.9		85.8	567.6	102.7	8.8	1.000019
68000.0	51.0	-60.8		83.7	567.7	103.6	7.9	1.000019
68500.0	49.8	-60.6		81.6	567.9	96.0	8.9	1.000018
69000.0	48.6	-60.3		79.5	568.4	90.1	10.0	1.000018
69500.0	47.4	-59.9		77.5	568.9	86.3	10.9	1.000017
70000.0	46.3	-59.5		75.5	569.4	85.4	10.7	1.000017
70500.0	45.2	-59.2		73.6	569.9	84.4	10.5	1.000016
71000.0	44.1	-58.8		71.7	570.4	83.4	10.5	1.000016
71500.0	43.1	-58.4		69.9	570.8	82.4	10.6	1.000016
72000.0	42.1	-58.1		68.1	571.3	81.4	10.7	1.000015
72500.0	41.1	-57.7		66.4	571.8	79.8	10.7	1.000015
73000.0	40.1	-57.4		64.7	572.3	77.8	10.7	1.000014
73500.0	39.2	-57.0		63.1	572.8	75.7	10.8	1.000014
74000.0	38.2	-56.6		61.5	573.3	73.9	10.7	1.000014
74500.0	37.3	-56.3		59.9	573.7	72.1	10.6	1.000013
75000.0	36.4	-55.9		58.4	574.2	70.2	10.4	1.000013
75500.0	35.6	-55.5		56.9	574.7	69.5	10.4	1.000013
76000.0	34.7	-55.2		55.5	575.2	69.0	10.4	1.000012
76500.0	33.9	-54.9		54.1	575.5	68.5	10.3	1.000012
77000.0	33.1	-54.7		52.8	575.8	72.9	9.4	1.000012
77500.0	32.4	-54.5		51.5	576.1	79.2	8.4	1.000011
78000.0	31.6	-54.2		50.3	576.4	87.0	7.6	1.000011
78500.0	30.9	-54.0		49.1	576.7	94.5	6.3	1.000011
79000.0	30.1	-53.7		47.9	577.1	105.4	5.0	1.000011
79500.0	29.4	-53.6		46.7	577.3	122.6	4.0	1.000010
80000.0	28.8	-53.4		45.6	577.5	135.3	3.3	1.000010
80500.0	28.1	-53.2		44.5	577.8	150.2	2.8	1.000010
81000.0	27.4	-53.0		43.4	578.0	169.9	2.5	1.000010
81500.0	26.8	-52.8		42.4	578.2	176.2	2.4	1.000009
82000.0	26.2	-52.7		41.4	578.5	177.9	2.3	1.000009
82500.0	25.6	-52.5		40.4	578.7	179.7	2.2	1.000009
83000.0	25.0	-52.3		39.4	578.9	209.3	2.3	1.000009
83500.0	24.4	-52.1		38.5	579.2	235.9	3.3	1.000009

STATION ALTITUDE 4051.00 FEET MSL
2 NOV. 61 1320 HRS MST
ASCENSION NO. 181

UPPER AIR DATA
3060030181
JALLEN
TABLE 14 CONT

GEODETIC COORDINATES
33.14712 LAT DEG
106.49511 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CEMPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (IN) DEGREES	SPEED KNOTS	INDEX OF REFRACTION
84000.0	23.8	-51.8		37.5	579.6	249.0	4.6	1.000008
84500.0	23.3	-51.1		36.6	580.6	248.4	7.0	1.000008
85000.0	22.8	-50.3		35.6	581.5	244.7	10.1	1.000008
85500.0	22.3	-49.6		34.7	582.5	242.7	13.2	1.000008
86000.0	21.7	-48.9		33.8	583.4	241.5	16.3	1.000008
86500.0	21.3	-48.1		32.9	584.4	240.3	17.7	1.000007
87000.0	20.8	-47.4		32.1	585.3	239.2	19.1	1.000007
87500.0	20.3	-46.7		31.2	586.3	238.3	20.5	1.000007
88000.0	19.8	-46.3		30.5	586.8	237.5	20.4	1.000007
88500.0	19.4	-46.4		29.8	586.6	236.5	18.6	1.000007
89000.0	19.0	-46.6		29.1	586.4	235.4	16.8	1.000006
89500.0	18.5	-46.8		28.5	586.1	234.0	15.1	1.000006
90000.0	18.1	-47.0		27.9	585.9	248.6	15.9	1.000006
90500.0	17.7	-47.1		27.3	585.7	261.7	18.0	1.000006
91000.0	17.3	-47.3		26.7	585.5	271.6	20.8	1.000006
91500.0	16.9	-47.5		26.1	585.2	278.0	25.4	1.000006
92000.0	16.5	-47.6		25.5	585.0	280.7	32.4	1.000006
92500.0	16.2	-47.8		25.0	584.9	282.5	39.5	1.000006
93000.0	15.8	-47.5		24.4	585.2	283.7	46.6	1.000005
93500.0	15.4	-47.2		23.8	585.6			1.000005
94000.0	15.1	-47.0		23.2	585.9			1.000005
94500.0	14.8	-46.7		22.7	586.3			1.000005
95000.0	14.4	-46.4		22.2	586.6			1.000005
95500.0	14.1	-46.1		21.6	587.0			1.000005

STATION ALTITUDE 4051.00 FEET MSL
2 NOV. 81
ASCENSION NO. 181

MANDATORY LEVELS
3060030181
JALLEN

GEODETIC COORDINATES
33.16712 LAT DEG
106.49511 LON DEG

TABLE 15

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	5108.	14.7	-8.0	20.	196.7	5.1
800.0	6776.	10.7	-8.4	25.	204.9	5.9
750.0	8525.	6.4	-9.6	31.	259.6	7.2
700.0	10366.	2.3	-13.9	29.	321.2	8.4
650.0	12318.	-1.1	-17.8	27.	350.8	21.2
600.0	14402.	-3.6	-23.4	20.	337.9	27.2
550.0	16440.	-7.7	-29.2	16.	334.0	33.0
500.0	19051.	-12.2	-33.4	15.	329.0	30.9
450.0	21663.	-18.2	-37.5	16.	315.9	30.7
400.0	24512.	-24.8	-42.2	18.	311.4	27.1
350.0	27657.	-31.4	-47.3	19.	321.9	39.7
300.0	31177.	-40.1			317.5	44.4
250.0	35168.	-50.6			315.4	47.4
200.0	39878.	-53.7			322.9	32.4
175.0	42684.	-55.3			314.1	37.5
150.0	45898.	-57.5			313.6	31.8
125.0	49611.	-63.5			318.7	36.2
100.0	54116.	-63.7			320.1	20.1
80.0	58614.	-64.3			43.3	12.3
70.0	61307.	-62.3			26.5	1.4
60.0	64436.	-61.6			43.4	13.0
50.0	68151.	-60.7			97.8	8.6
40.0	72743.	-57.3			77.8	10.7
30.0	78765.	-53.7			107.2	4.9
25.0	82622.	-52.3			205.6	2.3
20.0	87414.	-46.2			237.9	21.1
15.0	93664.	-46.9				

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