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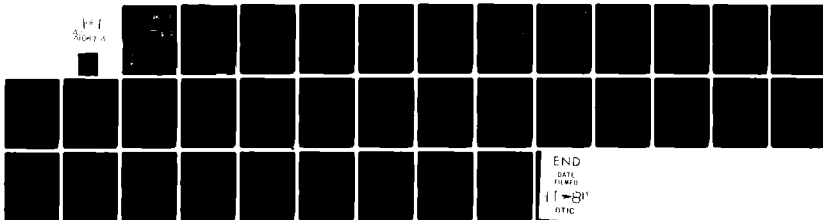
ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/1  
19304D MLRS MISSILE NUMBER BN050 ROUND NUMBER V-187/MD-41.(U)  
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SEPT 1981

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**LEVEL II**

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METEOROLOGICAL DATA REPORT

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19304D MLRS  
Missile Number BN050  
Round Number V-187/MD-41  
19 Sep 1981

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by

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AVN Number 349-9568

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WHITE SANDS MISSILE RANGE, NEW MEXICO

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  Meteorological data gathered for the launching of the 19304D MLRS, Missile Number BN050, Round Number V-187/MD-41 are presented in tabular form.		

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## INTRODUCTION

19304D MLRS, Missile Number BN050, Round Number V-187/MD-41,  
was launched from LC-33, White Sands Missile Range (WSMR), New Mexico,  
at 1100 MDT on 10 September 1981. The scheduled launch time was  
1100 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 ( $\text{gm}/\text{m}^3$ ), Wind direction and speed, 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 **Pilot Balloon** observations at:

### SITE AND ALTITUDE

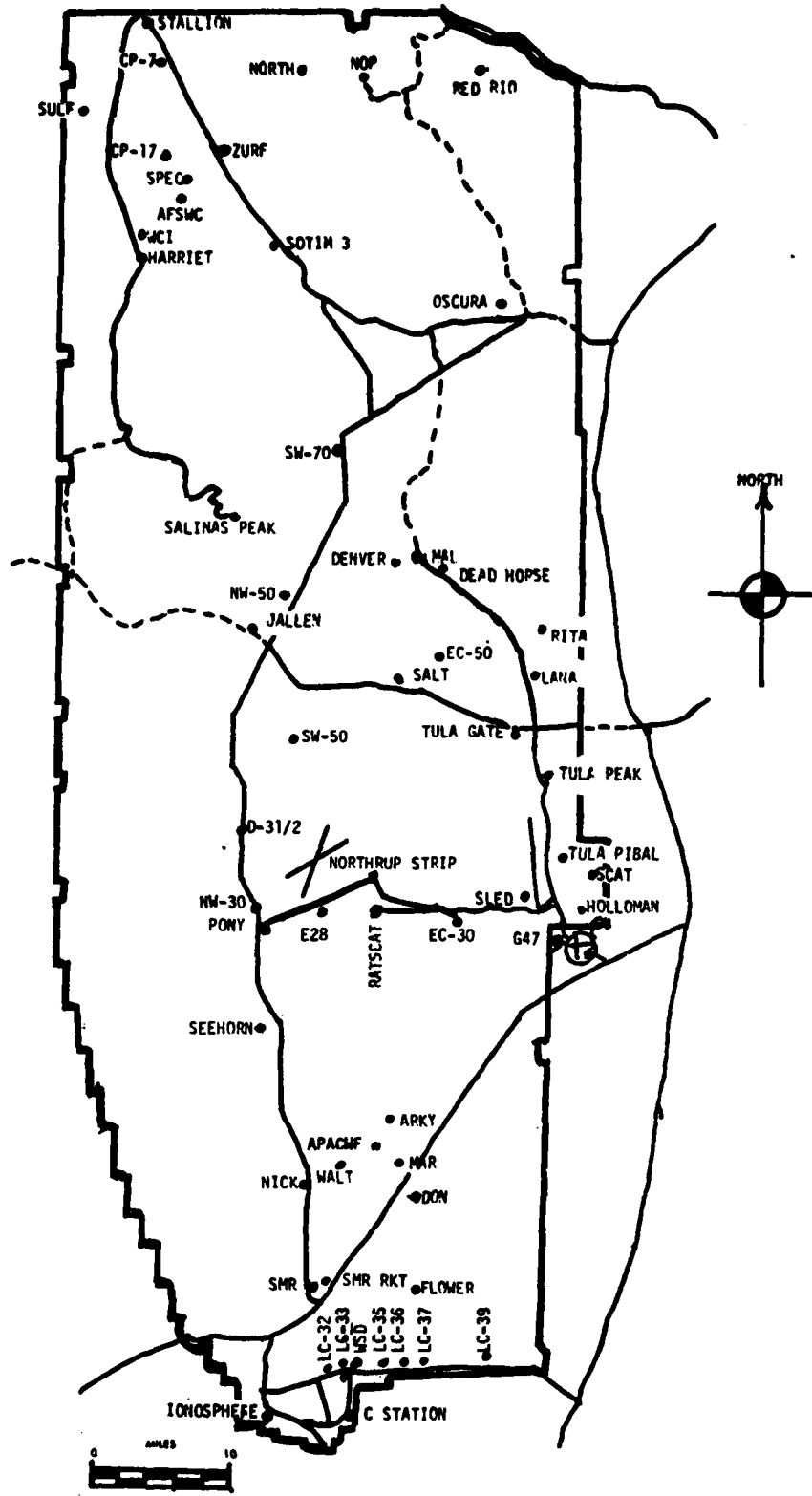
**LC-33 2000 Meters**  
**Nick 1350 Meters**

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

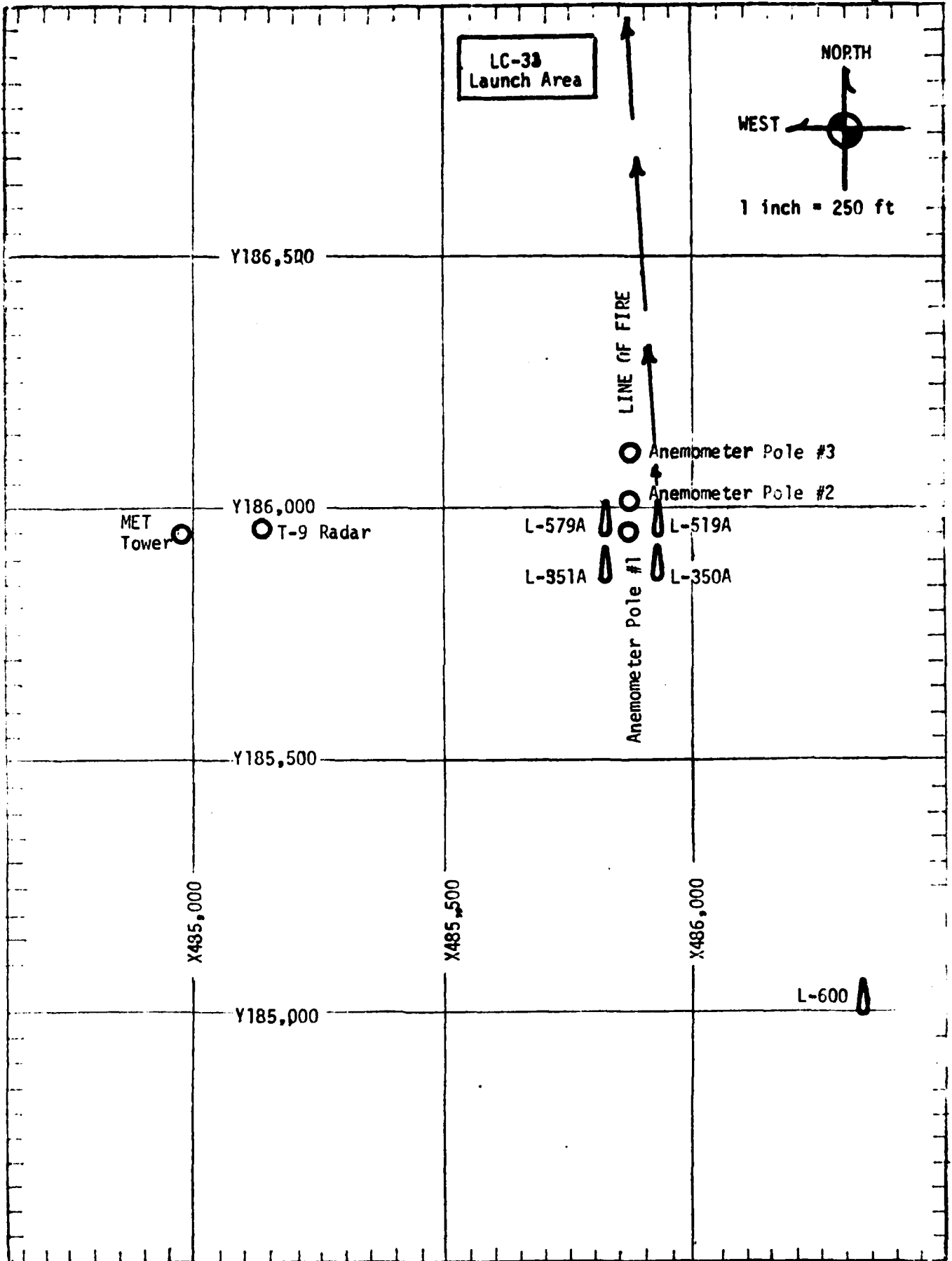
### SITE AND TIME

**WSD 0700 MDT**  
**LC-37 0848 MDT**  
**WSD 0900 MDT**  
**LC-37 1000 MDT**  
**LC-37 1100 MDT**

# WSMR METEOROLOGICAL SITES







PROJECT SURFACE OBSERVATION

TABLE 1									
STATION LC-33 E & A									
DATE 10 Sep 81									
X= 485.135.76 Y= 185.919.24 H= 3988.6									
TIME M D I	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	WIND		VISIBIL- ITY	
						DIRECTION degs Tn	SPEED kts		
1100	882.2	20.2	16.2	78	1046	340	02	15	

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	HGT	AMT	HGT	AMT	HGT	
	1	ST 1,000	2	SC 5,000	2	AC 12,000	2 CI 25,000

PSYCHROMETRIC COMPUTATION

TIME: MDT	1100
DRY BULB TEMP.	20.2
WET BULB TEMP.	17.5
WET BULB DEPR.	2.7
DEW POINT	16.2
RELATIVE HUMID.	78

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		CALM	T-30		CALM	T-30	357	04
T-20	014	01	T-20		CALM	T-20	357	04
T-10	031	03	T-10	353	02	T-10	355	04
T 0.0	035	03	T 0.0	017	03	T 0.0	357	04
T+10	033	03	T+10	023	03	T+10	360	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	293	02	T-30	276	01
T-20	294	01	T-20	280	02
T-10	293	02	T-10	281	02
T 0.0	279	02	T 0.0	319	02
T+10	278	02	T+10	326	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	300	01	T-30	005	03
T-20	300	02	T-20	014	04
T-10	300	01	T-10	015	03
T 0.0	300	02	T 0.0	018	03
T+10	302	02	T+10	020	02

TABLE 5

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 10 September 1981

SITE: LC 33  
 TIME: 1100 MDT  
 WSTM COORDINATES:  
 X= 484,837.34  
 Y= 184,124.44  
 H= 3,975.57

SITE: Nick  
 TIME: 1100 MDT  
 WSTM COORDINATES:  
 X= 470,734.56  
 Y= 255,775.64  
 H= 4,126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	340	02
150	032	02
210	042	02
270	054	02
330	065	02
390	075	01
500	237	01
650	268	06
800	293	09
950	314	09
1150	357	13
1350	005	13
1550	001	14
1750	004	17
2000	005	06

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	330	06
150	322	08
210	320	07
270	314	06
330	321	04
390	308	06
500	306	06
650	302	07
800	327	10
950	004	10
1150	356	15
1350	008	20
1550		
1750		
2000		

Data obtained from Double  
 Theodolite Tracked  
 Pilot-balloon observation

Data obtained from RPTS-T-9  
 radar tracked pilot-balloon  
 observation

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES

WSD 0700 MDT	LC-37 0848 MDT	WSD 0900 MDT
METCM1324064	METCM1324063	METCM1324064
101300122880	101480124879	101500122881
00018001 28770880	00000000 29220879	00000000 29080881
01051007 28870870	01006006 28980869	01044006 29110870
02013006 29040845	02015004 29120844	02018005 29160845
03544005 28950806	03553007 29040805	03552009 29040807
04594012 28800760	04628014 28940759	04624013 28930761
05626012 28550716	05630010 28640715	05006011 28660717
06569006 28180674	06546008 28250674	06555009 28280675
07521005 27780634	07518009 27870634	07543007 27890635
08444009 27390596	08420009 27480596	08453009 27470597
09390011 27010560	09396010 27080560	09393012 27080561
10426018 26780526	10401016 26880526	10401016 26840527
11419018 26550493	11419017 26580493	11418018 26610494
12425021 26160448	12411021 26170447	12414021 26130449

LC-37 1000 MDT  
 METCM1324063  
 101600124880  
 00196003 29370880  
 01035005 29190869  
 02010004 29180844  
 03534007 29040806  
 04620012 28880759  
 05012011 28570716  
 06570007 28140674  
 07518009 27810634  
 08441011 27440596  
 09419014 27090560  
 10407015 26860526  
 11413017 26590493  
 12405023 26130447

LC-37 MDT  
 METCM1324063  
 101700124880  
 00427002 29560880  
 01107002 29460869  
 02030003 29160844  
 03549007 28950806  
 04633013 28900760  
 05015011 28580716  
 06600007 28200674  
 07488007 27800634  
 08427012 27410596  
 09409016 27040560  
 10445009 26840526  
 11423013 26600494  
 12406021 26120448

STATION ALTITUDE 3989.00 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 589 0700 HRS MDT

SIGNIFICANT LEVEL DATA  
 2530020589  
 WHITE SANDS  
 TABLE 6

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
840.4	3989.0	12.8	12.5	98.0
850.0	4967.4	15.9	14.3	90.0
788.2	7072.8	13.7	11.4	86.0
769.6	7736.4	14.4	6.3	58.0
742.0	8748.2	12.6	3.6	54.0
733.0	9085.1	12.7	2.8	51.0
700.0	10351.5	10.3	-2	48.0
635.4	12970.9	3.8	-3.5	59.0
626.8	13334.9	3.4	-7.1	46.0
609.8	14066.5	1.7	-4.4	64.0
592.8	14813.9	-3	-6.5	63.0
581.9	15301.5	-1.6	-4.9	78.0
567.6	15952.3	-2.7	-10.2	56.0
538.9	17300.4	-5.0	-11.5	61.0
534.8	17498.0	-4.6	-26.0	14.0
500.0	19231.8	-6.8	-32.3	11.0
464.4	21115.9	-10.1	-31.1	16.0
454.0	21689.7	-10.6	-24.0	32.0
447.2	22071.2	-11.2	-32.6	15.0
434.6	22790.7	-12.8	-23.8	39.0
412.6	24086.6	-16.2	-22.1	60.0
400.0	24852.8	-17.8	-24.8	54.0
377.2	26289.9	-20.7	-32.1	35.0
363.8	27167.8	-22.2	-40.0	18.0
357.2	27609.7	-23.4	-35.7	31.0
350.4	28071.6	-24.6	-30.3	59.0

STATION ALTITUDE 3989.00 FEET MSL  
 10 SEP. 81 0700 HRS MDT  
 ASCENSION NO. 389

UPPER AIR DATA  
 2530020589  
 WHITE SANDS  
 TABLE 7

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION (DEGREES) (IN)	WIND SPEED KNOTS	INDEX OF REFRACTION
3989.0	880.4	12.8	12.5	98.0	1065.9	660.4	10.0	1.0	1.000305
4000.0	880.1	12.8	12.5	97.9	1065.3	660.9	9.4	1.0	1.000305
4500.0	864.4	14.4	13.4	93.8	1040.1	662.9	353.4	1.8	1.000303
5000.0	849.0	15.9	14.2	89.9	1015.9	664.7	347.5	2.6	1.000300
5500.0	833.9	15.3	13.5	89.0	999.9	664.0	344.4	3.5	1.000294
6000.0	819.1	14.8	12.9	88.0	984.1	663.4	325.4	4.6	1.000287
6500.0	804.6	14.3	12.2	87.1	968.5	662.7	310.9	6.2	1.000281
7000.0	790.3	13.8	11.5	86.1	953.2	662.1	315.9	8.5	1.000275
7500.0	776.2	14.2	8.3	68.0	936.1	662.1	319.7	10.8	1.000259
8000.0	762.3	13.9	5.6	57.0	920.9	661.6	336.0	11.8	1.000247
8500.0	748.7	13.0	4.2	55.0	907.5	660.4	347.9	13.1	1.000240
9000.0	735.3	12.7	3.0	51.8	892.6	659.9	351.3	12.5	1.000234
9500.0	722.0	11.9	1.8	50.0	879.1	659.0	352.8	11.6	1.000228
10000.0	709.0	11.0	.6	48.8	866.4	657.8	346.3	9.7	1.000223
10500.0	696.2	10.9	-.4	48.6	854.0	656.5	338.1	8.1	1.000218
11000.0	683.4	8.7	-.9	50.7	842.1	655.1	329.8	7.0	1.000215
11500.0	670.9	7.5	-1.5	52.8	830.4	653.6	321.6	6.1	1.000211
12000.0	658.6	6.2	-2.2	54.9	818.8	652.1	314.4	5.3	1.000208
12500.0	646.6	5.0	2.8	57.0	807.5	650.6	305.9	4.4	1.000204
13000.0	634.7	3.8	-3.7	58.0	796.3	649.2	287.4	3.7	1.000200
13500.0	622.9	3.0	-6.4	50.1	784.0	648.2	267.0	4.6	1.000194
14000.0	611.3	1.9	-4.6	62.4	772.3	646.9	254.7	5.9	1.000190
14500.0	599.9	.5	-5.6	63.4	761.6	645.3	248.1	7.6	1.000186
15000.0	588.6	-.8	-5.8	68.7	751.0	643.7	242.1	8.9	1.000184
15500.0	577.5	-1.9	-6.4	71.3	739.9	642.4	236.4	9.7	1.000177
16000.0	566.6	-2.8	-10.3	56.2	728.6	641.2	228.5	11.0	1.000174
16500.0	555.8	-3.6	-10.7	58.0	717.0	640.2	224.5	12.6	1.000171
17000.0	545.2	-4.5	-11.1	59.9	705.6	639.1	227.6	14.7	1.000158
17500.0	534.8	-4.6	-28.0	14.0	693.4	638.6	231.4	16.8	1.000152
18000.0	524.5	-5.2	-29.2	13.1	681.7	637.8	235.9	16.9	1.000149
18500.0	514.4	-5.9	-30.4	12.3	670.2	637.0	238.5	17.1	1.000147
19000.0	504.5	-6.5	-31.7	11.4	658.9	636.3	236.5	17.6	1.000144
19500.0	494.8	-7.3	-32.0	11.7	648.1	635.3	235.1	18.3	1.000142
20000.0	485.2	-8.1	-31.6	13.0	637.6	634.3	234.3	19.1	1.000140
20500.0	475.7	-9.0	-31.3	14.4	627.3	633.3	235.5	19.0	1.000139
21000.0	466.5	-9.9	-31.1	15.7	617.1	632.2	237.3	18.6	1.000135
21500.0	457.4	-10.4	-25.9	26.7	606.2	631.6	239.2	19.5	1.000135
22000.0	448.5	-11.1	-30.6	18.2	595.9	630.6	240.9	20.6	1.000135
22500.0	439.6	-12.2	-26.4	29.3	586.5	629.6	241.4	22.4	1.000135
23000.0	431.0	-13.3	-23.4	42.4	577.4	628.2	241.7	24.2	1.000134

STATION ALTITUDE 3984.00 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 389

UPPLR AIR DATA  
 2530020589  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES) (T)	SPEED KNOTS	INDEX OR REFRACTION
23500.0	422.4	-14.7	-22.6	50.5	568.8	626.6	239.7	25.2	1.000132
24000.0	414.0	-16.0	-22.2	58.6	560.3	625.1	237.8	26.1	1.000131
24500.0	405.8	-17.1	-23.6	56.8	551.5	623.7	235.7	26.6	1.000128
25000.0	397.6	-18.1	-25.5	52.1	542.7	622.4	234.9	26.8	1.000125
25500.0	389.6	-19.1	-27.9	45.4	533.9	621.1	237.5	26.5	1.000123
26000.0	381.7	-20.1	-30.5	38.8	525.2	619.9	241.6	26.1	1.000120
26500.0	373.9	-21.1	-33.7	30.9	516.6	618.7	247.0	25.8	1.000117
27000.0	366.3	-21.9	-38.1	21.2	507.8	617.6			1.000114
27500.0	358.8	-23.1	-36.5	27.8	499.8	616.1			1.000113
28000.0	351.4	-24.4	-30.9	54.7	492.0	614.6			1.000112



STATION ALTITUDE 3989.00 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 389

MANDATORY LEVELS  
 2530020589  
 WHITE SANDS  
 TABLE 8

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4964.	15.0	14.3	90.	347.7	2.5
800.0	6654.	14.1	12.0	87.	311.8	0.9
750.0	8444.	13.1	4.3	55.	347.6	13.2
700.0	10341.	10.3	-2	48.	340.2	6.5
650.0	12348.	5.3	-2.6	50.	307.4	4.7
600.0	14478.	.6	-5.6	63.	248.2	7.6
550.0	16750.	-4.1	-10.9	59.	225.5	13.7
500.0	19205.	-6.8	-32.3	11.	235.6	17.9
450.0	21880.	-11.0	-28.4	22.	240.6	20.4
400.0	24811.	-17.8	-24.8	54.	234.3	20.9

STATION ALTITUDE 4051.17 FEET MSL  
 10 SEP. 81  
 ASCENSION NO. 198

SIGNIFICANT LEVEL DATA  
 25301.0196  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT
882.2	4051.4	17.3	13.0	76.0
881.2	4083.1	14.1	10.1	77.0
861.4	4716.6	15.6	14.3	92.0
850.0	5089.7	16.4	13.5	83.0
812.4	6355.7	15.1	12.1	82.0
764.2	8062.5	15.5	5.4	51.0
735.6	9123.2	13.8	2.4	46.0
700.0	10490.6	10.6	1.9	55.0
644.8	12719.6	5.1	-3.4	54.0
618.0	13855.3	2.9	-5.0	56.0
556.8	16599.3	-4.1	-5.2	92.0
540.0	17395.4	-3.5	-23.2	20.0
500.0	19383.8	-6.6	-20.2	16.0
483.2	20257.9	-9.1	-20.2	40.0
459.6	21528.4	-11.0	-19.8	48.0
437.0	22797.5	-13.2	-35.0	14.0
422.2	23658.6	-14.6	-24.4	43.0
414.8	24098.9	-15.3	-28.2	32.0
400.0	24998.6	-17.4	-27.4	41.0
356.8	27786.7	-22.9	-42.9	14.0
336.4	29196.6	-26.7	-42.8	20.0
310.6	31075.2	-31.4	-35.0	70.0
300.0	31882.4	-33.0	-38.7	56.0

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 81  
 ASCENSION NO. 198  
 0848 HRS MDT

UPPER AIR DATA  
 25301.00190  
 LC-37  
 TABLE 10

GEODETIC COORDINATES  
 32.40175 LAT UEG  
 106.31232 LON UEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE						
4051.4	882.2	17.3	13.0	76.0	1051.3	660.1	.0	.0	1.000302
4500.0	860.1	15.1	12.9	86.9	1042.4	663.6	324.3	1.0	1.000300
5000.0	852.7	16.2	13.7	85.2	1019.5	665.0	324.3	2.1	1.000298
5500.0	837.6	16.0	13.0	82.7	1002.4	664.7	324.3	3.2	1.000292
6000.0	822.8	15.5	12.5	82.3	986.5	664.1	321.5	4.6	1.000286
6500.0	808.2	15.1	11.6	79.4	970.4	663.6	315.9	6.7	1.000279
7000.0	793.9	15.3	9.9	70.3	953.3	663.5	320.5	8.8	1.000268
7500.0	779.8	15.4	7.9	61.2	936.6	663.5	340.1	11.3	1.000257
8000.0	765.9	15.5	5.7	52.1	920.2	663.4	349.7	12.7	1.000247
8500.0	752.3	14.8	4.2	48.9	903.3	662.5	350.6	13.7	1.000240
9000.0	738.9	14.0	2.8	46.6	893.0	661.4	357.0	12.5	1.000233
9500.0	725.6	12.9	2.3	48.5	880.3	660.2	356.3	10.9	1.000230
10000.0	712.6	11.7	2.2	51.8	868.0	658.8	348.5	8.8	1.000227
10500.0	699.8	10.6	1.9	55.0	855.9	657.5	331.6	7.6	1.000224
11000.0	687.0	9.3	.7	54.8	844.2	655.9	310.6	7.8	1.000219
11500.0	674.4	8.1	-.5	54.5	832.6	654.4	307.2	8.1	1.000214
12000.0	662.1	6.9	-1.7	54.3	821.2	652.9	303.6	8.3	1.000209
12500.0	650.0	5.6	-2.9	54.1	809.9	651.4	298.6	8.2	1.000205
13000.0	638.1	4.6	-3.8	54.5	798.2	650.1	290.9	8.2	1.000201
13500.0	626.3	3.6	-4.5	55.4	786.3	648.9	278.9	8.6	1.000197
14000.0	614.6	2.5	-4.9	57.9	774.6	647.7	265.3	8.6	1.000194
14500.0	603.0	1.3	-4.7	64.5	763.5	646.2	248.6	8.7	1.000192
15000.0	591.7	-.0	-4.6	71.0	752.0	644.7	234.3	9.0	1.000190
15500.0	580.6	-1.3	-4.7	77.6	741.9	643.2	221.6	9.6	1.000187
16000.0	569.6	-2.6	-4.9	84.1	731.3	641.7	220.1	10.4	1.000185
16500.0	558.9	-3.8	-5.1	90.7	720.5	640.2	220.7	11.4	1.000182
17000.0	548.3	-3.8	-11.3	55.8	707.9	639.9	225.0	13.1	1.000171
17500.0	537.8	-3.7	-23.4	19.8	694.8	639.7	220.8	18.6	1.000169
18000.0	527.5	-4.4	-24.6	18.8	683.5	638.8	226.8	15.8	1.000157
18500.0	517.4	-5.2	-25.9	17.8	672.4	637.9	228.3	16.2	1.000154
19000.0	507.5	-6.0	-27.2	16.8	661.4	636.9	230.3	16.3	1.000151
19500.0	497.7	-6.9	-26.5	19.2	651.0	635.8	232.5	16.8	1.000149
20000.0	488.1	-8.4	-21.7	32.9	641.0	634.2	233.9	17.3	1.000149
20500.0	478.6	-9.5	-20.1	41.5	631.7	632.9	232.8	18.4	1.000147
21000.0	469.3	-10.2	-19.9	44.7	621.1	632.0	231.9	19.2	1.000145
21500.0	460.1	-11.0	-19.8	47.8	610.7	631.1	231.2	19.5	1.000143
22000.0	451.1	-11.8	-24.0	35.4	600.9	630.0	230.1	19.7	1.000139
22500.0	442.2	-12.7	-20.9	22.0	591.2	628.9	228.8	20.0	1.000134
23000.0	433.5	-13.5	-31.2	20.8	581.4	627.8	220.4	21.2	1.000132
23500.0	424.9	-14.3	-25.6	37.7	571.5	626.9	224.2	22.6	1.000132

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 61 0848 HRS MDT  
 ASCENSION NO. 198

UPPER AIR DATA  
 25301.0190  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT UEG  
 106.31232 LONG DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	SPEED OF SOUND M/S	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
24000.0	410.5	-15.1	34.5	562.0	625.9	221.0	24.2	1.000129	
24500.0	400.1	-16.2	36.0	553.1	624.6	220.4	25.4	1.000127	
25000.0	400.0	-17.4	41.0	544.5	623.2	222.6	25.1	1.000125	
25500.0	391.9	-18.4	36.1	535.6	622.0	220.0	24.8	1.000122	
26000.0	383.9	-19.4	31.3	526.8	620.7	231.9	24.3	1.000120	
26500.0	370.1	-20.4	26.5	518.2	619.5	238.7	24.5	1.000117	
27000.0	360.5	-21.3	21.6	509.7	618.3	245.7	25.4	1.000115	
27500.0	361.0	-22.3	16.8	501.3	617.0	248.7	26.5	1.000113	
28000.0	353.6	-23.5	14.9	493.3	615.6	250.6	27.7	1.000111	
28500.0	340.3	-24.8	17.0	485.0	614.0	247.7	28.8	1.000109	
29000.0	339.2	-26.2	19.2	478.3	612.3	244.9	29.9	1.000107	
29500.0	332.1	-27.5	28.1	470.8	610.7	242.1	29.9	1.000106	
30000.0	329.1	-28.7	41.4	463.2	609.2	239.2	30.1	1.000105	
30500.0	318.3	-30.0	54.7	455.8	607.6	235.7	30.8	1.000103	
31000.0	311.6	-31.2	68.0	448.5	606.1			1.000102	
31500.0	305.0	-32.2	62.6	440.9	604.8			1.000100	

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 81  
 ASCENSION NO. 198 0848 HRS MDT

MANDATORY LEVELS  
 25301.0198  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.51232 LON DEG

TABLE 11

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
450.0	5086.	16.4	13.5	83.	324.3	7.3
800.0	6779.	15.2	10.6	74.	318.0	7.9
750.0	8577.	14.7	3.9	49.	356.8	13.5
700.0	10480.	10.6	1.9	53.	332.2	7.7
650.0	12490.	5.6	-2.9	54.	298.6	8.2
600.0	14623.	.9	-4.7	60.	244.3	8.8
550.0	16897.	-3.9	-9.8	63.	224.3	12.8
500.0	19356.	-6.6	-28.2	16.	232.0	16.6
450.0	22027.	-11.9	-24.6	34.	229.9	14.8
400.0	24956.	-17.4	-27.4	41.	222.5	23.1
350.0	28198.	-24.1	-42.7	16.	249.2	28.2
300.0	31818.	-33.0	-38.7	56.		

STATION ALTITUDE 3989.00 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 590 0900 HRS MDT

SIGNIFICANT LEVEL DATA  
 2530020590  
 WHITE SANDS  
 TABLE 12

ALGEBRAIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	HUMIDITY PERCENT
880.7	3989.0	15.6	14.5	93.0
869.6	4343.8	15.6	14.5	93.0
850.0	4982.7	16.6	14.4	87.0
820.0	5989.4	15.5	12.4	62.0
761.0	8073.4	15.1	5.9	54.0
732.2	9145.7	13.9	2.2	45.0
700.0	10386.4	11.0	1.5	52.0
639.2	12855.2	5.4	-3.1	54.0
612.0	14018.6	2.6	-4.6	59.0
557.0	16497.9	-3.5	-5.8	84.0
542.8	17169.8	-3.4	-21.0	24.0
525.8	17995.9	-4.5	-10.5	63.0
518.4	18362.9	-4.8	-28.9	13.0
510.4	18764.6	-5.3	-28.5	14.0
500.0	19295.1	-6.4	-16.6	44.0
485.8	20034.3	-7.7	-24.7	24.0
469.0	20931.7	-9.6	-24.6	28.0
459.2	21466.9	-11.0	-21.5	42.0
444.8	22270.9	-11.8	-33.8	14.0
437.6	22681.4	-12.5	-31.3	19.0
430.0	23120.9	-13.5	-21.9	49.0
400.0	24917.9	-17.5	-28.9	36.0
393.0	25352.7	-18.0	-29.7	35.0
385.6	25819.5	-18.9	-40.3	13.0
337.2	29059.4	-26.3	-45.1	15.0
330.4	29542.9	-27.8	-38.5	35.0
317.2	30501.3	-31.1	-35.3	66.0
304.6	31446.1	-31.9	-36.4	64.0
300.0	31799.8	-32.5	-37.9	58.0
292.0	32425.7	-33.7	-41.7	44.0
285.8	32920.4	-34.7	-43.9	38.0
261.8	34917.4	-39.6	-49.4	34.0
250.0	35950.3	-42.4		
200.0	40798.6	-53.6		
182.6	42708.3	-58.0		
156.2	45897.4	-65.3		
150.0	46708.2	-66.4		
121.0	50965.9	-69.6		
107.4	53308.1	-70.1		
101.0	54528.0	-65.3		

STATION ALTITUDE 3989.00 FEET MSL  
 10 SLP. 01 0900 HRS MDT  
 ASCENSION NO. 090

SIGNIFICANT LEVEL DATA  
 2530020590  
 WHITE SANDS  
 TABLE 12

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
100.0	54727.5	-66.2		
88.6	57145.3	-66.8		
80.0	59208.1	-61.6		
70.0	61945.7	-60.7		
50.0	68935.1	-56.2		
40.4	73451.8	-52.4		
32.0	78453.2	-50.8		

STATION ALTITUDE 3989.00 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 590

UPPER AIR DATA  
 2530020190  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
3989.0	880.7	15.6	93.0	1055.0	664.4	• 0	• 0	1.000310
4000.0	880.4	15.6	93.0	1054.6	664.4	320.0	• 0	1.000310
4500.0	864.8	15.8	91.5	1034.9	664.7	320.0	1.7	1.000306
5000.0	849.5	16.6	86.9	1013.9	665.6	320.0	3.4	1.000300
5500.0	834.4	16.0	84.4	998.2	664.8	320.0	5.1	1.000292
6000.0	819.7	15.5	81.9	982.7	664.1	319.5	6.9	1.000285
6500.0	805.1	15.4	75.1	966.0	663.8	318.0	9.0	1.000275
7000.0	790.8	15.3	68.4	949.6	663.6	322.6	10.6	1.000266
7500.0	776.8	15.2	61.7	933.6	663.3	335.9	11.7	1.000257
8000.0	763.0	15.1	55.0	917.8	663.0	345.9	12.6	1.000248
8500.0	749.4	14.6	50.4	903.4	662.3	354.5	12.7	1.000240
9000.0	736.0	14.1	46.2	889.4	661.5	359.0	12.1	1.000232
9500.0	722.9	13.1	47.0	876.5	660.3	1.4	11.0	1.000228
10000.0	709.9	11.9	49.8	864.3	659.0	353.3	9.8	1.000225
10500.0	697.1	10.7	52.1	852.3	657.6	340.8	9.1	1.000222
11000.0	684.4	9.6	52.5	840.2	656.2	327.5	8.4	1.000217
11500.0	671.9	8.5	52.9	828.4	654.9	313.0	8.3	1.000213
12000.0	659.6	7.3	53.3	816.7	653.5	308.1	7.9	1.000208
12500.0	647.6	6.2	53.7	805.2	652.1	303.4	7.6	1.000204
13000.0	635.7	5.1	54.6	793.8	650.7	299.3	7.0	1.000200
13500.0	624.0	3.8	56.8	782.6	649.3	288.1	6.9	1.000197
14000.0	612.4	2.6	58.9	771.5	647.8	271.9	7.8	1.000194
14500.0	600.9	1.4	63.9	760.4	646.4	256.1	8.7	1.000191
15000.0	589.6	• 2	68.9	749.4	645.0	242.1	10.0	1.000189
15500.0	578.5	-1.0	73.9	738.6	643.5	232.9	10.7	1.000186
16000.0	567.6	-2.3	79.0	728.0	642.1	225.1	11.4	1.000183
16500.0	557.0	-3.5	83.8	717.6	640.6	225.0	12.9	1.000180
17000.0	546.4	-3.4	39.2	704.7	640.2	226.4	14.5	1.000167
17500.0	535.9	-3.8	39.6	692.4	639.7	226.6	15.5	1.000164
18000.0	525.7	-4.5	62.4	680.4	639.2	226.7	16.4	1.000166
18500.0	515.7	-5.0	13.3	669.6	638.1	229.0	16.8	1.000152
19000.0	505.8	-5.8	27.3	658.5	637.3	231.3	17.2	1.000152
19500.0	496.0	-6.8	38.5	648.0	636.2	234.1	17.7	1.000152
20000.0	486.5	-7.6	24.9	637.8	635.0	234.1	18.1	1.000147
20500.0	477.0	-8.7	26.1	627.9	633.6	234.1	18.2	1.000142
21000.0	467.7	-9.8	29.8	618.3	632.5	234.0	18.6	1.000142
21500.0	458.6	-11.0	40.8	609.0	631.0	234.6	19.0	1.000137
22000.0	449.6	-11.5	23.4	598.4	630.3	233.6	20.2	1.000137
22500.0	440.8	-12.2	16.8	588.2	629.4	232.4	21.5	1.000133
23000.0	432.1	-13.2	40.7	578.6	628.3	229.4	22.3	1.000134



STATION ALTITUDE 3989.00 FEET MSL  
 10 SEP. 81 0900 HRS MDT  
 ASCENSION NO. 590

UPPER AIR DATA  
 2530020390  
 WHITE SANDS  
 TABLE 13

GEODETIC COORDINATE,  
 32.40043 LAT DEG  
 106.37033 LON DEG

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
23500.0	423.5	-14.3	46.3	563.0	027.0	226.4	23.1	1.000132
24000.0	415.1	-15.5	42.6	560.7	025.6	225.0	22.8	1.000129
24500.0	406.8	-16.6	39.0	552.0	024.2	224.2	22.6	1.000127
25000.0	398.7	-17.6	35.8	543.2	022.9	223.9	22.3	1.000124
25500.0	390.6	-18.3	28.1	533.8	022.1	221.2	22.1	1.000121
26000.0	382.7	-19.3	13.1	525.2	020.7	217.7	22.4	1.000118
26500.0	374.9	-20.5	13.4	516.7	019.3	243.7	23.6	1.000116
27000.0	367.2	-21.6	13.7	508.5	017.9	248.8	25.3	1.000114
27500.0	359.7	-22.7	14.0	500.3	016.5	251.6	26.7	1.000112
28000.0	352.3	-23.9	14.3	492.3	015.1	254.2	28.1	1.000110
28500.0	345.1	-25.0	14.7	484.5	013.7	251.6	28.5	1.000109
29000.0	338.0	-26.2	15.0	476.7	012.3	248.7	29.0	1.000107
29500.0	331.0	-27.7	33.2	469.0	010.5	243.5	29.8	1.000106
30000.0	324.0	-29.4	49.8	462.9	008.4	238.6	30.7	1.000105
30500.0	317.2	-31.1	66.0	456.4	006.2	235.8	31.4	1.000104
31000.0	310.5	-31.5	64.9	447.5	005.7	233.3	32.0	1.000101
31500.0	303.9	-32.0	63.1	438.8	005.1	233.2	32.9	1.000099
32000.0	297.4	-32.9	53.5	431.1	003.9	233.0	33.8	1.000097
32500.0	291.1	-33.9	43.1	423.6	002.7	232.8	35.1	1.000095
33000.0	284.8	-34.9	37.8	416.4	001.4	232.3	36.2	1.000094
33500.0	278.6	-36.1	36.8	409.4	599.8	231.4	37.3	1.000092
34000.0	272.6	-37.3	35.8	402.6	598.3	230.1	37.7	1.000090
34500.0	266.6	-38.6	34.8	395.9	596.7	228.4	37.6	1.000089
35000.0	260.8	-39.8	31.3**	389.4	595.1	226.9	37.5	1.000087
35500.0	255.1	-41.2	14.8**	383.1	593.4	225.5	37.3	1.000085
36000.0	249.4	-42.5		376.8	591.6	225.1	36.8	1.000084
36500.0	243.8	-43.7		370.0	590.2	225.2	36.1	1.000082
37000.0	238.2	-44.8		363.4	588.7	224.4	34.8	1.000081
37500.0	232.8	-46.0		357.0	587.2	223.7	33.8	1.000080
38000.0	227.5	-47.1		350.6	585.7	224.7	34.5	1.000078
38500.0	222.3	-48.3		344.4	584.2	225.1	35.0	1.000077
39000.0	217.3	-49.4		338.3	582.7	224.7	35.0	1.000075
39500.0	212.3	-50.6		332.3	581.2	224.7	34.2	1.000074
40000.0	207.5	-51.8		326.5	579.7	225.1	32.8	1.000073
40500.0	202.8	-52.9		320.7	578.2	227.1	31.8	1.000071
41000.0	198.1	-54.1		315.0	576.6	230.0	31.1	1.000070
41500.0	193.4	-55.2		309.2	575.1	232.6	31.7	1.000069
42000.0	188.9	-56.4		303.5	573.6	235.9	32.7	1.000068
42500.0	184.4	-57.5		297.9	572.1	238.9	33.2	1.000066
43000.0	180.0	-58.7		292.4	570.5	238.3	33.3	1.000065

\*\* AT CLAY GUN ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 3989.00 FEET MSL  
 10 SEP. 51  
 ASCENSION NO. 590 0900 HRS MDT

UPPER AIR DATA  
 2530020590  
 WHITE SANDS  
 TABLE 13

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
43500.0	175.7	-59.8		286.8	569.0	236.8	32.0	1.000004
44000.0	171.4	-61.0		281.4	567.5	233.5	30.8	1.000003
44500.0	167.3	-62.1		276.1	566.0	234.2	30.2	1.000001
45000.0	163.2	-63.2		270.9	564.4	238.1	29.9	1.000006
45500.0	159.3	-64.4		265.8	562.9	241.6	30.1	1.000059
46000.0	155.4	-65.4		260.6	561.5	243.0	30.2	1.000058
46500.0	151.6	-66.1		255.0	560.6	247.6	30.1	1.000057
47000.0	147.8	-66.6		249.3	559.9	250.0	29.5	1.000056
47500.0	144.1	-67.0		243.5	559.4	251.6	28.8	1.000054
48000.0	140.5	-67.4		237.9	558.9	253.4	26.5	1.000053
48500.0	137.0	-67.7		232.4	558.3	246.9	23.9	1.000052
49000.0	133.6	-68.1		227.0	557.8	240.7	23.4	1.000051
49500.0	130.3	-68.5		221.8	557.3	236.8	22.9	1.000049
50000.0	127.0	-68.9		216.7	556.8	231.4	20.7	1.000048
50500.0	123.9	-69.2		211.6	556.3	224.2	19.0	1.000047
51000.0	120.8	-69.6		206.7	555.8	218.8	18.1	1.000046
51500.0	117.8	-69.7		201.6	555.7	215.4	18.7	1.000045
52000.0	114.8	-69.8		196.7	555.5	216.0	20.2	1.000044
52500.0	111.9	-69.9		191.8	555.4	217.8	18.4	1.000043
53000.0	109.1	-70.0		187.1	555.2	226.4	15.9	1.000042
53500.0	106.4	-69.3		181.8	555.2	240.5	12.3	1.000040
54000.0	103.7	-67.4		175.6	558.8	274.3	8.7	1.000039
54500.0	101.1	-65.4		169.6	561.5	3.2	4.1	1.000038
55000.0	98.6	-66.3		166.1	560.3	55.5	3.6	1.000036
55500.0	96.2	-66.4		162.1	560.2	79.0	7.3	1.000035
56000.0	93.8	-66.5		158.2	560.0	107.7	9.5	1.000035
56500.0	91.5	-66.6		154.4	559.8	119.7	10.7	1.000034
57000.0	89.2	-66.8		150.6	559.7	129.9	10.2	1.000034
57500.0	87.1	-65.9		146.3	560.8	130.4	8.8	1.000033
58000.0	84.9	-64.6		141.9	562.5	131.1	6.5	1.000032
58500.0	82.9	-63.4		137.0	564.2	136.5	4.5	1.000031
59000.0	80.8	-62.1		133.4	565.9	115.0	5.2	1.000030
59500.0	78.9	-61.5		129.8	566.8	89.4	6.8	1.000029
60000.0	77.0	-61.3		126.6	567.0	64.3	11.6	1.000028
60500.0	75.1	-61.2		123.4	567.2	62.5	13.7	1.000027
61000.0	73.3	-61.0		120.4	567.4	65.0	14.6	1.000027
61500.0	71.5	-60.8		117.4	567.6	66.7	13.8	1.000026
62000.0	69.8	-60.7		114.5	567.9	68.0	13.5	1.000025
62500.0	68.2	-60.3		111.6	568.3	87.7	14.0	1.000025
63000.0	66.5	-60.0		108.6	568.7		14.6	1.000024

STATION ALTITUDE 3985.00 FEET MSL  
 10 SEP. 61 0900 HRS MDT  
 ASCENSION 110. 590

UPPER AIR DATA  
 2530020190  
 WHITE BRUIS

TABLE-13

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TR)	WIND SPEED KNOTS	INDEX OF REFRACTION
03500.0	65.0	-59.7		106.0	569.2	90.5	15.1	1.000024
04000.0	63.4	-59.4		103.3	569.6	99.9	16.6	1.000023
04500.0	61.9	-59.1		100.7	570.0	108.6	17.2	1.000022
05000.0	60.4	-58.7		98.2	570.5	121.1	15.1	1.000022
05500.0	59.0	-58.4		95.7	570.9	124.1	13.7	1.000021
06000.0	57.6	-58.1		93.3	571.3	119.2	12.3	1.000021
06500.0	56.2	-57.8		90.9	571.7	112.9	13.4	1.000020
07000.0	54.9	-57.4		88.6	572.2	107.4	13.5	1.000020
07500.0	53.6	-57.1		86.4	572.6	100.1	11.2	1.000019
08000.0	52.3	-56.8		84.2	573.0	85.6	9.4	1.000019
08500.0	51.1	-56.5		82.1	573.4	68.7	8.7	1.000018
09000.0	49.8	-56.1		80.0	573.9	70.5	9.4	1.000018
09500.0	48.7	-55.7		78.0	574.4	71.1	10.5	1.000017
70000.0	47.5			76.0	575.0	70.7	12.1	1.000017
70500.0	46.4			74.1	575.6	74.1	14.9	1.000016
71000.0	45.4			72.3	576.1	77.9	17.7	1.000016
71500.0	44.3			70.4	576.7	83.6	20.2	1.000016
72000.0	43.3	-53.6		68.7	577.2	85.0	20.6	1.000015
72500.0	42.3	-53.2		66.9	577.8	85.4	20.4	1.000015
73000.0	41.3	-52.8		65.2	578.3	88.5	21.7	1.000015
73500.0	40.3	-52.4		63.6	578.8	94.4	23.4	1.000014
74000.0	39.4	-52.2		62.1	579.1	101.3	25.5	1.000014
74500.0	38.5	-52.1		60.6	579.3	101.7	25.9	1.000014
75000.0	37.6	-51.9		59.2	579.5	102.3	25.9	1.000013
75500.0	36.7	-51.7		57.8	579.7	103.0	25.6	1.000013
76000.0	35.9	-51.6		56.4	579.9	107.9	24.7	1.000013
76500.0	35.0	-51.4		55.1	580.1	111.6	23.9	1.000012
77000.0	34.2	-51.3		53.8	580.3	110.0	23.3	1.000012
77500.0	33.5	-51.1		52.5	580.5			1.000012
78000.0	32.7	-50.9		51.2	580.7			1.000011

STATION ALTITUDE 3989.00 FEET MSL  
 10 SEP. 61 0900 HRS MDT  
 ASCENSION NO. 590

MANDATORY LEVELS  
 2530020590  
 WHITE BANDS

MODEMIC COORDINATES  
 32.90043 LAT UEG  
 106.37033 LONG UEG

TABLE 14

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DATA		
					DIRECTION DEGREES(TN)	SPEED KNOTS	SPEED KNOTS
850.0	4979.	16.6	14.4	87.	320.0	3.4	3.4
800.0	6674.	15.4	10.5	73.	317.0	9.7	9.7
750.0	8471.	14.6	4.5	51.	354.0	12.7	12.7
700.0	10376.	11.0	1.5	52.	344.0	9.2	9.2
650.0	12390.	6.4	-2.3	54.	304.1	7.7	7.7
600.0	14527.	1.3	-4.7	64.	254.9	6.8	6.8
550.0	16805.	-3.5	-11.3	55.	226.1	13.9	13.9
500.0	19268.	-6.4	-16.6	44.	232.9	17.5	17.5
450.0	21944.	-11.5	-27.9	24.	233.7	20.1	20.1
400.0	24876.	-17.5	-28.9	30.	220.4	22.3	22.3
350.0	28117.	-24.2	-43.7	14.	253.6	20.2	20.2
300.0	31736.	-32.5	-43.7	58.	233.1	33.3	33.3
250.0	35871.	-42.4	-37.9		225.1	30.9	30.9
200.0	40699.	-53.6			228.7	31.4	31.4
175.0	43475.	-60.0			236.0	31.8	31.8
150.0	46581.	-66.4			246.2	30.0	30.0
125.0	50179.	-69.1			234.1	19.5	19.5
100.0	54557.	-66.2			309.0	3.4	3.4
80.0	59011.	-61.6			136.0	5.5	5.5
70.0	61731.	-60.7			86.8	13.4	13.4
60.0	64894.	-58.6			123.8	14.8	14.8
50.0	68674.	-56.2			70.2	9.2	9.2
40.0	73369.	-52.3			96.3	23.9	23.9

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

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 199 1000 HRS MDT

SIGNIFICANT LEVEL DATA  
 2530140199  
 LC-37

GEODLTIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

TABLE 15

GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT
879.5	18.2	86.0
872.6	16.4	91.0
862.8	15.6	89.0
850.0	17.0	81.0
803.2	15.0	81.0
764.6	15.0	57.0
754.8	13.7	53.0
700.0	10.6	46.0
679.0	8.0	60.0
633.6	4.1	57.0
564.2	-3.0	75.0
547.0	-3.4	25.0
521.6	-5.0	14.0
500.0	-6.8	39.0
486.9	-8.2	44.0
473.2	-9.7	13.0
449.2	-12.4	69.0
426.4	-14.1	25.0
400.0	-17.4	21.0
368.8	-21.2	14.0
334.4	-26.8	14.0
300.0	-33.4	58.0

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 81  
 ASCENSION NO. 199 1000 HRS MDT

UPPER AIR DATA  
 25301.0199  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT UEG  
 106.31232 LONG UEG

TABLE 16

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	879.5	18.2	15.8	86.0	1043.5	667.6	110.0	2.9	1.000313
4500.0	865.6	15.8	14.1	89.6	1036.1	664.6	94.9	1.3	1.000304
5000.0	850.3	17.0	13.7	81.2	1013.8	665.9	341.5	.9	1.000297
5500.0	835.2	16.4	13.1	81.0	996.1	665.2	314.5	2.6	1.000291
6000.0	820.4	15.7	12.5	81.0	982.7	664.4	309.9	4.6	1.000285
6500.0	805.9	15.1	11.9	81.0	967.6	663.6	309.5	6.8	1.000279
7000.0	791.6	15.0	10.4	73.9	951.3	663.3	316.0	8.4	1.000270
7500.0	777.5	15.0	8.5	65.2	934.9	663.1	331.5	9.8	1.000259
8000.0	763.7	14.9	6.4	56.6	919.3	662.8	342.7	10.8	1.000249
8500.0	750.1	13.4	3.9	52.4	908.0	660.9	352.5	11.5	1.000240
9000.0	736.6	12.7	2.8	50.7	894.2	659.9	358.5	11.8	1.000234
9500.0	723.3	11.9	1.6	49.0	880.7	659.0	3.3	12.0	1.000228
10000.0	710.3	11.2	.4	47.4	867.3	658.0	5.5	11.5	1.000223
10500.0	697.5	10.3	-.3	47.6	854.5	657.0	3.6	10.1	1.000219
11000.0	684.9	8.7	.5	56.1	843.4	655.2	352.5	7.8	1.000218
11500.0	672.3	7.4	.1	59.6	831.8	653.7	328.6	6.9	1.000215
12000.0	660.0	6.4	-1.1	58.8	819.8	652.4	303.3	8.0	1.000210
12500.0	647.9	5.4	-2.2	58.0	807.9	651.1	294.0	8.5	1.000205
13000.0	636.0	4.3	-3.4	57.2	796.2	649.8	286.4	8.7	1.000201
13500.0	624.1	3.2	-4.0	59.3	784.6	648.5	279.5	8.5	1.000197
14000.0	612.4	2.0	-4.4	62.3	773.2	647.1	265.0	8.8	1.000194
14500.0	600.9	.9	-4.9	65.2	761.9	645.7	250.5	9.9	1.000191
15000.0	589.6	-.3	-5.4	68.2	750.9	644.4	240.9	11.0	1.000188
15500.0	578.6	-1.5	-6.0	71.1	740.0	643.0	230.0	12.2	1.000185
16000.0	567.7	-2.6	-6.6	74.0	729.3	641.6	235.7	13.4	1.000182
16500.0	557.0	-3.2	-11.1	54.2	717.4	640.7	234.1	14.3	1.000173
17000.0	546.4	-3.4	-20.7	24.7	705.2	640.1	231.9	15.1	1.000163
17500.0	536.0	-4.1	-23.5	20.3	693.5	639.2	231.1	15.1	1.000159
18000.0	525.7	-4.7	-26.8	15.8	682.0	638.4	230.7	15.0	1.000155
18500.0	515.6	-5.5	-24.4	20.8	670.7	637.6	233.2	15.7	1.000154
19000.0	505.7	-6.3	-20.2	32.3	659.6	636.7	234.5	16.4	1.000153
19500.0	496.0	-7.2	-16.7	46.6	648.9	635.7	233.1	17.2	1.000153
20000.0	486.4	-8.3	-14.2	62.1	638.6	634.6	231.4	17.9	1.000153
20500.0	476.9	-9.3	-24.7	27.1	629.3	633.0	229.1	18.3	1.000145
21000.0	467.6	-10.3	-26.2	25.8	619.4	631.8	228.6	19.3	1.000142
21500.0	458.5	-11.3	-20.4	47.0	609.4	630.7	229.4	21.0	1.000142
22000.0	449.5	-12.4	-17.0	68.3	599.6	629.5	229.4	23.0	1.000143
22500.0	440.6	-13.0	-20.6	52.7	589.5	628.6	229.1	25.2	1.000138
23000.0	431.9	-13.7	-25.5	35.8	579.5	627.7	226.4	25.9	1.000133
23500.0	423.3	-14.5	-30.3	24.5	569.9	626.7	222.9	26.2	1.000130

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 199  
 1000 HRS MDT

UPPER AIR DATA  
 25301R0199  
 LC-37  
 TABLE 16

GEODETIC COORDINATES  
 32.40175 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 DIRECTION, DEGREES (IN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	414.9	-15.5	23.3	560.8	623.4	221.0	25.2	1.000127
24500.0	406.6	-16.6	22.0	551.4	624.2	219.6	24.0	1.000125
25000.0	398.5	-17.6	20.7	543.0	622.9	223.6	23.5	1.000123
25500.0	390.4	-18.5	18.9	534.1	621.7	229.1	23.3	1.000121
26000.0	382.5	-19.5	17.2	525.2	620.5	235.7	23.8	1.000118
26500.0	374.8	-20.4	15.4	516.6	619.4	241.7	24.3	1.000116
27000.0	367.2	-21.4	14.0	508.1	618.1	247.2	24.8	1.000114
27500.0	359.6	-22.6	14.0	500.0	618.6	249.0	25.7	1.000112
28000.0	352.2	-23.8	14.0	492.1	615.2	249.8	26.8	1.000110
28500.0	345.0	-25.0	14.0	484.3	613.7	248.0	27.0	1.000109
29000.0	337.9	-26.2	14.0	476.6	612.2	245.8	27.2	1.000107
29500.0	330.8	-27.5	18.4	469.0	610.7	241.1	28.0	1.000105
30000.0	323.8	-28.8	27.0	461.5	609.1	236.7	29.0	1.000104
30500.0	317.0	-30.0	35.7	454.2	607.5	233.1	30.0	1.000102
31000.0	310.3	-31.3	44.3	447.0	605.9			1.000101
31500.0	303.8	-32.6	53.0	439.9	604.2			1.000099

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 199

MANDATORY LEVELS  
 2530180199  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

TABLE 17

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5005.	17.0	13.7	81.	340.0	.9
800.0	6700.	15.0	11.4	79.	309.4	7.6
750.0	8495.	13.4	3.9	52.	352.5	11.5
700.0	10393.	10.6	-5	40.	5.3	10.7
650.0	12401.	5.5	-2.0	58.	295.6	8.4
600.0	14532.	.8	-5.0	65.	249.6	10.0
550.0	16807.	-3.3	-17.0	34.	232.7	14.9
500.0	19266.	-6.8	-18.4	39.	233.7	16.9
450.0	21937.	-12.3	-17.1	67.	229.5	22.8
400.0	24865.	-17.4	-34.4	21.	222.9	23.6
350.0	28107.	-24.2	-44.0	14.	249.3	20.9
300.0	31728.	-33.4	-38.8	58.		



STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 81  
 ASCENSION NO. 200

SIGNIFICANT LEVEL DATA  
 2530180200  
 LC-37  
 TABLE 18

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LONG DEG

PRESSURE GEOMETRIC MILLIHRS MSL FEET	TEMPERATURE AIR DEGREE CENTIGRADE	REL. HUM. PERCENT
879.6	20.5	74.0
872.2	19.8	75.0
850.0	17.0	85.0
821.6	14.6	89.0
792.2	14.4	85.0
782.2	14.8	60.0
772.4	7.1	45.0
700.0	16.0	41.0
659.4	10.9	60.0
614.8	6.4	68.0
606.2	2.2	61.0
562.8	1.4	74.0
545.6	-3.1	36.0
520.4	-4.3	13.0
512.4	-5.0	13.0
500.0	-5.7	39.0
488.0	-7.1	19.0
479.8	-8.0	47.0
472.0	-8.9	25.0
464.2	-9.5	61.0
445.7	-10.7	29.0
440.6	-12.0	36.0
400.0	-12.6	13.0
333.4	-16.8	15.0
326.8	-27.1	24.0
320.2	-28.5	46.0
300.0	-29.7	62.0
	-33.5	
	-36.2	

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 61  
 ASCENSION NO. 200

UPPER AIR DATA  
 2530160200  
 LC-37  
 TABLE 19

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 Lon DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS	INDEX OF REFRACTION
4051.4	879.6	20.5	15.7	74.0	1035.5	670.2	240.0	1.9	1.000309
4500.0	865.8	19.0	15.0	77.9	1024.7	668.4	263.5	2.0	1.000304
5000.0	850.6	17.1	14.5	84.7	1013.5	666.1	285.1	2.4	1.000300
5500.0	835.5	15.8	13.6	87.0	1000.3	664.6	299.2	3.0	1.000294
6000.0	820.8	14.6	12.8	88.9	986.9	663.1	309.4	3.9	1.000288
6500.0	805.2	14.5	12.3	86.9	969.7	663.0	319.0	6.9	1.000282
7000.0	791.8	14.4	11.8	84.1	952.9	662.4	328.0	9.6	1.000276
7500.0	777.7	15.3	5.9	53.2	934.9	663.2	342.0	12.0	1.000251
8000.0	763.8	15.4	3.4	44.5	918.6	663.1	350.0	12.8	1.000240
8500.0	750.2	14.5	2.3	43.8	905.2	661.9	358.7	12.5	1.000235
9000.0	736.7	13.6	1.3	43.1	892.1	660.8	2.7	11.7	1.000230
9500.0	723.6	12.6	.2	42.3	879.2	659.6	6.3	10.8	1.000225
10000.0	710.6	11.7	-.9	41.6	866.5	658.5	7.6	9.3	1.000220
10500.0	697.8	10.7	-1.7	42.0	854.0	657.3	5.4	7.8	1.000216
11000.0	685.1	9.3	-1.2	47.8	842.5	655.7	351.8	6.7	1.000214
11500.0	672.7	7.9	-.9	53.7	831.1	654.2	334.0	6.6	1.000213
12000.0	660.4	6.5	-.8	59.5	819.9	652.6	317.5	7.4	1.000211
12500.0	648.2	5.4	-1.3	62.0	808.1	651.2	299.8	7.0	1.000207
13000.0	636.2	4.3	-1.9	64.1	796.5	649.9	279.0	6.9	1.000204
13500.0	624.5	3.1	-2.5	66.2	785.0	648.5	261.3	8.7	1.000200
14000.0	612.9	2.0	-3.6	66.5	773.7	647.2	250.3	11.0	1.000196
14500.0	601.4	.9	-5.4	62.4	762.5	645.4	242.8	13.3	1.000190
15000.0	590.1	-.2	-5.9	65.7	751.3	644.4	236.0	14.6	1.000187
15500.0	579.0	-1.4	-6.3	69.0	740.3	643.0	228.1	15.0	1.000184
16000.0	568.1	-2.5	-6.8	72.4	729.5	641.7	227.7	14.6	1.000182
16500.0	557.3	-3.5	-9.7	62.0	718.5	640.4	230.3	13.8	1.000175
17000.0	546.7	-4.2	-16.3	38.4	707.3	639.2	230.0	12.6	1.000167
17500.0	536.2	-4.6	-20.4	27.6	694.9	638.7	247.1	11.5	1.000161
18000.0	526.0	-4.8	-25.3	18.2	682.5	638.3	250.2	9.6	1.000156
18500.0	515.9	-5.4	-29.4	13.0	670.9	637.6	249.9	8.8	1.000152
19000.0	506.0	-6.4	-22.5	26.4	660.3	636.5	242.6	9.8	1.000152
19500.0	496.2	-7.4	-20.9	32.7	649.8	635.4	238.8	12.1	1.000151
20000.0	486.6	-8.2	-25.2	23.8	639.3	634.4	237.1	14.9	1.000147
20500.0	477.1	-9.1	-20.3	39.6	628.9	633.4	237.4	16.3	1.000147
21000.0	467.9	-10.1	-20.0	44.1	619.1	632.1	237.5	17.6	1.000145
21500.0	458.7	-11.1	-19.0	51.6	609.1	631.0	234.5	19.0	1.000143
22000.0	449.7	-11.7	-23.7	36.0	598.4	630.1	230.4	20.5	1.000138
22500.0	440.9	-12.6	-24.6	35.6	589.0	629.1	224.7	22.2	1.000136
23000.0	432.1	-13.4	-26.8	31.4	579.3	628.0	220.2	23.8	1.000133
23500.0	423.5	-14.3	-29.3	26.6	569.4	626.9	216.8	25.3	1.000130

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 61 1100 HRS MDT  
 ASCENSION NO. 200

UPPER AIR DATA  
 2530100200  
 LC-37  
 TABLE 19

GEODETIC COORDINATES  
 32.40175 LAT UEG  
 106.31232 LONG 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
24000.0	413.1	-15.2	21.8	560.4	625.8	218.0	25.2	1.000127
24500.0	400.9	-16.1	17.0	551.2	624.7	220.9	25.1	1.000124
25000.0	390.7	-17.0	13.0	542.1	623.6	224.4	24.5	1.000122
25500.0	390.6	-18.1	13.3	533.5	622.2	228.4	24.4	1.000120
26000.0	382.6	-19.3	13.5	525.0	620.7	232.0	24.9	1.000118
26500.0	374.8	-20.5	13.7	516.7	619.3	237.4	25.6	1.000116
27000.0	367.1	-21.6	13.9	508.5	617.9	242.2	26.4	1.000114
27500.0	359.6	-22.8	14.2	500.4	616.4	245.3	26.5	1.000112
28000.0	352.3	-24.0	14.4	492.5	615.0	248.0	26.5	1.000110
28500.0	345.1	-25.2	14.6	484.7	613.5	245.0	26.5	1.000109
29000.0	338.0	-26.3	14.8	477.0	612.1	243.2	26.7	1.000107
29500.0	331.1	-27.6	14.1	469.0	610.5	238.5	27.7	1.000105
30000.0	324.1	-29.0	32.8	462.4	608.8	234.0	28.4	1.000104
30500.0	317.3	-30.2	48.2	454.9	607.3	228.8	26.2	1.000103
31000.0	310.6	-31.5	53.5	447.6	605.7			1.000101
31500.0	304.0	-32.7	58.8	440.3	604.1			1.000100

STATION ALTITUDE 4051.37 FEET MSL  
 10 SEP. 81 1100 HRS MDT  
 ASCENSION NO. 200

MANDATORY LEVELS  
 2530180200  
 LC-37  
 TABLE 20

GEODETIC COORDINATES  
 32.40175 LAT DEG  
 106.31232 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	AIR TEMPERATURE DEGREES CENTIGRADE	DEWPOINT TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT	WIND DIRECTION DEGREES(TN)	WIND SPEED KNOTS
850.0	5016.	17.0	14.5	85.	285.7	7.4
800.0	6708.	14.5	12.2	86.	320.9	4.2
750.0	8504.	14.5	2.3	44.	358.8	12.5
700.0	10405.	10.9	-1.8	41.	7.4	4.1
650.0	12415.	5.5	-1.2	62.	502.9	7.1
600.0	14547.	.8	-5.5	63.	242.1	13.6
550.0	16821.	-4.0	-13.9	46.	235.1	13.0
500.0	19277.	-7.1	-18.7	39.	239.7	10.9
450.0	21950.	-11.7	-23.5	37.	230.8	20.4
400.0	24882.	-16.8	-38.6	13.	223.8	24.6
350.0	28123.	-24.4	-43.8	14.	247.4	20.5
300.0	31742.	-33.5	-58.2	62.		

FILME

