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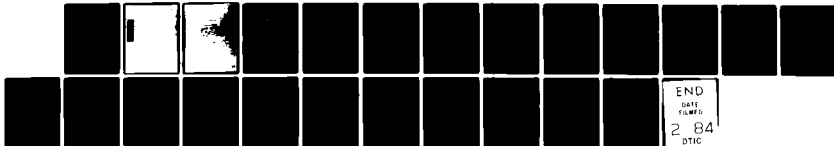
19319A MLRS MISSILE NUMBER 337 334 332 333 352 335  
ROUND NUMBER 528/DL-43..(U) ARMY ELECTRONICS RESEARCH  
AND DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER  
NOV 83 ERADCOM/ASL-DR-1327

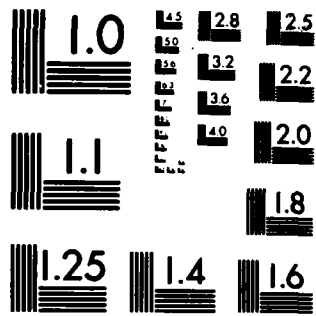
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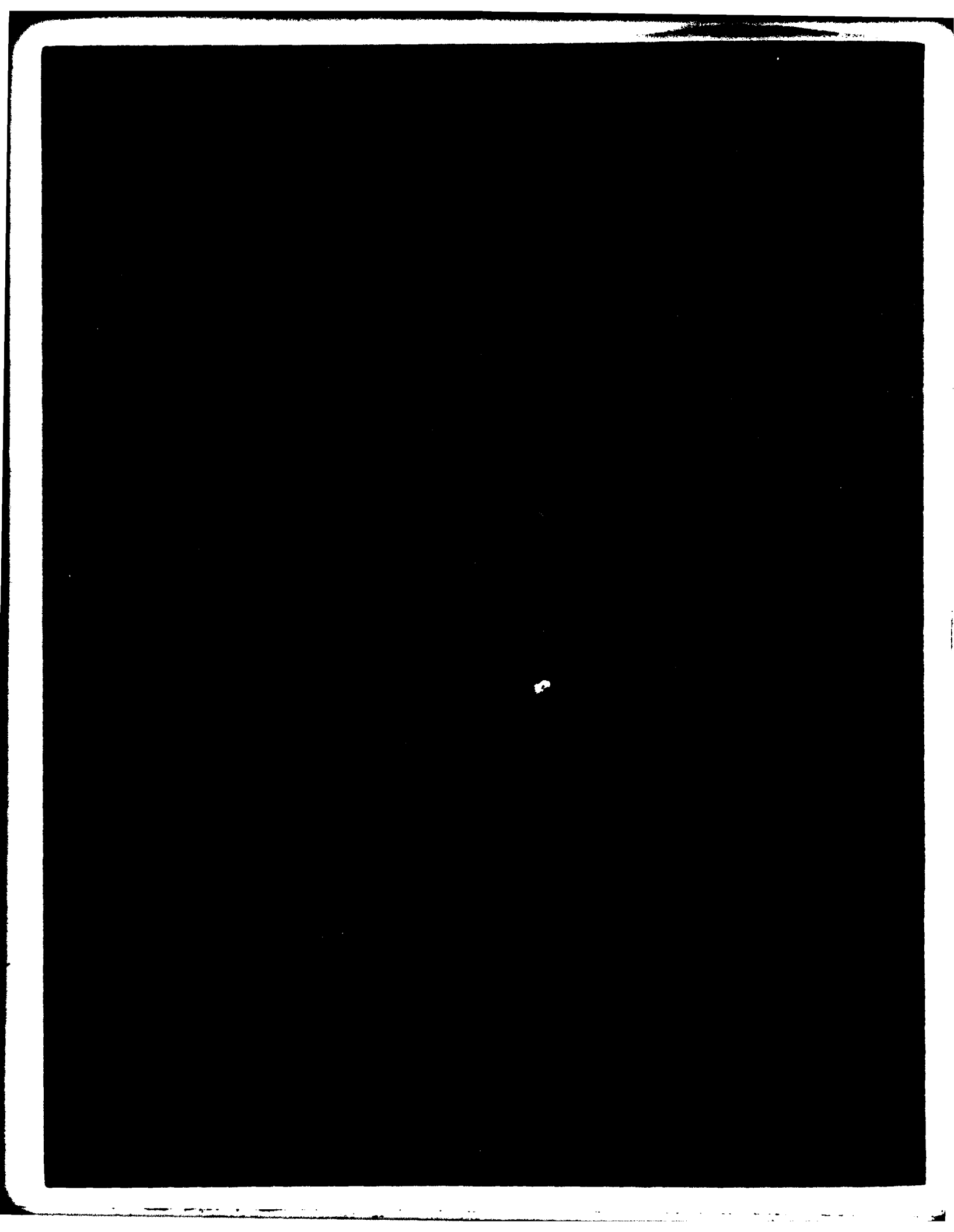
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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

AD A 137346



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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19319A MLRS, Missile Number 337, 334, 332, 333, 352, 335, Round Number 528/DL-43 are presented in tabular form.		

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CONTENTS

PAGE

INTRODUCTION-----	1
DISCUSSION-----	1
GENERAL AREA MAP-----	2
LAUNCH AREA DIAGRAM-----	3
TABLES:	
1. Surface Observations taken at 1548 MST at LC-33-----	4
2. Launch and Impact Pilot-Balloon Measured Wind Data-----	5
3. Aiming and T-Time Computer Met Messages-----	6
4. LC-37 Significant Level Data at 1400 MST-----	7
5. LC-37 Upper Air Data at 1400 MST-----	8
6. LC-37 Mandatory Levels at 1400 MST-----	10
7. WSD Significant Level Data at 1500 MST-----	11
8. WSD Upper Air Data at 1500 MST-----	12
9. WSD Mandatory Levels at 1500 MST-----	14
10. LC-37 Significant Level Data at 1545 MST-----	15
11. LC-37 Upper Air Data at 1545 MST-----	16
12. LC-37 Mandatory Levels at 1545 MST-----	18

INTRODUCTION

19319A MLRS, Missile Numbers 337, 334, 332, 333, 352, and 335, Round Numbers 528/DL-48 Thru 533/DL-48, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1547:20, 1547:24, 1547:29, 1547:33, 1547:38 and 1547:42 MST, 14 Nov 83. The scheduled launch times were 1545 MST iwth a 4.5 second separation.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboraotry (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 (°C), relative humidity, dew point (°C), density (gm/m<sup>3</sup>), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.

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

b. Upper Air

(1) Low level wind data were obtained from pilot-balloon observations at:

SITE AND ALTITUDE

LC-33 2 km  
DON 2 km

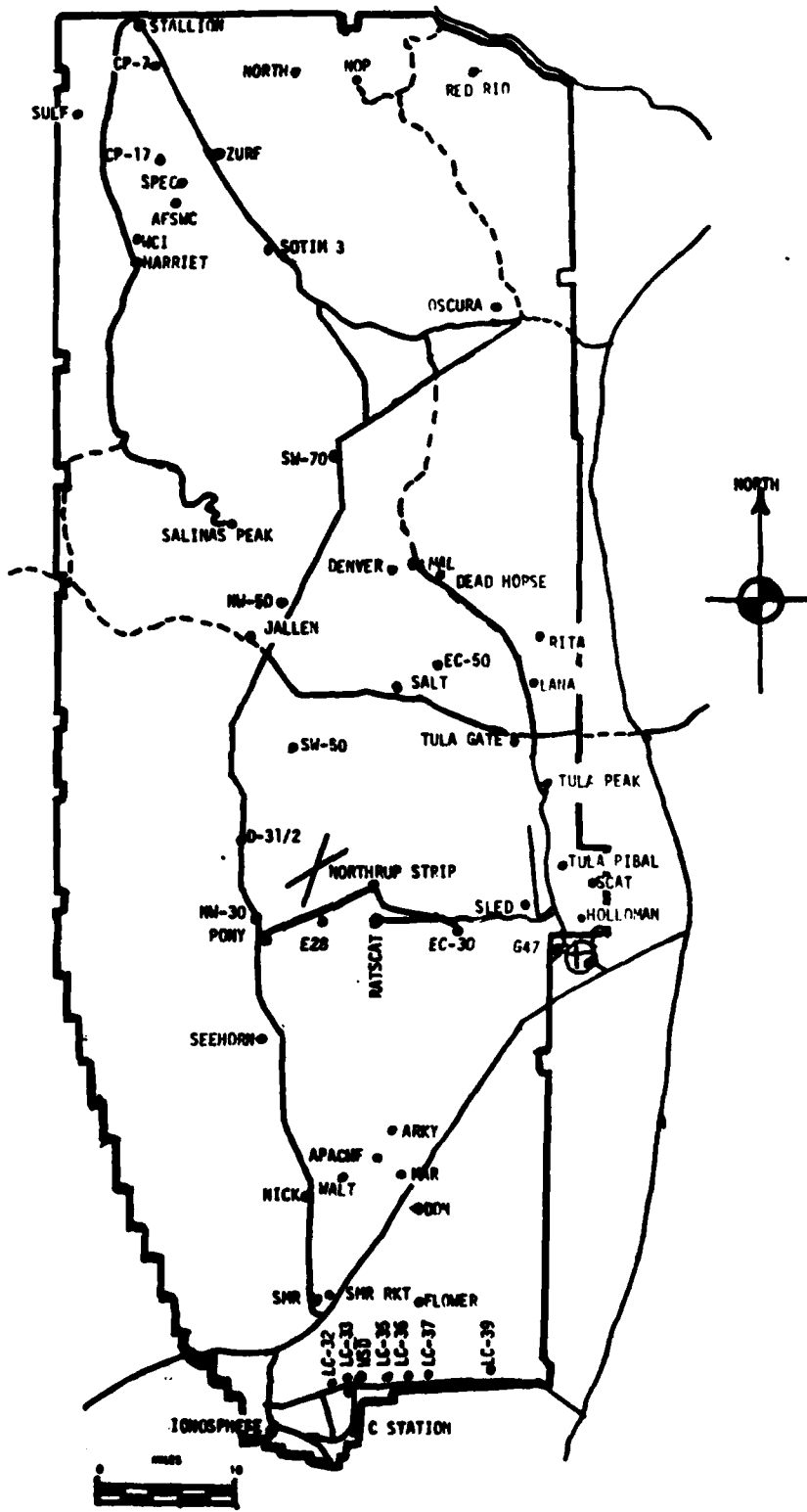
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME  
LC-37 1400 MST  
WSD 1500 MST  
LC-37 1545 MST

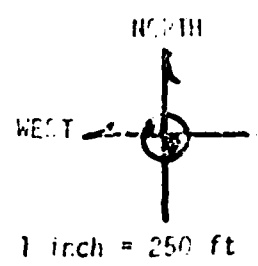


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DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
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Distribution/	
Availability Codes	
Dist	Avail and/or Special
A-1	23 CP

# WSMR METEOROLOGICAL SITES



LC-33  
Launch Area



Y186,500

LINE OF FIRE

○ Anemometer Pole #3

Y186,000

NET  
Tower ○

○ T-9 Radar

L-579A

○ Anemometer Pole #2

L-519A

L-351A

Anemometer Pole #1

L-350A

Y185,500

X485,000

X485,500

X486,000

Y185,000

L-600

PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-33  
 DATE 14 DAY Nov 1983 YEAR Y= 484,982.64 X= 185,957.73 H= 3995.00

TIME M S I	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	RELATIVE HUMIDITY %	DENSITY g/m <sup>3</sup>	WIND		VISIBIL- ITY
						DIRECTION degs Tn	SPEED kts	
1548	876.4	21.2	-0.4	23		300	11	50

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	HGT	AMT	HGT	AMT	HGT	
	0	Cu	5,500	0	Sc	13,000	R ALDS

PSYCHROMETRIC COMPUTATION

TIME: MST	1548
DRY BULB TEMP.	21.2
WET BULB TEMP.	10.0
WET BULB DEPR.	-0.4
DEW POINT	23
RELATIVE HUMID.	

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 14 November 1983

SITE: LC-33  
 TIME: 1548 MST  
 WSTM COORDINATES:  
 X= 484,837.34  
 Y= 184,124.44  
 H= 3,975.57

SITE: DON  
 TIME 1549 MST  
 WSTM COORDINATES:  
 X= 511,988.37  
 Y= 247,396.36  
 H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	300	11
150	321	12
210	319	13
270	319	13
330	319	13
390	317	12
500	312	12
650	308	13
800	306	12
950	304	10
1150	302	14
1350	292	17
1550	294	16
1750	301	14
2000	MISC	

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	350	03
150	332	06
210	329	07
270	326	07
330	324	08
390	319	08
500	310	10
650	303	10
800	300	12
950	300	13
1150	308	12
1350	315	15
1550	312	18
1750	310	20
2000	310	26

Data obtained from a Double  
 Theodolite Tracked pilot-balloon  
 observation

Data obtained from a Single  
 Theodolite Tracked pilot-balloon  
 observation.

Table 3

AIMING AND T-TIME COMPUTER MIT MESSAGE DATA  
14 November 1983

LC-37 1400 MST  
METCM1324063  
142100124873  
00480012 29500873  
01510016 29340863  
02520015 29060838  
03529016 28650799  
04551012 28210753  
05550020 27790708  
06543037 27780666  
07532042 27550627  
08523047 27230589  
09528052 26850553  
10524051 26650519  
11518057 26300486  
12521064 25700441

WSD 1500 MST  
METCM1324064  
142200122876  
00462008 29640876  
01534018 29480865  
02523012 29240841  
03534012 28870802  
04582007 28370756  
05582010 27850711  
06580018 27400669  
07534044 27460628  
08535045 27350590  
09543046 27010555  
10534047 26600520  
11522050 26230488  
12525054 25720442

LC-37 1545 MST  
METCM1324063  
142280124874  
00480008 29430874  
01512010 29440864  
02542015 29170839  
03530014 28760800  
04525012 28260754  
05546012 27800709  
06556022 27430667  
07546042 27420627  
08547047 27270589  
09546049 26920553  
10540050 26540519  
11523051 26230486  
12524061 25710441

STATISTICAL BUREAU OF THE ARMY  
 19 NOV. 63 1906 (REV. 1951)  
 AIRCRAFT ENGINEERING DIVISION

STANDARD LIGHT LEVEL DATA  
 31001 0100  
 LC-37

GEOMETRIC COORDINATES  
 32-40175, LAT DEG  
 106-31232, LONG DEG

Table 4

PRESSURE, GEOMETRIC MILLIBARS	TEMPERATURE AIR (DEGREES CENTIGRADE)	REL. HUM. PERCENT
873.2	21.1	26.0
850.6	18.0	22.0
857.0	18.0	22.0
783.4	11.4	31.0
753.6	9.8	35.0
703.2	3.9	41.0
700.0	3.5	41.0
691.6	3.1	39.0
680.4	5.1	19.0
661.5	4.4	17.0
590.1	.1	22.0
571.8	-3.1	25.0
544.2	-5.8	37.0
521.8	-6.5	30.0
500.0	-8.7	29.0
454.1	-14.2	20.0
400.0	-22.3	24.0

STATION ALTITUDE 4051.87 FEET SL  
 14 NOV. 63 1400 HRS. MST  
 ASCENDING TO 100

WIND DIR DAT  
 3140100105  
 LC-37

GEODETTIC COORDINATES  
 32°40'17" LAT NCG  
 106°31'23" LONG WCG

Table 5

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY CG/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION	
4051.4	873.2	21.1	.9	26.0	1070.9	669.2	270.0	12.0	1.000258
4500.0	853.4	19.0	-2.7	22.7	1022.5	660.7	277.8	12.8	1.000250
5000.0	844.2	17.4	-4.0	22.8	1010.1	664.0	285.5	17.8	1.000245
5500.0	829.2	15.4	-4.1	24.0	977.3	663.0	291.9	17.1	1.000243
6000.0	814.3	14.4	-4.4	27.0	944.7	661.3	294.6	14.7	1.000240
6500.0	799.4	12.8	-4.7	27.0	972.3	659.5	298.0	15.5	1.000237
7000.0	785.5	11.3	-5.1	31.1	960.0	657.7	300.7	16.7	1.000233
7500.0	771.3	10.1	-5.4	33.0	946.7	656.3	303.3	15.5	1.000230
8000.0	757.0	8.9	-5.8	34.9	933.6	654.9	309.2	12.0	1.000227
8500.0	743.3	7.5	-6.4	36.6	921.0	653.3	312.3	12.2	1.000223
9000.0	729.7	6.1	-7.0	38.3	908.5	651.6	312.2	14.4	1.000220
9500.0	716.3	4.7	-7.7	40.0	896.3	650.0	311.0	17.6	1.000216
10000.0	703.0	3.6	-8.4	41.0	883.3	648.7	308.8	22.3	1.000213
10500.0	690.0	3.4	-11.4	32.7	868.0	647.3	307.3	27.4	1.000206
11000.0	677.2	5.0	-16.7	18.7	847.4	646.0	306.2	32.7	1.000197
11500.0	664.7	4.5	-18.1	17.3	833.2	644.4	305.2	35.0	1.000193
12000.0	652.3	3.8	-19.5	17.7	819.8	648.0	304.2	38.5	1.000190
12500.0	640.1	3.0	-18.0	18.6	806.6	647.7	302.0	39.7	1.000187
13000.0	628.2	2.2	-18.7	19.6	794.1	646.7	299.9	40.0	1.000184
13500.0	616.4	1.4	-18.8	20.5	781.5	645.8	297.8	42.6	1.000181
14000.0	604.9	.6	-18.4	21.4	769.2	644.8	295.9	44.3	1.000178
14500.0	593.6	-.4	-19.2	22.5	757.0	643.6	294.5	45.2	1.000176
15000.0	582.3	-1.8	-19.8	23.8	747.0	642.0	293.3	45.8	1.000173
15500.0	571.3	-3.1	-20.2	25.2	736.6	640.4	293.6	47.0	1.000170
16000.0	560.4	-4.3	-19.1	30.3	725.5	638.1	294.8	48.8	1.000169
16500.0	549.7	-5.4	-18.3	35.3	714.5	637.0	298.2	54.0	1.000167
17000.0	539.1	-6.0	-18.4	35.1	702.3	637.1	298.3	55.9	1.000164
17500.0	528.8	-6.3	-20.1	32.2	694.6	636.7	297.0	55.3	1.000160
18000.0	518.5	-6.7	-21.4	29.9	677.5	636.1	294.8	52.8	1.000157
18500.0	508.3	-7.8	-22.5	27.4	667.1	634.4	293.4	50.4	1.000154
19000.0	498.7	-8.9	-23.7	28.7	655.9	633.0	292.3	50.7	1.000151
19500.0	488.9	-10.0	-25.3	26.8	646.9	632.1	291.5	53.8	1.000148
20000.0	479.3	-11.2	-27.4	24.9	637.2	630.6	291.9	59.0	1.000145
20500.0	469.4	-12.4	-29.2	22.9	627.6	629.2	292.1	64.0	1.000143
21000.0	460.7	-13.6	-31.2	21.0	618.1	627.7	292.5	64.9	1.000140
21500.0	451.3	-14.8	-32.5	20.3	608.7	626.3	292.9	65.9	1.000138
22000.0	442.4	-16.1	-33.3	20.9	599.3	624.7	293.2	63.5	1.000136
22500.0	433.5	-17.3	-34.1	21.5	590.2	623.2	293.5	60.0	1.000133
23000.0	424.8	-18.6	-34.9	22.2	581.1	621.7	293.9	59.8	1.000131
23500.0	416.2	-19.8	-35.7	22.8	572.3	620.1			1.000129

STATION ALTITUDE 4051.87 FEET MSL  
14 NOV. 65 1400 HRS MST  
ASCENSION NO. 105

UPPER AIR DATA  
30010160  
LC-37

GEODEIC COORDINATES  
32°40'17" LAT DEG  
106°31'23" LONG DEG

Table 5 (cont'd)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY SPECIFIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
24000.0	407.8	-21.1 -36.5	23.4	563.5	610.0			1.000127

STATION ALTITUDE 4001.87 FEET ASL  
 14 NOV. 83 1400 HR. MST  
 ASCENSION NO. 165

MANDATORY LEVELS  
 31.0130165  
 LC-37

GEODETIC COORDINATES  
 32.40175 LAT 116  
 106.31237 LONG 116

Table 6

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUMID. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEW POINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4407.	10.0	-4.0	22.	282.7	13.4
800.0	6492.	12.0	-4.7	29.	298.0	15.4
750.0	8254.	8.2	-6.1	36.	310.0	12.1
700.0	10166.	3.5	-8.5	41.	308.5	23.4
650.0	12093.	3.7	-11.5	18.	303.8	38.7
600.0	14201.	.2	-19.0	22.	295.3	44.9
550.0	16465.	-5.4	-18.3	35.	298.0	53.8
500.0	18907.	-8.7	-23.5	24.	292.4	50.3
450.0	21554.	-15.0	-32.7	20.	292.9	65.8
400.0	24435.	-22.3	-37.3	24.		

STATION ALTITUDE 5999.00 FEET MSL  
 1<sup>st</sup> NOV. 63 1500 MST  
 ASCENSION NO. 557

NIGHT POINT LEVEL DATA  
 310020557  
 WHITE SANDS

GEODETIC COORDINATES  
 32-40043 LAT DEG  
 106-37033 LONG DEG

Table 7

PRESSURE MILLIBARS	GEO METRIC ALTITUDE MFL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRAD	DEWPOINT DEGREES CENTIGRAD	
875.5	3789.0	21.5	1.2	29.0
860.3	4354.3	20.6	-0.7	24.0
850.1	4689.9	19.4	-1.7	24.0
850.0	4725.0	19.4	-1.1	25.0
800.5	6365.4	15.2	-3.6	27.0
700.0	10150.0	3.5	-5.7	51.0
671.3	11267.1	.1	-7.2	58.0
650.2	12107.2	-0.8	-9.0	51.0
641.3	12470.2	.9	-15.5	28.0
624.5	13171.4	1.1	-21.2	17.0
610.0	13620.3	2.2	-19.6	18.0
557.1	16170.2	-3.0	-21.2	23.0
500.0	18055.8	-9.9	-22.4	35.0
483.3	19015.3	-11.5	-22.0	39.0
467.7	20640.8	-12.8	-27.4	28.0
421.8	23203.6	-18.7	-33.4	20.0
400.0	24495.8	-22.4	-34.8	31.0

STATION ALTITUDE 30000 FEET  
 14 NOV. 55 1500 MSI  
 ASCENDING NO. 557

UNION AIR LINE  
 MEMPHIS  
 FLITE 50005

GEOGRAPHIC COORDINATES  
 32-40043 LAT 86.6  
 100-37033 LONG 14.6

Table 8

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT FEET DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KILOMETERS	WIND DATA DIRECTION DEGREES (T)	SPEED KNOTS	INDEX OF REFRACTION	
3000.0	875.5	21.5	1.2	26.0	1032.1	069.7	200.0	8.0	1.000259
4000.0	875.2	21.5	1.2	25.9	1031.0	069.7	200.2	8.0	1.000259
4500.0	859.9	20.1	-1.1	24.0	1019.0	067.9	208.7	7.9	1.000252
5000.0	844.7	18.9	-1.4	25.2	1005.0	066.6	277.1	8.0	1.000248
5500.0	829.5	17.6	-2.2	25.5	992.0	065.0	205.0	8.3	1.000244
6000.0	813.1	16.2	-3.0	26.5	979.1	063.4	292.4	8.8	1.000240
6500.0	800.0	14.8	-3.0	27.8	966.4	061.8	298.9	9.3	1.000237
7000.0	786.0	13.2	-3.5	31.0	953.9	060.0	304.5	9.7	1.000234
7500.0	771.7	11.7	-3.5	34.2	941.0	058.3	309.8	9.0	1.000232
8000.0	757.7	10.2	-3.7	37.3	929.5	056.5	315.9	8.4	1.000229
8500.0	743.4	8.6	-4.0	40.5	917.6	054.7	322.6	7.9	1.000226
9000.0	730.4	7.1	-4.4	43.7	905.9	052.9	327.0	8.4	1.000223
9500.0	717.1	5.5	-4.9	46.8	894.4	051.1	328.4	9.5	1.000220
10000.0	704.0	4.0	-5.5	50.0	883.1	049.3	329.6	10.6	1.000217
10500.0	691.0	2.4	-6.1	53.2	871.6	047.4	327.2	12.8	1.000214
11000.0	678.1	.9	-6.8	56.3	860.2	045.6	324.2	15.6	1.000210
11500.0	665.4	-0.1	-7.3	56.1	847.4	044.3	318.6	20.5	1.000206
12000.0	652.7	-1.7	-8.3	51.9	833.3	043.0	312.6	28.1	1.000201
12500.0	640.6	.4	-15.7	27.5	813.4	043.3	307.4	35.2	1.000190
13000.0	628.6	1.1	-17.5	19.7	798.0	043.4	302.5	41.7	1.000184
13500.0	616.8	1.4	-20.0	17.7	780.6	043.4	299.3	44.6	1.000180
14000.0	605.2	1.4	-19.0	18.7	767.2	043.0	297.4	45.2	1.000177
14500.0	593.8	.4	-20.0	19.7	755.6	044.0	299.8	45.3	1.000175
15000.0	582.6	-0.6	-20.3	20.7	744.1	043.4	302.2	46.1	1.000172
15500.0	571.6	-1.6	-20.7	21.7	732.8	042.2	304.5	47.3	1.000169
16000.0	560.8	-2.6	-21.0	22.7	721.7	041.0	305.2	47.0	1.000167
16500.0	550.1	-3.8	-21.2	24.4	711.0	039.6	305.6	46.4	1.000164
17000.0	539.7	-5.0	-21.5	26.6	700.5	038.1	304.2	45.3	1.000162
17500.0	529.1	-6.3	-21.5	28.7	690.2	036.7	301.7	44.0	1.000160
18000.0	518.4	-7.5	-21.7	30.9	680.1	035.2	299.1	40.2	1.000157
18500.0	508.4	-8.8	-22.1	33.0	670.1	033.7	296.6	46.5	1.000154
19000.0	499.1	-10.0	-22.4	35.2	660.2	032.2	294.5	48.8	1.000153
19500.0	489.4	-10.9	-22.5	37.5	649.6	031.1	293.6	51.5	1.000150
20000.0	479.8	-11.8	-23.0	36.5	639.0	030.0	292.7	54.2	1.000147
20500.0	470.5	-12.6	-26.5	29.9	628.4	029.0	293.2	54.8	1.000144
21000.0	461.0	-13.6	-28.3	27.7	618.5	027.8	293.0	55.4	1.000141
21500.0	451.8	-14.8	-29.4	27.3	608.9	026.3	295.0	55.3	1.000139
22000.0	442.8	-15.4	-30.0	26.9	599.4	024.9	296.4	54.0	1.000136
22500.0	433.4	-17.1	-31.7	26.5	590.1	023.5	296.5	53.0	1.000134
23000.0	423.5	-18.2	-32.4	26.2	581.0	022.1	296.5	53.3	1.000132

STATION ALTITUDE 3000.00 FEET SL  
 19 NOV. 63 1500 MST  
 ASCENSION NO. 057

UPPER AIR DATA  
 3180020557  
 WITH SAWS

GEOGRAPHIC COORDINATES  
 02.40043 LAT DEG  
 106.37033 LONG DEG

Table 8 (cont'd)

GEOGRAPHIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND M/SEC	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE				DIRECTION DEGREES (TR)	SPEED KNOTS	
23500.0	416.7	-19.5	-57.7	27.1	572.2	620.5	296.5	57.4	1.000130
24000.0	405.2	-21.0	-36.2	29.1	563.8	618.7			1.000128

STATION ALTITUDE 3949.00 FEET ASL  
 14 NOV. 63 1500 MST  
 ASCENDING TO 557

PRECIPITATION LEVELS  
 3140020507  
 WHITE SNOWS

GEOGRAPHIC COORDINATES  
 32°4004' LAT. LLG  
 106°5703' LONG. LLG

Table 9

PRESSURE POTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AID DEGREES	TEMPERATURE CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4822.	19.4	-1.1	25.	274.1	0.0
800.0	6517.	14.7	-3.6	26.	299.1	9.3
750.0	8200.	9.3	-5.9	39.	319.8	8.1
700.0	10147.	3.5	-5.7	51.	329.9	10.9
650.0	12102.	-0.8	-9.7	50.	311.7	29.8
600.0	14214.	1.0	-14.9	19.	290.5	45.2
550.0	16488.	-3.8	-21.2	24.	305.6	46.4
500.0	18929.	-9.0	-22.4	35.	294.7	46.5
450.0	21572.	-15.0	-29.6	27.	295.3	55.2
400.0	24455.	-22.4	-34.8	31.		

1944-45  
 1545 MS1

1944-45  
 1545 MS1

1944-45  
 1545 MS1

Table 10

PRESSURE	ALTITUDE	TEMPERATURE	RELATIVE HUMIDITY
MILLIBARS	MSL FEET	AIR TEMPERATURE TEMPERATURE	PERCENT
873.9	9351.4	20.2	5.4
869.9	9211.1	21.5	-5.0
855.0	8935.0	19.1	-4.4
753.3	9177.2	8.7	-5.9
700.0	1115.0	3.2	-5.2
670.9	11043.2	.7	-6.0
671.8	11282.3	.2	-7.5
649.9	12113.9	.7	-15.7
638.0	12004.7	1.0	-21.9
611.1	13340.7	.5	-22.4
611.0	13711.0	1.0	-21.9
581.1	15064.3	-1.4	-25.9
575.2	15332.7	-1.3	-25.0
533.8	17023.9	-5.9	-23.2
500.0	18000.5	-9.0	-24.1
480.8	17617.4	-11.4	-24.1
475.1	20172.4	-11.4	-27.4
435.7	22391.0	-16.8	-32.5
400.0	24481.5	-22.2	-35.7

STATION: 111.00 101.37 F. T. A.  
 19.00V. 03 1545 MST  
 1 SEP 71 10.00 1.00

111.00 101.37  
 19.00V. 03  
 1 SEP 71

100.116 00.001 1.00  
 07.00170 04.100  
 100.31250 00.100

Table 11

GEOMETRIC ALTITUDE (SL 111.0)	HEIGHT (MILLIONS)	15 PERCENT AIR DEGREE	PERCENT DEVIATION CENTER	PERCENT ELEMENT	PERCENT ELEMENT	SPEED OF SOUND KNOTS	WIND DIRECTION DEGREES (TR)	SPEED KNOTS	INDEX OF REFRACTION
4000.0	07.509	20.2	1.0	23.0	1074.5	660.0	270.0	8.0	1.000215
4500.0	08.009	20.4	-1.0	18.0	1016.0	660.1	279.5	0.0	1.000217
5000.0	08.509	18.6	-1.3	20.7	1007.0	660.1	287.5	10.4	1.000219
5500.0	09.009	17.0	-1.6	23.0	994.2	660.3	293.5	11.9	1.000222
6000.0	09.509	15.5	-1.9	25.2	981.0	662.5	297.9	13.6	1.000229
6500.0	10.009	13.9	-1.6	17.1	973.5	660.6	300.2	14.8	1.000230
7000.0	10.509	12.4	-1.6	22.7	971.1	659.0	298.2	14.4	1.000233
7500.0	11.009	10.8	-1.1	27.8	965.2	657.1	296.0	14.1	1.000230
8000.0	11.502	9.5	-1.7	34.2	923.4	655.3	290.5	13.0	1.000227
8500.0	12.005	7.8	-1.7	37.6	921.1	653.7	297.5	11.9	1.000224
9000.0	12.508	6.4	-1.1	41.7	905.6	652.1	300.0	11.0	1.000222
9500.0	13.011	5.0	-1.7	45.7	890.3	650.4	303.0	10.6	1.000219
10000.0	13.514	3.6	-1.9	49.9	874.2	648.6	310.0	11.0	1.000216
10500.0	14.017	2.2	-1.2	53.7	872.2	647.2	312.9	13.9	1.000214
11000.0	14.520	.8	-1.6	57.7	859.3	645.5	315.4	18.3	1.000211
11500.0	15.023	.5	-1.0	47.1	849.9	644.2	312.5	25.1	1.000205
12000.0	15.526	.6	-14.5	31.6	823.0	643.0	311.5	31.6	1.000195
12500.0	16.029	.4	-20.5	19.0	813.5	645.2	310.4	37.9	1.000187
13000.0	16.532	.8	-22.1	16.0	793.9	645.0	308.4	42.1	1.000183
13500.0	17.035	.6	-22.5	16.0	784.3	644.0	306.2	45.4	1.000180
14000.0	17.538	.5	-22.4	16.0	783.9	643.0	305.0	46.2	1.000177
14500.0	18.041	-0.4	-23.1	16.0	787.9	643.0	305.8	46.5	1.000174
15000.0	18.544	-1.5	-23.6	16.0	780.0	642.5	307.2	46.9	1.000171
15500.0	19.047	-1.8	-23.7	16.0	782.7	642.0	307.9	46.0	1.000168
16000.0	19.550	-3.1	-23.5	17.1	782.7	640.4	307.2	47.4	1.000166
16500.0	20.053	-4.5	-23.2	21.5	782.5	638.0	306.0	49.0	1.000164
17000.0	20.556	-5.8	-23.2	23.9	782.5	637.2	306.0	50.8	1.000161
17500.0	21.059	-6.9	-23.0	25.5	781.0	635.0	305.4	51.1	1.000159
18000.0	21.562	-7.9	-23.0	27.0	781.0	634.7	305.0	50.4	1.000157
18500.0	22.065	-9.0	-23.2	28.6	781.4	633.4	304.1	50.3	1.000156
19000.0	22.568	-10.0	-24.1	30.4	780.0	633.1	293.0	50.0	1.000152
19500.0	23.071	-11.1	-24.1	33.5	809.0	630.6	290.5	52.3	1.000150
20000.0	23.574	-11.4	-25.0	36.0	837.0	630.5	294.1	55.2	1.000146
20500.0	24.077	-12.4	-25.4	38.8	827.0	629.2	293.4	57.6	1.000143
21000.0	24.580	-13.6	-25.0	41.6	817.9	627.0	293.0	59.2	1.000141
21500.0	25.083	-14.7	-30.0	38.4	803.4	626.4	293.3	60.5	1.000138
22000.0	25.586	-15.9	-31.7	34.2	809.1	625.0	290.0	60.7	1.000136
22500.0	26.089	-17.1	-32.7	31.0	808.9	625.5	293.5	60.2	1.000134
23000.0	26.592	-18.4	-33.1	26.2	808.9	625.0	293.0	60.6	1.000132
23500.0	27.095	-19.7	-33.1	26.1	822.1	625.0			1.000129

STATION ALTITUDE 21.47 F.T. 0.0  
 19 029. 13 1545 MSI  
 MAGNETIC

0100 AIR DRY  
 101010  
 15-57

GEOMETRIC COORDINATES  
 52°00'17" LAT N  
 166°31'23" LONG W

Table 11 (cont'd)

GEOMETRIC ALTITUDE FOOT FEET	PRESSURE MILLIBARS	TEMPERATURE		RELATIVE HUMIDITY PERCENT	WIND DIRECTION DEGREES (T)	SPEED OF WIND KNOTS	INDEX OF REFRACTION
		AIR	DEW POINT DEGREES CENTIGRADE				
21000.0	40.5	-21.0	-38.0	27.1	063.4	61.0	1.000127

STATION ALTITUDE 4091.37 FEET MSL  
 14 NOV. 63 1545 MST  
 ASCENDING 100 FT MIN

WIND VELOCITY LEVELS  
 100 FT MIN  
 10-37

GEODEIC COORDINATES  
 32°40'17" N LAT 116  
 106°31'23" W LONG

Table 12

PRESSURE MILLIBARS	GEOMETRICAL FEET	TEMPERATURE		RELATIVE HUMIDITY PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	WET BULB DEGREES CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	6373.	12.1	-4.4	20.	264.9	9.9
800.0	6503.	13.2	-4.5	25.	300.1	14.8
750.0	6630.	4.0	-7.8	36.	296.8	12.4
700.0	6767.	3.0	-5.9	51.	311.0	11.0
650.0	6900.	.7	-10.6	26.	311.1	35.0
600.0	7038.	.1	-22.7	16.	305.7	40.4
550.0	7177.	-4.5	-23.2	21.	300.8	46.9
500.0	7314.	-9.9	-24.1	30.	296.4	50.7
450.0	7457.	-14.0	-31.8	24.	294.4	60.5
400.0	7600.	-22.2	-35.7	25.		

ND  
DATE