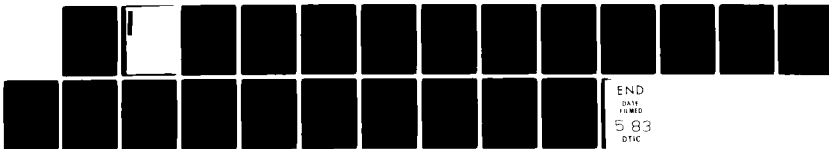


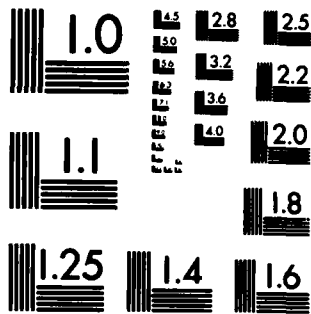
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193188 MLRS MISSILE NUMBERS BN-148 BN-134 BN-169 BN-173 1/1
BN-142 BN-176 ROU. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER 04 MAR 83
ERADCOM/ASL-DR-1293 F/G 4/2 NL

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1293	2. GOVT ACCESSION NO. AD-A127 350	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19318B MLRS Missile Number BN-148, BN-134, BN-169, ,BN-173, BN-142, BN-176 Round Number V-437/OT-43 Thru V-442/OT-48		5. TYPE OF REPORT & PERIOD COVERED
		6. PERFORMING ORG. REPORT NUMBER
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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 19318B MLRS, Missile Number BN-148, BN-134, BN-169, BN-173, BN-142, and BN-176, Round Number V-437/OT-43 Thru V-442/OT-48.		

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INTRODUCTION

19318B MLRS, Missile Numbers BN-148, BN-169, BN-173, BN-142 and BN-176, Round Numbers V-437/OT-43 Thru V-442/OT-48, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1537:01, 1537:05, 1537:10, 1537:14, 1537:19 and 1537:23 MST, 04 Mar 83. The scheduled launch times were 1500 MST with a 4.5 second separation.

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 (°C), relative humidity, dew point (°C), density (gm/m³), 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 1350 Meters

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

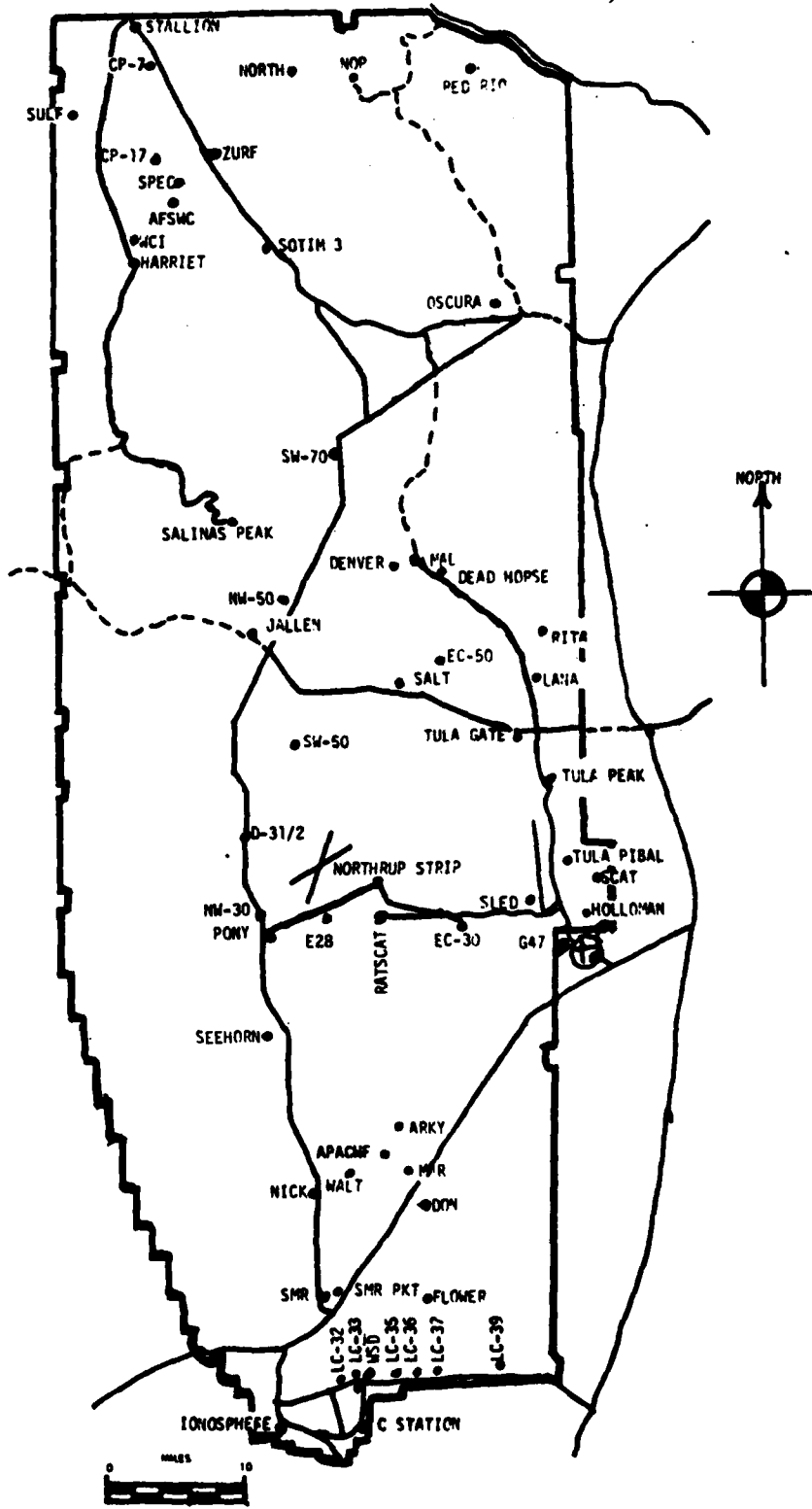
SITE AND TIME

- WSD 1231 MST
- WSD 1341 MST
- LC-37 1413 MST
- WSD 1534 MST

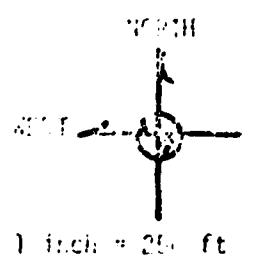
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Distribution/	
Availability Codes	
Dist	Avail and/or Special
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WSMR METEOROLOGICAL SITES



LC-13
Launch Area



Y186,500

Line of FIRE

Thermometer Pole #3

Thermometer Pole #2

MLT
Tower

Y186,000
T-9 Radar

L-579A

L-519A

L-351A

L-350A

Thermometer Pole #1

Y185,500

X495,000

X495,500

X496,000

Y185,000

L-500

PROJECT SURFACE OBSERVATION

TABLE 1		STATION LC-33 E & A									
DATE 4 DAY		Mar MONTH		83 YEAR		X = 484,982.64		Y = 185,957.73		H = 39995.00	
TIME M S I	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	DIRECTION degs In	WIND SPEED kts	CHARACTER kts	VISIBILITY		
1537	8623	13.2	0.9	43	1048	270	24		50		

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	HGT	AMT	HGT	AMT	HGT	
	5	SC 2,500	1	AS 12,000	2	CS 20,000	RW N-E-S

PSYCHROMETRIC COMPUTATION

TIME: MDT	1537	
DRY BULB TEMP.	13.2	
WET BULB TEMP.	7.0	
WET BULB DEPR.	6.2	
DEW POINT	0.9	
RELATIVE HUMID.	43	

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,052.00 H4012.74 22.7 ft. AGL			POLE #2 X485,874.29 Y185,012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.00 Y185,070.00 H4033.57 23.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	255	18	T-30	240	13	T-30	252	25
T-20	255	28	T-20	240	24	T-20	261	21
T-10	255	20	T-10	250	17	T-10	263	24
T0.0	255	26	T0.0	257	13	T0.0	264	31
T+10	255	22	T+10	260	16	T+10	264	30

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 KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	277	23	T-30	273	22
T-20	293	17	T-20	265	27
T-10	287	19	T-10	256	22
T0.0	274	24	T0.0	240	35
T+10	268	29	T+10	268	31

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	275	23	T-30	270	34
T-20	266	26	T-20	252	25
T-10	273	22	T-10	277	30
T0.0	255	32	T0.0	258	34
T+10	275	31	T+10	276	30

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 4 Mar 83

SITE: LC-33
TIME: 1537
WSTM COORDINATES:
X= 404,837.34
Y= 184,124.44
H= 3,975.57

SITE:
TIME
WSTM COORDINATES:
X=
Y=
H=

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	274	24
150	267	23
210	264	32
270	262	33
330	263	32
390	264	31
500	266	30
650	265	24
800	264	23
950	265	24
1150	269	25
1350	274	36
1550	MISG	
1750		
2000		

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		
150		
210		
270		
330		
390		
500		
650		
800		
950		
1150		
1350		
1550		
1750		
2000		

TABLE 5

AIMING AND T-TIME COMPUTER NET MESSAGES

4 March 1983

WSD 1231 MST	WSD 1341 MST	LC-37 1413 MST	WSD 1537 MST
METCM1324064	METCM1324064	METCM1324063	METCM1324064
041950122865	042070122804	042120124862	042260122363
00409012 23660865	00427018 28650804	00267008 28720862	00471020 28820863
01432030 23410854	01454022 28390853	01327007 28410352	01473038 28570853
02450020 23090829	02463032 28070828	02410017 28180826	02469028 28260827
03466021 27720780	03472031 27710788	03435030 27820787	02469028 28260827
04463023 27250742	04482032 27280741	04467027 27340740	03471023 27370788
05493022 26810697	05433042 26920696	05463031 26870695	04484035 27390741
06499034 26400653	06436033 26470653	06497032 26440652	05511033 27070696
07493030 26050612	07494036 26090612	07503044 26060611	06522027 26630653
08500039 25710573	08491041 25740573	08502046 25780572	07523029 26180612
09516031 25350537	09491042 25370536	09495042 25410535	08512036 25750573
			09491042 25330536

STATION ALTITUDE 3000.00 FEET MSL
 4 MARKS MS 1231 HPC. MST
 ASSESSMENT NO. 11A

SEIGNIFICANT EVENT DATA
 ON 30020110
 WHITE SANDS
 TABLE 6

GEODETIC COORDINATES
 32-40003 LAT DEG
 106-37033 LON DEG

PRECIPITATION MILLIMETERS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUMID. PERCENT
864.8	3089.0	12.8	50.0
850.0	4462.1	9.2	48.0
794.3	6289.9	3.8	64.0
736.4	8273.1	-1.9	97.0
700.0	9608.5	-5.4	98.0
672.7	10631.3	-7.7	98.0
654.0	11321.0	-8.2	98.0
637.1	12017.1	-11.1	89.0
619.1	12730.2	-12.3	60.0
599.2	13271.2	-17.5	59.0
550.9	14638.9	-18.3	65.0
526.4	16750.7	-20.7	43.0
500.0	17994.3	-23.8	21.0

STATION ALTITUDE 3489.00 FEET MSL
 4 MAR. 33 1231 HRS. PST
 ASCENSION NO. 114

UPPER AIR DATA
 00-5002011A
 WHITE SANDS
 TABLE 7

GEOMETRIC ALTITUDE 3489.00 FEET MSL
 4 MAR. 33 1231 HRS. PST
 ASCENSION NO. 114

GEOMETRIC COORDINATES
 32-40094 LAT DEG
 106-57033 LONG DEG

GEOMETRIC ALTITUDE FSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT	REL. HUM. PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KILOTS	WIND DATA SPEED KILOTS	WIND DATA DIRECTION DEGREES (TW)	INDEX OF REFRACTION
3489.0	864.8	12.0	2.0	50.0	1050.2	654.0	210.0	12.0	1.000268
4000.0	864.5	12.7	2.6	50.0	1050.1	654.7	210.3	12.0	1.000268
4500.0	840.8	9.1	-1.7	48.3	1045.1	655.3	224.0	12.5	1.000259
5000.0	833.2	7.6	-1.4	52.7	1031.3	653.6	236.2	13.6	1.000266
5500.0	817.9	6.1	-1.7	57.1	1017.7	651.9	240.1	15.2	1.000253
6000.0	802.9	4.7	-2.1	61.5	1004.3	650.1	253.9	17.2	1.000240
6500.0	788.0	3.2	-2.2	67.5	990.9	648.4	260.1	19.4	1.000247
7000.0	773.3	1.8	-2.0	75.8	977.3	646.8	261.9	20.7	1.000244
7500.0	758.8	.3	-2.0	84.1	964.0	645.1	262.9	21.8	1.000241
8000.0	744.6	-1.1	-2.2	92.5	950.9	643.4	263.8	22.9	1.000239
8500.0	730.5	-2.5	-2.9	97.2	937.8	641.7	267.1	23.7	1.000235
9000.0	716.6	-3.8	-4.1	97.5	924.6	640.1	270.6	24.7	1.000229
9500.0	702.9	-5.1	-5.4	97.9	911.6	638.5	273.8	25.7	1.000225
10000.0	689.4	-6.3	-6.5	98.0	898.1	637.1	277.3	26.6	1.000220
10500.0	676.1	-7.4	-7.7	98.0	884.7	635.7	280.6	27.6	1.000216
11000.0	663.1	-8.0	-8.2	98.0	869.4	634.0	282.5	29.0	1.000211
11500.0	650.2	-8.9	-9.5	95.7	855.8	633.8	280.5	31.7	1.000207
12000.0	637.5	-11.0	-12.4	89.2	846.1	631.2	279.0	33.9	1.000201
12500.0	625.9	-11.9	-13.3	69.6	832.6	630.0	278.2	34.7	1.000195
13000.0	612.6	-12.8	-14.0	59.9	819.2	628.8	278.5	35.8	1.000190
13500.0	600.5	-13.9	-20.0	59.7	806.1	627.6	279.8	37.1	1.000187
14000.0	588.5	-14.9	-21.0	59.5	793.3	626.3	280.4	39.3	1.000183
14500.0	576.8	-15.9	-22.0	59.3	780.6	625.0	281.4	39.4	1.000180
15000.0	565.3	-16.9	-23.0	59.1	768.2	623.8	283.3	35.8	1.000177
15500.0	554.0	-18.0	-23.3	62.7	755.9	622.5	286.3	31.4	1.000174
16000.0	542.8	-19.1	-25.3	57.9	743.4	621.1	288.4	29.4	1.000170
16500.0	531.8	-20.2	-26.3	48.0	732.0	619.8	286.9	33.0	1.000167
17000.0	521.0	-21.3	-31.6	38.6	720.5	618.5			1.000163
17500.0	510.3	-22.6	-35.4	29.7	709.3	616.8			1.000160

STATION ALTITUDE 3,090.0 FEET MSL
 4 MAR. 63
 ASCENSION NO. 110

LABORATORY LOGS
 003002011a
 WHITE SANDS

TABLE 3

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUMID. PERCENT	WIND DATA	
				DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4450.	9.2	400	223.0	12.4
800.0	6094.	4.4	620	255.2	17.6
750.0	7204.	-2.1	890	263.4	22.4
700.0	9190.	-5.4	900	274.5	25.9
650.0	11407.	-9.0	900	280.5	31.7
600.0	13509.	-13.9	600	274.4	37.2
550.0	15660.	-18.4	640	287.5	29.9
500.0	17070.	-23.8	210		

STATION ALTITUDE 3489.00 FEET MSL
 4 MAR. 43 1341 HRS MST
 ASCENSION NO. 119

SIGNIFICANT LEVEL DATA
 0630020114
 WHITE SANDS

TABLE 9

GEODETIC COORDINATES 32.40043 LAT NFG 106.37033 LONG NFG	PRESSURE MILLIHARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REF. HUM. PERCENT
	863.5	3789.0	12.8	47.0
	850.0	4420.6	8.9	49.0
	826.2	5190.0	6.7	56.0
	777.7	6809.9	2.3	67.0
	756.6	7538.0	.4	75.0
	729.7	8488.7	-2.1	86.0
	700.0	9571.3	-3.8	67.0
	654.9	11284.7	-8.7	75.0
	616.9	12794.3	-12.2	97.0
	587.9	14003.7	-14.7	97.0
	500.0	17970.1	-23.4	97.0

UPPER AIR DATA
 0630020114
 WHITE SANDS
 TABLE 10

STATION ALTITUDE 3989.00 FFFT MSL
 4 MAR. 43
 ASCENSION NO. 119

UPPER AIR DATA
 0630020114
 WHITE SANDS
 TABLE 10

UPPER AIR DATA
 0630020114
 WHITE SANDS
 TABLE 10

GOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		WFL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED KNOTS	DIRECTION DEGREES(TN)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE					SPEED KNOTS	DIRECTION DEGREES(TN)	
3989.0	863.5	12.8	1.8	47.0	1048.8	659.8	240.0	240.0	18.1	1.000266
4000.0	863.2	12.7	1.7	47.1	1048.7	659.7	240.1	240.1	18.1	1.000266
4500.0	847.5	8.7	-1.2	49.7	1045.0	654.8	246.3	246.3	19.6	1.000259
5000.0	832.0	7.2	-1.4	54.3	1031.1	653.2	251.5	251.5	21.4	1.000256
5500.0	818.7	5.9	-1.7	58.1	1017.2	651.5	255.9	255.9	23.3	1.000253
6000.0	801.6	4.5	-2.2	61.5	1003.3	649.9	259.7	259.7	25.3	1.000249
6500.0	788.8	3.1	-2.8	64.9	989.6	648.3	262.8	262.8	27.4	1.000245
7000.0	772.1	1.8	-3.2	69.1	976.0	646.8	265.5	265.5	29.5	1.000242
7500.0	757.7	.5	-3.5	74.6	962.3	645.2	267.9	267.9	31.8	1.000238
8000.0	743.4	-.8	-3.8	80.3	948.7	643.7	269.3	269.3	32.5	1.000235
8500.0	729.4	-2.1	-4.2	85.8	935.3	642.1	270.5	270.5	32.7	1.000232
9000.0	715.5	-2.9	-6.4	77.0	920.5	641.1	271.7	271.7	32.9	1.000229
9500.0	701.9	-3.7	-8.7	68.3	905.9	640.1	272.8	272.8	33.0	1.000228
10000.0	688.4	-5.0	-9.8	69.0	893.0	638.4	273.4	273.4	33.7	1.000214
10500.0	675.2	-6.5	-10.8	71.3	880.6	636.7	273.9	273.9	34.5	1.000211
11000.0	662.2	-7.9	-11.7	73.7	868.4	635.0	274.3	274.3	35.3	1.000207
11500.0	649.4	-9.2	-12.3	78.1	855.8	633.4	274.7	274.7	36.1	1.000204
12000.0	636.7	-10.4	-12.3	85.4	842.8	632.0	275.1	275.1	36.8	1.000201
12500.0	624.2	-11.5	-12.5	92.7	829.9	630.6	275.5	275.5	37.4	1.000198
13000.0	611.9	-12.6	-13.0	97.0	817.1	629.3	275.9	275.9	37.9	1.000195
13500.0	599.8	-13.7	-14.0	97.0	804.2	628.0	276.3	276.3	38.5	1.000191
14000.0	588.0	-14.7	-15.1	97.0	791.6	626.7	276.6	276.6	39.1	1.000187
14500.0	576.1	-15.8	-16.2	97.0	778.9	625.3	276.6	276.6	39.7	1.000183
15000.0	564.5	-16.9	-17.2	97.0	766.5	624.0	276.5	276.5	40.4	1.000180
15500.0	553.1	-18.0	-18.3	97.0	754.3	622.6	276.5	276.5	41.0	1.000176
16000.0	541.9	-19.1	-19.4	97.0	742.3	621.3				1.000173
16500.0	530.9	-20.2	-20.5	97.0	730.5	619.9				1.000170
17000.0	520.2	-21.3	-21.6	97.0	718.9	618.5				1.000167
17500.0	509.7	-22.4	-22.7	97.0	707.5	617.2				1.000164

STATION ALTITUDE 3489.00 FFFT MSL
 4 MAR. 43 1341 HRS MST
 ASCENSION NO. 119

MANDALAY VLFVFLS
 0630820114
 WHITE SANDS

WINDY COORDINATES
 32.40043 LAT DFG
 106.37033 LON DFG

TABLE 11

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE ATR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUMID. PERCENT	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4418.	8.9	-1.2	49.	245.4	19.4
800.0	6051.	4.4	-2.3	62.	260.0	25.5
750.0	7762.	-0.2	-3.6	74.	268.8	32.5
700.0	9562.	-3.8	-9.0	67.	273.0	33.1
650.0	11464.	-9.1	-12.3	78.	274.6	36.1
600.0	13480.	-13.6	-14.0	97.	276.3	38.5
550.0	15633.	-18.3	-18.6	97.		
500.0	17946.	-23.4	-23.7	97.		

STATION ALTITUDE 9051.37 FEET MSL
 4 MAR. 63 1413 HRS MST
 ASCENSION NO. 32

SIGNIFICANT LEVEL DATA
 06301A0032
 LC-37
 TABLE 12

GEODETIC COORDINATES
 32.40175 LAT DFG
 106.51232 LON DFG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
862.0	4051.4	13.1	1.5	45.0
855.9	4246.4	10.2	-1.8	43.0
850.0	4435.3	9.8	-1.9	44.0
830.4	5070.1	8.3	-1.8	49.0
763.2	7335.1	2.1	-4.2	63.0
716.6	8992.3	-2.9	-4.5	89.0
700.0	9601.5	-4.4	-5.9	89.0
662.4	11020.8	-8.7	-9.0	98.0
653.2	11377.7	-8.4	-8.5	99.0
636.0	12055.6	-10.9	-11.7	94.0
593.0	13813.2	-14.5	-14.6	99.0
588.6	14168.9	-14.5	-14.7	98.0
543.0	15996.6	-18.1	-18.7	95.0
538.8	16369.7	-19.4	-20.4	92.0
500.0	18000.2	-24.0	-26.3	81.0

STATION ALTITUDE 4051.37 FFF FT MSL
 4 MAR. 43 1413 HRS MST.
 ASCENSION NO. 32

UPPER AIR DATA
 06301H003P
 LC-37

TABLE 13

GEODETIC COORDINATES
 32-40175 LAT NFG
 106-31232 LON NFG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	SPEED KNOTS	IMFX OF REFRACTION																		
										4051.4	4500.0	5000.0	5500.0	6000.0	6500.0	7000.0	7500.0	8000.0	9000.0	9500.0	10000.0	10500.0	11000.0	11500.0	12000.0	12500.0	13000.0
4051.4	862.0	13.1	1.5	45.0	1045.9	660.1	150.0	8.0	1.000244																		
4500.0	848.0	9.6	-1.8	44.5	1042.1	655.9	177.0	6.9	1.000247																		
5000.0	832.5	8.5	-1.8	48.4	1027.4	654.6	208.0	7.8	1.000245																		
5500.0	817.2	7.1	-2.1	51.7	1013.3	653.0	228.1	10.3	1.000251																		
6000.0	802.1	5.8	-2.6	54.7	999.5	651.4	239.5	13.6	1.000247																		
6500.0	787.3	4.4	-3.2	57.8	986.0	649.8	246.3	17.2	1.000243																		
7000.0	772.8	3.0	-3.8	60.9	972.6	648.1	250.7	21.0	1.000240																		
7500.0	758.4	1.6	-4.1	65.6	959.5	646.5	253.8	24.8	1.000236																		
8000.0	744.1	.1	-4.1	73.4	946.6	644.7	256.0	28.7	1.000234																		
8500.0	730.1	-1.4	-4.2	81.3	933.9	642.9	258.2	29.2	1.000231																		
9000.0	716.4	-2.9	-4.5	89.0	921.4	641.2	260.5	28.4	1.000228																		
9500.0	702.7	-4.2	-5.7	89.0	908.1	639.6	262.9	27.7	1.000223																		
10000.0	689.2	-5.6	-6.8	91.5	895.6	637.9	266.3	27.9	1.000219																		
10500.0	676.0	-7.1	-7.8	94.7	883.5	636.0	270.2	29.2	1.000215																		
11000.0	662.9	-8.6	-8.9	97.9	871.5	634.2	273.8	30.5	1.000211																		
11500.0	650.1	-9.9	-9.1	98.1	855.3	631.9	277.5	33.6	1.000207																		
12000.0	637.4	-10.7	-11.4	94.4	844.8	631.6	280.6	37.0	1.000198																		
12500.0	624.8	-11.8	-12.4	95.3	831.7	630.2	282.0	40.2	1.000194																		
13000.0	612.5	-12.8	-13.2	96.7	818.6	629.0	282.5	43.4	1.000195																		
13500.0	600.4	-13.9	-14.1	98.1	805.7	627.7	282.8	45.7	1.000191																		
14000.0	588.6	-14.5	-14.7	98.5	791.7	626.9	282.7	46.9	1.000187																		
14500.0	576.8	-15.2	-15.5	97.5	777.9	626.1	282.6	47.6	1.000184																		
15000.0	565.3	-16.1	-16.5	96.6	765.4	624.9	282.2	46.3	1.000180																		
15500.0	554.0	-17.1	-17.6	95.8	753.0	623.7	281.8	45.0	1.000177																		
16000.0	542.9	-18.1	-18.7	95.0	740.9	622.5	280.3	44.5	1.000173																		
16500.0	531.9	-19.8	-20.8	91.1	730.7	620.4	278.6	44.1	1.000170																		
17000.0	521.1	-21.2	-22.7	87.7	719.9	618.6			1.000166																		
17500.0	510.4	-22.6	-24.5	84.4	709.2	616.9			1.000163																		
18000.0	500.0	-24.0	-26.3	81.0	698.7	615.1			1.000160																		

MANDATORY LEVELS
 0630180032
 LC-37
 TABLE 14

STATION ALTITUDE 4051.37 FFFT MS
 4 MAR. 83 1413 HRS MST
 ASCENSION NO. 32

GEODETIC COORDINATES
 32.40175 LAT NFG
 106.31232 LON NFG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	4432.	9.8	-1.9	44.	172.5	7.0	
800.0	6073.	5.6	-2.7	55.	240.7	14.1	
750.0	7790.	.7	-4.1	70.	255.2	27.1	
700.0	9592.	-4.4	-5.9	89.	263.4	27.6	
650.0	11491.	-8.9	-9.1	9A.	277.5	33.6	
600.0	13505.	-13.9	-14.1	9A.	282.8	45.7	
550.0	15662.	-17.5	-18.0	9A.	281.3	44.8	
500.0	17976.	-24.0	-26.3	81.			

STATION ALTITUDE 3989.00 FEET MSL
 4 MAR. 13 1537 HRS. MST
 ASCENSION NO. 121

SIGNIFICANT LEVEL DATA
 0630020121
 WHITE SANDS
 TABLE 15

GEODETIC COORDINATES
 32.411049 LAT NFG
 106.370331 LONG WFG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPPOINT	WFL. MIN. PERCENT
862.8	3989.0	14.2	3.7	49.0
850.0	4400.9	10.8	-0.3	46.0
761.7	7359.2	2.2	-3.1	68.0
733.1	8369.7	-1.0	-2.9	87.0
700.0	9579.3	-2.3	-9.4	58.0
657.8	11189.3	-6.7	-13.6	58.0
567.4	14053.3	-14.5	-18.2	73.0
553.6	15520.3	-18.0	-23.1	64.0
520.3	17033.9	-21.9	-22.8	92.0
500.0	17994.4	-23.5	-27.0	73.0

STATION ALTITUDE 3989.00 FEET MSL
 9 MAR. 63 1537 HRS MST
 ASCENSION NO. 121

UPPER AIR DATA
 0630020121
 WHITE SAMUS

GEODETIC COORDINATES
 32.40043 LAT NFG
 106.37033 LON DFG

TABLE 16

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEMOIT	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DIRECTION (DEGREES TRUE)	WIND SPEED KNOTS	INDEX OF REFRACTION
3989.0	862.8	14.2	49.0	1042.4	661.4	265.0	20.0	1.000269
4000.0	862.5	14.1	48.9	1042.3	661.4	265.0	20.0	1.000268
4500.0	846.9	10.5	46.7	1037.3	657.0	265.2	21.3	1.000259
5000.0	831.3	9.1	50.5	1023.5	655.3	265.4	22.6	1.000256
5500.0	816.1	7.6	54.2	1009.9	653.6	265.6	23.8	1.000252
6000.0	801.1	6.2	57.9	996.6	651.9	265.8	25.1	1.000249
6500.0	786.4	4.7	61.6	983.4	650.2	265.9	26.3	1.000245
7000.0	771.9	3.2	65.3	970.5	648.5	267.2	27.6	1.000241
7500.0	757.6	1.8	70.6	957.8	646.7	271.3	28.8	1.000238
8000.0	743.4	.2	80.0	945.2	644.9	275.0	30.2	1.000236
8500.0	729.5	-1.1	83.9	931.9	643.3	278.3	31.7	1.000232
9000.0	715.7	-1.7	71.9	916.5	642.5	281.2	31.4	1.000229
9500.0	702.1	-2.2	59.9	901.3	641.8	284.1	31.3	1.000217
10000.0	688.7	-3.4	58.0	888.3	640.3	287.1	31.2	1.000212
10500.0	675.5	-4.8	58.0	875.8	638.6	289.2	30.8	1.000208
11000.0	662.6	-6.2	58.0	863.6	636.9	290.7	30.1	1.000204
11500.0	649.0	-7.5	59.6	851.2	635.3	292.2	29.3	1.000201
12000.0	637.1	-8.9	62.2	838.9	633.6	293.4	28.9	1.000197
12500.0	624.6	-10.3	64.9	826.8	632.0	292.6	30.1	1.000194
13000.0	612.4	-11.6	67.5	814.9	630.3	291.9	31.3	1.000191
13500.0	600.4	-13.0	70.1	803.2	628.7	291.3	32.5	1.000188
14000.0	588.6	-14.4	72.7	791.6	627.0	289.4	34.0	1.000185
14500.0	576.9	-15.6	70.3	779.6	625.5	287.3	35.6	1.000181
15000.0	565.4	-16.8	67.2	767.6	624.0	285.4	37.3	1.000177
15500.0	554.1	-18.0	64.1	755.8	622.4			1.000174
16000.0	542.8	-19.2	72.9	744.2	621.0			1.000171
16500.0	531.6	-20.5	82.1	732.8	619.4			1.000169
17000.0	521.0	-21.8	91.4	721.7	617.8			1.000167
17500.0	510.3	-22.7	82.8	709.4	616.7			1.000163

STATION ALTITUDE 3989.00 FFFT MSL
 4 MAR. 83 1537 HRS MST
 ASCENSION NO. 121

MANDATORY LEVELS
 0630020121
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT NFG
 106.37033 LON DFG

TABLE 17

PRESSURE GEOPOTENTIAL MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	WFL.HUM. PERCENT	WIND DATA	
			DIRECTION (DEGREES(TN))	SPEED KNOTS
850.0	10.8	46.	265.2	21.0
800.0	6.0	58.	265.8	25.2
750.0	.9	76.	273.3	29.5
700.0	-2.3	58.	284.6	31.3
650.0	-7.5	60.	292.2	29.4
600.0	-13.0	70.	291.3	32.5
550.0	-18.4	67.		
500.0	-23.5	73.		