

AD-A127 334

19319A MLRS MISSILE NUMBER BN-182 BN-153 BN-161 BN-178  
BN-145 BN-192 ROUN..(U) ARMY ELECTRONICS RESEARCH AND  
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER FEB 83  
ERADCOM/ASL-DR-1288

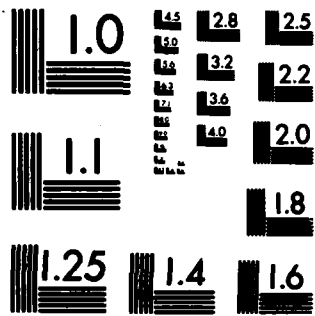
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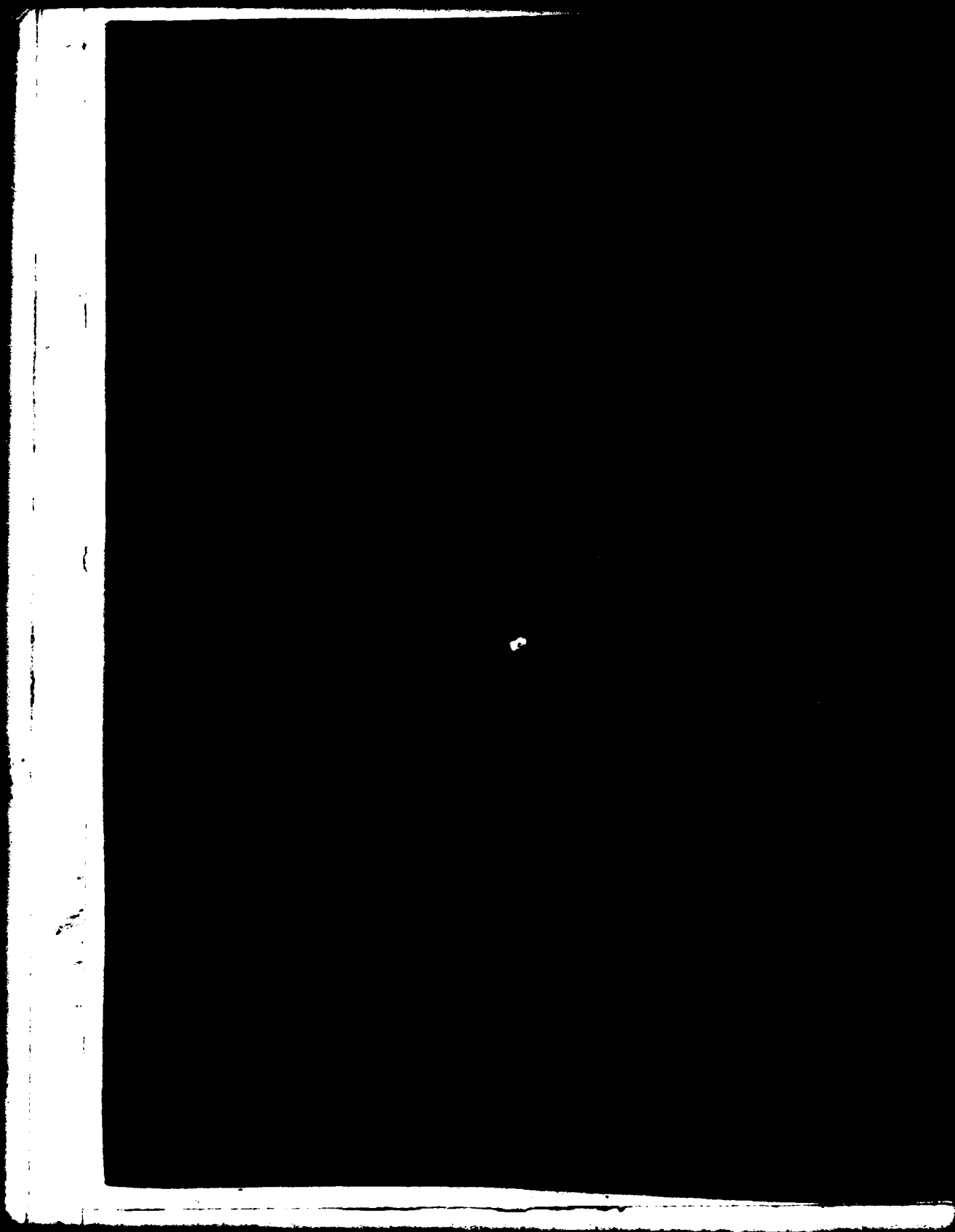
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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

AD A127334



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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

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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 19319A MRS, Missile Number P0-102, 153, 161, 173, 145, 192, Round Number V-411/P0-109, V-412/P0-110, V-413/P0-111, V-414/P0-112, V-415/P0-113, V-416/P0-114 are presented in tabular form.		

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## INTRODUCTION

19319A MLRS, Missile Numbers BN-182, BN-153, BN-161, BN-178, BN-145, BN-192, Round Numbers V-411/P0-109 thru V-416/P0-114, were launched from LC-33, White Sands Missile Range (USMR), New Mexico, at 1410:07, 1410:11, 1410:16, 1410:21, 1410:25, and 1410:30 MST, 4 Feb 1983. The scheduled launch times were 1400 MST (3T's) and 1410 MST (3T's) 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 ( $^{\circ}\text{C}$ ), 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

WSD 2 km

DDM 2 km

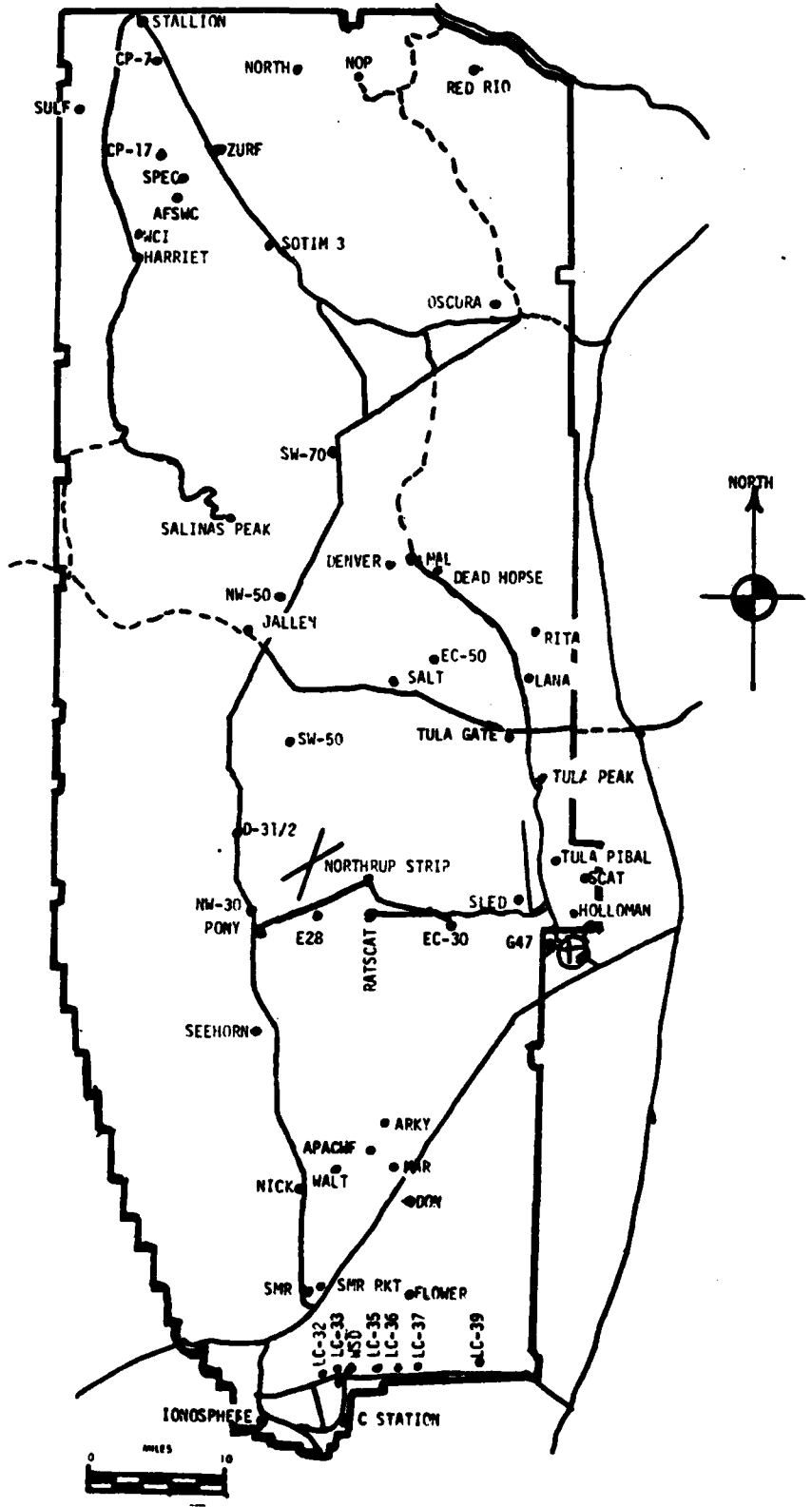
(2) Air structure data (rawinsonde) were collected at the following Met Sites:

#### SITE AND TIME

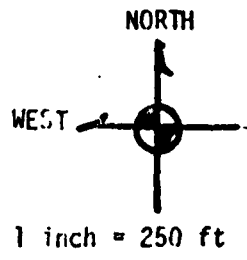
WSD 1200 MST

WSD 1400 MST

# WSMR METEOROLOGICAL SITES



LC-33  
Launch Area



Y186,500

LINE OF FIRE

○ Anemometer Pole #3

○ Anemometer Pole #2

MET  
Tower ○

Y186,000  
○ T-9 Radar

L-579A

L-519A

L-951A

L-350A

Anemometer Pole #1

Y185,500

X485,000

X485,500

X486,000

Y185,000

L-600

PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-33

DATE 4 Feb 83 X= 694,000.67 Y= 105,057.70 H= 2005.00

TIME M	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	RELATIVE HUMIDITY %	DENSITY gm/m <sup>3</sup>	DIRECTION degs	SPEED kts	CHARACTER kts	VISIBIL- ITY
1410	972.4	10.6	5.0	75	1070	105	10		40

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	HGT	AMT	HGT	AMT	HGT	
	7	CU	4000				

PSYCHROMETRIC COMPUTATION

TIME: MST	1410
DRY BULB TEMP.	10.6
WET BULB TEMP.	8.1
WET BULB DEPR.	2.3
DEW POINT	6.2
RELATIVE HUMID.	75

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 X485,874.29 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 KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
-30	191	17	-30	178	14	-30	174	17
-20	193	18	-20	180	15	-20	169	19
-10	195	19	-10	172	17	-10	170	18
0.0	190	20	0.0	170	18	0.0	171	20
+10	176	19	+10	174	16	+10	174	21

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
-30	185	16	-30	165	18
-20	172	18	-20	171	20
-10	184	18	-10	170	18
0.0	195	17	0.0	177	14
+10	199	15	+10	176	20

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
-30	MISS	18	-30	169	18
-20	MISS	19	-20	184	20
-10	MISS	18	-10	184	18
0.0	MISS	16	0.0	183	20
+10	MISS	16	+10	167	20

TABLE 1

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 4 February 1983

SITE: WSD  
 TIME: 1410 MST  
 WSTM COORDINATES:  
 X= 488,852.29  
 Y= 194,982.45  
 H= 3,993.75

SITE: DON  
 TIME 1411 MST  
 WSTM COORDINATES:  
 X= 511,988.37  
 Y= 247,396.36  
 H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	170	08
150	174	20
210	166	13
270	170	13
330	162	14
390	175	22
500	197	25
650	200	23
800	219	29
950	223	29
1150	228	30
1350	234	29
1550	234	30
1750	240	34
2000	242	39

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	140	12
150	160	17
210	167	19
270	177	20
330	186	21
390	190	21
500	194	21
650	200	18
800	223	20
950	230	26
1150	237	31
1350	244	32
1550	244	34
1750	251	32
2000	250	32

Data obtained from a NIKE-HERCULES  
 Radar tracked pilot-balloon observation.

Data obtained from a single Theodolite  
 tracked pilot-balloon observation.

AIMING AND T-TIME COMPUTER NET MESSAGES  
4 February 1983

WSD 1200 MST		WSD 1400 MST	
NETCM1324064		NETCM1324064	
041900122875		042100122873	
00196014	28960875	00302008	28380873
01237015	27920865	01307024	28300863
02280015	27680839	02326016	27940837
03340016	27540790	03375024	27720797
04420019	27330750	04413030	27360749
05413034	27010705	05426032	26910704
06415040	26690661	06438044	26500660
07416050	26300620	07426053	26360619
08421061	25850581	08427061	26120580
09415059	25630544	09423068	25750543
10414055	25280509	10422069	25350508
11417063	24900475	11427066	24930475
12426067	24440428	12432073	24400428

STATION ALTITUDE 5992.00 FEET MSL  
 W. REF. 0.5 1200 HRS MSL  
 ASCENSION NO. 01

SIGNIFICANT LEVEL DATA  
 0.50020061  
 WHITE SANDS  
 TARET-6

GEOLOGIC COORDINATES  
 32.40043 LAT DEG  
 106.37035 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MCL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
875.6	3089.0	5.9	95.0
852.0	4784.3	3.1	93.0
798.4	6448.6	1.3	98.0
772.1	7334.8	.7	99.0
700.0	9002.0	-4.0	92.0
653.3	11900.8	-7.9	99.0
642.1	12125.8	-7.3	99.0
633.8	12259.2	-2.6	99.0
630.1	12612.6	-9.5	98.0
610.1	13058.3	-11.7	45.0
520.0	14010.5	-14.6	14.0
500.0	14688.3	-14.4	15.0
555.2	15728.9	-16.1	15.0
541.2	16004.8	-16.8	16.0
500.0	18342.8	-21.3	14.0
407.4	19665.6	-25.3	14.0
400.0	20330.1	-25.5	14.0
400.0	23639.0	-31.8	14.0
346.5	26235.7	-39.8	14.0

STATION ALTITUDE 5989.0 FEET  
 4 7 16 25  
 1200 GRS MS  
 100.57613 LON DEG  
 52.40045 LAT DEG

UPPER AIR DATA  
 0350029001  
 30116 30015  
 TABLE-7

GEOMETRIC CORRECTIONS

GEOMETRIC CORRECTIONS	INDEX OF REFRACTION	WIND DATA	SPEED	INDEX OF REFRACTION
ANGLE (TH)	DEGREES	DIR (TH)	KNOTS	
110.0	14.0	1.000266		
110.5	13.9	1.000265		
120.0	12.0	1.000279		
144.9	11.1	1.000273		
164.8	11.6	1.000268		
181.2	13.4	1.000263		
194.3	15.2	1.000258		
210.8	15.3	1.000253		
220.0	16.6	1.000249		
232.6	19.5	1.000243		
235.7	22.9	1.000237		
236.7	26.5	1.000232		
234.1	31.0	1.000227		
232.2	35.5	1.000222		
232.2	38.4	1.000218		
232.1	40.7	1.000214		
233.1	42.8	1.000210		
233.7	44.6	1.000207		
234.3	46.3	1.000203		
235.1	49.4	1.000191		
235.0	52.7	1.000185		
236.2	55.6	1.000180		
236.2	57.0	1.000177		
234.9	59.8	1.000171		
233.8	59.9	1.000168		
233.4	59.2	1.000165		
233.2	58.3	1.000162		
233.1	57.5	1.000159		
233.3	57.9	1.000157		
233.0	58.3	1.000154		
234.3	58.6	1.000152		
235.3	61.7	1.000149		
236.2	63.9	1.000147		
237.2	65.5	1.000144		
233.2	67.0	1.000141		
239.0	68.4	1.000139		
239.7	68.5	1.000137		
239.4	68.6	1.000134		
239.9	68.6	1.000132		

REL. HUM. PERCENT	WIND DIRECTION	WIND SPEED	TEMPERATURE	DEW POINT	CEILING	WIND DIRECTION	WIND SPEED	TEMPERATURE	DEW POINT	CEILING
DEGREES	DEGREES	KNOTS	DEGREES	DEGREES	FEET	DEGREES	KNOTS	DEGREES	DEGREES	FEET
85.0	110.0	14.0	5.9	5.2		110.0	14.0	5.9	5.2	
85.1	110.5	13.9	5.9	5.1		110.5	13.9	5.9	5.1	
87.6	120.0	12.0	4.1	3.8		120.0	12.0	4.1	3.8	
84.9	144.9	11.1	2.9	2.7		144.9	11.1	2.9	2.7	
88.6	164.8	11.6	2.3	2.1		164.8	11.6	2.3	2.1	
88.3	181.2	13.4	1.8	1.5		181.2	13.4	1.8	1.5	
93.1	194.3	15.2	1.3	1.0		194.3	15.2	1.3	1.0	
95.6	210.8	15.3	.9	.7		210.8	15.3	.9	.7	
98.5	220.0	16.6	.4	.2		220.0	16.6	.4	.2	
97.2	232.6	19.5	-.5	-.4		232.6	19.5	-.5	-.4	
95.0	235.7	22.9	-1.4	-2.0		235.7	22.9	-1.4	-2.0	
91.5	236.7	26.5	-2.3	-3.1		236.7	26.5	-2.3	-3.1	
91.5	234.1	31.0	-3.3	-4.2		234.1	31.0	-3.3	-4.2	
94.2	232.2	35.5	-4.2	-6.0		232.2	35.5	-4.2	-6.0	
96.0	232.2	38.4	-6.3	-8.8		232.2	38.4	-6.3	-8.8	
97.9	233.1	40.7	-7.0	-7.0		233.1	40.7	-7.0	-7.0	
98.0	233.7	44.6	-7.5	-7.7		233.7	44.6	-7.5	-7.7	
98.3	234.3	46.3	-7.5	-7.5		234.3	46.3	-7.5	-7.5	
51.9	235.1	49.4	-11.4	-13.3		235.1	49.4	-11.4	-13.3	
30.6	235.0	52.7	-13.0	-26.7		235.0	52.7	-13.0	-26.7	
14.3	236.2	55.6	-14.6	-35.8		236.2	55.6	-14.6	-35.8	
14.7	236.2	57.0	-14.5	-35.5		236.2	57.0	-14.5	-35.5	
14.4	234.9	59.8	-14.9	-36.1		234.9	59.8	-14.9	-36.1	
13.4	233.8	59.9	-15.7	-37.4		233.8	59.9	-15.7	-37.4	
14.2	233.4	59.9	-16.4	-37.4		233.4	59.9	-16.4	-37.4	
15.9	233.2	59.2	-17.0	-36.3		233.2	59.2	-17.0	-36.3	
15.4	233.1	58.3	-18.2	-38.1		233.1	58.3	-18.2	-38.1	
14.9	233.1	57.5	-19.3	-39.4		233.1	57.5	-19.3	-39.4	
14.4	233.3	57.9	-20.5	-40.7		233.3	57.9	-20.5	-40.7	
14.0	233.0	58.3	-21.7	-41.9		233.0	58.3	-21.7	-41.9	
14.0	234.3	58.6	-22.9	-42.9		234.3	58.6	-22.9	-42.9	
14.0	235.3	61.7	-24.2	-43.9		235.3	61.7	-24.2	-43.9	
14.0	236.2	63.9	-25.3	-44.9		236.2	63.9	-25.3	-44.9	
14.0	237.2	65.5	-25.4	-45.3		237.2	65.5	-25.4	-45.3	
14.0	233.2	67.0	-25.9	-46.1		233.2	67.0	-25.9	-46.1	
14.0	239.0	68.4	-26.7	-46.9		239.0	68.4	-26.7	-46.9	
14.0	239.7	68.5	-26.7	-47.7		239.7	68.5	-26.7	-47.7	
14.0	239.4	68.6	-29.6	-48.4		239.4	68.6	-29.6	-48.4	
14.0	239.9	68.6	-29.6	-49.2		239.9	68.6	-29.6	-49.2	

REL. HUM. PERCENT	WIND DIRECTION	WIND SPEED	TEMPERATURE	DEW POINT	CEILING	WIND DIRECTION	WIND SPEED	TEMPERATURE	DEW POINT	CEILING
DEGREES	DEGREES	KNOTS	DEGREES	DEGREES	FEET	DEGREES	KNOTS	DEGREES	DEGREES	FEET
85.0	110.0	14.0	5.9	5.2		110.0	14.0	5.9	5.2	
85.1	110.5	13.9	5.9	5.1		110.5	13.9	5.9	5.1	
87.6	120.0	12.0	4.1	3.8		120.0	12.0	4.1	3.8	
84.9	144.9	11.1	2.9	2.7		144.9	11.1	2.9	2.7	
88.6	164.8	11.6	2.3	2.1		164.8	11.6	2.3	2.1	
88.3	181.2	13.4	1.8	1.5		181.2	13.4	1.8	1.5	
93.1	194.3	15.2	1.3	1.0		194.3	15.2	1.3	1.0	
95.6	210.8	15.3	.9	.7		210.8	15.3	.9	.7	
98.5	220.0	16.6	.4	.2		220.0	16.6	.4	.2	
97.2	232.6	19.5	-.5	-.4		232.6	19.5	-.5	-.4	
95.0	235.7	22.9	-1.4	-2.0		235.7	22.9	-1.4	-2.0	
91.5	236.7	26.5	-2.3	-3.1		236.7	26.5	-2.3	-3.1	
91.5	234.1	31.0	-3.3	-4.2		234.1	31.0	-3.3	-4.2	
94.2	232.2	35.5	-4.2	-6.0		232.2	35.5	-4.2	-6.0	
96.0	232.2	38.4	-6.3	-8.8		232.2	38.4	-6.3	-8.8	
97.9	233.1	40.7	-7.0	-7.0		233.1	40.7	-7.0	-7.0	
98.0	233.7	44.6	-7.5	-7.7		233.7	44.6	-7.5	-7.7	
98.3	234.3	46.3	-7.5	-7.5		234.3	46.3	-7.5	-7.5	
51.9	235.1	49.4	-11.4	-13.3		235.1	49.4	-11.4	-13.3	
30.6	235.0	52.7	-13.0	-26.7		235.0	52.7	-13.0	-26.7	
14.3	236.2	55.6	-14.6	-35.8		236.2	55.6	-14.6	-35.8	
14.7	236.2	57.0	-14.5	-35.5		236.2	57.0	-14.5	-35.5	
14.4	234.9	59.8	-14.9	-36.1		234.9	59.8	-14.9	-36.1	
13.4	233.8	59.9	-15.7	-37.4		233.8	59.9	-15.7	-37.4	
14.2	233.4	59.9	-16.4	-37.4		233.4	59.9	-16.4	-37.4	
15.9	233.2	59.2	-17.0	-36.3		233.2	59.2	-17.0	-36.3	
15.4	233.1	58.3	-18.2	-38.1		233.1	58.3	-18.2	-38.1	
14.9	233.1	57.5	-19.3	-39.4		233.1	57.5	-19.3	-39.4	
14.4	233.3	57.9	-20.5	-40.7		233.3	57.9	-20.5	-40.7	
14.0	233.0	58.3	-21.7	-41.9		233.0	58.3	-21.7	-41.9	
14.0	234.3	58.6	-22.9	-42.9		234.3	58.6	-22.9	-42.9	
14.0	235.3	61.7	-24.2	-43.9		235.3	61.7	-24.2	-43.9	
14.0	236.2	63.9	-25.3	-44.9		236.2	63.9	-25.3	-44.9	
14.0	237.2	65.5	-25.4	-45.3		237.2	65.5	-25.4	-45.3	
14.0	233.2	67.0	-25.9	-46.1		233.2	67.0	-25.9	-46.1	
14.0	239.0	68.4	-26.7	-46.9		239.0	68.4	-26.7	-46.9	
14.0	239.7	68.5	-26.7	-47.7		239.7	68.5	-26.7	-47.7	
14.0	239.4	68.6	-29.6	-48.4		239.4	68.6	-29.6	-48.4	
14.0	239.9	68.6	-29.6	-49.2		239.9	68.6	-29.6	-49.2	

GEOMETRIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

WIND AIR DATA  
 0350020061  
 WIND DATA  
 TABLE 7 cont'd

STATION ALTITUDE 3000.0 FT  
 1200 MILES WEST  
 WIND AIR DATA

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REFLECTIVITY PERCENT	DENSITY GM/CM <sup>3</sup> METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES(TN)	SPEED KNOTS	
23500.0	402.4	-31.5	14.0	580.1	605.0	240.2	68.4	1.000130
24000.0	393.7	-32.7	14.0	570.4	604.1	240.4	68.3	1.000127
24500.0	385.2	-33.9	14.0	560.9	602.0			1.000125
25000.0	376.7	-35.1	14.0	551.6	601.1			1.000123
25500.0	368.7	-36.3	14.0	542.4	599.5			1.000121
26000.0	360.4	-37.6	14.0	533.4	598.0			1.000119
26500.0	352.0	-38.8	14.0	524.6	596.4			1.000117

STATION ALTITUDE 5949.0 FEET SA  
 9 SEP 63 1200 HRS EST  
 ASCENDING 7.0. 61

MANDATORY LEVELS  
 23 JUNE 2001  
 WHITE SANDS  
 TABLE 2

GENETIC COORDINATES  
 32.40043 LAT UG  
 106.37033 LONG WEG

PRESSURE GEOPHYSICAL	TEMPERATURE	REL. HUMID.	WIND DIRECTION	WIND SPEED
MILLIBARS	AT DEPTHS	PERCENT	(DEGREES)	(KNOTS)
FEET	DEGREES			
6500.0	3.1	99.	136.1	11.3
6000.0	1.4	98.	190.9	15.3
7500.0	-0.7	97.	233.3	20.2
7000.0	-4.0	92.	232.5	34.6
6500.0	-7.9	99.	233.5	43.9
6000.0	-14.1	19.	230.2	54.8
5500.0	-15.4	14.	233.5	59.9
5000.0	-21.3	14.	233.5	56.2
4500.0	-26.5	14.	237.9	60.6
4000.0	-31.8	14.	240.2	68.4
3500.0	-39.2	14.		

GEODLTIC COORDINATES  
 52-40043 LAT DEG  
 106-37033 LON DEG

SIGNIFICANT LEVEL DATA  
 0350021002  
 SHILE SANDS  
 TABLE-9

STANDARD ALTITUDE 3000.0 FEET (914)  
 W.P.P. 83  
 1400 HRS 1947

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE METER FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	RELATIVITY PERCENT
878.4	3089.0	8.9	66.3
858.0	4073.0	8.4	72.0
850.0	4727.4	7.9	74.0
846.5	4939.1	6.9	79.0
835.1	5209.6	5.4	77.0
811.2	5963.4	4.0	97.0
783.5	6910.3	2.6	73.0
765.8	7510.9	1.5	71.0
722.4	9349.8	-3.0	97.0
700.0	9867.8	-4.9	98.0
680.0	10614.9	-6.9	98.0
671.7	10929.6	-7.8	71.0
652.3	11677.1	-9.1	98.0
630.5	12379.6	-9.9	71.0
628.1	12637.0	-9.1	98.0
609.4	13781.6	-10.1	14.0
590.0	15072.6	-15.2	12.0
500.0	17250.8	-20.7	14.0
460.2	21116.1	-25.3	14.0
418.8	22540.1	-30.5	14.0
417.8	22985.5	-30.6	14.0
400.0	23619.4	-32.1	15.0
364.0	25783.7	-38.0	15.0
354.2	26147.4	-38.4	15.0
341.0	27254.6	-41.1	15.0

GEOCLIC COORDINATES  
32.40093 LAT DEG  
106.37035 LONG DEG

UPPER AIR DATA  
0350020000  
WHITE SANDS  
TABLE 19

STATION ALTITUDE 3409.00 FEET ASL  
STATION ID 1400 WPC WSI  
AIR FORCE NO. 02

GEOMETRIC ALTITUDE FEET	PRESSURE MILLIBARS	TEMPERATURE IN DEGREES CENTIGRADE	WIND DIRECTION DEGREES	WIND VELOCITY METERS PER SECOND	REL. HUM. PERCENT	WIND VELOCITY KNOTS	WIND DIRECTION DEGREES (TN)	WIND VELOCITY KNOTS	INDEX OF REFRACTION
3409.0	875.4	6.9	6.3	1074.5	86.0	170.0	170.0	P.0	1.000285
4000.0	875.0	6.9	6.3	1073.9	83.7	176.5	176.5	P.0	1.000285
4500.0	857.1	6.3	3.6	1057.0	72.2	189.0	189.0	10.0	1.000273
5000.0	841.5	6.2	2.7	1045.7	70.1	200.6	200.6	12.7	1.000269
5500.0	826.6	4.9	2.5	1031.5	66.6	207.9	207.9	15.7	1.000260
6000.0	810.7	4.0	3.5	1015.4	66.6	212.6	212.6	18.9	1.000265
6500.0	795.6	3.2	.7	999.8	83.6	216.2	216.2	22.2	1.000255
7000.0	780.9	2.4	-2.0	984.5	72.7	218.6	218.6	25.6	1.000246
7500.0	765.3	1.5	-3.1	969.5	71.1	223.9	223.9	26.9	1.000240
8000.0	751.0	.1	-3.1	956.2	79.2	229.5	229.5	28.0	1.000238
8500.0	737.7	-1.4	-3.2	943.5	87.7	234.6	234.6	29.3	1.000235
9000.0	725.8	-2.9	-3.4	930.5	96.2	237.7	237.7	31.1	1.000232
9500.0	710.0	-4.0	-4.4	916.9	97.6	239.8	239.8	33.1	1.000227
10000.0	690.4	-5.3	-5.5	903.6	98.0	241.6	241.6	35.2	1.000223
10500.0	683.0	-6.6	-6.9	890.9	98.0	243.6	243.6	37.7	1.000218
11000.0	669.8	-7.9	-12.6	878.7	69.8	243.5	243.5	41.4	1.000208
11500.0	656.8	-8.8	-16.5	864.7	53.4	244.0	244.0	45.2	1.000202
12000.0	644.1	-9.5	-22.9	850.4	32.4	243.6	243.6	48.6	1.000195
12500.0	631.5	-9.5	-32.0	834.3	14.0	242.2	242.2	51.4	1.000188
13000.0	619.2	-9.4	-32.4	817.7	13.6	240.9	240.9	54.3	1.000184
13500.0	607.1	-9.0	-33.4	803.1	12.5	240.5	240.5	57.2	1.000181
14000.0	595.2	-10.6	-34.2	789.5	12.2	240.7	240.7	60.0	1.000178
14500.0	583.5	-11.7	-34.8	777.3	13.1	241.0	241.0	62.8	1.000175
15000.0	571.6	-12.6	-35.3	765.2	13.5	240.3	240.3	64.4	1.000172
15500.0	560.7	-13.9	-35.9	753.3	13.9	239.4	239.4	65.6	1.000169
16000.0	549.6	-15.0	-36.5	741.6	14.0	238.6	238.6	66.9	1.000167
16500.0	538.6	-16.2	-37.4	730.2	14.0	238.4	238.4	66.9	1.000164
17000.0	527.7	-17.5	-38.4	719.9	14.6	238.2	238.2	66.9	1.000161
17500.0	517.1	-18.7	-39.4	709.8	14.0	239.4	239.4	66.9	1.000159
18000.0	506.7	-19.4	-40.4	699.9	14.0	239.7	239.7	66.9	1.000156
18500.0	496.4	-21.1	-41.5	690.1	14.0	241.0	241.0	67.0	1.000154
19000.0	486.2	-22.4	-42.5	675.5	14.0	241.8	241.8	67.3	1.000151
19500.0	476.2	-23.7	-43.6	665.0	14.0	241.9	241.9	67.9	1.000149
20000.0	466.4	-25.0	-44.6	654.0	14.0	242.0	242.0	68.5	1.000147
20500.0	456.7	-26.1	-45.5	644.0	14.0	242.1	242.1	69.7	1.000144
21000.0	447.2	-27.2	-46.4	633.3	14.0	242.2	242.2	71.4	1.000142
21500.0	437.6	-28.3	-47.3	622.7	14.0	242.2	242.2	73.0	1.000139
22000.0	428.0	-29.3	-48.2	612.4	14.0	241.9	241.9	75.1	1.000137
22500.0	419.7	-30.4	-49.1	602.2	14.0	241.4	241.4	77.3	1.000135
23000.0	410.6	-31.4	-49.3	590.5	14.2	241.0	241.0	79.6	1.000132

UPPER AIR DATA  
 6350020002  
 WHITE SANDS  
 TAPIT-10 CONT-14

GEOMETRIC ALTITUDE 3599.0 FT Y 054  
 4 FEB 50  
 1900 HRS MST  
 PRESSION 101.62

GEOMETRIC COORDINATES  
 32.40003 LAT DEG  
 106.57033 LONG DEG

GEOMETRIC ALTITUDE FSL FEET	GEOMETRIC ALTITUDE METERS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEW POINT CENTIGRADE	REL HUMIDITY PERCENT	DENSITY GRAMS PER CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION (DEGREES TRUE)	SPEED KNOTS	INDEX OF REFRACTION
2300.0	670.0	-71.9	-40.8	14.8	580.4	603.2	240.4	80.4	1.000130
2400.0	700.0	-73.1	-50.8	15.0	571.0	603.0	259.7	80.8	1.000128
24500.0	740.0	-74.5	-51.9	15.0	561.9	601.0	259.1	81.3	1.000125
25000.0	770.0	-75.9	-53.0	15.0	552.9	600.1	258.7	80.3	1.000123
25500.0	800.0	-77.2	-54.2	15.0	544.1	598.4	258.5	79.2	1.000121
26000.0	830.0	-78.2	-55.0	15.0	534.6	597.1			1.000119
26500.0	860.0	-79.5	-56.9	10.2**	525.2	595.8			1.000117
27000.0	890.0	-80.5	-67.9	3.4**	516.4	594.2			1.000115

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

STATION ALTITUDE 5089.70 FEET (1561 M)  
 4 FEB 63 1400 UTC MST  
 250015Z FEB 63

MAGNETIC LEVELS  
 0350020002  
 WHITE SANDS  
 TABLE 11

GEOLOGIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LOG DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEW POINT CENTIGRADE		DIRECTION DEGREES (TRUE)	SPEED KNOTS
850.0	4724.	7.0	3.6	74.	194.9	11.2
800.0	4350.	3.4	1.5	87.	215.3	21.3
750.0	4060.	-1	-3.1	80.	230.1	28.1
700.0	3758.	-4.9	-5.2	90.	241.2	34.6
650.0	3454.	-9.2	-10.3	44.	244.2	47.2
600.0	3173.	-10.1	-34.0	12.	240.0	54.8
550.0	2962.	-15.0	-36.5	14.	233.0	66.8
500.0	2801.	-20.7	-41.1	14.	240.5	67.0
450.0	2624.	-26.9	-46.2	14.	242.1	70.9
400.0	2501.	-32.1	-44.9	15.	240.2	80.5
350.0	2323.	-39.7	-61.2	8.4*		

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