

AD-A107 084

ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/G 4/2  
193040 MLRS, MISSILE NUMBER BN-051, ROUND NUMBER V-184/MD-40, 1--ETC(U)  
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ERADCOM/ASL-DR-1204

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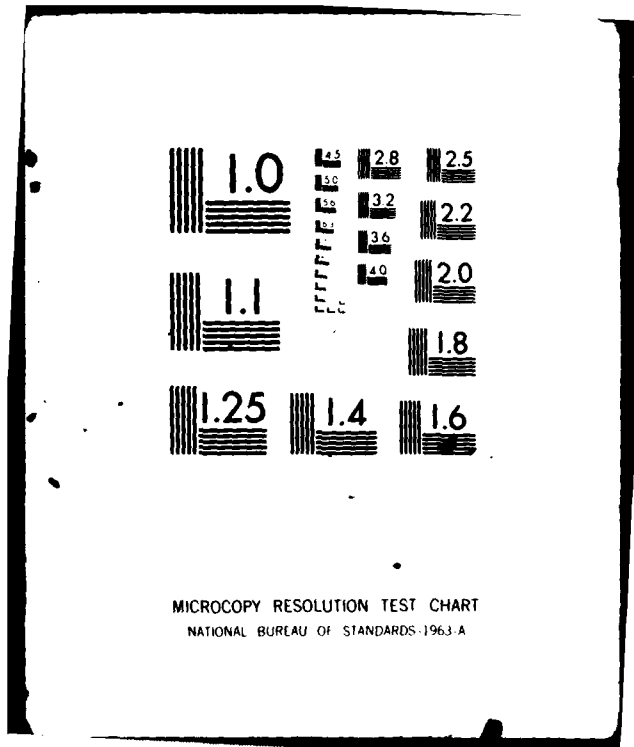
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MICROCOPY RESOLUTION TEST CHART  
NATIONAL BUREAU OF STANDARDS-1963-A

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AD A107084

METEOROLOGICAL DATA REPORT

19304D MLRS  
Missile Number BN-051  
Round Number Y-184/WD40  
14 Aug 1981

by

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Program Support Coordinator  
Phone Number (505) 679-9568  
AVN Number 349-9568

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ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND

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SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1204	2. GOVT ACCESSION NO. AD-A107 084	3. RECIPIENT'S CATALOG NUMBER
6 TITLE (and Subtitle) 19304D MLRS, Missile Number BN-051, Round Number V-184/MD-40, 14 Aug 1981.		4. TYPE OF REPORT & PERIOD COVERED
		5. PERFORMING ORG. REPORT NUMBER
7. AUTHOR 9 Meteorological data ref.	8. CONTRACT OR GRANT NUMBER(s) 16 17 DA Task 1F6657(2D127)2	
10. PERFORMING ORGANIZATION NAME AND ADDRESS White Sands Meteorological Team 10 Donald C. Keller		19. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development CMD 11 Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002		20. REPORT DATE Aug 1981
12. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research & Development Cnd Adelphi, MD 20783		21. NUMBER OF PAGES 23 23
		22. SECURITY CLASS. (of this report) UNCLASSIFIED
13a. DECLASSIFICATION/DOWNGRADING SCHEDULE		
16. DISTRIBUTION STATEMENT (of this Report)		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19304D MLRS, Missile Number BN-051, Round Number V-184/MD-40 presented in tabular form. ↑		

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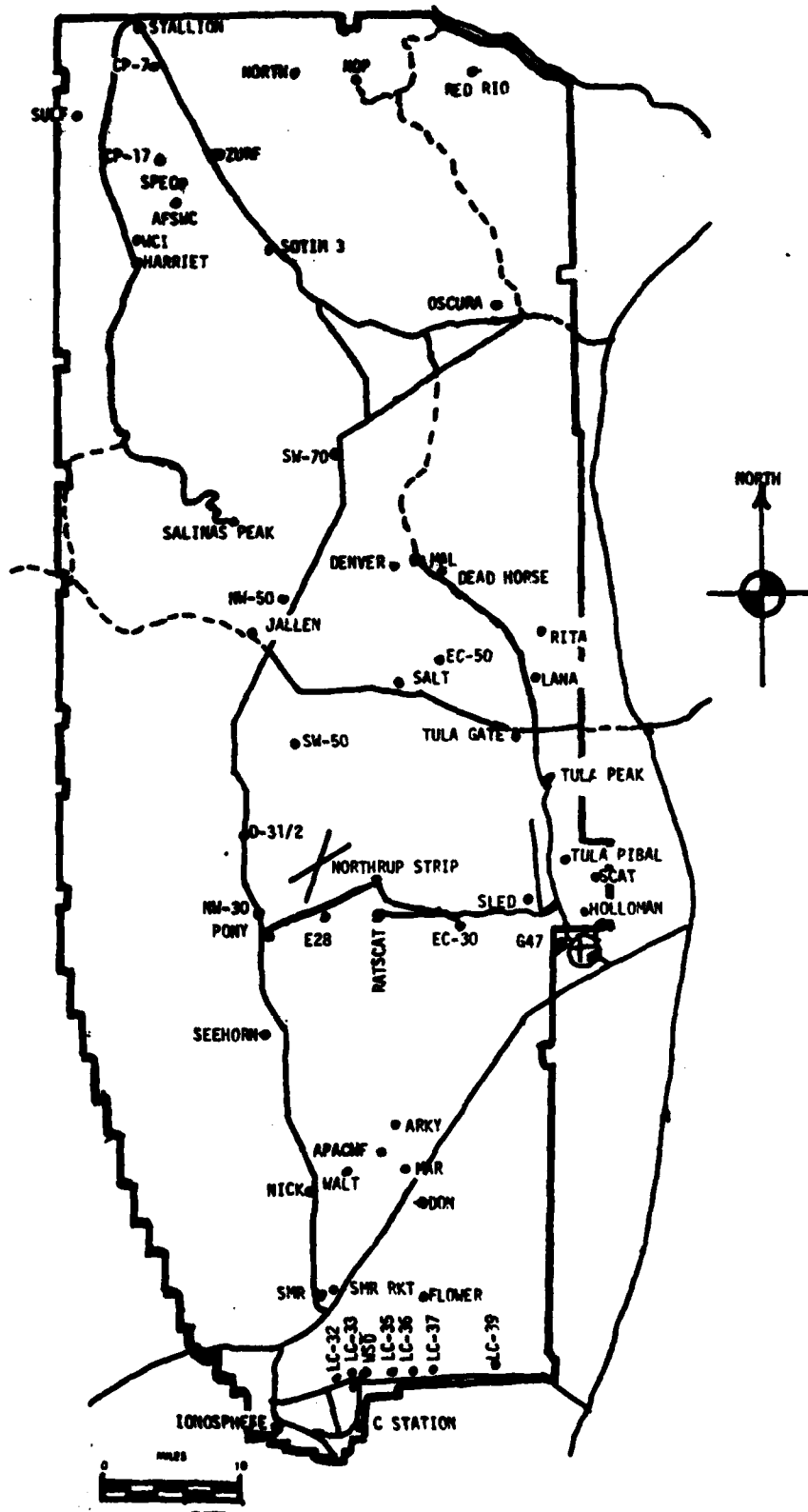
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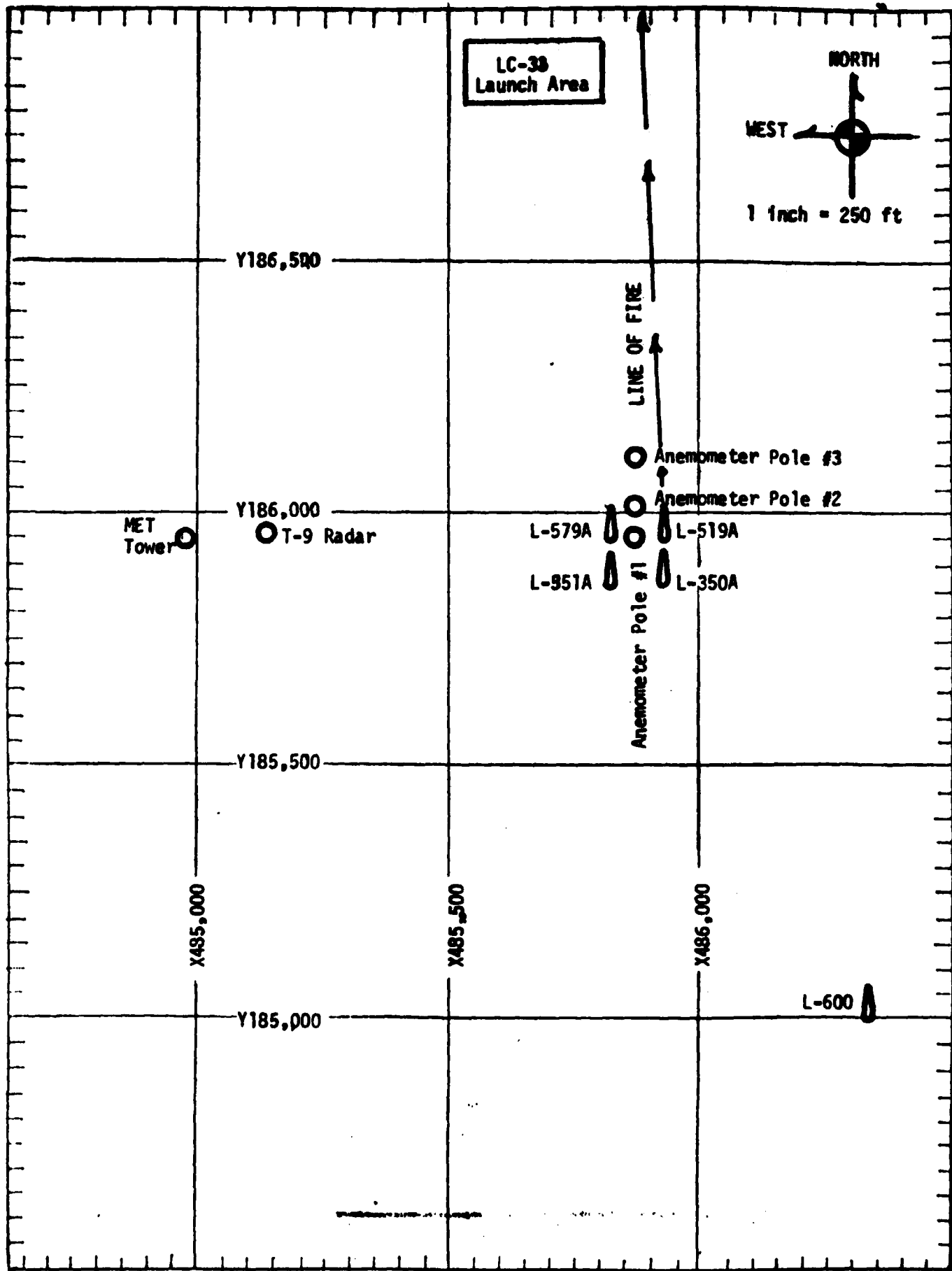
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# WSMR METEOROLOGICAL SITES





LC-33  
Launch Area

NORTH  
WEST  
1 inch = 250 ft

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 14		MONTH		YEAR		X= 485.135.76		Y= 185.919.24		H= 3.988.57	
TIME	M	D	I	PRESSURE	TEMPERATURE	DEW POINT	RELATIVE	DENSITY	DIRECTION	WIND	VISIBIL-
				mbars	OF	OF	HUMIDITY	gm/m <sup>3</sup>	degs	SPEED	ITY
1530				887.8	30.0	14.7	40	1013	175	05	35

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS		
	1st LAYER		2nd LAYER		3rd LAYER				
	AMT	TYPE	HGT	AMT	TYPE	HGT	AMT	TYPE	HGT
	2	CU	6,000	0	AS	10,000	1	CI	25,000

PSYCHROMETRIC COMPUTATION

TIME:	MDT	1530
DRY BULB TEMP.		30.0
WET BULB TEMP.		19.5
WET BULB DEPR.		10.5
DEW POINT		14.7
RELATIVE HUMID.		40%

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	C A L M		T-30	C A L M		T-30	258	05
T-20	C A L M		T-20	C A L M		T-20	257	03
T-10	C A L M		T-10	C A L M		T-10	357	01
T0.0	C A L M		T0.0	230	01	T0.0	261	02
T+10	C A L M		T+10	228	03	T+10	215	04

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	139	07	T-30	169	04
T-20	157	07	T-20	163	04
T-10	162	07	T-10	212	03
T0.0	151	07	T0.0	205	03
T+10	194	06	T+10	168	04

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	194	03	T-30	119	03
T-20	175	02	T-20	106	05
T-10	220	01	T-10	105	05
T0.0	220	03	T0.0	114	05
T+10	227	04	T+10	126	05

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 14 Aug 1981

SITE: LC-33  
 TIME: 1530 MDT  
 WSTM COORDINATES:  
 X= 484,837.34  
 Y= 184,124.44  
 H= 3,975.57

SITE: NICK  
 TIME: 1550 MDT  
 WSTM COORDINATES:  
 X= 470-734.56  
 Y= 255,775.64  
 H= 4,126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	175	05
150	177	02
210	192	02
270	222	01
330	257	01
390	290	01
500	327	03
650	332	06
800	321	05
950	331	03
1150	342	06
1350	349	06
1550	337	05
1750	M I S G	
2000	M I S G	

Data obtained from Double Theodolite  
 Pilot-Balloon Observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	195	03
150	178	03
210	180	03
270	193	03
330	208	02
390	209	02
500	198	02
650	099	01
800	013	02
950	002	03
1150	340	03
1350	310	09
1550	328	09
1750	321	08
2000	297	03

Data obtained from Single Theodolite  
 Pilot-Balloon Observation.

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES  
14 Aug 1981

WSD 1130 MDT  
METCM1324064  
141750122884

00124004	30020884
01123004	29880874
02096001	29570849
03011002	29260811
04000000	28920765
05007003	28550721
06527001	28270679
07320006	28070639
08326010	27700601
09314009	27330565

WSD 1300 MDT  
METCM1324064  
141900122883

00507003	30340883
01477004	30220873
02591002	29920849
03522001	29550811
04559003	29110765
05047005	28680721
06550005	28350679
07348006	28110640
08348013	27780602
09325013	27420566

WSD 1530 MDT  
METCM1324064  
142150122882

00311005	30530882
01358008	30390872
02523005	30050848
03476005	29610810
04306002	29110764
05597003	28710720
06452004	28410679
07379010	28050639
08358012	27740601
09342013	27360565

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 61 1130 HRS MDT  
 ASCENSION NO. 552

SIGNIFICANT LEVEL DATA

22600.0552  
 WHITE SANDS

TABLE 6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	
884.1	3989.0	24.9	15.0	54.0
850.0	5115.2	20.1	11.8	59.0
830.0	5788.6	18.1	11.9	67.0
808.0	6544.7	17.1	9.5	61.0
782.6	7438.9	15.3	9.2	67.0
745.2	8798.7	12.5	6.8	68.0
700.0	10514.9	8.6	3.4	70.0
690.4	10890.9	8.3	4.3	76.0
672.4	11608.5	7.4	3.3	75.0
645.6	12710.1	6.8	-4	60.0
602.6	14561.1	3.1	-5.3	54.0
577.2	15703.7	.3	-6.1	62.0
560.4	16482.2	-5	-8.4	55.0
543.4	17289.8	-2.4	-10.9	52.0
527.0	18088.3	-4.0	-7.6	76.0
515.6	18656.5	-4.0	-10.2	62.0
500.0	19452.1	-5.7	-11.2	65.0
477.8	20619.6	-7.9	-12.9	67.0
462.2	21466.9	-9.3	-17.3	52.0
447.0	22315.7	-10.7	-19.8	47.0
428.1	23402.6	-13.8	-23.1	45.0
417.2	24046.9	-14.7	-20.7	60.0
400.0	25092.7	-16.6	-23.5	55.0

STATION ALTITUDE 3489.00 FEET MSL  
 14 AUG. 81  
 ASCENSION NO. 552

UPPER AIR DATA  
 2260020552  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	DIRECTION (DEGREES TRUE)	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT CENTIGRADE					SPEED KNOTS	REFRACTION	
3989.0	884.1	24.9	15.0	54.0	1025.8	675.0	70.0	4.1	1.000301	
4000.0	883.8	24.9	14.9	54.0	1025.6	675.0	69.9	4.1	1.000301	
4500.0	868.5	22.7	13.6	56.3	1015.6	672.4	63.4	3.2	1.000294	
5000.0	853.4	20.6	12.2	58.5	1005.8	669.8	52.1	2.3	1.000287	
5500.0	838.5	19.0	11.9	63.6	993.7	667.9	30.3	1.7	1.000283	
6000.0	823.8	17.8	11.2	65.3	980.2	666.6	9.6	1.6	1.000278	
6500.0	809.3	17.2	9.7	61.4	965.7	665.7	356.9	1.8	1.000269	
7000.0	795.0	16.2	9.4	64.1	951.8	664.5	15.1	1.4	1.000266	
7500.0	780.9	15.2	9.1	67.0	938.2	663.4	34.1	1.3	1.000262	
8000.0	766.9	14.1	8.2	67.4	925.0	662.1	28.3	1.4	1.000256	
8500.0	753.3	13.1	7.3	67.8	912.0	660.8	14.6	1.5	1.000251	
9000.0	739.7	12.0	6.4	68.2	899.2	659.5	351.4	2.1	1.000245	
9500.0	726.4	10.9	5.4	68.8	886.7	658.7	352.1	2.6	1.000240	
10000.0	713.3	9.8	4.4	69.4	874.3	656.1	11.6	3.0	1.000235	
10500.0	700.4	8.6	3.5	70.0	862.2	655.4	13.4	2.6	1.000230	
11000.0	687.6	8.2	4.2	75.8	847.7	654.9	357.5	1.5	1.000228	
11500.0	675.1	7.5	3.4	75.2	834.2	654.1	258.2	.8	1.000223	
12000.0	662.8	7.2	2.0	69.7	820.3	653.6	218.9	2.6	1.000217	
12500.0	650.6	6.9	.3	62.9	806.4	653.2	196.6	4.7	1.000210	
13000.0	638.7	6.2	-1.2	59.1	793.8	652.2	184.5	7.0	1.000204	
13500.0	626.9	5.2	-2.5	57.4	782.1	651.0	185.1	8.5	1.000199	
14000.0	615.3	4.2	-3.8	55.8	770.6	649.7	182.7	9.7	1.000194	
14500.0	604.0	3.2	-5.1	54.2	759.3	648.5	180.3	9.2	1.000190	
15000.0	592.7	2.0	-5.6	57.1	748.4	647.1	178.7	8.8	1.000187	
15500.0	581.6	.8	-5.9	60.6	737.8	645.6	179.6	8.3	1.000184	
16000.0	570.7	-0.0	-7.0	59.3	726.2	644.6	176.5	8.7	1.000180	
16500.0	560.0	-0.5	-8.5	54.9	714.1	643.9	171.0	9.8	1.000176	
17000.0	549.4	-1.7	-10.0	53.1	703.8	642.5	166.5	10.8	1.000171	
17500.0	539.0	-2.8	-9.8	58.3	693.2	641.2	162.8	11.7	1.000169	
18000.0	528.8	-3.8	-7.9	73.3	682.3	640.1	165.8	13.0	1.000170	
18500.0	518.7	-4.0	-9.4	65.9	669.9	639.8	169.8	14.4	1.000165	
19000.0	508.8	-4.7	-10.6	63.3	659.0	638.9	176.4	15.6	1.000161	
19500.0	499.1	-5.8	-11.3	65.1	649.0	637.6	183.5	17.0	1.000158	
20000.0	489.5	-6.7	-12.0	65.9	638.8	636.5	189.9	18.1	1.000155	
20500.0	480.0	-7.7	-12.8	66.8	628.8	635.3	195.5	19.2	1.000152	
21000.0	470.7	-8.5	-14.8	60.3	618.7	634.2	194.7	20.2	1.000148	
21500.0	461.6	-9.4	-17.4	51.8	608.8	633.1	193.0	21.3	1.000144	
22000.0	452.6	-10.2	-18.9	48.9	598.9	632.1	188.5	21.2	1.000141	
22500.0	443.7	-11.2	-20.3	46.7	589.6	630.8	183.6	21.2	1.000138	
23000.0	435.0	-12.7	-21.9	45.7	581.2	629.1	180.5	20.9	1.000135	

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 81  
 ASCENSION NO. 552

UPPER AIR DATA  
 2260020552  
 WHITE SANDS

UFODETIC COORDINATES  
 32.40093 LAT DEG  
 106.37033 LONG DEG

TABLE 7 CON'T

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	
23500.0	426.4	-13.9	-22.7	47.3	572.6	627.5	177.3	20.6	1.000133
24000.0	418.0	-14.6	-20.9	58.9	562.7	626.7			1.000132
24500.0	409.7	-15.5	-21.9	57.8	553.4	625.6			1.000129
25000.0	401.5	-16.4	-23.2	55.4	544.3	624.5			1.000127

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 81  
 ASCENSION NO. 552

MANDATORY LEVELS  
 2260020552  
 WHITE SANDS

GEODETIC COORDINATE:  
 32.40043 LAT DEG  
 106.37033 LONG DEG

TABLE 8

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5111.	20.1	11.8	59.	48.4	2.2
800.0	6018.	16.5	9.4	63.	7.7	1.5
750.0	8613.	12.9	7.1	68.	7.8	1.6
700.0	10504.	8.6	3.4	70.	13.2	2.6
650.0	12513.	6.9	.2	63.	196.2	4.8
600.0	14659.	2.8	-5.4	55.	179.4	9.1
550.0	16952.	-1.7	-9.9	53.	166.8	10.7
500.0	19424.	-5.7	-11.2	65.	182.8	16.8
450.0	22112.	-10.4	-19.3	48.	187.2	21.2
400.0	25050.	-16.6	-23.5	55.		

STATION ALTITUDE 5989.00 FEET MSL  
 14 AUG. 81 1300 HRS MDT  
 ASCENSION NO. 553

SIGNIFICANT LEVEL DATA  
 2260020553  
 WHITE SANDS

GEODYLIC COORDINATES  
 52.40043 LAT DEG  
 106.37033 LON DEG

TABLE 9

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT
883.2	3989.0	28.0	46.0
850.0	5099.5	24.0	52.0
792.4	7098.7	18.3	56.0
736.6	9134.4	13.3	59.0
700.0	10541.8	9.6	73.0
691.2	10687.4	9.0	76.0
655.8	12317.1	7.2	73.0
620.8	13798.1	5.4	58.0
578.6	15678.0	1.4	59.0
537.4	17623.6	-2.2	79.0
500.0	19503.2	-4.4	64.0
481.4	20483.0	-6.3	57.0
465.0	21372.7	-8.0	56.0
449.8	22220.5	-9.6	63.0
425.4	23631.5	-12.2	37.0
420.2	23940.8	-12.5	34.0
413.0	24374.5	-13.6	66.0
400.0	25173.3	-15.0	60.0

UPPER AIR DATA  
 2260020553  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 81  
 ASCENSION NO. 553

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND		WIND DATA		INDEX OF REFRACTION	
						METER	KNOTS	DIRECTION DEGREES(TN)	SPEED KNOTS	SPEED KNOTS	REFRACTION
3989.0	863.2	28.0	15.3	46.0	1014.1	678.6	285.0	2.9	1.000299		
4000.0	862.9	28.0	15.3	46.1	1013.8	678.5	285.0	2.9	1.000299		
4500.0	867.8	26.2	14.5	46.8	1002.7	676.4	286.2	2.6	1.000294		
5000.0	852.9	24.4	13.7	51.5	991.8	674.3	287.6	2.2	1.000288		
5500.0	838.1	22.9	12.7	52.8	979.8	672.5	289.7	1.9	1.000282		
6000.0	823.6	21.4	11.7	53.8	967.8	670.8	292.5	1.6	1.000276		
6500.0	809.2	20.0	10.6	54.8	955.9	669.0	296.2	1.3	1.000270		
7000.0	795.2	18.6	9.6	55.8	944.1	667.3	296.1	1.7	1.000264		
7500.0	781.1	17.3	8.6	56.6	931.7	665.8	296.1	2.0	1.000258		
8000.0	767.3	16.1	7.7	57.3	919.3	664.3	322.4	2.3	1.000252		
8500.0	753.6	14.9	6.7	58.1	907.1	662.8	342.4	2.9	1.000247		
9000.0	740.3	13.6	5.7	58.8	895.0	661.3	6.4	3.5	1.000242		
9500.0	727.0	12.3	5.4	62.6	882.9	659.8	21.6	4.4	1.000239		
10000.0	713.9	11.0	5.3	67.6	871.0	658.3	11.2	4.0	1.000236		
10500.0	701.1	9.7	5.0	72.6	859.3	656.8	354.7	3.7	1.000233		
11000.0	688.3	8.9	4.8	75.8	846.3	655.8	325.3	3.8	1.000230		
11500.0	675.8	8.2	4.0	74.7	832.9	655.0	304.8	3.3	1.000225		
12000.0	663.5	7.6	3.2	73.7	819.7	654.2	271.6	2.2	1.000220		
12500.0	651.4	7.0	2.1	71.1	806.7	653.4	214.7	3.5	1.000214		
13000.0	639.4	6.4	.5	66.1	793.9	652.6	197.4	6.6	1.000208		
13500.0	627.7	5.8	-1.2	61.0	781.3	651.7	147.8	9.1	1.000201		
14000.0	616.1	5.0	-2.6	58.1	769.3	650.7	194.6	11.4	1.000196		
14500.0	604.7	3.9	-3.5	58.4	758.1	649.4	195.6	11.9	1.000192		
15000.0	593.5	2.8	-4.4	56.6	747.0	648.1	142.5	12.3	1.000188		
15500.0	582.5	1.8	-5.4	58.9	736.1	646.8	188.0	12.6	1.000185		
16000.0	571.6	.8	-5.6	62.3	724.9	645.7	184.3	13.2	1.000182		
16500.0	560.8	-.1	-5.4	67.4	713.6	644.6	182.5	14.5	1.000180		
17000.0	550.3	-1.0	-5.3	72.6	702.5	643.5	182.1	15.4	1.000178		
17500.0	539.9	-2.0	-5.3	77.7	691.6	642.5	183.9	15.7	1.000175		
18000.0	529.7	-2.6	-6.3	76.0	680.3	641.6	187.5	15.4	1.000171		
18500.0	519.6	-3.2	-7.5	72.0	669.9	640.9	194.4	14.3	1.000167		
19000.0	509.7	-3.8	-8.8	68.0	657.8	640.1	200.9	13.8	1.000163		
19500.0	500.1	-4.4	-10.2	64.0	646.8	639.3	206.2	13.9	1.000159		
20000.0	490.5	-5.4	-11.8	60.5	636.8	638.1	207.1	14.4	1.000155		
20500.0	481.1	-6.3	-13.4	57.0	627.0	636.9	204.1	15.3	1.000151		
21000.0	471.8	-7.3	-14.4	56.4	617.2	635.7	199.4	15.6	1.000148		
21500.0	462.7	-8.2	-15.2	57.1	607.5	634.6	192.7	15.5	1.000145		
22000.0	453.7	-9.2	-15.3	61.2	597.8	633.4	186.3	15.2	1.000143		
22500.0	444.9	-10.1	-16.8	57.8	588.4	632.3	179.9	14.9	1.000140		
23000.0	436.2	-11.0	-19.7	48.6	579.0	631.1	177.3	15.2	1.000136		

UPPER AIR DATA  
 2267020553  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 61 1300 HRS MDT  
 ASCENSION NO. 553

GEODETIC COORDINATES  
 32.91043 LAT DEG  
 106.37033 LON DEG

TABLE 10 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	WET BULB DEGREES CENTIGRADE				DIRECTION DEGREES (T)	SPEED KNOTS	
23500.0	427.6	-12.0	-22.9	34.4	569.8	629.9	176.9	15.0	1.000132
24000.0	419.2	-12.7	-23.9	36.4	560.2	629.0			1.000130
24500.0	410.9	-13.8	-18.9	65.1	551.3	627.8			1.000131
25000.0	402.8	-14.7	-20.5	61.3	542.3	626.7			1.000126

STATION ALTITUDE 3949.00 FEET MSL  
 14 AUG. 81  
 ASCENSION NO. 553

MANUATORY LEVELS  
 2260020553  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40093 LAT DEG  
 106.37033 LON DEG

TABLE 11

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES (T)	SPEED KNOTS	
850.0	5096.	24.0	13.5	52.	248.0	2.2	
800.0	6824.	19.1	10.0	55.	296.2	1.5	
750.0	8631.	14.5	6.4	58.	348.9	3.1	
700.0	10531.	9.6	5.0	73.	352.6	3.6	
650.0	12544.	6.9	1.9	71.	211.7	3.8	
600.0	14694.	3.5	-3.9	58.	194.9	12.1	
550.0	16994.	-1.1	-5.3	73.	182.1	15.4	
500.0	19475.	-4.4	-10.2	64.	206.2	13.9	
450.0	22175.	-9.6	-15.3	63.	183.8	15.1	
400.0	25130.	-15.0	-21.0	60.			

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 81  
 ASCENSION NO. 554

SIGNIFICANT LEVEL DATA

2260020554  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE ATP DEGREES CENTIGRADE	REL. HUM. PERCENT
881.8	3589.0	30.0	39.0
850.0	5059.2	25.3	48.0
816.0	6231.6	21.5	55.0
797.6	6880.1	19.5	56.0
738.8	9177.2	12.9	76.0
726.2	9502.7	12.1	76.0
700.0	10514.3	10.8	66.0
691.2	10861.6	10.6	69.0
639.6	12971.3	5.6	73.0
622.6	13696.5	5.3	64.0
548.8	17047.2	-1.6	64.0
517.4	18586.2	-3.4	51.0
500.0	19473.3	-5.4	56.0
479.0	20577.7	-7.5	74.0
471.6	20976.2	-8.4	57.0
464.2	21380.2	-8.5	67.0
449.6	22193.8	-10.2	71.0
426.4	23534.9	-11.5	59.0
400.0	25136.5	-15.4	65.0

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 81 1530 HRS PDT  
 ASCENSION NO. 554

UPPER AIR DATA  
 2260020554  
 WMTF SANDS

GEODETIC COORDINATES  
 37.40043 LAT DEG  
 106.37033 LON DEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CM <sup>3</sup>	SPEED OF SOUND METERS PER SECOND	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES CENTIGRADE	WIND DIRECTION DEGREES TRUE				SPEED KNOTS		
3989.0	891.8	30.0	14.5	39.0	1006.1	680.7	175.0	5.1	1.000293
4000.0	881.5	30.0	14.5	39.1	1005.9	680.7	175.3	5.0	1.000293
4500.0	866.5	27.8	14.1	43.3	996.1	678.2	190.0	4.1	1.000290
5000.0	851.7	25.6	13.6	47.5	986.4	675.7	211.0	3.6	1.000286
5500.0	837.1	23.9	13.0	50.6	975.1	673.7	235.0	3.6	1.000282
6000.0	822.6	22.3	12.4	53.6	963.7	671.8	255.0	4.2	1.000277
6500.0	808.3	20.7	11.7	56.2	952.2	669.9	269.7	5.2	1.000272
7000.0	794.2	19.2	10.9	58.9	940.6	668.1	266.7	4.3	1.000266
7500.0	780.1	17.7	10.6	62.9	928.6	666.5	265.1	3.3	1.000264
8000.0	766.3	16.3	10.1	66.8	916.7	664.8	286.9	1.6	1.000260
8500.0	752.8	14.8	9.6	70.7	905.1	663.1	14.6	1.2	1.000256
9000.0	739.5	13.4	9.0	74.6	893.7	661.4	16.0	1.4	1.000252
9500.0	726.3	12.1	8.0	76.0	882.0	659.8	4.5	1.4	1.000247
10000.0	713.2	11.5	6.6	72.1	868.4	658.9	285.6	1.7	1.000239
10500.0	700.4	10.8	5.2	68.1	855.1	658.1	259.4	3.6	1.000232
11000.0	687.7	10.3	4.9	69.3	841.2	657.4	258.0	4.1	1.000228
11500.0	675.2	9.1	4.0	70.2	829.6	656.0	252.8	4.4	1.000223
12000.0	662.9	7.9	3.0	71.2	818.1	654.5	241.7	4.4	1.000219
12500.0	650.8	6.7	2.1	72.1	806.7	653.1	225.6	6.5	1.000214
13000.0	638.9	5.6	1.1	72.6	795.4	651.7	216.9	9.8	1.000209
13500.0	627.2	5.4	-0.4	66.4	781.6	651.3	211.4	11.1	1.000203
14000.0	615.5	4.7	-1.5	64.0	769.2	650.4	206.7	11.9	1.000198
14500.0	604.0	3.6	-2.5	64.0	757.8	649.2	202.5	11.4	1.000194
15000.0	592.8	2.6	-3.5	64.0	746.6	647.9	198.7	11.2	1.000190
15500.0	581.7	1.6	-4.5	64.0	735.5	646.7	197.4	12.0	1.000186
16000.0	570.9	.6	-5.4	64.0	724.6	645.4	196.4	12.5	1.000182
16500.0	560.2	-0.5	-6.4	64.0	713.9	644.1	195.7	12.7	1.000178
17000.0	549.8	-1.5	-7.4	64.0	703.3	642.9	201.0	12.6	1.000175
17500.0	539.4	-2.1	-8.0	60.2	691.8	642.1	210.3	12.4	1.000170
18000.0	529.1	-2.7	-10.3	56.0	680.3	641.3	219.4	11.7	1.000166
18500.0	519.1	-3.3	-11.8	51.7	668.9	640.5	223.6	11.2	1.000162
19000.0	509.2	-4.3	-12.4	53.3	658.7	639.3	219.1	10.6	1.000159
19500.0	499.5	-5.5	-12.7	56.4	648.9	638.0	212.1	10.2	1.000157
20000.0	489.9	-6.4	-12.0	64.6	638.6	636.9	203.1	10.1	1.000155
20500.0	480.4	-7.4	-11.4	72.7	628.4	635.8	197.7	10.8	1.000154
21000.0	471.2	-8.4	-15.3	57.6	619.1	634.4	194.6	12.0	1.000148
21500.0	462.0	-8.8	-13.6	67.6	607.7	634.0	195.2	12.9	1.000147
22000.0	453.0	-9.8	-14.2	70.0	598.3	632.8	196.1	13.9	1.000144
22500.0	444.2	-10.5	-15.2	66.3	588.2	631.9	197.4	14.5	1.000141
23000.0	435.5	-11.0	-16.5	63.8	577.8	631.3	198.7	15.4	1.000138

UPPER AIR DATA  
 226002U554  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 81  
 ASCENSION NO. 554

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

TABLE 13 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE		REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
		AIR DEGREES	DEWPOINT DEGREES				DIRECTION DEGREES (TN)	SPEED KNOTS	
23500.0	427.0	-11.5	-17.8	54.3	567.7	630.6	200.3	17.0	1.000135
24000.0	418.6	-12.6	-18.6	60.7	559.0	629.2			1.000132
24500.0	410.3	-13.9	-19.4	62.6	550.6	627.7			1.000130
25000.0	402.2	-15.1	-20.2	64.5	542.3	626.2			1.000128

STATION ALTITUDE 3989.00 FEET MSL  
 14 AUG. 81  
 ASCENSION NO. 554

MANUATORY LEVELS  
 2260020554  
 WHITE SANDS

GEODELTIC COORDINATES  
 32.40043 LAT OLG  
 106.37033 LON OLG

TABLE 14

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	5055.	25.3	13.5	48.	213.7	3.5
800.0	6789.	19.8	11.2	58.	267.7	4.7
750.0	8601.	14.5	9.5	72.	25.1	1.5
700.0	10504.	10.8	5.1	68.	259.3	3.6
650.0	12522.	6.6	2.0	72.	224.8	6.7
600.0	14670.	3.3	-2.9	64.	200.9	11.2
550.0	16968.	-1.5	-7.4	64.	200.7	12.6
500.0	19445.	-5.4	-12.8	56.	212.8	10.2
450.0	22137.	-10.2	-14.4	71.	196.5	14.1
400.0	25094.	-15.4	-20.5	65.		

