AD-A124 099 19318A MLRS MISSILE NUMBERS BN-225 BN-152 BN-162 BN-212 1/1
BN-222 BN-218 ROU.:(U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER DEC 82
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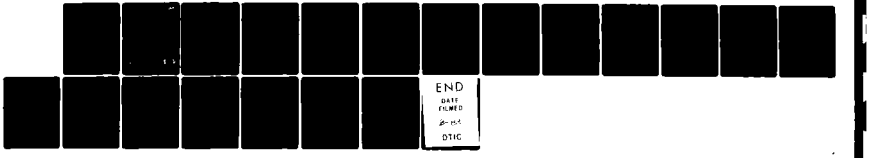

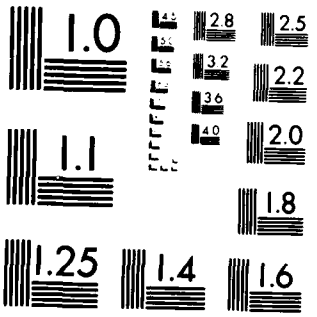

METEOROLOGICAL DATA REPORT
1981SA MLRS
Missile Numbers BN-225, BN-152, BN-162, BN-212, BN-222, BN-218
Round Numbers V-378/OT-7, V-379/OT-8, V-380/OT-9, V-381/OT-10
V-382/OT-11, V-383/OT-12

by

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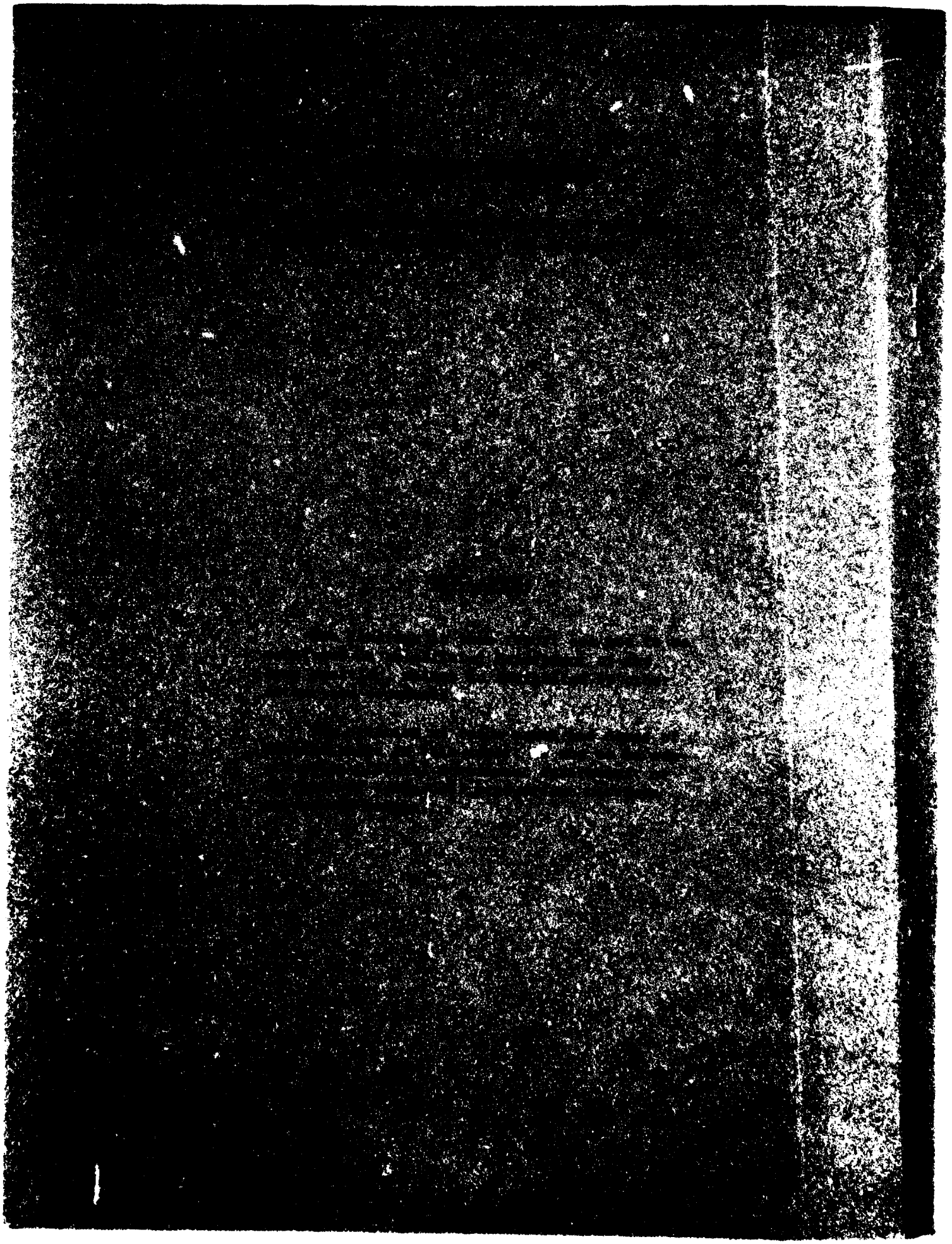
AVN Number 349-9568

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO



REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: DR 1279	2. GOVT ACCESSION NO.: AD-A124 099
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4. TITLE (and Subtitle): 19318A MLRS, Missile Numbers BN-225, BN-152, BN-162, BN-212, BN-22, BN-218, Round Numbers V-378/OT-7, V-379/OT-8, V-380/OT-9, V-381/OT-10, V-382/OT-11, V-383/OT-12	5. TYPE OF REPORT & PERIOD COVERED:
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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 19318A MLRS, Missile Numbers BN-225, BN-152, BN-162, BN-212, BN-222, BN-218, Round Numbers V-378/OT-7, V-379/OT-8, V-380/OT-9, 381/OT-10, V-382/OT-11, V-383/OT-12 are presented in tabular form.

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INTRODUCTION

19318A MLRS, Missile Numbers BN-225, BN-152, BN-162, BN-212, BN-222 and BN-218, Round Numbers V-378/OT-7, V-379/OT-8, V-380/OT-9, V-381/OT-10, V-382/OT-11 and V-383/OT-12, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1709:03, 1709:07, 1709:12, 1709:16, 1709:21 and 1709:25 MST, 06 Dec 82. The scheduled launch times were 1645 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 (^{o}C), relative humidity, dew point (^{o}C), density (gm/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

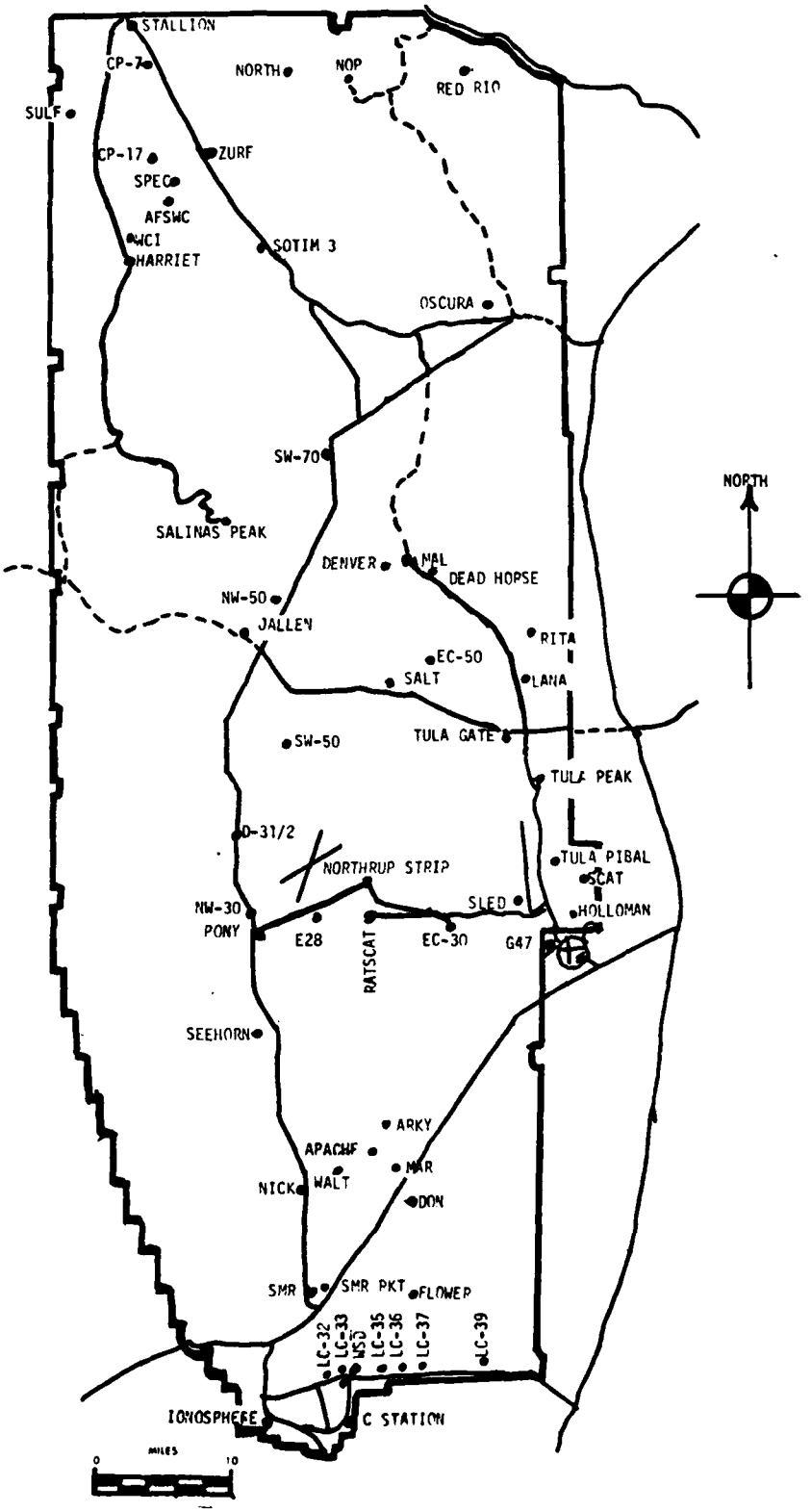
(1) Low level wind data were obtained from Pilot-balloon observations at:

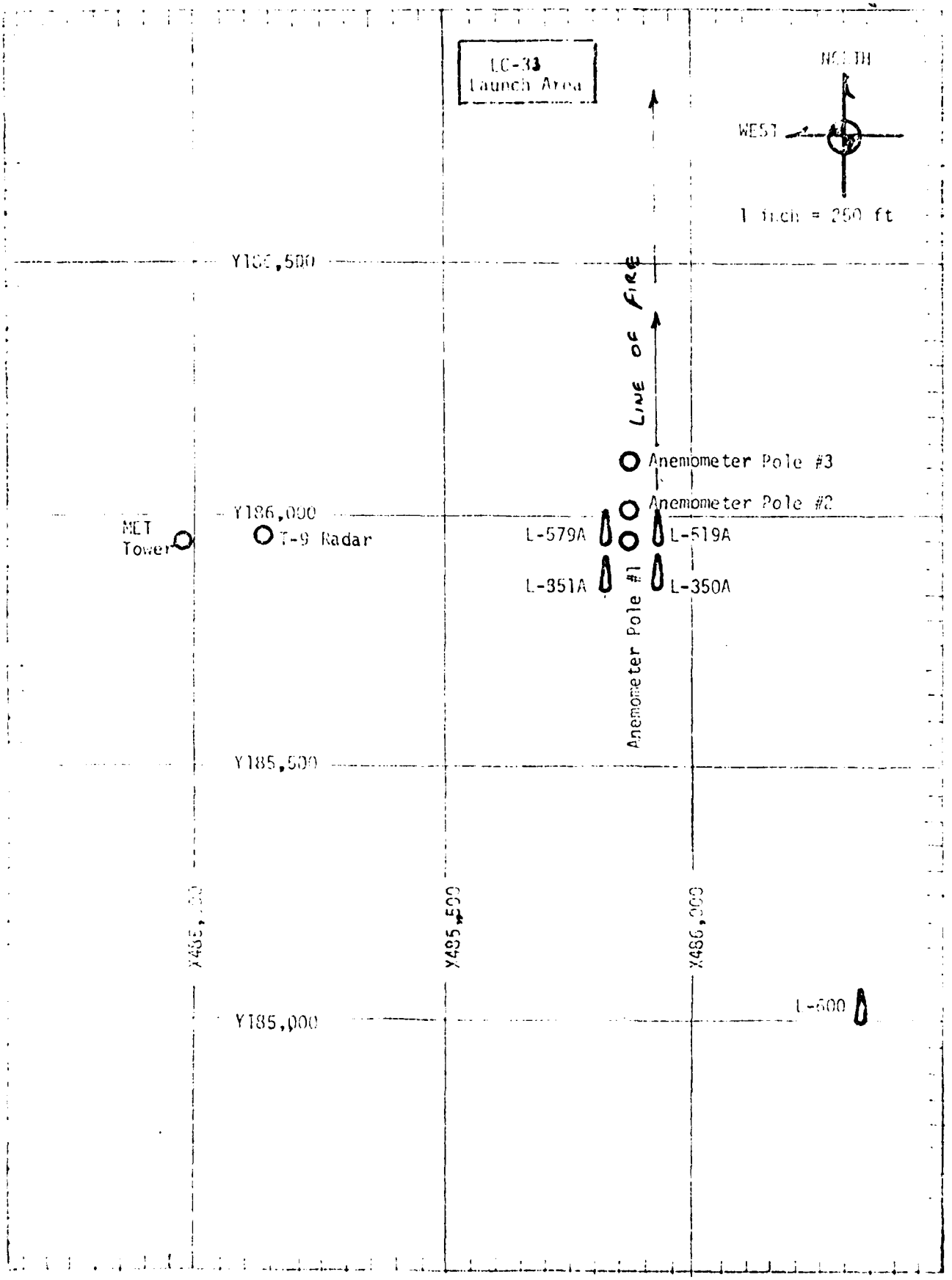
SITE AND ALTITUDE
WSD 2km
DON 2km

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

SITE AND TIME
WSD 1515 MST
WSD 1645 MST

WSMR METEOROLOGICAL SITES




LC-33
Launch Area
NORTH
WEST
1 inch = 250 ft
Y186,500
Line of Fire
Anemometer Pole #3
Anemometer Pole #2
Y186,000
MET
Tower
T-9 Radar
L-579A
L-519A
L-351A
L-350A
Anemometer Pole #1
Y185,500
X485,500
X486,000
L-600
Y185,000

PROJECT SURFACE OBSERVATION

TABLE 1 STATION LC-33

DATE 6 (DAY) Dec (MONTH) 82 (YEAR) X= 484,982.64 Y= 185,957.73 H= 3995.00

TIME M S L	PRESSURE mbs	TEMPERATURE °F	TEMPERATURE °C	DEW POINT °F	DEW POINT °C	RELATIVE HUMIDITY %	DENSITY gm/m³	WIND DIRECTION degs Tn	WIND SPEED kts	WIND CHARACTER kts	VISIBILITY
1709	880.3		10.0		-1.7	44	1081	180	03		50

OBSTRUCTIONS TO VISIBILITY	CLOUDS 1st LAYER AMT	1st LAYER TYPE	1st LAYER HGT	2nd LAYER AMT	2nd LAYER TYPE	2nd LAYER HGT	3rd LAYER AMT	3rd LAYER TYPE	3rd LAYER HGT	REMARKS
	0	AS	15,000	1	CI	25,000				

PSYCHROMETRIC COMPUTATION

TIME:	1710		
DRY BULB TEMP.	10.0		
WET BULB TEMP.	4.5		
WET BULB DEPR.	5.5		
DEW POINT	-1.7		
RELATIVE HUMID.	44		

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 #3 485,877.29 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
T -30	171	04	T -30	163	03	T -30	168	05
T -20	171	04	T -20	163	03	T -20	168	05
T -10	171	04	T -10	163	03	T -10	168	05
T 0.0	171	04	T 0.0	163	03	T 0.0	169	05
T +10	160	03	T +10	147	03	T +10	158	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 KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T-30	182	03	T -30	169	05
T-20	182	03	T -20	169	05
T-10	182	03	T -10	169	05
T0.0	182	03	T 0.0	169	05
T+10	182	03	T +10	168	05

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	180	05	T -30	172	05
T-20	180	05	T -20	172	05
T-10	180	05	T -10	172	05
T0.0	180	05	T 0.0	173	05
T+10	180	05	T +10	173	05

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 6 Dec 82

SITE: WSD
TIME: 1710 MST
WSTM COORDINATES:
X 438,852.29
Y 184,982.45
E 3,993.75

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	160	02
150	190	07
210	198	06
270	180	03
330	154	04
390	171	08
500	181	05
650	226	03
800	243	02
950	213	11
1150	213	16
1350	213	15
1550	215	18
1750	221	15
2000	227	15

Data obtained from a NIKE-HERCULES Radar Tracked Pilot-Balloon observation.

SITE: DON
TIME 1710 MST
WSTM COORDINATES:
X 511,988.37
Y 247,396.36
E 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	183	04
210	183	05
270	184	05
330	184	05
390	182	05
500	175	03
650	201	03
800	219	08
950	218	11
1150	216	10
1350	224	10
1550	228	10
1750	229	09
2000	255	10

Data obtained from a Single Theodolite Tracked Pilot-Balloon observation.

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES

06 Dec 82

WSD 1515 MST		WSD 1645 MST	
METCM1324064		METCM1324064	
062230122880		022380122880	
00000000	28710880	00284002	28410880
01337005	28670870	01314008	28590869
02276004	28460844	02330005	28440844
03380004	28220804	03376003	28140804
04375014	28150757	04386017	28200757
05398014	27990713	05387015	28000712
		06393015	27640670

STATION ALTITUDE 3989.0 FEET MSL
6 DEC. 82 1515 HRS MST
ASCENSION NO. 001

SIGNIFICANT LEVEL DATA
3400020601
WHITE SANDS
TABLE 6

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
880.1	3989.0	13.0	.1	41.0
868.2	4364.6	13.0	-3.7	31.0
850.0	4947.2	11.4	-4.3	33.0
807.8	6335.1	7.9	-7.0	34.0
778.6	7334.2	9.2	-15.3	16.0
740.8	8682.7	7.2	-16.2	17.0
700.0	10209.9	6.3	-17.6	16.0
668.7	11435.5	3.7	-19.7	16.0

STATION ALTITUDE 3989.00 FEET MSL
6 DEC. 82 1515 HRS MST
ASCENSION NO. 601

UPPER AIR DATA
3400020601
WHITE SANDS
TABLE 7

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

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)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	880.1	13.0	.1	41.0	1068.6	659.9	.0	.0	1.000267
4000.0	879.7	13.0	-.0	40.7	1068.2	659.9	208.4	.0	1.000266
4500.0	863.9	12.6	-3.8	31.5	1051.0	659.2	208.4	1.1	1.000256
5000.0	848.4	11.3	-4.4	33.0	1037.1	657.7	208.4	2.1	1.000252
5500.0	832.9	10.0	-5.3	33.4	1022.8	656.2	208.4	3.1	1.000247
6000.0	817.8	8.7	-6.3	33.8	1008.8	654.7	208.4	4.2	1.000243
6500.0	802.9	8.1	-8.0	31.0	992.9	653.9	208.4	5.2	1.000237
7000.0	788.2	8.8	-11.7	22.0	972.9	654.5	211.9	7.4	1.000229
7500.0	773.9	9.0	-15.4	16.1	954.8	654.6	214.4	10.0	1.000221
8000.0	759.7	8.2	-15.7	16.5	939.8	653.8	216.0	11.9	1.000218
8500.0	745.8	7.5	-16.1	16.9	925.0	652.9	217.5	12.4	1.000214
9000.0	732.1	7.0	-16.5	16.8	909.6	652.4	218.9	12.9	1.000211
9500.0	718.7	6.7	-17.0	16.5	893.8	652.0			1.000207
10000.0	705.5	6.4	-17.4	16.1	878.3	651.7			1.000203
10500.0	692.5	5.7	-18.1	16.0	864.4	650.8			1.000200
11000.0	679.7	4.6	-19.0	16.0	851.7	649.5			1.000196

STATION ALTITUDE 3989.00 FEET MSL
6 DEC. 82 1516 HRS MST
ASCENSION NO 001

MANDATORY LEVELS
340002001
WHITE SANDS
TABLE 8

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4944.	11.4	-4.3	33.	208.4	2.0
800.0	6593.	8.2	-8.6	29.	208.4	5.4
750.0	8342.	7.7	-15.9	17.	217.1	12.2
700.0	10200.	6.3	-17.6	16.		

STATION ALTITUDE 3989.00 FEET MSL
6 DEC. 82 1645 HRS MST
ASCENSION NO. 002

SIGNIFICANT LEVEL DATA
3400020602
WHITE SANDS
TABLE 9

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
879.9	3989.0	11.9	1.3	48.0
874.0	4174.3	13.0	-2.5	34.0
850.0	4939.9	11.2	-4.5	33.0
786.2	7059.6	6.2	-5.1	44.0
771.1	7584.6	9.4	-15.9	15.0
746.6	8462.1	8.7	-16.5	15.0
700.0	10203.2	6.0	-17.9	16.0
653.8	12025.9	2.0	-21.1	16.0
593.0	14583.6	-4.2	-26.9	15.0

STATION ALTITUDE 3989.00 FEET MSL
6 DEC. 82 1645 HRS MST
ASCENSION NO. 602

UPPER AIR DATA
340002060Z
WHITE SANDS
TABLE 10

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION EGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3989.0	879.9	11.9	1.3	48.0	1072.3	658.7	160.0	1.9	1.000270
4000.0	879.5	12.0	1.1	47.2	1071.6	658.8	160.7	2.0	1.000270
4500.0	863.7	12.2	-3.3	33.6	1052.1	658.8	184.3	2.5	1.000257
5000.0	848.1	11.1	-4.5	33.3	1037.5	657.4	197.8	3.3	1.000252
5500.0	832.7	9.9	-4.5	35.9	1022.8	656.1	205.7	4.3	1.000249
6000.0	817.5	8.7	-4.6	38.5	1008.4	654.7	210.7	5.3	1.000245
6500.0	802.6	7.5	-4.8	41.1	994.1	653.3	214.1	6.3	1.000242
7000.0	787.9	6.3	-5.1	43.7	980.1	652.0	216.6	7.3	1.000239
7500.0	773.5	8.9	-13.0	19.7	954.4	654.6	216.2	10.2	1.000223
8000.0	759.4	9.1	-16.2	15.0	936.6	654.7	215.8	13.3	1.000217
8500.0	745.6	8.6	-16.5	15.0	920.9	654.2	216.2	15.0	1.000213
9000.0	731.9	7.9	-16.9	15.3	906.5	653.3	217.0	15.5	1.000210
9500.0	718.5	7.1	-17.3	15.6	892.4	652.4	217.8	16.0	1.000206
10000.0	705.3	6.3	-17.7	15.9	878.5	651.5	218.8	16.0	1.000203
10500.0	692.3	5.3	-18.4	16.0	865.3	650.4	220.1	15.7	1.000200
11000.0	679.4	4.3	-19.3	16.0	852.6	649.1	221.4	15.4	1.000196
11500.0	666.8	3.2	-20.2	16.0	840.1	647.8	223.4	15.1	1.000193
12000.0	654.4	2.1	-21.1	16.0	827.9	646.5	225.7	14.7	1.000190
12500.0	642.1	.9	-22.2	15.8	815.8	645.1	228.1	14.4	1.000187
13000.0	629.9	-.4	-23.3	15.6	804.0	643.6			1.000184
13500.0	618.0	-1.6	-24.5	15.4	792.4	642.2			1.000181
14000.0	606.4	-2.8	-25.6	15.2	780.9	640.7			1.000178
14500.0	594.9	-4.0	-26.7	15.0	769.6	639.3			1.000175

STATION ALTITUDE 3989.00 FEET MSL
6 DEC. 82 1645 HRS MST
ASCENSION NO. 002

MANDATORY LEVELS
340002060Z
WHITE SANDS
TABLE 11

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	4936.	11.2	-4.5	33.	196.5	3.2
800.0	6585.	7.3	-4.9	42.	214.6	6.5
750.0	8331.	8.8	-16.4	15.	215.9	14.8
700.0	10193.	6.0	-17.9	16.	219.3	15.9
650.0	12167.	1.6	-21.5	16.	226.5	14.6
600.0	14262.	-3.5	-26.2	15.		

END

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