

AD-A106 712 ARMY ELECTRONICS RESEARCH AND DEVELOPMENT COMMAND WS--ETC F/6 4/1
19304 MLRS MISSILE NUMBER V01-016 ROUND NUMBER V-189/MD-43.(U)
SEP 81 D C KELLER
UNCLASSIFIED ERADCOM/ASL-DR-120A

100-1
100-2

ALL

END
DATE
FILMED
12-81
DTIC

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

DR 1208

Sept 1981

AD

LEVEL II

(12)

AD A106712

METFOROLOGICAL DATA REPORT

19304 MLRS
Missile Number V01-016
Round Number V-189/MD-43
17 Sept 1981

by

DONALD C. KELLER
Program Support Coordinator
Phone Number (505) 679-9568
AVN Number 349-9568

DTIC
ELECTE
NOV 0 5 1981
E

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

81 11 04 0 65

DISPOSITION INSTRUCTIONS

Destroy this report when it is no longer needed. Do not return to the originator.

DISCLAIMER

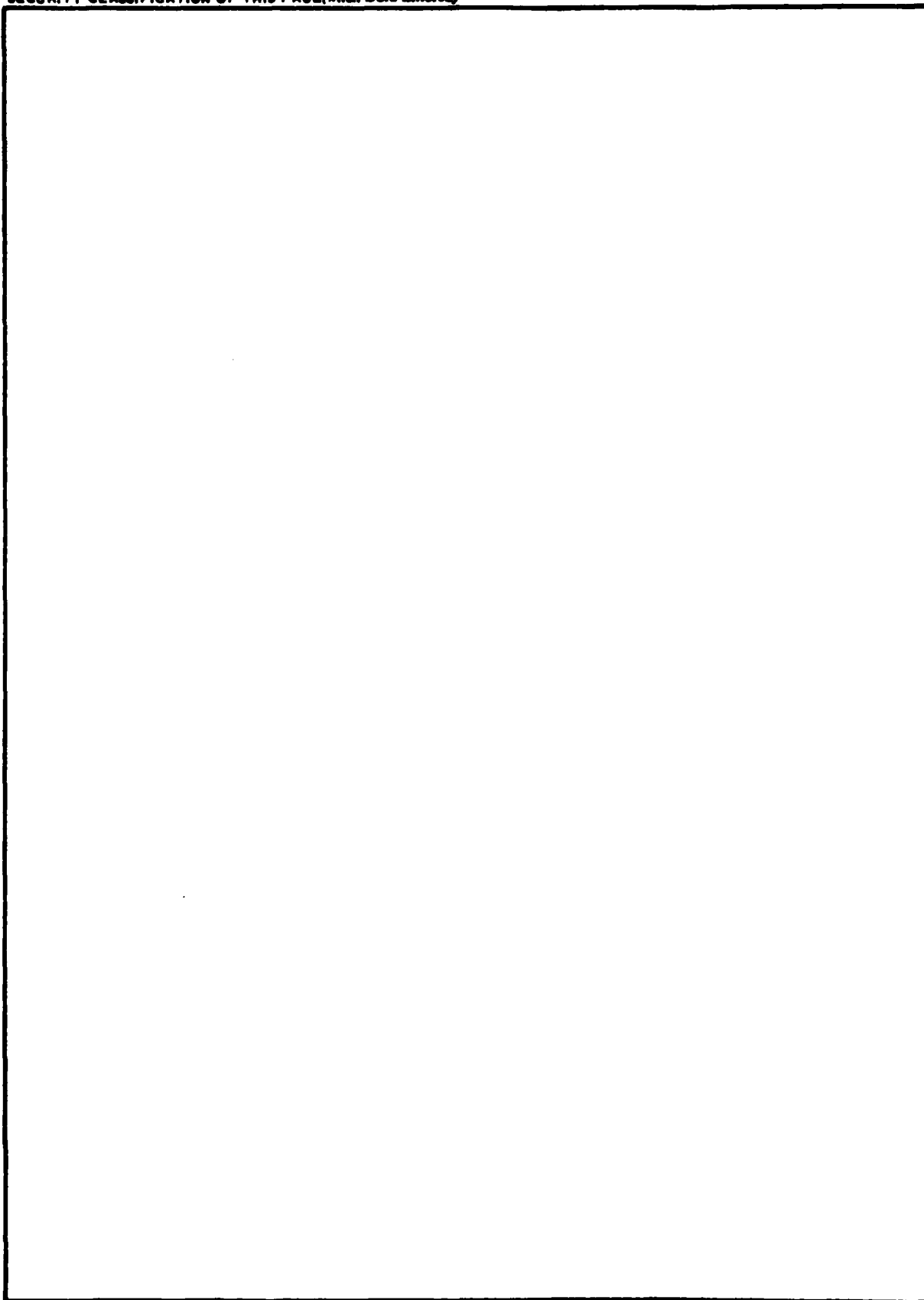
The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1208	2. GOVT ACCESSION NO. AD-A106 712	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19304 MLRS Missile Number V01-016 Round Number V-189/MD-43.		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) White Sands Meteorological Team		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Meteorological data report.		8. CONTRACT OR GRANT NUMBER(s) 16 DA TASK 1F665702D12702 17
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS 12 23
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research & Development Cmd Adelphi, MD 20783		12. REPORT DATE Sep 81
		13. NUMBER OF PAGES 24
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) 10 Donald C. / Kelcey 14 ERADCOM/ASL-DR-1208		
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 19304 MLRS, Missile Number V01-016, Round Number V-189/MD-43 presented in tabular form.		

mt

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)



SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

CONTENTS

	PAGE
INTRODUCTION-----	1
DISCUSSION-----	1
GENERAL AREA MAP-----	2
LAUNCH AREA DIAGRAM-----	3
 TABLES:	
1. Surface Observations taken at 1424 MDT at LC-33-----	4
2. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 1424 MDT-----	5
3. Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3, and 4, taken at 1424 MDT-----	5
4. Launch and Impact Pilot-Balloon Measured Wind Data-----	6
5. Aiming and T-Time Computer Met Messages-----	7
6. WSD Significant Level Data at 1115 MDT-----	8
7. WSD Upper Air Data at 1115 MDT-----	9
8. WSD Mandatory Levels at 1115 MDT-----	11
9. WSD Significant Level Data at 1215 MDT-----	12
10. WSD Upper Air Data at 1215 MDT-----	13
11. WSD Mandatory Levels at 1215 MDT-----	14
12. WSD Significant Level Data at 1315 MDT-----	15
13. WSD Upper Air Data at 1315 MDT-----	16
14. WSD Mandatory Levels at 1315 MDT-----	17
15. WSD Significant Level Data at 1500 MDT-----	18
16. WSD Upper Air Data at 1500 MDT-----	19
17. WSD Mandatory Levels at 1500 MDT-----	20

INTRODUCTION

19304 MLRS, Missile Number V01-016, Round Number V-189/MD-43, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1423:30 MDT, 17 Sept 1981. The scheduled launch time was 1415 MDT.

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 (gm/m^3), wind speed and direction, 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 2 KM
NICK 2 KM

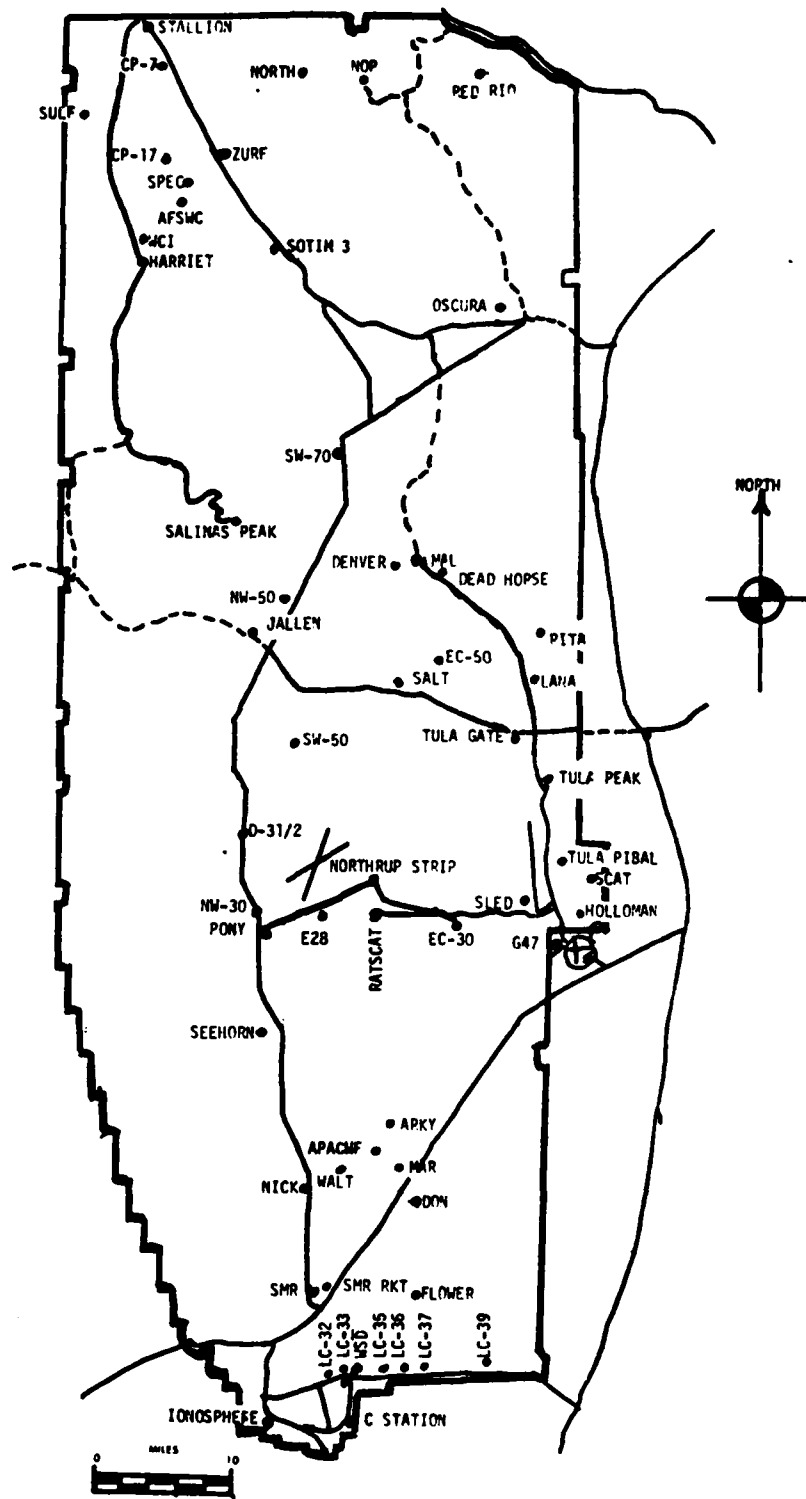
(2) Air structure data (rawinsonde) were collected at the following Met Sites:

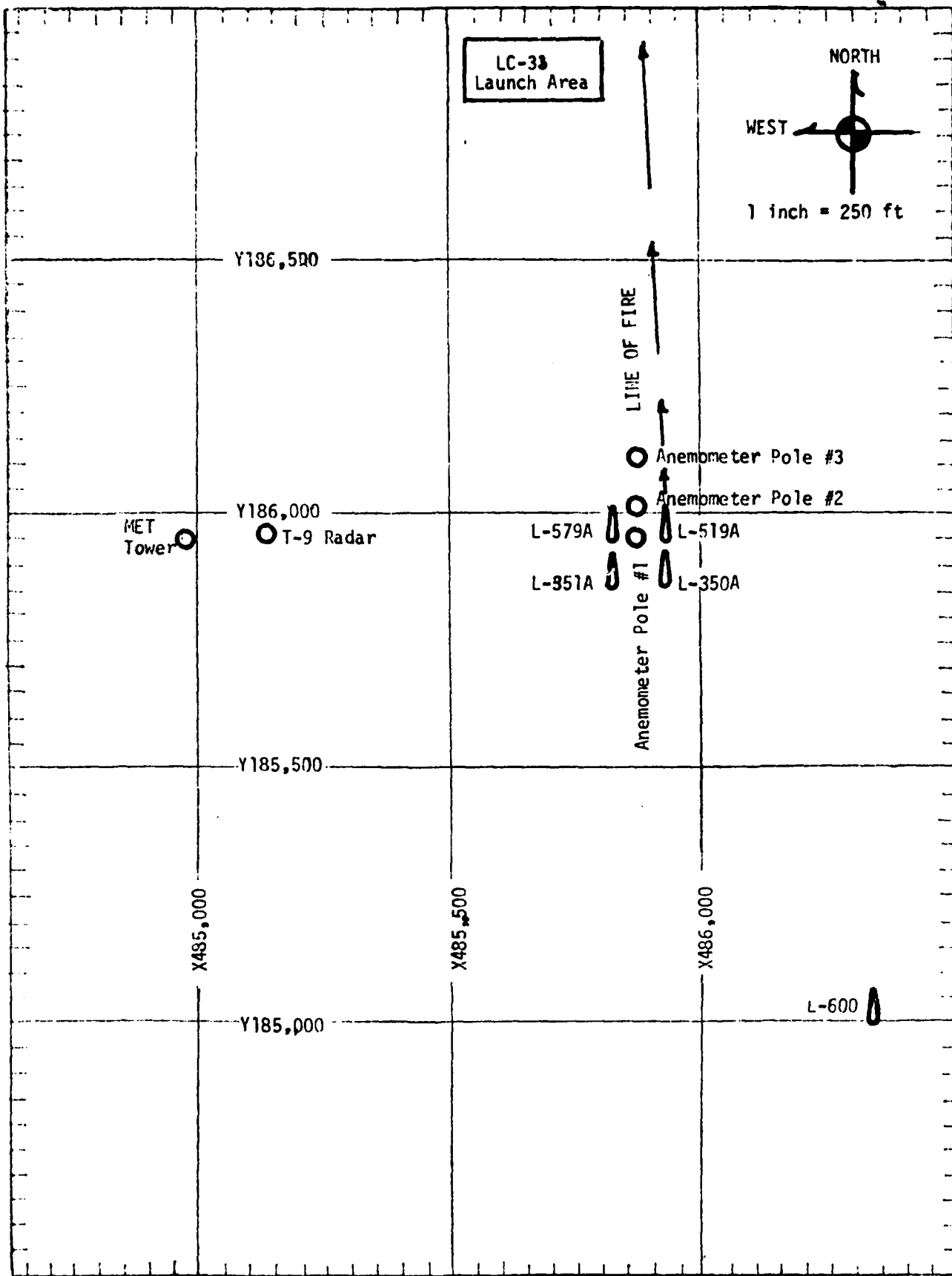
SITE AND TIME

WSD 1115 MDT
WSD 1215 MDT
WSD 1315 MDT
WSD 1500 MDT

Accession For	
NTIS GRA&I	☒
DTIC TAB	☐
Unannounced	☐
Justification	
By _____	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A	

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

TABLE 1											
STATION LC-33											
DATE 17 DAY		Sept MONTH		1981 YEAR		X= 485,135.76		Y= 185,919.24		H= 3,988.57	
TIME M D I	PRESSURE mbs	TEMPERATURE OF OC	DEW POINT OF OC	RELATIVE HUMIDITY %	DENSITY gm/m ³	DIRECTION degs	WIND SPEED kts	CHARACTER kts	VISIBIL- ITY		
1424	888.0	25.3	13.4	48	1035	140	04		20		

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS		
	1st LAYER		2nd LAYER		3rd LAYER				
	AMT	TYPE	AMT	TYPE	AMT	TYPE			
H A Z E	3	CU	6.000	1	AC	12.000	5	CS	25.000

PSYCHROMETRIC COMPUTATION

TIME: MDT	1424	
DRY BULB TEMP.	25.3	
WET BULB TEMP.	17.4	
WET BULB DEPR.	7.9	
DEW POINT	13.4	
RELATIVE HUMID.	48	

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	090	02
T-20	C A L M		T-20	C A L M		T-20	090	01
T-10	C A L M		T-10	C A L M		T-10	105	01
T0.0	093	05	T0.0	C A L M		T0.0	123	02
T+10	117	04	T+10	237	03	T+10	129	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	078	03	T-30	099	03
T-20	066	02	T-20	085	03
T-10	118	01	T-10	083	03
T0.0	101	03	T0.0	103	03
T+10	117	04	T+10	110	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	124	04	T-30	107	07
T-20	123	03	T-20	108	05
T-10	102	03	T-10	120	05
T0.0	087	03	T0.0	112	04
T+10	108	04	T+10	116	05

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 17 Sept 1981

SITE: LC-33

TIME: 1424 MDT

WSTN COORDINATES:

X= 486,872.00

Y= 184,146.75

H= 3,981.15

SITE: NICK

TIME: 1424 MDT

WSTN COORDINATES:

X= 470,734.56

Y= 255,775.64

H= 4,126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	100	03
150	066	03
210	101	03
270	118	01
330	045	02
390	106	04
500	127	08
650	115	08
800	133	09
950	130	10
1150	125	07
1350	142	10
1550	144	10
1750	175	04
2000	119	03

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	218	02
150	213	04
210	226	05
270	198	05
330	204	05
390	210	03
500	214	03
650	218	04
800	203	04
950	196	04
1150	206	02
1350	234	03
1550	270	10
1750	275	05
2000	308	03

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES
17 Sept 1981

WSD 1115 MDT	WSD 1215 MDT	WSD 1315 MDT
METCM1324064	METCM1324064	METCM1324064
171730122890	171830122890	171930122889
00293003 29780890	00276006 29920890	00267008 30040889
01247013 29500880	01271013 29530879	01264014 29710879
02103005 29190855	02232010 29240854	02261007 29350854
03215011 28780815	03218009 28880815	03276007 28950814
04228009 28440768	04244007 28540768	04253006 28490768
05265006 28300723	05265004 28270723	05266003]8260723
06247001 27900681	06161003 27860681	06161003 27890680

WSD 1500 MDT
METCM1324064
172100122887
00276008 30090887
01270011 29770877
02245010 29480852
03257010 29120813
04247006 28670767
05250004 28250722
06191004 27930680

STATION ALTITUDE 3989.0 FEET MSL
 17 SEP. AT 1715 HRS MDT
 ASCENSION NO. 602

SIGNIFICANT LEVEL DATA
 26000, 01.02
 WHITE SANDS

STATION ALTITUDE 3989.0 FEET MSL
 17 SEP. AT 1715 HRS MDT
 ASCENSION NO. 602

TABLE 6

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEW-POINT CENTIGRADE	
890.2	22.9	11.3	48.0
883.4	20.3	8.9	41.0
850.0	16.7	6.7	59.0
785.4	9.9	6.3	90.0
766.2	9.5	5.7	77.0
747.2	10.3	4.2	60.0
728.0	9.2	2.5	63.0
708.0	6.5	4.2	65.0
652.4	1.9	.7	92.0
590.4	-2.5	-7.4	69.0
573.4	-3.2	-14.5	41.0
514.6	-8.2	-20.6	36.0
500.0	-9.9	-20.3	42.0
440.6	-10.8	-23.5	34.0
443.6	-16.5	-26.6	34.0
424.2	-17.6	-26.9	44.0
413.6	-19.7	-30.6	37.0
377.2	-24.4	-32.2	48.0
349.6	-28.8	-34.1	60.0

STATION ALTITUDE 3,890.00 FEET MSL
17 SEP 61 1100 HRS PDT
ASCENSION, MO. 002

UPPER AIR DATA
20002000Z
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT LEG
106.57033 LONG DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL HUMIDITY PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DATA DIRECTION SPEED KNOTS	INDEX OF REFRACTION
3,890.0	890.2	22.9	11.3	48.0	1041.5	672.2	165.0	1.000290
4000.0	889.0	22.8	11.2	48.0	1041.6	672.1	164.4	1.000290
4500.0	874.3	19.3	8.9	51.0	1030.2	667.9	144.3	1.000282
5000.0	858.9	17.7	8.8	56.0	1023.7	666.0	133.7	1.000279
5500.0	843.7	16.1	8.8	61.9	1011.1	664.2	127.5	1.000277
6000.0	820.6	14.5	8.9	69.0	994.3	662.5	123.0	1.000275
6500.0	813.8	13.0	8.8	76.1	985.6	660.7	120.8	1.000272
7000.0	799.2	11.4	8.6	83.2	973.3	658.9	121.0	1.000269
7500.0	784.9	9.9	8.3	89.7	961.0	657.2	125.3	1.000266
8000.0	770.7	9.6	6.3	80.1	943.1	650.9	128.9	1.000256
8500.0	750.8	9.9	5.0	71.6	927.3	650.9	132.3	1.000248
9000.0	743.0	10.1	3.9	65.4	910.2	657.0	136.3	1.000241
9500.0	723.6	9.3	2.7	63.2	890.4	650.0	142.6	1.000235
10000.0	710.3	8.1	3.4	72.1	883.6	654.7	149.9	1.000234
10500.0	703.2	6.8	4.0	82.4	871.2	653.3	157.2	1.000230
11000.0	690.3	5.6	3.5	86.4	859.0	651.8	151.0	1.000230
11500.0	677.5	4.4	2.6	88.2	847.0	650.3	113.9	1.000225
12000.0	663.0	3.1	1.7	90.1	835.1	648.8	78.2	1.000220
12500.0	652.7	1.9	.8	92.0	823.5	647.3	66.1	1.000216
13000.0	640.4	1.1	-7	87.7	810.8	646.2	78.5	1.000210
13500.0	620.4	.2	-2.2	83.4	798.2	645.2	90.9	1.000204
14000.0	610.6	-6	-3.8	79.0	785.8	644.1	129.0	1.000199
14500.0	603.0	-1.4	-5.3	74.6	773.6	643.0	175.9	1.000193
15000.0	593.6	-2.3	-6.9	70.2	761.0	641.9	213.4	1.000188
15500.0	582.4	-2.8	-10.4	55.9	749.1	641.1	226.3	1.000181
16000.0	571.3	-3.4	-14.8	40.8	736.7	640.3	257.7	1.000174
16500.0	560.3	-4.3	-15.8	39.9	723.1	639.2	271.1	1.000171
17000.0	549.6	-5.2	-16.9	39.0	713.0	638.1	278.5	1.000168
17500.0	539.0	-6.1	-18.0	38.1	702.3	637.0	280.9	1.000164
18000.0	523.6	-7.0	-19.1	37.2	691.2	635.9	279.6	1.000161
18500.0	510.5	-7.9	-20.2	36.3	680.2	634.8	282.0	1.000158
19000.0	500.5	-8.9	-20.4	38.5	669.7	633.6	287.0	1.000156
19500.0	490.6	-10.0	-20.8	40.8	659.5	632.2	289.5	1.000153
20000.0	480.8	-11.0	-23.7	34.0	649.1	631.0	291.8	1.000150
20500.0	479.1	-12.1	-24.7	34.0	639.1	629.6	271.9	1.000147
21000.0	469.6	-13.3	-25.7	34.0	629.2	628.2	234.3	1.000144
21500.0	460.4	-14.4	-26.8	34.0	619.4	626.8	207.9	1.000142
22000.0	451.2	-15.5	-27.8	34.0	609.9	625.5	190.7	1.000139
22500.0	442.3	-16.6	-28.5	34.8	600.3	624.2	162.7	1.000137
23000.0	433.4	-17.2	-27.4	40.6	589.6	623.4	140.6	1.000135

STATION ALTITUDE 3089.00 FEET MSL
17 SEP. 51 1115 HRS MDT
ASCENSION. NO. 502

UPPER AIR DATA
2000020002
WHITE SANDS

GEODLTIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 7 CONT

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	424.7	-18.1	42.4	579.8	622.3	147.9	5.8	1.000133
24000.0	416.2	-19.3	38.2	570.9	620.8	154.7	7.4	1.000130
24500.0	407.7	-20.4	38.7	561.7	619.4	169.5	9.1	1.000128
25000.0	399.3	-21.5	41.2	552.6	618.2	178.6	10.6	1.000126
25500.0	391.2	-22.5	43.7	543.5	616.9	185.3	11.2	1.000124
26000.0	383.2	-23.6	46.1	534.7	615.6	190.2	11.1	1.000122
26500.0	375.3	-24.7	48.8	526.0	614.2	194.6	10.4	1.000120
27000.0	367.5	-25.9	52.1	517.6	612.7			1.000118
27500.0	359.9	-27.1	55.4	509.4	611.2			1.000116
28000.0	352.4	-28.3	58.8	501.2	609.7			1.000114

STATION ALTITUDE 3489.00 FEET MSL
17 SEP. 61 1115 HRS MDT
ASCEI 510F NO. 002

NAVIGATOR LEVELS
2600020002
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 8

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUMID. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	5290.	16.7	8.7	59.	129.7	0.3
800.0	6972.	11.5	8.7	83.	121.7	10.4
750.0	8737.	10.2	4.5	68.	134.1	8.2
700.0	10613.	6.5	4.2	85.	159.9	3.0
650.0	12596.	1.7	.5	91.	66.0	4.8
600.0	14703.	-1.8	-6.0	73.	193.4	5.1
550.0	16963.	-5.1	-16.9	39.	278.1	7.6
500.0	19399.	-9.9	-20.3	42.	289.2	4.1
450.0	22038.	-15.7	-27.9	34.	188.0	3.3
400.0	24923.	-21.4	-31.1	41.	178.2	10.5
350.0	28109.	-28.7	-34.0	60.		

STATION ALTITUDE 3989.00 FEET MSL
17 SEP. 61 1215 HRS MDT
ACQUISITION NO. 003

SIGNIFICANT LEVEL DATA
26000.0003
WHITE SANDS

GEOLYTIC COORDINATES
32.40043 LAT DEG
106.37033 LOH DEG

TABLE 9

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
890.5 3989.0	24.3	11.6	45.0
835.6 4114.7	21.0	9.3	47.0
850.0 5274.0	17.3	6.4	56.0
774.8 7703.9	11.0	6.9	76.0
750.6 8716.0	10.6	2.9	59.0
721.8 9784.3	8.5	1.6	62.0
700.0 10615.0	5.9	3.0	85.0
657.8 12281.4	2.4	1.1	91.0
621.8 13770.3	-0.8	-5.8	69.0
586.0 15323.1	-2.7	-10.2	56.0

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

UPPER AIR DATA
2600020603
WHITE SANDS

STATION ALTITUDE 3489.00 FEET MSL
17 SEP. 61 1215 HRS MDT
ASCENSION NO. 003

TABLE 10

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION, DEGREES (IN)	SPEED KNOTS	
3489.0	889.5	24.3	45.0	1035.7	673.9	135.0	6.0	1.000269
4000.0	889.2	24.0	45.2	1036.4	673.5	134.0	6.0	1.000269
4500.0	873.6	19.8	50.0	1033.8	668.4	145.0	6.6	1.000261
5000.0	850.3	18.2	53.9	1021.2	660.0	138.1	7.4	1.000278
5500.0	843.1	16.7	57.9	1008.3	654.9	132.1	8.3	1.000274
6000.0	823.1	15.4	62.0	994.7	653.4	127.3	9.2	1.000271
6500.0	813.3	14.1	66.1	981.4	651.9	125.2	9.2	1.000268
7000.0	793.8	12.6	70.2	963.3	650.4	123.2	8.2	1.000264
7500.0	784.5	11.5	74.3	953.4	658.9	128.0	7.5	1.000260
8000.0	773.4	10.9	71.0	940.6	658.1	134.0	7.4	1.000253
8500.0	756.5	10.7	62.6	924.8	657.7	138.0	7.1	1.000244
9000.0	742.8	10.0	59.8	910.4	656.8	140.7	6.9	1.000238
9500.0	729.4	9.1	61.2	897.0	655.7	144.7	5.3	1.000233
10000.0	716.1	7.8	68.0	884.4	654.3	151.4	3.6	1.000232
10500.0	703.0	6.3	81.8	872.8	652.6	136.4	2.5	1.000232
11000.0	690.0	5.1	86.4	860.3	651.2	104.9	2.2	1.000229
11500.0	677.3	4.0	89.2	847.7	649.9	82.9	3.5	1.000224
12000.0	664.7	3.0	90.0	835.4	648.6	79.1	4.7	1.000220
12500.0	652.4	1.9	87.8	823.2	647.3	81.4	5.7	1.000214
13000.0	640.2	.9	80.4	811.4	645.9	89.9	5.7	1.000207
13500.0	628.2	-.2	73.0	799.7	644.5	103.5	5.3	1.000200
14000.0	616.4	-1.1	67.1	787.4	643.3			1.000195
14500.0	604.7	-1.7	62.9	774.4	642.5			1.000190
15000.0	593.3	-2.3	58.7	761.6	641.8			1.000185

STATION ALTITUDE 3084.00 FEET MSL
 17 SEP. 51
 ASCENSION NO. 003
 1215 HRS HDT
 RADIO TOWER LEVELS
 2600020603
 WHITE SANDS
 GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 11

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5270.	17.3	8.4	56.	134.7	7.9	
800.0	6950.	12.9	7.0	70.	125.2	4.2	
750.0	8730.	10.6	2.9	59.	139.2	7.0	
700.0	10604.	5.9	3.0	85.	131.3	2.3	
650.0	12585.	1.7	-8.3	86.	81.0	5.9	
600.0	14689.	-1.9	-8.4	61.			

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

SIGNIFICANT LEVEL DATA
26000.0004
WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL
17 SEP. 81
ASCENDING NO. 004

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
638.7	3989.0	25.6	11.0	40.0
877.8	4343.4	22.0	9.5	45.0
850.0	5256.0	18.4	8.1	51.0
757.4	8455.4	9.3	4.5	72.0
729.4	9482.8	9.1	.8	56.0
713.4	10086.1	8.0	1.2	62.0
700.0	10599.6	6.3	2.8	78.0
658.4	12243.0	2.6	.7	07.0
622.6	13724.1	.0	-9.9	47.0
596.0	14871.4	-1.5	-6.2	60.0
578.8	15637.2	-2.6	-13.7	42.0

STATION ALTITUDE 3089.70 FEET MSL
17 SEP 61 1315 HRS MDT
ASCENSION, NO. 004

UPPER AIR DATA
260002004
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT UEG
106.37033 LONG UEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION, SPEED DEGREES(MN) KNOTS	INDEX OF REFRACTION.
3089.7	880.7	25.6	40.0	1030.5	675.3	150.0	1.000265
4000.0	840.4	25.5	40.2	1030.5	675.1	150.0	1.000265
4500.0	873.0	21.4	46.0	1027.3	670.3	151.9	1.000260
5000.0	857.7	19.4	49.3	1016.3	668.0	153.9	1.000276
5500.0	842.6	17.7	52.6	1004.3	666.0	150.0	1.000272
6000.0	827.5	16.3	55.9	991.3	664.4	157.3	1.000268
6500.0	812.7	14.9	59.2	978.5	662.7	156.6	1.000264
7000.0	790.2	13.4	62.4	965.8	661.0	148.0	1.000260
7500.0	783.9	12.0	65.7	953.4	659.3	137.9	1.000256
8000.0	769.9	10.6	69.0	941.2	657.7	138.0	1.000251
8500.0	750.2	9.3	71.3	928.8	656.1	142.3	1.000247
9000.0	742.4	9.2	63.5	912.6	655.8	149.5	1.000238
9500.0	720.9	9.1	56.2	890.8	655.6	149.7	1.000231
10000.0	713.7	8.2	61.1	883.2	654.6	145.9	1.000229
10500.0	702.6	6.6	74.9	871.4	652.9	136.4	1.000230
11000.0	689.6	5.4	80.2	859.1	651.5	123.1	1.000227
11500.0	670.9	4.3	82.9	846.7	650.1	98.7	1.000223
12000.0	664.4	3.1	85.7	834.0	648.8	87.0	1.000219
12500.0	652.0	2.1	80.1	822.4	647.5	91.7	1.000212
13000.0	639.9	1.3	66.6	810.1	646.2	101.1	1.000203
13500.0	627.9	.4	53.1	798.0	645.0	124.4	1.000195
14000.0	610.1	-.4	50.1	785.3	644.0	149.8	1.000190
14500.0	604.5	-1.0	55.8	772.3	643.3	206.1	1.000188
15000.0	593.1	-1.7	57.0	759.6	642.5		1.000185
15500.0	581.8	-2.4	45.2	747.5	641.5		1.000179

STATION ALTITUDE 3989.00 FEET SL
 17 S. P. 21 1315 HRS 10 DT
 ASUL. STATION NO. 004
 MANDATORY LEVELS
 2600020004
 WHITE SANDS
 GEODETIC COORDINATES
 32.90043 LAT DEG
 106.37033 LONG DEG

TABLE 14

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE	PERCENT	DIRECTION DEGREES(TN)	SPEED KNOTS	
850.0	5252.	18.4	8.1	51.	155.0	7.4	
800.0	6945.	13.6	6.5	62.	149.8	5.2	
750.0	8715.	9.2	3.0	68.	145.4	5.0	
700.0	10509.	6.3	2.3	76.	134.1	3.4	
650.0	12571.	2.0	-1.5	78.	92.4	5.2	
600.0	14678.	-1.3	-8.4	58.			

GEODLTIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

SIGNIFICANT LEVEL DATA
26000, 01, 05
WHITE SANDS

STATION ALTITUDE 3909.00 FEET MSL
17 SEP. 51
ASCENSION, MO. 005

TABLE 15

PRESSURE	GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
887.0	3989.0	26.1	12.2	42.0
834.4	4073.6	23.7	10.4	43.0
850.0	5204.9	19.8	0.8	49.0
722.8	9702.8	8.0	3.8	73.0
700.0	10571.0	6.4	1.1	69.0
677.8	11438.9	4.8	1.7	80.0
651.0	12519.4	3.8	-7.9	42.0
633.6	13241.4	2.5	-9.1	42.0
616.4	13970.5	.5	-7.5	55.0

STATION ALTITUDE 3089.00 FEET MSL
 17 SEP. 71 1500 HRS MDT
 ASCENSION, NO. 005

RAINFALL LEVELS
 2600020000
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 17

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT	PERCENT	DIRECTION DEGREES (TN)	SPEED KNOTS	
450.0	5201.	19.8	8.8	49.	145.4	9.2	
800.0	6903.	15.4	7.4	59.	143.2	7.6	
750.0	8686.	10.7	5.3	69.	139.3	8.1	
700.0	10560.	6.4	1.1	69.	123.0	2.9	
650.0	12547.	3.7	-8.0	42.			

