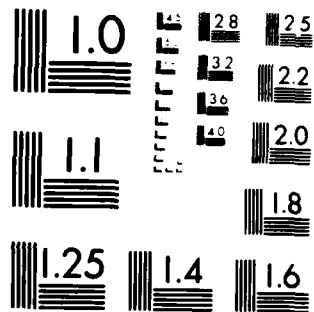


1/1

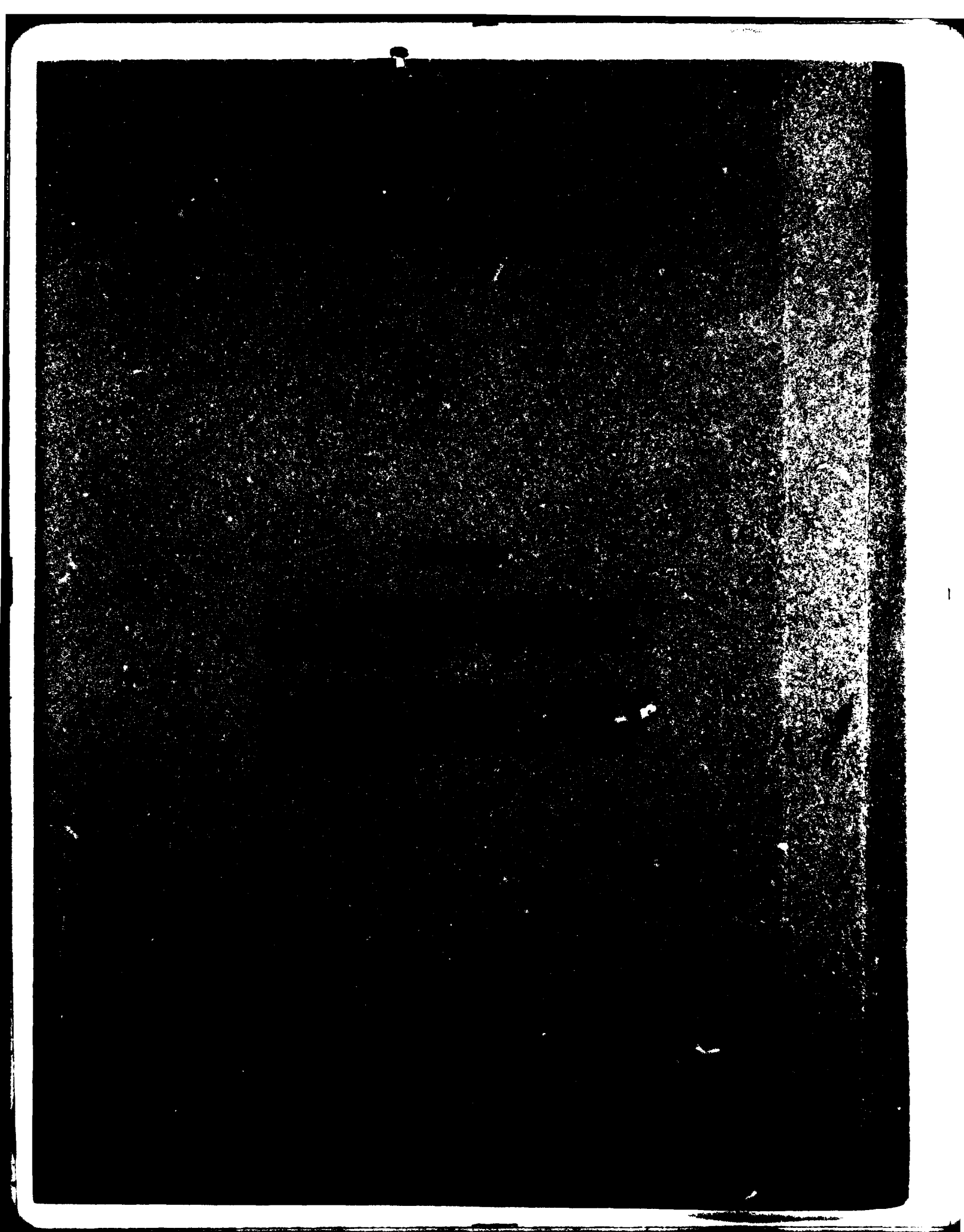
NL

END
DATE
FILMED
1 85
DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1963-A

AL A 122585



UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1267	2. GOVT ACCESSION NO. A122 585	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19319A MLRS Missile Numbers BN-208, BN-196, BN-214 Round Numbers V-345/PQ-85, V-346/PQ-86, V-347/PQ-87		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) White Sands Meteorological Team		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS		8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02
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
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research and Development Cmd Adelphi, MD 20783		12. REPORT DATE October 1982
		13. NUMBER OF PAGES 22
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. 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 19319A MLRS, Missile Number BN-208, BN-196, BN-214, Round Numbers V-345/PQ-85, V-346/PQ-86, V-347/PQ-87 are presented in tabular form.		

UNCLASSIFIED

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 1130 MDT at LC-33-----	4
2. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 1130 MDT-----	5
3. Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3, and 4, taken at 1130 MDT-----	5
4. Launch and Impact Pilot-Balloon Measured Wind Data-----	6
5. Aiming and T-Time Computer Met Messages-----	7
6. LC-37 Significant Level Data at 0800 MDT-----	8
7. LC-37 Upper Air Data at 0800 MDT-----	9
8. LC-37 Mandatory Levels at 0800 MDT-----	11
9. WSD Significant Level Data at 0900 MDT-----	12
10. WSD Upper Air Data at 0900 MDT-----	13
11. WSD Mandatory Levels at 0900 MDT-----	15
12. LC-37 Significant Level Data at 1100 MDT-----	16
13. LC-37 Upper Air Data at 1100 MDT-----	17
14. LC-37 Mandatory Levels at 1100 MDT-----	18

INTRODUCTION

19319A MLRS, Missile Numbers BN-208, BN-196 and BN-214, Round Numbers V-345/PQ-85, V-346/PQ-86 and V-347/PQ-87, were launched from LC-33, White Sands Missile Range (JSMR), New Mexico, at 1130:00, 1130:05 and 1130:10 MDT, 10 Oct 82. The scheduled launch times were 1105:00, 1105:04.5 and 1105:09 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 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

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

SITE AND ALTITUDE

WSD 2km

DON 2km

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

SITE AND TIME

LC-37 0800 MDT

WSD 0900 MDT

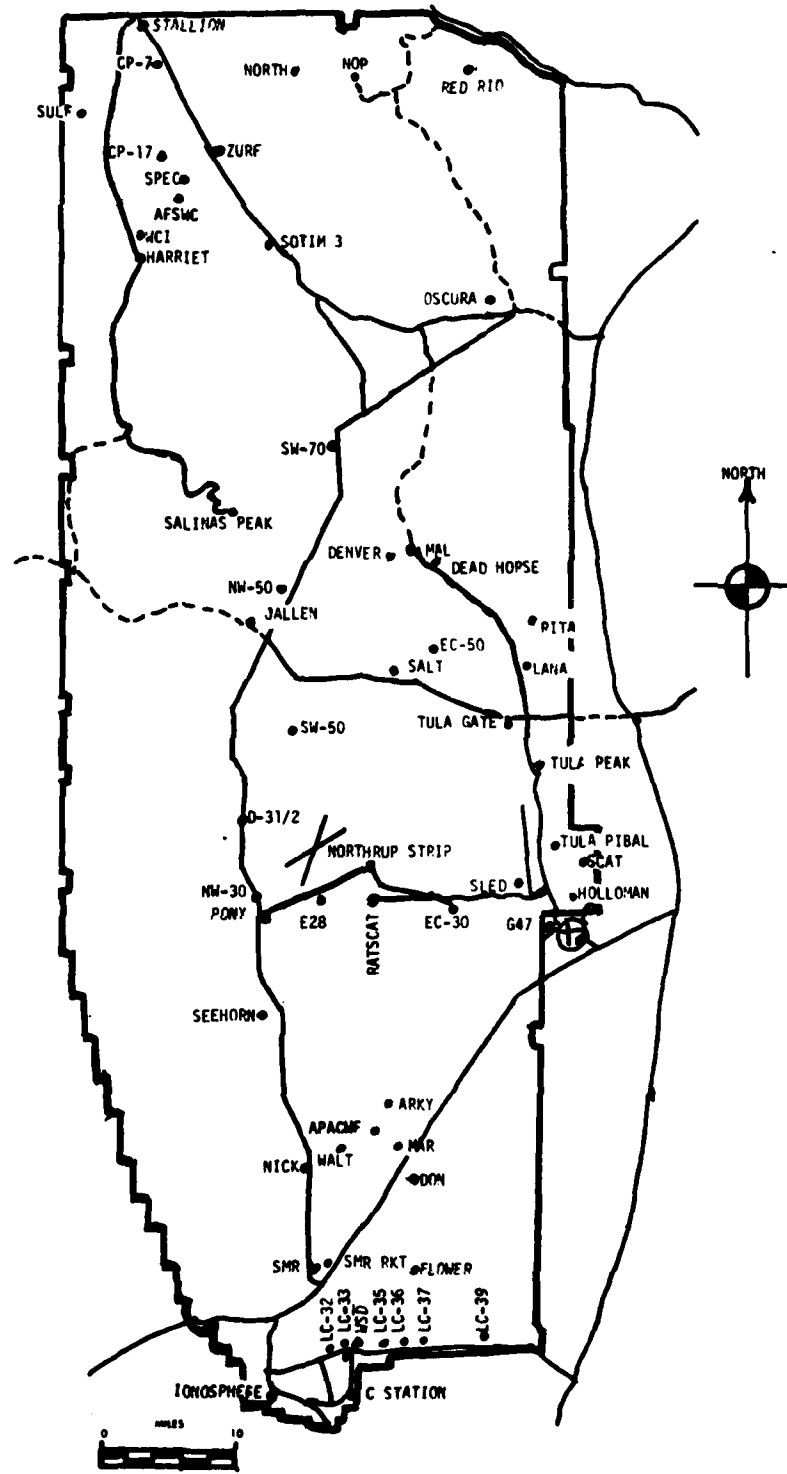
LC-37 1100 MDT

Accession For
NTIS STAM X
DATE
UNITED STATES
J. Edgar Hoover
S.
Distribution/
ANALYTICAL Codes
and/or
Dist. Serial

A

DTIC
COPY
INSPECTED
3

WSMR METEOROLOGICAL SITES



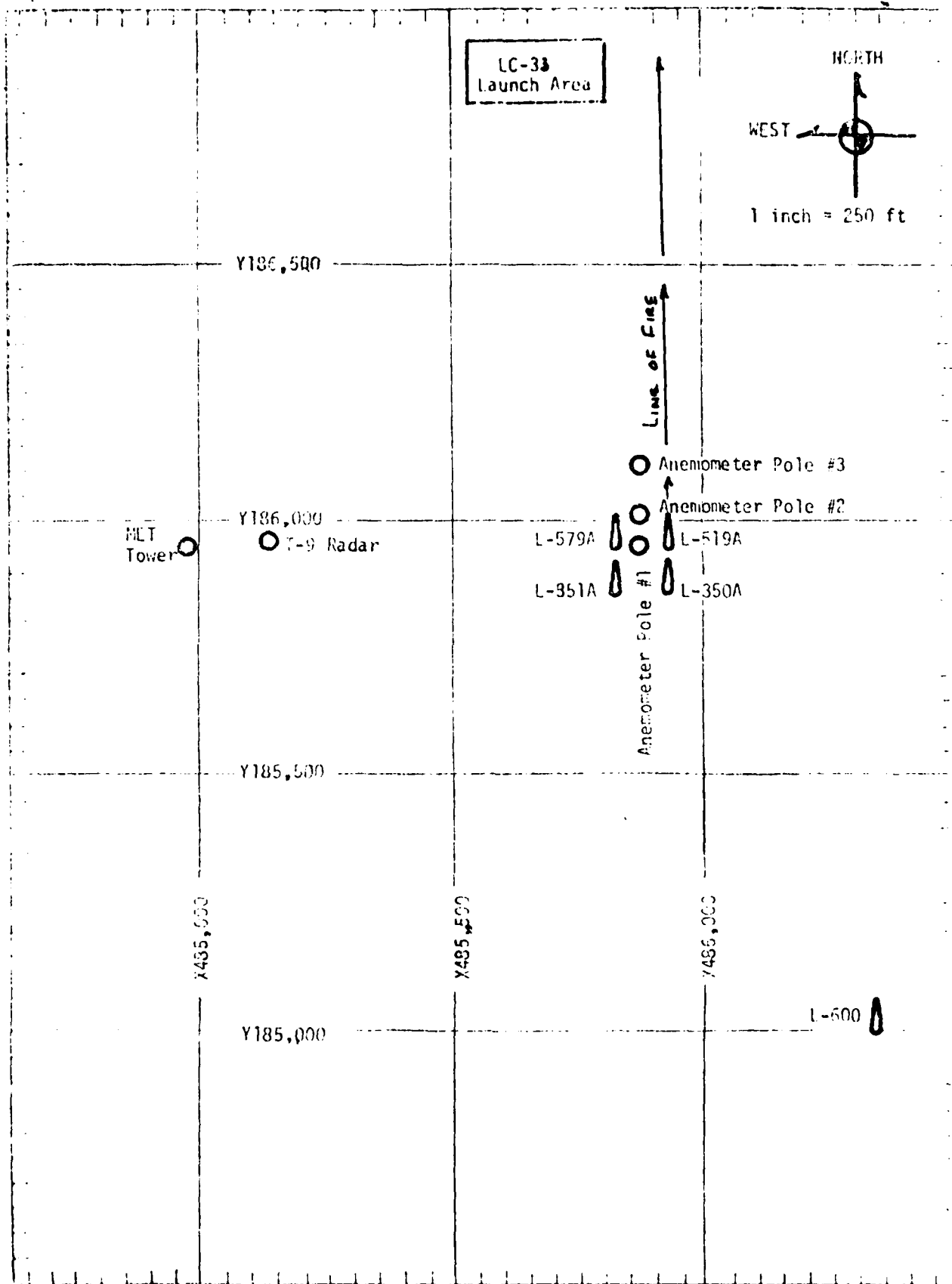


TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

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
T-30	005	05	T-30	011	05	T-30	005	06
T-20	005	04	T-20	009	04	T-20	006	06
T-10	005	04	T-10	004	04	T-10	006	05
T0.0	005	04	T0.0	004	04	T0.0	003	05
T+10	005	07	T+10	007	03	T+10	003	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	046	03	T-30	030	03
T-20	045	02	T-20	013	03
T-10	033	02	T-10	352	04
T0.0	039	03	T0.0	003	04
T+10	026	06	T+10	003	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	050	04	T-30	045	05
T-20	006	05	T-20	019	08
T-10	018	06	T-10	034	08
T0.0	020	06	T0.0	022	07
T+10	032	04	T+10	020	06

* POLE #1 DIRS. ARE ESTIMATED.

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 19 Oct 82

SITE: WSD
TIME: 1130 MDT
WSTM COORDINATES:
X= 488,852.29
Y= 184,982.45
H= 3,993.75

SITE: DON
TIME 1130 MDT
WSTM COORDINATES:
X= 511,988.37
Y= 247,396.36
H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	360	04
150	018	07
210	019	08
270	018	09
330	017	09
390	018	10
500	023	10
650	022	09
800	010	09
950	356	08
1150	304	06
1350	286	08
1550	293	09
1750	304	08
2000	298	12

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	001	04
210	007	06
270	014	08
330	018	10
390	015	11
500	007	12
650	349	10
800	334	10
950	319	10
1150	305	10
1350	305	11
1550	306	12
1750	297	14
2000	286	08

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES

19 Oct 82

LC-37 0800 MDT	USD 0900 MDT
METCM1324063	METCM1324064
191400124879	191500122881
00302001 28090879	00000000 28720881
01626008 28700868	01387001 29080871
02637007 29240843	02023006 29220846
03543012 29010804	03606007 29030807
04523025 28670753	04519019 28650761
05521026 28240714	05515027 28270716
06514014 27890672	06520019 27870674
07509017 27580632	07482014 27600634
08475017 27200594	08470020 27310596
09459021 26900558	09473026 27000560
10470028 26620523	10484029 26700525
11468035 26360491	11482033 26360493
12470040 24840445	12483037 25780446

LC-37 1100 MDT
METCM1324063
191700124882
00640004 29450882
01001004 29390872
02014008 29220847
03021010 28930808
04565007 28540761
05538010 28140717
06489021 27800674
07457020 27570634
08468025 27360596
09472029 27092560
10494026 26760526
11492030 26360493
12476031 25760447

STATION ALTITUDE 4051.77 FEET MSL
19 OCT. 42 0600 MDT
ASCENSION NO. 105

SIGNIFICANT LEVEL DATA
2920100105
LC-37

GEOMETRIC COORDINATES
32-40175 LAT DEG
106-51252 LON DEG

TABLE 6

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE		REL HUM. PERCENT
		AIR DEGREES	DEWPOINT CENTIGRADE	
878.6	4051.4	7.0	-1.9	55.0
867.8	4389.2	13.1	2.6	49.0
858.0	4706.3	19.3	2.2	32.0
850.0	4970.4	19.2	-6.4	17.0
780.2	7366.8	15.0	-9.1	16.0
733.0	9087.5	11.0	-11.7	19.0
700.0	10340.1	7.2	-15.5	18.0
669.0	11559.6	5.4	-17.7	17.0
633.7	13006.9	2.6	-19.9	17.0
590.1	14085.4	-1.8	-24.2	16.0
515.1	18400.0	-7.4	-27.5	19.0
500.0	19159.3	-8.8	-28.7	18.0
467.9	20840.4	-11.7	-32.4	16.0
400.0	24718.2	-21.4	-35.3	27.0

STATION ALTITUDE 4051.17 FEET NSL
10 OCT. 82
ASCENSION NO. 105

UPPER AIR DATA
2920180105
LC-37

GEOGRAPHIC COORDINATES
32.40175 LAT DEG
106.31232 LONG DEG

TABLE 7

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUMID. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND M/SEC	DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
4051.4	678.6	7.0	53.0	1090.0	652.0	170.0	1.0	1.000269
4500.0	864.4	15.3	43.1	1000.0	662.7			1.000266
5000.0	849.1	19.1	17.0	1010.3	660.0			1.000242
5500.0	834.1	18.3	17.2	995.4	665.6			1.000238
6000.0	819.3	17.4	17.4	980.8	664.6			1.000234
6500.0	804.8	16.5	17.6	966.3	663.0			1.000230
7000.0	790.5	15.6	17.8	952.1	662.5			1.000227
7500.0	776.4	14.7	18.1	938.3	661.4			1.000223
8000.0	762.5	13.5	18.4	925.3	660.1			1.000219
8500.0	748.8	12.4	18.7	912.4	658.7			1.000216
9000.0	735.3	11.2	18.9	899.7	657.4			1.000212
9500.0	722.0	9.7	18.7	886.0	656.0			1.000208
10000.0	708.8	8.2	18.3	872.0	654.3			1.000205
10500.0	695.9	7.0	17.9	858.0	652.3			1.000201
11000.0	683.1	5.2	17.5	840.9	651.5			1.000198
11500.0	670.5	5.5	17.0	837.5	650.0			1.000194
12000.0	658.1	4.5	17.0	824.8	649.5			1.000191
12500.0	645.0	3.6	17.0	812.4	648.5			1.000188
13000.0	633.9	2.6	17.0	800.1	647.2			1.000184
13500.0	622.0	1.4	16.7	788.5	645.8			1.000181
14000.0	610.3	0.3	16.5	777.0	644.4			1.000178
14500.0	598.0	-0.9	16.2	765.8	643.0			1.000175
15000.0	587.5	-2.0	16.1	754.4	641.7			1.000172
15500.0	576.2	-2.8	16.5	742.3	640.7			1.000170
16000.0	565.2	-3.7	17.0	730.4	639.7			1.000167
16500.0	554.4	-4.6	17.4	718.7	638.5			1.000164
17000.0	543.8	-5.4	17.8	707.1	637.6			1.000161
17500.0	533.3	-6.3	18.2	695.8	636.0			1.000159
18000.0	523.1	-7.1	18.7	684.7	635.6			1.000156
18500.0	513.1	-7.9	18.9	673.6	634.6			1.000153
19000.0	503.1	-8.6	18.2	662.2	633.6			1.000151
19500.0	493.7	-9.4	17.6	651.3	632.8			1.000148
20000.0	483.7	-10.3	17.0	640.7	631.8			1.000145
20500.0	474.2	-11.1	16.4	630.2	630.7			1.000143
21000.0	464.9	-12.1	16.5	620.2	629.5			1.000140
21500.0	455.6	-13.4	17.9	610.7	628.0			1.000138
22000.0	446.5	-14.6	19.3	601.4	626.5			1.000136
22500.0	437.5	-15.9	20.7	592.2	625.5			1.000134
23000.0	428.8	-17.1	22.1	583.2	623.5			1.000132
23500.0	420.2	-18.4	23.5	574.3	622.0			1.000130

XX WIND DATA: INVALID DUE TO MISSING RAW DATA AND ELEVATION ANGLES.

STATION ALTITUDE 405° 37' 0800 MSL	UPPER AIR DATA	GEOMETRIC COORDINATES
19 OCT. 62	2926100005	32.40175 LAT DEG
ASCENSION NO. 105	LC-37	106.31232 LON DEG
	TABLE 7 Cont'd	

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KIOTS	WIND DATA DIRECTION DEGREES (T)	SPEED KIOTS	INDEX OF REFRACTION
24000.0	411.8	-19.6	25.0	565.0	020.4			1.000128
24500.0	403.5	-20.9	26.4	557.0	018.9			1.000126

STATION ALTITUDE 4051.37 FEET MSL
19 OCT. 42
ASCENSION NO. 105

MANDATORY LEVELS
2920100103
LC-37
TABLE 8

GEOGETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT		DIRECTION (TRUE)	SPEED KNOTS
850.0	4967.	19.2	-6.4	17.	9999.0	9999.0XX
800.0	6664.	16.2	-8.3	10.	9999.0	9999.0XX
750.0	8450.	12.5	-10.7	19.	293.0	25.6
700.0	10330.	7.2	-15.5	10.	291.7	22.6
650.0	12317.	3.9	-18.9	17.	287.7	15.9
600.0	14435.	-0.8	-23.2	10.	269.0	10.6
550.0	16693.	-4.9	-25.0	18.	260.3	22.3
500.0	19132.	-8.8	-28.7	18.	263.0	33.3
450.0	21785.	-14.1	-32.0	19.	264.3	30.5
400.0	24677.	-21.4	-35.3	27.		

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL
19 OCT. 82
ASCENSION NO. 508

0900 MDT

SIGNIFICANT LEVEL DATA

2920020500

WHITE SANDS

TABLE 9

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT
881.0 3989.0	13.0 5.4	60.0
872.0 4274.9	18.1 -0.6	18.0
850.0 4992.5	18.6 -7.7	16.0
834.3 5516.7	18.8 -6.3	15.0
740.2 8939.3	11.3 -13.6	16.0
700.0 10159.9	7.8 -17.2	15.0
661.8 11068.2	3.9 -17.0	20.0
615.5 13796.3	1.7 -22.9	14.0
571.9 15726.4	-2.6 -20.4	14.0
555.1 16502.4	-3.4 -25.5	16.0
530.1 17694.6	-5.9 -20.3	15.0
500.0 19192.0	-8.7 -30.6	15.0
452.8 21690.7	-14.6 -34.8	16.0
423.8 23327.7	-18.5 -31.4	31.0
400.0 24737.3	-21.8 -35.7	27.0

GEODETIC COORDINATES
32-40043 LAT DEG
106-37033 LON DEG

UPPER AIR DATA
292000Z0000
WHITE SANDS
TABLE 10

STATION ALTITUDE 3900.0 FEET MSL
19 OCT. 62 0900 MDT
ASCENSION NO. 508

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE °F	DEWPOINT DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND M/SEC	DIRECTION DEGREES (TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
3900.0	881.0	13.0	5.4	60.0	1066.4	660.3	0.0	0.0	1.000260
4000.0	880.7	13.2	5.2	58.4	1067.3	660.5	12.0	0.0	1.000279
4500.0	865.0	18.3	-6.4	17.4	1032.5	653.0	12.0	2.3	1.000246
5000.0	849.8	18.6	-7.7	16.0	1013.1	653.9	12.0	4.5	1.000241
5500.0	834.4	18.8	-8.3	15.0	994.7	650.1	12.0	6.7	1.000236
6000.0	819.9	17.7	-9.1	15.1	970.6	664.9	357.5	6.5	1.000232
6500.0	805.3	16.6	-9.9	15.3	966.9	663.0	349.0	6.8	1.000228
7000.0	790.9	15.5	-10.7	15.4	953.4	662.3	304.0	9.5	1.000225
7500.0	776.0	14.3	-11.4	15.0	940.2	660.9	295.8	14.2	1.000221
8000.0	762.9	13.2	-12.2	15.7	927.1	659.6	293.1	18.9	1.000218
8500.0	749.3	12.1	-13.0	15.9	914.2	658.3	292.2	23.7	1.000214
9000.0	735.8	10.9	-14.0	15.9	901.4	657.0	291.2	25.9	1.000211
9500.0	722.5	9.8	-15.1	15.6	893.7	655.0	290.6	27.0	1.000207
10000.0	709.3	8.6	-16.3	15.2	876.1	654.3	290.8	25.6	1.000203
10500.0	696.4	7.4	-17.1	15.5	863.8	652.9	292.2	23.5	1.000200
11000.0	683.5	6.1	-17.0	17.1	851.6	651.4	294.9	20.9	1.000198
11500.0	670.9	4.9	-16.9	18.4	840.0	649.9	291.5	19.2	1.000195
12000.0	658.5	3.7	-17.3	19.6	827.7	648.6	285.9	17.6	1.000192
12500.0	646.3	3.2	-18.8	18.0	814.1	647.9	276.6	16.2	1.000188
13000.0	634.2	2.6	-20.3	16.5	800.6	647.2	271.7	15.1	1.000184
13500.0	622.4	2.0	-21.9	14.9	787.4	646.5	268.6	14.5	1.000181
14000.0	610.7	1.2	-23.3	14.0	774.9	645.5	267.4	15.7	1.000177
14500.0	599.2	0.1	-24.1	14.0	763.5	644.2	264.1	18.4	1.000174
15000.0	587.9	-1.0	-25.0	14.0	752.2	642.9	262.4	21.3	1.000172
15500.0	576.9	-2.1	-25.9	14.0	741.0	641.5	263.5	23.8	1.000169
16000.0	565.9	-2.9	-26.0	14.7	729.1	640.0	263.2	25.1	1.000166
16500.0	555.2	-3.4	-25.6	16.0	716.6	640.0	267.1	26.0	1.000164
17000.0	544.5	-4.4	-26.7	15.0	703.6	638.8	269.1	26.9	1.000161
17500.0	534.1	-5.5	-27.8	15.2	694.9	637.5	271.2	28.2	1.000158
18000.0	523.8	-6.5	-28.8	15.0	684.0	636.3	273.3	30.0	1.000155
18500.0	513.7	-7.4	-29.5	15.0	673.1	635.2	273.0	31.7	1.000153
19000.0	503.8	-8.3	-30.3	15.0	662.5	634.1	272.2	32.7	1.000150
19500.0	493.9	-9.4	-31.1	15.1	652.2	632.0	271.0	32.7	1.000148
20000.0	484.2	-10.6	-31.9	15.3	642.5	631.3	270.9	33.3	1.000145
20500.0	474.7	-11.8	-32.8	15.5	632.5	629.9	271.6	34.0	1.000143
21000.0	465.4	-13.0	-33.6	15.7	622.5	628.5	273.2	35.0	1.000141
21500.0	456.2	-14.1	-34.4	15.0	613.5	627.1	273.2	35.3	1.000138
22000.0	447.2	-15.3	-33.7	18.8	604.1	625.6	272.5	35.9	1.000137
22500.0	438.2	-16.5	-32.5	23.4	594.7	624.2	271.2	36.9	1.000135
23000.0	429.5	-17.7	-31.7	28.0	585.5	622.7	269.9	38.8	1.000133

STATION ALTITUDE 3989.00 FEET MSL	UPPER AIR DATA	GEODETIC COORDINATES
19 OCT. 82	2920020506	32.40043 LAT DEG
ASCENSION NO. 508	WHITE SANDS	106.37033 LON DEG
	TABLE 10 Cont'd	

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CURIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	420.8	-18.9	30.5	576.4	621.3			1.000131
24000.0	412.3	-20.1	29.1	567.3	619.9			1.000128
24500.0	403.9	-21.2	27.7	558.4	618.4			1.000126

STATION ALTITUDE 3989.00 FEET MSL
19 OCT. 82
ASCENSION NO. 508

MANDATORY LEVELS
2920020506
WHITE SANDS
TABLE II

GEODETLIC COORDINATES
32.40043 LAT DEG
106.57033 LON DEG

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES	DEWPOINT CENTIGRADE	PERCENT		DIRECTION DEGREES (TN)	SPEED KNOTS
850.0	4989.	18.6	-7.7	16.		12.0	4.4
800.0	6687.	16.2	-10.2	15.		317.8	7.6
750.0	8471.	12.1	-13.0	16.		292.2	23.5
700.0	10350.	7.8	-17.2	15.		291.5	24.2
650.0	12335.	3.4	-18.3	19.		279.7	18.6
600.0	14453.	.2	-24.1	14.		264.3	18.1
550.0	16720.	-3.9	-26.1	10.		268.0	26.4
500.0	19165.	-8.7	-30.6	13.		271.8	32.7
450.0	21811.	-15.0	-34.2	17.		273.0	35.5
400.0	24696.	-21.8	-35.7	27.			

STATION ALTITUDE 3949.00 FEET MSL
19 OCT. 82
ASCENSION NO. 509

SIGNIFICANT LEVEL DATA
2900020309
WHITE SANDS
TABLE 12

GEODOLITE COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE AIR DEWPOINT, DEGREES CENTIGRADE	REL. HUM. PERCENT
881.8 3907.0	21.0 -0.3	24.0
850.0 5026.5	18.8 -0.7	17.0
814.9 6207.6	16.3 -8.8	17.0
700.0 10373.6	6.4 -14.3	21.0
659.6 11960.3	3.5 -17.9	19.0
650.9 12320.1	3.0 -8.9	41.0
634.0 13019.4	2.3 -20.9	16.0
582.9 15236.0	-0.5 -22.5	17.0
533.7 17536.8	-4.7 -26.6	16.0
500.0 19210.7	-8.9 -30.7	15.0
448.8 21928.6	-15.3 -30.4	26.0
434.0 22758.5	-17.5 -20.9	36.0
426.9 23164.2	-18.5 -32.4	28.0
400.0 24743.7	-22.7 -36.1	28.0

STATION ALTITUDE 3989.0 FEET MSL
 19 OCT. 62
 ASCENSION NO. 509

UPPER AIR DATA
 2920020309
 WHITE SANDS

GEOMETRIC COORDINATES
 32.40045 LAT DEG
 106.37033 LONG DEG

TABLE 13

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
3989.0	881.8	21.0	24.0	1041.7	669.0	300.0	4.1	1.000258
4000.0	881.5	21.0	23.9	1041.3	669.0	.1	4.1	1.000258
4500.0	860.0	19.9	20.6	1027.2	667.0	4.2	5.7	1.000250
5000.0	850.8	18.9	17.2	1013.3	660.3	6.5	7.3	1.000242
5500.0	835.8	17.8	17.0	999.1	663.0	7.9	8.9	1.000238
6000.0	821.0	16.7	17.0	985.1	663.0	9.8	9.7	1.000234
6500.0	806.3	15.6	17.3	971.3	662.5	8.8	10.0	1.000230
7000.0	791.7	14.4	17.8	957.7	661.1	4.5	9.5	1.000227
7500.0	777.4	13.2	18.2	944.4	659.7	349.3	7.7	1.000223
8000.0	763.3	12.0	18.7	931.2	658.3	324.9	6.4	1.000220
8500.0	749.5	10.9	19.2	918.2	656.9	302.2	6.7	1.000216
9000.0	736.0	9.7	19.7	905.5	655.6	290.3	7.9	1.000213
9500.0	722.7	8.5	20.2	892.9	654.2	301.5	9.7	1.000210
10000.0	709.6	7.3	20.6	880.5	652.8	298.8	12.0	1.000206
10500.0	696.7	6.2	20.8	868.0	651.4	289.2	15.1	1.000203
11000.0	683.8	5.3	20.2	854.8	650.4	277.9	18.2	1.000199
11500.0	671.2	4.3	19.6	841.8	649.3	271.1	20.4	1.000196
12000.0	658.8	3.5	21.1	828.9	648.2	267.0	20.8	1.000193
12500.0	646.5	2.8	34.6	814.9	647.7	263.0	20.8	1.000194
13000.0	634.5	2.3	16.7	801.6	646.8	260.7	21.0	1.000185
13500.0	622.6	1.7	16.2	788.6	646.1	261.2	21.3	1.000181
14000.0	610.9	1.1	16.4	775.0	645.3	260.5	21.5	1.000178
14500.0	599.4	.4	16.7	762.8	644.0	261.4	23.3	1.000175
15000.0	586.2	-.2	16.9	750.2	643.8	263.0	26.9	1.000172
15500.0	577.1	-1.0	16.9	739.2	642.9	264.9	29.6	1.000169
16000.0	568.1	-1.9	16.7	728.0	641.8	264.8	30.0	1.000166
16500.0	555.4	-2.8	16.5	715.2	640.7	265.8	29.4	1.000164
17000.0	544.8	-3.7	16.2	704.0	639.0	272.0	29.4	1.000161
17500.0	534.5	-4.6	16.0	693.0	638.3	276.0	27.6	1.000158
18000.0	524.2	-5.9	15.7	682.8	637.1	277.8	25.6	1.000155
18500.0	514.0	-7.1	15.4	672.9	636.0	277.4	23.9	1.000153
19000.0	504.1	-8.4	15.1	663.0	634.0	277.9	25.1	1.000150
19500.0	494.3	-9.6	16.2	653.1	632.0	278.7	26.6	1.000148
20000.0	484.6	-10.8	18.2	643.1	631.2	274.2	28.0	1.000146
20500.0	475.0	-11.9	20.2	633.3	629.8	270.0	29.0	1.000144
21000.0	465.7	-13.1	22.2	623.0	628.3	269.2	29.7	1.000142
21500.0	456.5	-14.3	24.3	614.1	626.9	269.2	30.2	1.000140
22000.0	447.5	-15.5	26.9	604.8	625.5	270.9	30.7	1.000138
22500.0	438.6	-16.8	32.9	595.7	623.9	266.0	32.5	1.000136
23000.0	429.8	-18.1	31.2	586.7	622.3	266.3	34.8	1.000133

STATION ALTITUDE 3989.00 FEET MSL
 19 OCT. 82
 ASCENSION NO. 509

UPPER AIR DATA
 292002000y
 WHITE SANDS
 TABLE 14

GEODETL COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

GEO. ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
23500.0	421.1	-19.4	28.0	577.8	620.7			1.000131
24000.0	412.5	-20.7	28.0	569.1	619.1			1.000129
24500.0	404.1	-22.0	28.0	560.5	617.4			1.000127

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

MANDATORY LEVELS
29200/42500
WHITE SANDS
TABLE 14 Cont'd

STATION ALTITUDE 3989 1100 FEET MSL
19 OCT. 82
ASCENSION NO. 500

PRESSURE GEOPOTENTIAL MILLIBARS	FEET	TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
		AIR DEGREES	DEWPOINT CENTIGRADE		DIRECTION DEGREES (TN)	SPEED KNOTS
650.0	5023.	18.0	-6.7	17.	0.0	7.3
600.0	6716.	15.1	-9.4	17.	7.5	9.9
750.0	8493.	10.0	-11.7	19.	302.2	0.7
700.0	10363.	6.4	-14.3	21.	291.3	14.2
650.0	12343.	3.0	-9.4	40.	204.2	20.8
600.0	14460.	.5	-21.9	17.	261.3	23.0
550.0	16735.	-3.3	-25.2	10.	269.1	24.3
500.0	19184.	-8.9	-30.7	10.	270.2	25.7
450.0	21828.	-15.1	-30.4	20.	270.4	30.6
400.0	24707.	-22.7	-36.1	20.		

ATE
LME
-83