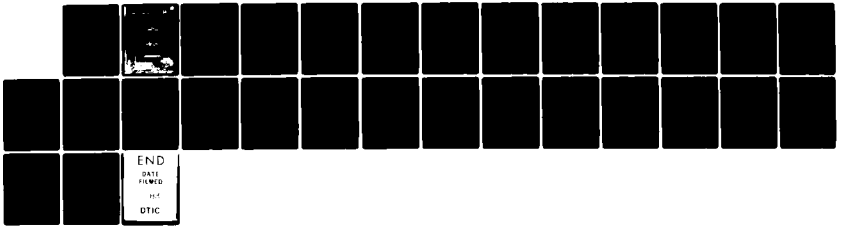
AD-A122 587 19318B MLRS MISSILE NUMBERS DK-001 DK-002 DK-003 ROUND 1/1
NUMBERS V-348/PW-2..(U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM.. D C KELLER OCT 82
UNCLASSIFIED ERADCOM/ASL/DR-1268 F/G 4/2 NL



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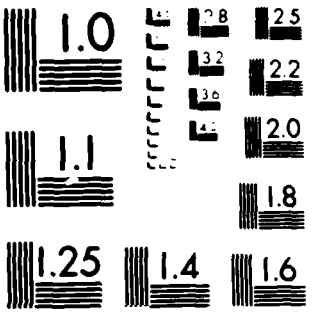

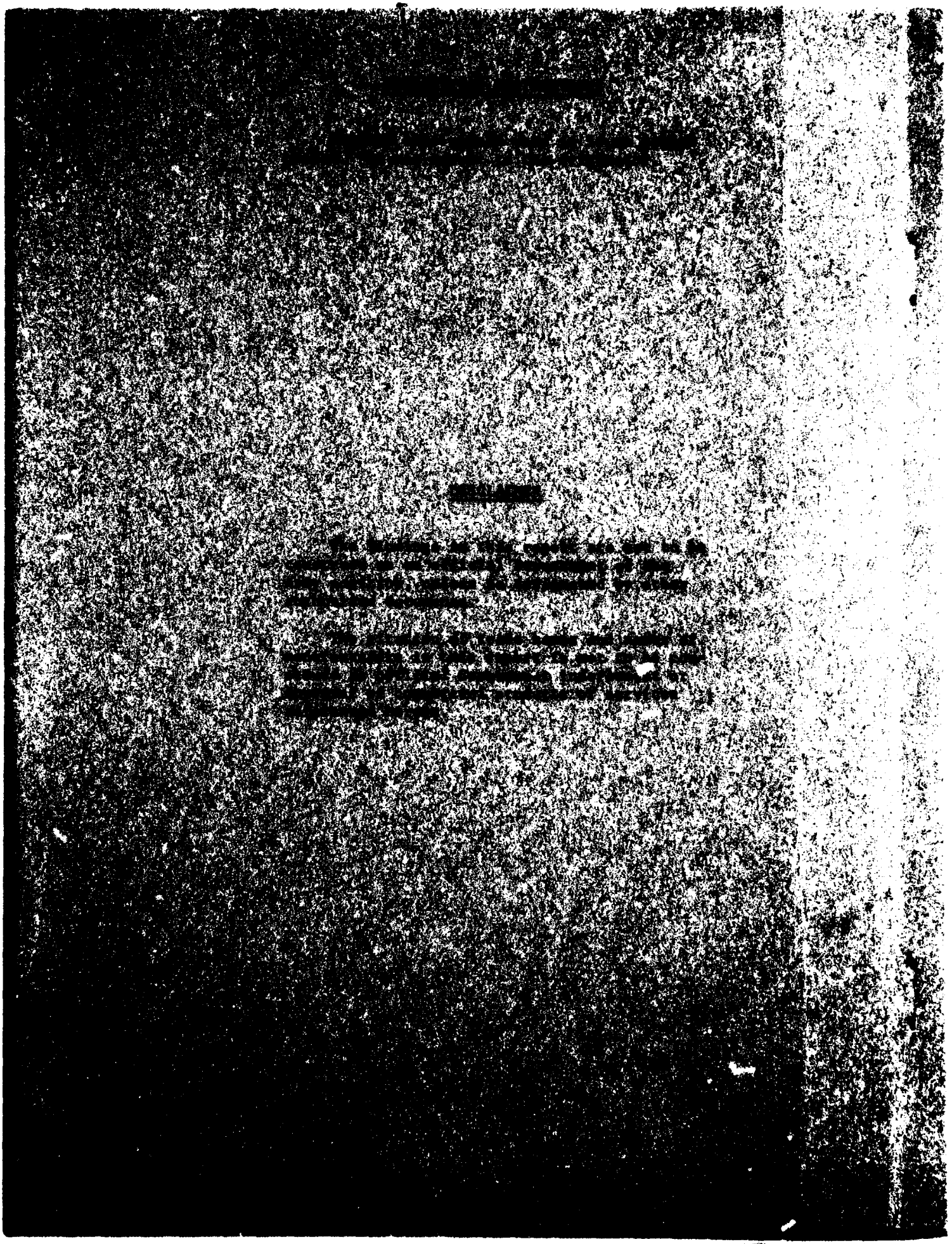

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4. TITLE (and Subtitle) 19318B MLRS Missile Numbers DK-001, DK-002, DK-003 Round Numbers V-348/PW-2, V-349/PW-3, V-350/PW-4		5. TYPE OF REPORT & PERIOD COVERED 6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) White Sands Meteorological Team		8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02
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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 19318B MLRS, Missile Numbers DK-001, DK-002, DK-003, Round Numbers V-348/PW-2, V-349/PW-3, V-350/PW-4 are presented in tabular form.

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CONTENTS

INTRODUCTION

193183 MLRS, Missile Numbers DK-001, DK-002 and DK-003. Round Numbers V-348/PW-2, V-349/PW-3 and V-350/PW-4, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 0933:16, 0933:20 and 0933:25 MDT, 21 Oct 82. The scheduled launch times were 0930:00, 0930:04.5 and 0930:09 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 (^{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

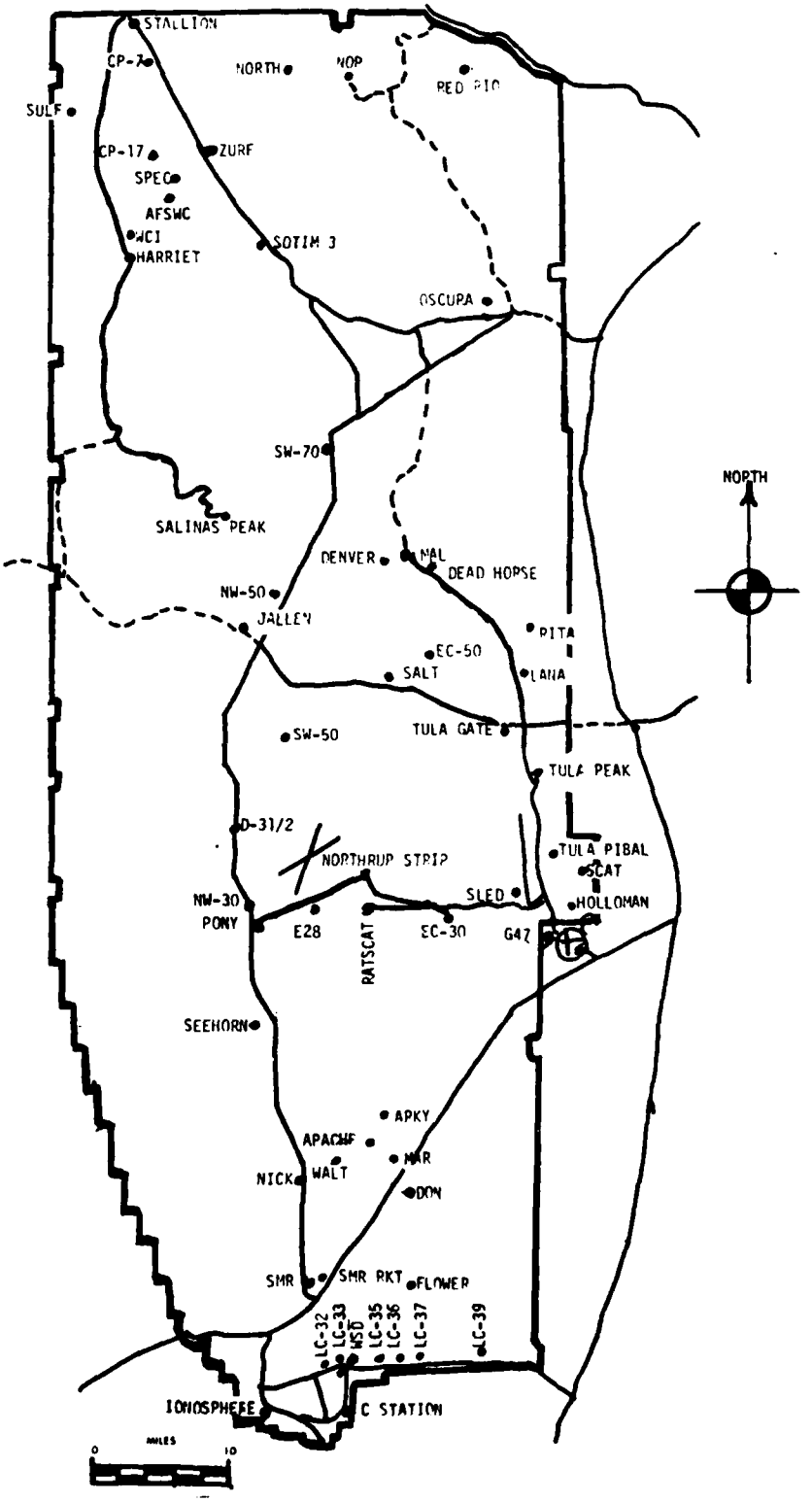
(1) Low level wind data were obtained from pilot-balloon observations at:

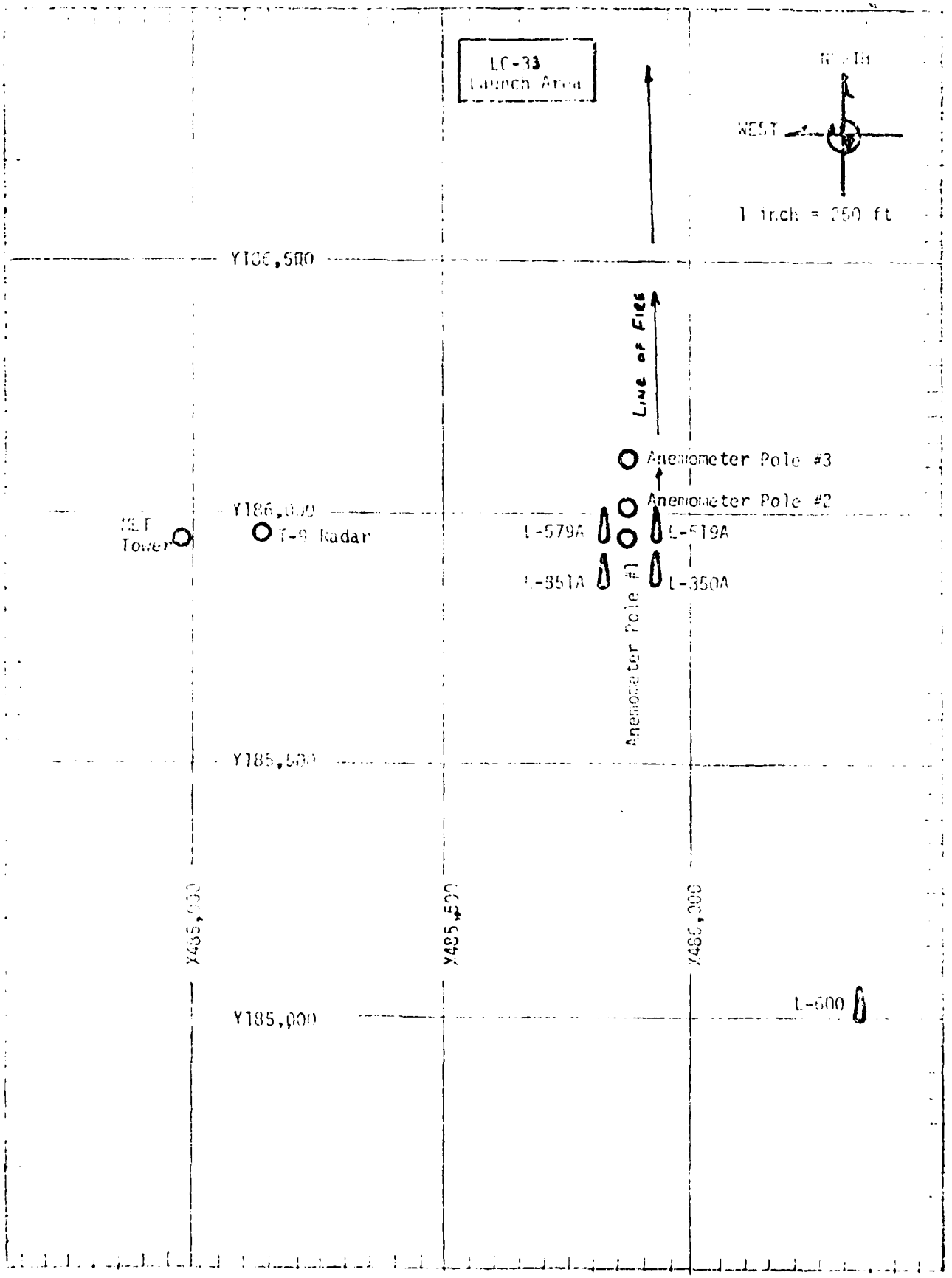
SITE AND ALTITUDE
WSD 2km
DOWN 2km

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

SITE AND TIME	
LC-37	0630 MDT
WSD	0730 MDT
LC-37	0830 MDT
WSD	0934 MDT

WSMR METEOROLOGICAL SITES




LC-33
Launch Area
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
X485,100
X485,200
X485,300
L-500
Y185,000

PROJECT SURFACE OBSERVATION

TABLE 1

STATION LC-33 E & A

DATE 21 (DAY) Oct (MONTH) 82 (YEAR)

X= 484,982.64 Y= 185,957.73 H= 3995.00

TIME M D T	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
0934	886.0		9.9		0.4	51	1089	025	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
										CLEAR

PSYCHROMETRIC COMPUTATION

TIME:	0934		
DRY BULB TEMP.	9.9		
WET BULB TEMP.	5.3		
WET BULB DEPR.	4.6		
DEW POINT	0.4		
RELATIVE HUMID.	51		

TABLE 2 , [illegible]

* POLE #1 X485,874.29 Y185,958.80 H4019.74 53.7 ft. AGL			POLE #2 X485,874.29 Y186,[illegible] H4023.47 53.0 ft. AGL			POLE #3 X485,[illegible] Y186,116.06 H4063.92 [illegible] 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	042	05	T-30	020	03	T-30	019	05
T-20	037	05	T-20	020	04	T-20	018	05
T-10	035	05	T-10	012	04	T-10	015	05
T0.0	031	05	T0.0	011	04	T0.0	013	05
T+10	024	06	T+10	003	03	T+10	009	06

TABLE 3 IC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (302 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	030	04	T-30	026	04
T-20	037	04	T-20	026	03
T-10	031	03	T-10	012	03
T0.0	023	03	T0.0	013	04
T+10	011	04	T+10	012	03

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 302 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	043	04	T-30	013	04
T-20	038	04	T-20	012	04
T-10	036	03	T-10	354	03
T0.0	035	03	T0.0	005	03
T+10	033	03	T+10	009	03

* POLE #1 DIRS. WERE ESTIMATED.

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 21 Oct 82

SITE: WSD
TIME: 0934 MDT
WSTM COORDINATES:
X= 488,852.29
Y= 184,982.45
H= 3,993.75

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	335	04
150	332	02
210	359	05
270	358	05
330	355	04
390	012	06
500	030	04
650	035	03
800	302	06
950	295	06
1150	287	04
1350	318	02
1550	321	04
1750	277	04
2000	244	09

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

SITE: DOV
TIME 0934 MDT
WSTM COORDINATES:
X= 511,988.37
Y= 247,396.36
H= 3,996.83

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	346	04
210	349	05
270	354	04
330	001	04
390	011	04
500	037	04
650	007	02
800	303	04
950	286	04
1150	287	03
1350	322	04
1550	321	06
1750	272	07
2000	267	10

Data obtained from a Single-Theodolite Tracked pilot-balloon observation.

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES
21 Oct 82

LC-37 0630 MDT		WSD 0730 MDT	
METCM1324063		METCM1324064	
211250124882		211350122884	
00000000	27860882	00053006	27720884
01001006	28260871	01026007	28110874
02040006	28420846	02040005	28380848
03573004	28450806	03590004	28460808
04507008	28400759	04494008	28420761
05510009	28020715	05503007	28040716
06470013	27600672	06465012	27620674
07485017	27190632	07492016	27280633
08515016	27080593	08518014	27140595
09544012	26700557	09539011	26710558
10540010	26290522	10543009	26300524
11553021	26030489	11548018	25990491
12546038	25600443	12553037	25560444

LC-37 0830 MDT		WSD 0934 MDT	
METCM1324063		METCM1324064	
211450124883		211560122886	
00000000	27990883	00631004	28350886
01620010	28170873	01010004	28350875
02023009	28420847	02017005	28460849
03505004	28500807	03537003	28480809
04512005	28430760	04551004	28410762
05502005	28060716	05538004	28000718
06467012	27650673	06464009	27590675
07493015	27290633	07502013	27330634
08513013	27180594	08540013	27150596
09550010	26800558	09539009	26700559
10520009	26410523	10518016	26410525
11545021	26170491	11552027	26140492
12554038	25720444	12563036	25660445

STATION ALTITUDE 4051.37 FEET MSL
21 OCT. 82 0630 MDT
ASCENSION NO. 108

SIGNIFICANT LEVEL DATA
2940160108
LC-37
TABLE 6

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT
882.0	4051.4	4.5	-1.5	65.0
879.0	4143.0	7.2	-4.2	44.0
864.9	4582.7	10.6	-.2	47.0
850.0	5058.2	10.6	-2.4	40.0
835.2	5538.2	10.0	-3.0	40.0
800.4	6702.1	10.8	-.0	47.0
791.2	7018.7	10.6	-.8	45.0
769.4	7784.2	11.3	-6.1	29.0
700.0	10349.1	5.3	-8.9	35.0
661.9	11840.4	1.1	-7.6	52.0
656.6	12052.9	.9	-11.1	40.0
639.8	12735.6	-.8	-12.1	42.0
629.1	13177.0	-2.4	-16.1	34.0
611.9	13900.2	-2.4	-22.2	20.0
603.8	14248.3	-1.5	-23.3	17.0
595.8	14597.0	-2.1	-23.2	18.0
575.4	15503.6	-4.0	-22.0	23.0
519.7	18109.7	-11.0	-27.5	24.0
508.2	18674.5	-11.4	-29.3	21.0
500.0	19084.4	-12.0	-29.3	22.0
473.2	20464.6	-14.3	-33.3	18.0
466.4	20825.6	-14.3	-33.9	17.0
446.4	21914.5	-16.4	-35.1	18.0
400.0	24592.3	-23.6	-41.1	18.0

STATION ALTITUDE 4051.37 FEET MSL
21 OCT. 82 0630 MDT
ASCENSION NO. 108

UPPER AIR DATA
2940180106
LC-37
TABLE 7

GEODETIC COORDINATES
32.40175 LAT DEG
106.31252 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 DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
4051.4	882.0	4.5	-1.5	65.0	1104.0	649.9	.0	.0	1.000273
4500.0	867.5	10.0	-1.0	46.4	1064.8	656.3	308.8	.7	1.000264
5000.0	851.8	10.6	-2.1	40.9	1043.4	657.0	308.8	1.6	1.000257
5500.0	836.4	10.0	-2.9	40.0	1026.5	656.3	308.8	2.4	1.000252
6000.0	821.2	10.3	-1.8	42.8	1006.7	656.7	308.6	3.2	1.000250
6500.0	806.3	10.7	-.5	45.8	987.0	657.2	308.8	4.1	1.000248
7000.0	791.7	10.6	-.8	45.1	969.3	657.2	296.6	5.1	1.000243
7500.0	777.4	11.0	-3.8	34.9	950.8	657.5	288.9	6.3	1.000233
8000.0	763.3	10.8	-6.3	29.5	934.7	657.1	287.7	7.0	1.000226
8500.0	749.4	9.6	-6.8	30.7	921.5	655.7	291.4	7.3	1.000223
9000.0	735.7	8.5	-7.3	31.8	908.4	654.3	293.9	7.7	1.000219
9500.0	722.3	7.3	-7.9	33.0	895.6	653.0	284.0	8.5	1.000216
10000.0	709.1	6.1	-8.5	34.2	883.0	651.6	277.1	9.5	1.000212
10500.0	696.0	4.9	-8.7	36.7	870.0	650.1	272.3	11.0	1.000210
11000.0	683.1	3.5	-8.1	42.4	858.7	648.5	269.5	12.9	1.000208
11500.0	670.4	2.1	-7.7	48.1	847.0	646.9	267.3	14.7	1.000206
12000.0	657.9	.9	-10.2	43.0	834.8	645.5	269.3	15.4	1.000200
12500.0	645.5	-.2	-11.7	41.3	822.8	644.1	271.2	16.1	1.000196
13000.0	633.4	-1.8	-14.4	37.2	812.0	642.2	273.8	16.5	1.000191
13500.0	621.4	-2.4	-18.5	27.7	798.8	641.3	277.9	16.2	1.000185
14000.0	609.6	-2.1	-22.5	19.1	783.1	641.5	282.2	16.0	1.000180
14500.0	598.0	-1.9	-23.2	17.7	767.7	641.8	287.4	15.2	1.000176
15000.0	586.6	-2.9	-22.6	20.2	755.9	640.6	293.6	14.3	1.000174
15500.0	575.5	-4.0	-22.0	23.0	744.3	639.4	299.8	13.5	1.000171
16000.0	564.3	-5.3	-23.1	23.2	733.6	637.8	301.4	12.4	1.000168
16500.0	553.4	-6.7	-24.1	23.4	723.1	636.1	303.4	11.2	1.000166
17000.0	542.7	-8.0	-25.2	23.6	712.7	634.5	304.5	11.0	1.000163
17500.0	532.2	-9.4	-26.2	23.8	702.5	632.9	305.0	11.3	1.000160
18000.0	521.9	-10.7	-27.3	24.0	692.5	631.3	305.5	11.5	1.000158
18500.0	511.7	-11.3	-28.7	21.9	680.5	630.6	308.0	14.5	1.000155
19000.0	501.7	-11.9	-29.3	21.8	668.6	629.8	309.7	17.8	1.000152
19500.0	491.8	-12.7	-30.5	20.8	657.5	628.8	310.9	21.2	1.000149
20000.0	482.1	-13.5	-31.9	19.3	646.6	627.8	309.9	25.2	1.000146
20500.0	472.5	-14.3	-33.4	17.9	635.8	626.9	309.2	29.2	1.000144
21000.0	463.1	-14.6	-34.1	17.2	623.9	626.5	308.6	33.0	1.000141
21500.0	453.9	-15.6	-34.6	17.6	613.8	625.3	307.7	34.9	1.000139
22000.0	444.8	-16.6	-35.3	18.0	604.0	624.0	307.0	36.8	1.000136
22500.0	435.8	-18.0	-36.4	18.0	594.0	622.4			1.000134
23000.0	427.0	-19.3	-37.5	18.0	585.9	620.7			1.000132
23500.0	418.3	-20.7	-39.7	18.0	577.1	619.1			1.000130

STATION ALTITUDE 4051.37 FEET MSL
21 OCT. 82 0630 MDT
ASCENSION NO. 108

UPPER AIR DATA
2940180108
LC-37
TABLE 7 Cont'd

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 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
24000.0	409.8	-22.0	-39.8	18.0	568.4	617.4			1.000128
24500.0	401.5	-23.4	-40.9	18.0	559.9	615.8			1.000126

STATION ALTITUDE 4051.37 FEET MSL
21 OCT. 82 0630 MDT
ASCENSION NO. 108

MANDATORY LEVELS
2940160108
LC-37
TABLE 8

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	#IND DATA DIRECTION DEGREES(TN)	#IND DATA SPEED KNOTS
850.0	5054.	10.6	-2.4	40.	306.8	1.7
800.0	6710.	10.8	-.1	47.	303.1	4.5
750.0	8475.	9.7	-6.8	31.	291.2	7.3
700.0	10339.	5.3	-8.9	35.	273.4	10.5
650.0	12306.	.2	-11.5	41.	270.5	15.9
600.0	14396.	-1.8	-23.2	17.	286.3	15.4
550.0	16646.	-7.1	-24.4	23.	304.1	10.9
500.0	19057.	-12.0	-29.3	22.	309.9	18.3
450.0	21682.	-16.0	-34.9	18.	307.4	35.7
400.0	24551.	-23.6	-41.1	18.		

STATION ALTITUDE 3989.00 FEET MSL
21 OCT. 82 0730 MDT
ASCENSION NO. 511

SIGNIFICANT LEVEL DATA
2940020511
WHITE SANDS
TABLE 9

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
884.2	3989.0	3.4	-2.1	67.0
875.5	4254.8	8.0	-2.6	47.0
850.0	5059.0	10.1	-1.0	46.0
793.0	6957.9	10.8	-.3	46.0
772.8	7665.6	11.6	-5.4	30.0
700.0	10351.6	5.3	-9.3	34.0
668.9	11564.2	1.9	-7.9	48.0
641.7	12659.8	-.7	-14.2	35.0
624.3	13380.8	-1.2	-23.7	16.0
615.5	13753.3	-.2	-22.9	16.0
590.1	14857.3	-2.3	-21.6	21.0
525.2	17851.8	-10.5	-28.5	21.0
517.4	18230.4	-10.6	-29.1	20.0
500.0	19093.0	-12.3	-30.6	20.0
479.8	20125.2	-14.5	-34.1	17.0
458.0	21281.2	-15.8	-35.8	16.0
421.8	23305.4	-20.3	-39.5	16.0
400.0	24591.1	-23.3	-38.6	23.0
388.7	25279.4	-24.6	-39.7	23.0

STATION ALTITUDE 3989.00 FEET MSL
21 OCT. 82 0730 MDT
ASCENSION NO. 511

UPPER AIR DATA
2940020511
WHITE SANDS
TABLE 10

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	884.2	3.4	-2.1	67.0	1111.3	648.6	30.0	6.0	1.000273
4000.0	883.8	3.6	-2.1	66.2	1110.1	648.8	29.8	6.0	1.000273
4500.0	867.6	8.6	-2.1	46.7	1070.2	654.7	21.5	5.1	1.000263
5000.0	851.8	9.9	-1.1	46.1	1045.6	656.3	9.9	4.3	1.000260
5500.0	836.4	10.3	-.8	46.0	1025.4	656.7	354.3	3.8	1.000256
6000.0	821.3	10.4	-.7	46.0	1006.1	656.9	335.6	3.6	1.000252
6500.0	806.4	10.6	-.5	46.0	987.2	657.2	317.2	3.9	1.000248
7000.0	791.8	10.8	-.6	45.0	968.5	657.4	301.3	4.6	1.000243
7500.0	777.5	11.4	-4.0	33.7	949.7	657.9	290.0	5.7	1.000233
8000.0	763.3	10.8	-5.8	30.5	934.6	657.1	282.7	7.0	1.000227
8500.0	749.4	9.6	-6.5	31.2	921.4	655.8	280.3	7.2	1.000223
9000.0	735.7	8.5	-7.3	32.0	908.4	654.4	278.5	7.3	1.000219
9500.0	722.3	7.3	-8.0	32.7	895.7	653.0	276.3	7.4	1.000216
10000.0	709.1	6.1	-8.7	33.5	883.1	651.6	272.7	8.5	1.000212
10500.0	696.1	4.9	-9.0	35.7	870.7	650.1	269.9	9.6	1.000209
11000.0	683.2	3.5	-8.4	41.5	858.8	648.5	269.0	10.9	1.000207
11500.0	670.5	2.1	-8.0	47.3	847.1	646.9	270.1	12.6	1.000206
12000.0	657.9	.9	-10.3	42.8	835.1	645.4	271.0	14.3	1.000200
12500.0	645.6	-.3	-13.2	36.9	823.3	643.9	273.3	15.2	1.000195
13000.0	633.4	-.9	-18.0	26.0	809.9	643.0	276.7	15.6	1.000188
13500.0	621.5	-.9	-23.5	16.0	794.7	643.0	279.9	16.1	1.000182
14000.0	609.7	-.7	-22.6	17.1	779.1	643.3	283.2	15.2	1.000179
14500.0	598.2	-1.6	-21.9	19.4	767.0	642.2	287.1	14.2	1.000176
15000.0	586.8	-2.7	-21.9	21.0	755.4	640.9	291.6	13.2	1.000174
15500.0	575.5	-4.1	-23.1	21.0	744.6	639.3	294.8	11.9	1.000171
16000.0	564.4	-5.4	-24.2	21.0	734.0	637.6	298.9	10.7	1.000168
16500.0	553.6	-6.8	-25.4	21.0	723.6	636.0	303.3	9.6	1.000165
17000.0	542.9	-8.2	-26.6	21.0	713.4	634.3	304.2	9.5	1.000163
17500.0	532.4	-9.5	-27.7	21.0	703.3	632.7	305.0	9.4	1.000160
18000.0	522.1	-10.5	-28.8	20.6	692.4	631.5	306.3	9.9	1.000157
18500.0	511.9	-11.1	-29.6	20.0	680.3	630.7	308.0	12.4	1.000154
19000.0	501.8	-12.1	-30.4	20.0	669.5	629.5	309.1	15.0	1.000152
19500.0	491.9	-13.2	-31.9	18.8	659.0	628.3	310.1	18.1	1.000149
20000.0	482.2	-14.2	-33.6	17.4	648.6	627.0	311.2	22.7	1.000146
20500.0	472.6	-14.9	-34.6	16.7	637.4	626.1	312.0	27.2	1.000144
21000.0	463.2	-15.5	-35.4	16.2	626.1	625.4	312.0	31.2	1.000141
21500.0	453.9	-16.3	-36.2	16.0	615.5	624.4	311.3	34.1	1.000139
22000.0	444.8	-17.4	-37.1	16.0	605.7	623.1	310.6	37.1	1.000136
22500.0	435.8	-18.5	-38.0	16.0	596.2	621.7	310.8	39.2	1.000134
23000.0	427.1	-19.6	-38.9	16.0	586.7	620.4	311.6	40.3	1.000132

STATION ALTITUDE 3989.00 FEET MSL
21 OCT. 82 0730
ASCENSION NO. 511

UPPER AIR DATA
2940020511
WHITE SANDS
TABLE 10 Cont'd

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	418.4	-20.8	-39.3	17.1	577.4	619.0	312.8	41.4	1.000130
24000.0	409.9	-21.9	-38.8	19.8	568.2	617.5			1.000128
24500.0	401.5	-23.1	-38.6	22.5	559.2	616.1			1.000126
25000.0	393.2	-24.1	-39.2	23.0	549.9	614.9			1.000124

STATION ALTITUDE 3989.00 FEET MSL
21 OCT. 82 0730 MDT
ASCENSION NO. 511

MANDATORY LEVELS
2940020511
WHITE SANDS
TABLE 11

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	WIND DATA DIRECTION DEGREES(TN)	WIND DATA SPEED KNOTS
850.0	5055.	10.1	-1.0	46.	6.3	4.2
800.0	6712.	10.7	-.4	46.	310.3	4.1
750.0	8477.	9.7	-6.5	31.	280.3	7.2
700.0	10341.	5.3	-9.3	34.	270.7	9.2
650.0	12308.	.1	-12.2	39.	272.0	15.0
600.0	14405.	-1.5	-22.0	19.	286.4	14.3
550.0	16655.	-7.3	-25.8	21.	303.6	9.6
500.0	19066.	-12.3	-30.6	20.	309.2	15.4
450.0	21684.	-16.8	-36.6	16.	311.0	35.4
400.0	24550.	-23.3	-38.6	23.		

STATION ALTITUDE 4051.37 FEET MSL
21 OCT. 82 0830 MDT
ASCENSION NO. 109

SIGNIFICANT LEVEL DATA
2940180109
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 12

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MSL FEET	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT DEGREES CENTIGRADE	REL.HUM. PERCENT
883.3	4051.4	6.0	-3.4	51.0
868.1	4520.9	9.0	-3.5	41.0
850.2	5088.7	10.1	-3.2	39.0
839.4	5438.5	11.2	-1.5	41.0
808.2	6476.3	10.6	-.2	47.0
777.6	7535.1	12.1	-7.8	24.0
700.0	10392.5	5.6	-10.6	30.0
670.4	11547.3	2.6	-8.1	45.0
663.2	11833.9	1.6	-10.8	39.0
645.4	12552.6	.2	-12.1	39.0
636.6	12913.6	-.9	-17.5	27.0
628.0	13270.1	-1.3	-23.8	16.0
611.5	13968.5	-.3	-23.7	15.0
585.5	15106.9	-2.1	-22.6	19.0
529.1	17719.3	-8.8	-28.7	18.0
499.8	19164.6	-10.9	-33.1	14.0
470.1	20706.5	-13.0	-34.1	15.0
399.7	24705.3	-21.8	-37.3	23.0

STATION ALTITUDE 4051.37 FEET MSL
21 OCT. 82 0830 MDT
ASCENSION NO. 109

UPPER AIR DATA
2940180109
LC-37

TABLE 13

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 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
4051.4	883.3	6.0	-3.4	51.0	1100.1	651.6	.0	.0	1.000268
4500.0	868.8	8.9	-3.5	41.4	1071.0	654.9	311.6	.8	1.000261
5000.0	853.0	9.9	-3.3	39.3	1047.5	656.2	311.6	1.7	1.000256
5500.0	837.5	11.2	-1.5	41.4	1023.7	657.7	311.6	2.6	1.000254
6000.0	822.4	10.9	-.8	44.2	1006.0	657.4	311.6	3.5	1.000251
6500.0	807.5	10.6	-.3	46.5	988.5	657.2	311.6	4.3	1.000248
7000.0	792.9	11.3	-3.3	35.6	968.7	657.8	297.4	5.1	1.000238
7500.0	778.6	12.1	-7.5	24.8	949.4	658.5	285.9	6.1	1.000228
8000.0	764.4	11.0	-8.2	25.0	935.5	657.3	283.2	6.2	1.000224
8500.0	750.5	9.9	-8.7	26.0	922.2	656.0	288.2	5.1	1.000220
9000.0	736.8	8.8	-9.1	27.1	909.0	654.6	294.2	4.2	1.000217
9500.0	723.4	7.6	-9.6	28.1	896.1	653.3	280.6	5.0	1.000214
10000.0	710.2	6.5	-10.2	29.2	883.4	652.0	271.2	6.0	1.000210
10500.0	697.2	5.3	-10.3	31.4	870.9	650.6	266.8	7.6	1.000208
11000.0	684.3	4.0	-9.0	37.9	858.6	649.1	265.9	9.7	1.000207
11500.0	671.6	2.7	-8.2	44.4	846.5	647.7	265.4	11.9	1.000205
12000.0	659.0	1.3	-11.1	39.0	835.4	646.9	269.9	12.7	1.000199
12500.0	646.7	.3	-12.0	39.0	822.7	644.7	274.3	13.5	1.000196
13000.0	634.5	-1.0	-18.8	24.3	811.5	643.0	278.0	14.0	1.000188
13500.0	622.5	-1.0	-23.8	15.7	796.3	642.9	281.3	13.6	1.000182
14000.0	610.8	-.3	-23.7	15.1	779.5	643.6	284.8	13.2	1.000178
14500.0	599.2	-1.1	-23.1	16.9	767.0	642.7	288.5	12.6	1.000176
15000.0	587.9	-1.9	-22.7	18.6	754.6	641.8	292.5	11.9	1.000173
15500.0	576.6	-3.1	-23.5	18.8	743.5	640.4	297.0	11.2	1.000170
16000.0	565.6	-4.4	-24.7	18.7	732.7	638.8	296.5	10.5	1.000168
16500.0	554.7	-5.7	-25.9	18.5	722.1	637.3	299.8	9.9	1.000165
17000.0	544.1	-7.0	-27.0	18.3	711.7	635.8	302.3	9.2	1.000162
17500.0	533.6	-8.2	-28.2	18.1	701.4	634.2	348.2	13.0	1.000159
18000.0	523.3	-9.2	-29.5	17.2	690.4	633.0	6.9	20.7	1.000157
18500.0	513.1	-9.9	-31.0	15.8	678.8	632.2	9.1	25.5	1.000154
19000.0	503.1	-10.7	-32.6	14.5	667.4	631.3	345.9	21.3	1.000151
19500.0	493.2	-11.4	-33.3	14.2	656.1	630.4	318.0	21.6	1.000148
20000.0	483.5	-12.0	-33.6	14.5	644.9	629.6	295.4	26.2	1.000146
20500.0	474.0	-12.7	-34.0	14.9	633.8	628.8	280.9	33.5	1.000143
21000.0	464.5	-13.6	-34.2	15.6	623.4	627.7	271.9	42.2	1.000141
21500.0	455.2	-14.7	-34.5	16.6	613.5	626.3	282.6	39.6	1.000138
22000.0	446.1	-15.8	-34.9	17.6	603.8	625.0	297.5	37.8	1.000136
22500.0	437.1	-16.9	-35.2	18.6	594.2	623.7			1.000134
23000.0	428.3	-18.0	-35.6	19.6	584.8	622.3			1.000132
23500.0	419.7	-19.1	-36.1	20.6	575.5	621.0			1.000130

STATION ALTITUDE 4051.37 FEET MSL
21 OCT. 82 0830 MDT
ASCENSION NO. 109

UPPER AIR DATA
2940160109
LC-37
TABLE 13 Cont'd

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 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
24000.0	411.3	-20.2	-36.5	21.6	566.4	619.6			1.000128
24500.0	403.0	-21.3	-37.0	22.6	557.5	618.3			1.000126

STATION ALTITUDE 4051.37 FEET MSL
21 OCT. 82 0830 MDT
ASCENSION NO. 109

MANDATORY LEVELS
2940180109
LC-37
TABLE 14

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 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	5091.	10.1	-3.2	39.	311.6	1.8
800.0	6750.	11.0	-1.8	41.	304.7	4.7
750.0	8517.	9.9	-8.7	20.	286.4	5.1
700.0	10382.	5.6	-10.6	30.	267.1	7.1
650.0	12352.	.6	-11.8	39.	275.1	15.3
600.0	14450.	-1.1	-23.1	17.	288.2	14.7
550.0	16706.	-6.2	-26.4	10.	300.5	9.6
500.0	19127.	-10.9	-33.0	14.	337.8	20.8
450.0	21763.	-15.4	-34.7	17.	290.9	38.3
400.0	24646.	-21.8	-37.2	23.		

SIATION ALTITUDE 3989.00 FEET MSL
21 OCT. 82 0934 MDT
ASCENSION NO. 512

SIGNIFICANT LEVEL DATA
2940020512
WHITE SANDS
TABLE 15

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
885.6	3989.0	9.5	1.4	57.0
875.7	4295.0	8.7	-2.0	47.0
868.9	4507.6	10.7	-1.4	43.0
850.0	5109.6	10.8	-1.6	42.0
814.8	6266.3	10.1	-1.6	44.0
805.3	6587.1	10.8	-1.3	43.0
791.6	7058.4	12.5	-4.1	31.0
776.5	7588.1	11.8	-7.1	26.0
700.0	10400.8	4.6	-9.5	35.0
674.9	11374.4	2.2	-8.5	45.0
657.6	12061.6	.4	-10.7	43.0
639.7	12788.0	-.4	-20.6	20.0
613.6	13883.8	.2	-20.1	20.0
554.0	16539.0	-7.1	-24.2	24.0
513.3	18484.4	-10.0	-30.3	17.0
500.0	19147.9	-11.7	-31.8	17.0
494.3	19436.8	-11.5	-32.2	16.0
474.1	20485.6	-13.1	-33.5	16.0
420.3	23464.9	-19.9	-34.0	27.0
400.0	24665.3	-23.3	-37.0	27.0

STATION ALTITUDE 3989.00 FEET MSL
21 OCT. 82 0034 MDT
ASCENSION NO. 512

UPPER AIR DATA
2940020512
WHITE SANDS
TABLE 1C

GEODETIC COORDINATES
32.40043 LAT DEG
106.57033 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	885.6	9.5	1.4	57.0	1088.3	655.9	355.0	4.1	1.000275
4000.0	885.2	9.5	1.3	56.6	1088.0	655.9	355.2	4.1	1.000274
4500.0	869.1	10.6	-1.4	43.1	1064.4	657.1	1.8	4.4	1.000263
5000.0	853.4	10.8	-1.5	42.2	1044.5	657.2	7.4	4.9	1.000258
5500.0	838.0	10.6	-1.6	42.7	1026.4	657.0	21.7	4.1	1.000254
6000.0	822.8	10.3	-1.6	43.5	1008.6	656.7	26.7	2.9	1.000250
6500.0	807.9	10.6	-1.3	43.3	989.2	657.1	323.0	3.8	1.000246
7000.0	793.3	12.3	-3.7	32.5	968.0	658.9	302.5	6.0	1.000237
7500.0	779.0	11.9	-6.5	26.8	950.2	658.4	301.5	5.1	1.000229
8000.0	764.8	10.7	-7.3	27.3	936.8	657.0	312.8	4.6	1.000225
8500.0	750.8	9.5	-7.7	28.9	923.9	655.5	324.5	4.2	1.000222
9000.0	737.1	8.2	-8.1	30.5	911.2	654.0	330.8	3.5	1.000219
9500.0	723.6	6.9	-8.6	32.1	898.6	652.5	318.0	3.2	1.000216
10000.0	710.4	5.6	-9.1	33.7	886.3	651.0	282.1	4.0	1.000212
10500.0	697.4	4.4	-9.4	36.0	874.1	649.5	258.3	6.3	1.000210
11000.0	684.4	3.1	-8.8	41.2	861.5	648.1	253.6	8.4	1.000208
11500.0	671.7	1.9	-8.9	44.6	849.3	646.6	261.9	9.8	1.000205
12000.0	659.1	.6	-10.5	43.2	837.6	645.0	272.1	11.7	1.000200
12500.0	646.7	-.1	-15.9	29.1	824.2	644.1	279.4	13.1	1.000193
13000.0	634.6	-.3	-20.5	20.0	809.6	643.8	279.8	13.1	1.000186
13500.0	622.6	-.0	-20.2	20.0	793.5	644.1	286.9	12.9	1.000183
14000.0	610.9	-.1	-20.2	20.2	778.8	644.0	298.5	12.9	1.000180
14500.0	599.2	-1.5	-21.0	20.9	767.9	642.3	303.3	12.8	1.000177
15000.0	587.8	-2.9	-21.7	21.7	757.1	640.7	305.5	12.4	1.000174
15500.0	576.6	-4.2	-22.5	22.4	746.5	639.1	306.8	11.5	1.000172
16000.0	565.6	-5.6	-23.3	23.2	736.1	637.4	306.2	9.9	1.000169
16500.0	554.8	-7.0	-24.1	23.9	725.8	635.8	301.7	8.5	1.000166
17000.0	544.1	-7.8	-25.0	22.3	713.9	634.8	295.8	9.3	1.000163
17500.0	533.5	-8.5	-27.1	20.5	702.0	633.9	289.6	11.6	1.000160
18000.0	523.1	-9.3	-28.7	18.7	690.4	633.0	289.3	15.5	1.000157
18500.0	513.0	-10.0	-30.4	17.0	679.0	632.0	296.4	19.9	1.000154
19000.0	502.9	-11.3	-31.4	17.0	668.9	630.5	306.4	24.2	1.000151
19500.0	493.1	-11.6	-32.3	16.0	658.5	630.1	311.5	28.2	1.000148
20000.0	483.3	-12.4	-32.9	16.0	648.5	629.2	313.2	31.4	1.000146
20500.0	473.8	-13.1	-33.5	16.1	638.6	628.3	313.3	33.4	1.000143
21000.0	464.3	-14.3	-33.4	17.9	628.7	626.9	314.2	34.3	1.000141
21500.0	455.0	-15.4	-33.3	19.7	618.9	625.5	314.8	35.6	1.000139
22000.0	445.9	-16.6	-33.4	21.6	609.3	624.1	316.0	37.0	1.000137
22500.0	437.0	-17.7	-33.5	23.4	599.8	622.8	317.6	37.6	1.000135
23000.0	428.3	-18.8	-33.8	25.3	590.5	621.4	319.3	37.1	1.000133

UPPER AIR DATA
2940020512
WHITE SANDS
TABLE 16 Cont'd

STATION ALTITUDE 3989.00 FEET MSL
21 OCT. 82 0934 MDT
ASCENSION NO. 512

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

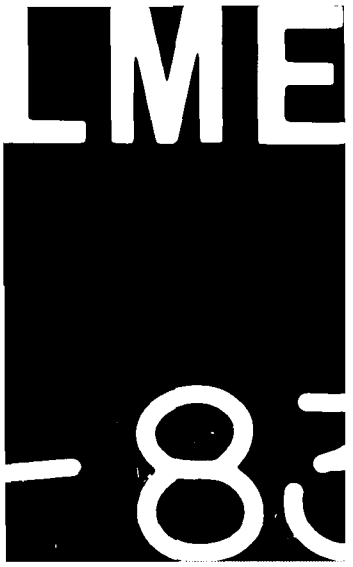
GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL.HUM. PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGRELS(TN)	WIND DATA SPEED KNOTS	INDEX OF REFRACTION
23500.0	419.7	-20.0	-34.1	27.0	577.4	619.9			1.000131
24000.0	411.1	-21.4	-35.3	27.0	568.8	618.2			1.000128
24500.0	402.7	-22.8	-36.6	27.0	560.3	616.4			1.000126

STATION ALTITUDE 3989.00 FEET MSL
21 OCT. 82 0934 MDT
ASCENSION NO. 512

MANDATORY LEVELS
2940020512
WHITE SANDS
TABLE 17

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	5106.	10.8	-1.6	42.	8.5	4.9
800.0	6763.	11.5	-2.2	38.	309.5	5.0
750.0	8530.	9.4	-7.7	29.	325.3	4.1
700.0	10390.	4.6	-9.5	35.	261.6	5.8
650.0	12354.	.1	-14.1	33.	278.0	12.8
600.0	14455.	-1.4	-20.9	21.	303.1	12.8
550.0	16703.	-7.4	-24.7	23.	299.0	8.8
500.0	19121.	-11.7	-31.8	17.	308.9	25.5
450.0	21752.	-16.0	-33.4	21.	315.3	36.4
400.0	24624.	-23.3	-37.0	27.		


LME
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