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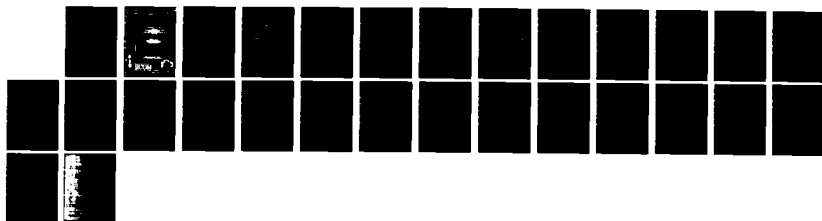
193188 MLRS MISSILE NUMBER BN-199 BN-185 BN-168 BN-144  
BN-211 BN-213 ROUN. (U) ARMY ELECTRONICS RESEARCH AND  
DEVELOPMENT COMMAND WSMR NM ATH. 04 MAR 83  
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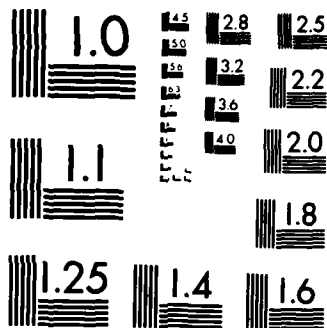
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MICROCOPY RESOLUTION TEST CHART  
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| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number)                                                                                                                                                                                                                          |                                        |                                                                |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br><br>-Meteorological data gathered for the launching of the 19318B MLRS, Missile<br>Number BN-199, BN-185, BN-168, BN-144, BN-211, BN-213, Round Number V-431/<br>OT-37 Thur V-436/OT-42 are presented in tabular form. |                                        |                                                                |

# CONTENTS

|                                                                                                      | PAGE |
|------------------------------------------------------------------------------------------------------|------|
| INTRODUCTION-----                                                                                    | 1    |
| DISCUSSION-----                                                                                      | 1    |
| GENERAL AREA MAP-----                                                                                | 2    |
| LAUNCH AREA DIAGRAM-----                                                                             | 3    |
| TABLES:                                                                                              |      |
| 1. Surface Observations taken at 1458 MST at LC-33-----                                              | 4    |
| 2. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 1457 MST-----            | 5    |
| 3. Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3, and 4, taken at 1457 MST----- | 5    |
| 4. Launch Area Pilot-Balloon Measured Wind Data-----                                                 | 6    |
| 5. Aiming Computer Met Messages-----                                                                 | 7    |
| 6. WSD Significant Level Data at 1100 MST-----                                                       | 8    |
| 7. WSD Upper Air Data at 1100 MST-----                                                               | 9    |
| 8. WSD Mandatory Levels at 1100 MST-----                                                             | 10   |
| 9. WSD Significant Level Data at 1231 MST-----                                                       | 11   |
| 10. WSD Upper Air Data at 1231 MST-----                                                              | 12   |
| 11. WSD Mandatory Levels at 1231 MST-----                                                            | 13   |
| 12. WSD Significant Level Data at 1341 MST-----                                                      | 14   |
| 13. WSD Upper Air Data at 1341 MST-----                                                              | 15   |
| 14. WSD Mandatory Levels at 1341 MST-----                                                            | 16   |
| 15. LC-37 Significant Level Data at 1413 MST-----                                                    | 17   |
| 16. LC-37 Upper Air Data at 1413 MST-----                                                            | 18   |
| 17. LC-37 Mandatory Levels at 1413 MST-----                                                          | 19   |
| 18. LC-37 Significant Level Data at 1525 MST-----                                                    | 20   |
| 19. LC-37 Upper Air Data at 1525 MST-----                                                            | 21   |
| 20. LC-37 Mandatory Levels at 1525 MST-----                                                          | 22   |

## INTRODUCTION!!

193188 MURS, "Missile Numbers BU-199, BU-185, BU-190, BU-140, BU-211, and BU-213, Round Numbers M-431/OT-37 Thru M-436/OT-42, were launched from LC-33, White Sands Missile Range (USMR), New Mexico, at 1457:21, 1457:26, 1457:30, 1457:35, 1457:39, and 1457:44 MST, 4 Mar 83. The scheduled launch times were 1400 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 ( $^{\circ}\text{C}$ ), relative humidity, dew point ( $^{\circ}\text{C}$ ), density ( $\text{gm-m}^3$ ), 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

LC-33 1750 Meters

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

## SITE AND TIME

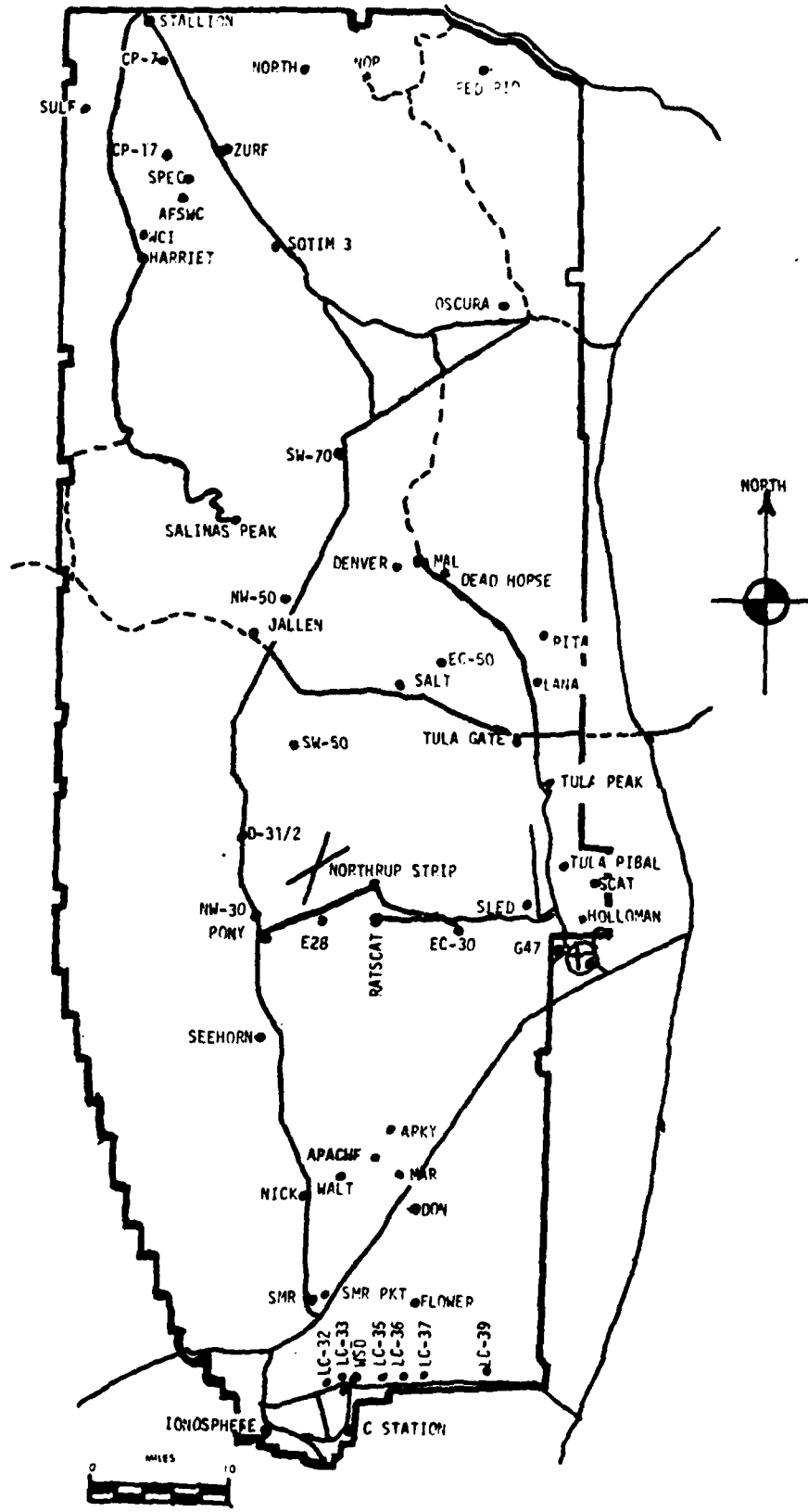
WSD 1100 MST  
WSD 1231 MST  
WSD 1341 MST  
LC-37 1413 MST  
WSD 1525 MST

tion For

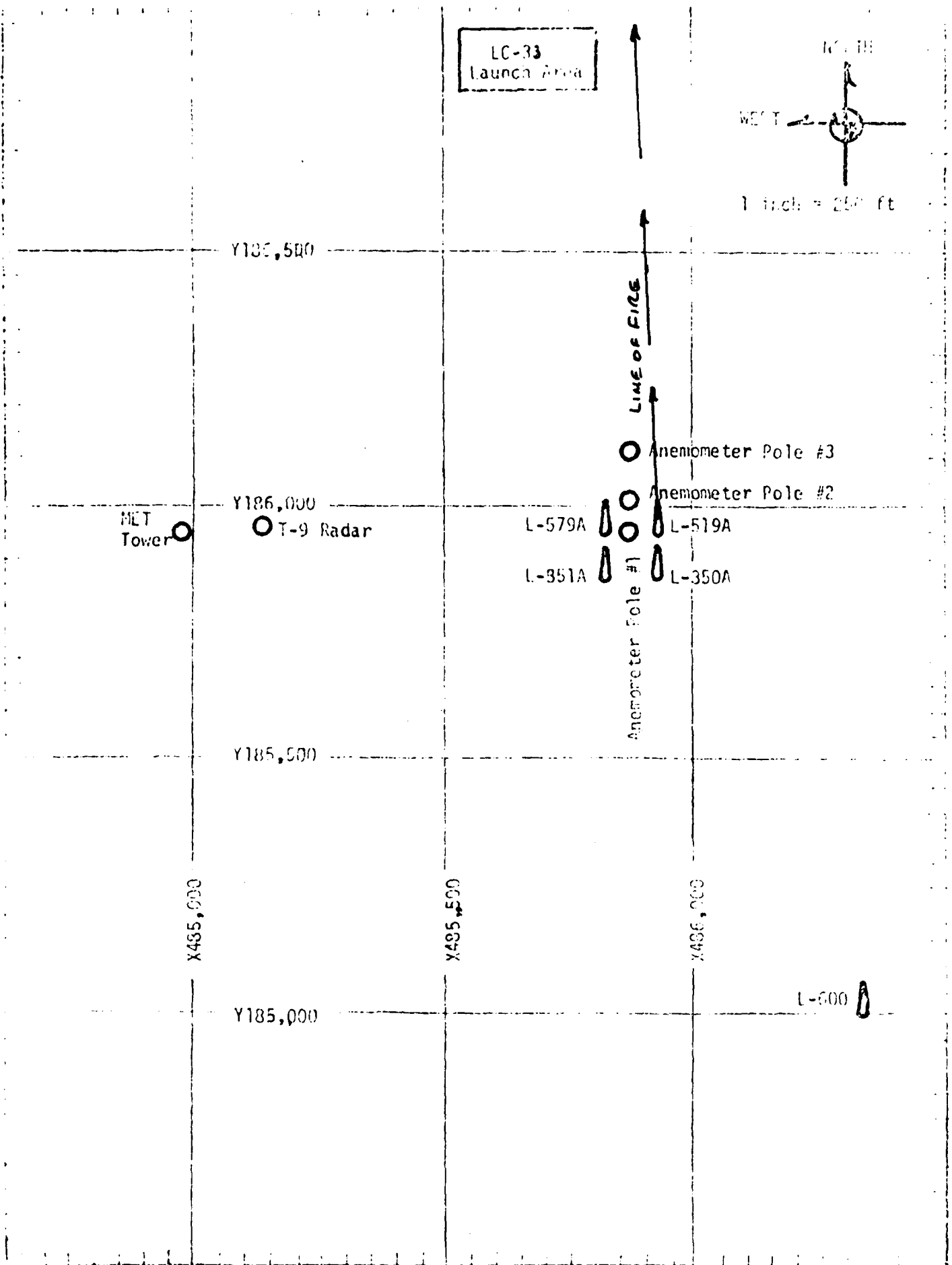
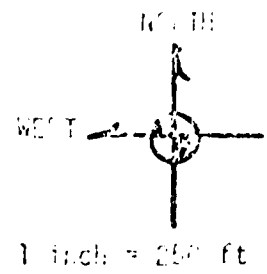
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# WSMR METEOROLOGICAL SITES



LC-33  
Launch Area



## STATION LC-33 F2A

TABLE 1

DATE 04 Mar 83

$$X = 434.982, 64 \quad Y = 185.957, 73 \quad H = 3995, 00$$
[illegible][illegible]

## PSYCHOPHETRIC COMPUTATION

| PSYCHROMETRIC CALCULATION |     |      |  |
|---------------------------|-----|------|--|
| TIME:                     | MST | 1453 |  |
| DRY BULB TEMP.            |     | 12.6 |  |
| WET BULB TEMP.            |     | 6.9  |  |
| WET BULB DEPR.            |     | 5.7  |  |
| DEW POINT                 |     | 1.3  |  |
| RELATIVE HUMID.           |     | 46   |  |

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

| POLE #1<br>X485,874.29<br>Y185,958.90<br>H4018.74<br>38.7 ft. AGL |            |                | POLE #2<br>X485,874.29<br>Y186,012.00<br>H4033.57<br>53.0 ft. AGL |            |                | POLE #3<br>X485,877.29<br>Y186,116.06<br>H4063.92<br>83.6 ft. AGL |            |                |
|-------------------------------------------------------------------|------------|----------------|-------------------------------------------------------------------|------------|----------------|-------------------------------------------------------------------|------------|----------------|
| T-TIME<br>SEC                                                     | DIR<br>DEG | SPEED<br>KNOTS | T-TIME<br>SEC                                                     | DIR<br>DEG | SPEED<br>KNOTS | T-TIME<br>SEC                                                     | DIR<br>DEG | SPEED<br>KNOTS |
| -30                                                               | 236        | 30             | -30                                                               | 248        | 22             | -30                                                               | 252        | 31             |
| -20                                                               | 239        | 29             | -20                                                               | 250        | 20             | -20                                                               | 252        | 29             |
| -10                                                               | 237        | 31             | -10                                                               | 251        | 22             | -10                                                               | 257        | 32             |
| 0.0                                                               | 250        | 27             | 0.0                                                               | 245        | 23             | 0.0                                                               | 260        | 28             |
| +10                                                               | 243        | 31             | +10                                                               | 252        | 25             | +10                                                               | 258        | 25             |

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

| LEVEL #1, 12 FEET<br>X484,982.64, Y185,057.73, H3983.00 (base) |         |             | LEVEL #2, 62 FEET<br>X484,982.64, Y185,057.73, H3983.00 (base) |         |             |
|----------------------------------------------------------------|---------|-------------|----------------------------------------------------------------|---------|-------------|
| T-TIME SEC                                                     | DIR DEG | SPEED KNOTS | T-TIME SEC                                                     | DIR DEG | SPEED KNOTS |
| -30                                                            | 272     | 30          | -30                                                            | 255     | 35          |
| -20                                                            | 261     | 29          | -20                                                            | 243     | 35          |
| -10                                                            | 275     | 24          | -10                                                            | 260     | 29          |
| 0.0                                                            | 263     | 28          | 0.0                                                            | 260     | 34          |
| +10                                                            | 270     | 27          | +10                                                            | 249     | 30          |

| LEVEL #3, 102 FEET<br>X484,982.64, Y185,057.73, H3983.00 (base) |         |             | LEVEL #4, 202 FEET<br>X484,982.64, Y185,057.73, H3983.00 (base) |         |             |
|-----------------------------------------------------------------|---------|-------------|-----------------------------------------------------------------|---------|-------------|
| T-TIME SEC                                                      | DIR DEG | SPEED KNOTS | T-TIME SEC                                                      | DIR DEG | SPEED KNOTS |
| -30                                                             | 265     | 34          | -30                                                             | 263     | 30          |
| -20                                                             | 264     | 34          | -20                                                             | 264     | 30          |
| -10                                                             | 271     | 31          | -10                                                             | 252     | 30          |
| 0.0                                                             | 271     | 33          | 0.0                                                             | 250     | 34          |
| +10                                                             | 258     | 33          | +10                                                             | 255     | 34          |

TABLE 4

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 4 March 1983

SITE: LC-33  
 TIME: 1457 '1ST  
 WSTM COORDINATES:  
 X= 434,337.34  
 Y= 184,124.44  
 H= 3,975.57

SITE:  
 TIME  
 WSTM COORDINATES:  
 X=  
 Y=  
 H=

| LAYER MIDPOINT<br>METERS AGL | DIRECTION<br>DEGREES | SPEED<br>KNOTS |
|------------------------------|----------------------|----------------|
| SURFACE                      | 255                  | 28             |
| 150                          | 255                  | 28             |
| 210                          | 255                  | 28             |
| 270                          | 255                  | 28             |
| 330                          | 256                  | 29             |
| 390                          | 257                  | 29             |
| 500                          | 259                  | 30             |
| 650                          | 266                  | 29             |
| 800                          | 270                  | 28             |
| 950                          | 273                  | 27             |
| 1150                         | 277                  | 24             |
| 1350                         | 279                  | 31             |
| 1550                         | 279                  | 31             |
| 1750                         | 282                  | 27             |
| 2000                         | MISG                 |                |

| LAYER MIDPOINT<br>METERS AGL | DIRECTION<br>DEGREES | SPEED<br>KNOTS |
|------------------------------|----------------------|----------------|
| SURFACE                      |                      |                |
| 150                          |                      |                |
| 210                          |                      |                |
| 270                          |                      |                |
| 330                          |                      |                |
| 390                          |                      |                |
| 500                          |                      |                |
| 650                          |                      |                |
| 800                          |                      |                |
| 950                          |                      |                |
| 1150                         |                      |                |
| 1350                         |                      |                |
| 1550                         |                      |                |
| 1750                         |                      |                |
| 2000                         |                      |                |

# AIMING COMPUTER NET MESSAGES

4 March 1983

WSD 1100 MST

METCM1324064

041800122865

00462012 28690365

01506015 28360855

02489019 28010329

03482023 27660789

04486026 27190742

05495032 26820696

06496039 26660653

07495034 26310623

08497035 25910574

09492039 25490537

WSD 1231 MST

METCM1324064

041950122865

00409012 28660865

01432030 28410854

02450020 28090829

03466021 27720789

04468023 27250742

05493022 26810697

06499034 26460653

07498030 26050612

08500039 25710573

09516031 25350537

WSD 1341 MST

METCM1324064

042070122864

00427018 28650864

01454022 28390853

02463032 28070828

03472031 27710788

04482032 27280741

05483042 26920696

06486033 26470653

07494036 26090612

08491041 25740573

09491042 25370536

LC-37 1413 MST

METCM1324063

042120124862

00267003 28720862

01327007 28410852

02410017 28180326

03435030 27820787

04467027 27340740

05463031 26370695

06497032 26440652

07503044 26060611

08502046 25780572

09495042 25410535

LC-37 1525 MST

METCM1324063

042240124862

00391007 28760362

01371022 78500851

02354007 28180826

03424013 27770787

04437026 27300739

05493025 26850694

06509029 26430551

07512032 26030610

08510037 25640571

09486040 25290534

STATION ALTITUDE 3489.00 FEET MSL  
 4 MAR. 63 1100 HRS. MST  
 ASCENSION NO. 117

SIGNIFICANT LEVEL DATA  
 0630020117  
 WHITE SANDS

GEODETIC COORDINATES  
 32.400000 LAT DEG  
 106.370333 LONG DEG

TABLE 6

| PRESSURE  | GEOMETRIC<br>ALTITUDE | TEMPERATURE<br>AIR | TEMPERATURE<br>DEWPOINT | REL. HUMIDITY<br>PERCENT |
|-----------|-----------------------|--------------------|-------------------------|--------------------------|
| MILLIBARS | MSL FLT               | DEGREES            | CENTIGRADE              |                          |
| 860.9     | 3489.0                | 13.0               | 4.4                     | 56.0                     |
| 850.0     | 4464.5                | 7.9                | -0.8                    | 54.0                     |
| 782.6     | 6681.3                | 2.2                | -1.1                    | 79.0                     |
| 770.1     | 7107.9                | .7                 | -3.0                    | 76.0                     |
| 744.6     | 7993.3                | -1.7               | -2.8                    | 92.0                     |
| 700.0     | 9348.6                | -5.2               | -5.5                    | 98.0                     |
| 700.0     | 9598.1                | -5.8               | -9.7                    | 74.0                     |
| 684.6     | 10171.3               | -5.8               | -12.1                   | 61.0                     |
| 670.2     | 10375.4               | -5.5               | -14.5                   | 49.0                     |
| 660.0     | 11082.8               | -6.1               | -17.5                   | 40.0                     |
| 607.4     | 13232.2               | -10.6              | -22.4                   | 37.0                     |
| 548.0     | 15802.9               | -17.1              | -26.7                   | 43.0                     |
| 500.0     | 18038.3               | -23.0              | -27.6                   | 66.0                     |

UPPER AIR DATA  
0050020117  
WHITE SANDS  
TABLE 7

STATION ALTITUDE 3089.00 FEET MSL  
4 MAR. 43 1100 HRC. MST  
ASCENSION NO. 117

GEOMETRIC ALTITUDE  
MSL FEET

PRESSURE  
MILLIBARS

TEMPERATURE  
AIR DEGREE, CENTIGRADE

WFL HUM. PERCENT

DENSITY  
GM/CUBIC  
METER

SPEED OF  
WIND  
KNOTS

WIND DATA  
DIRECTION  
DEGREES (TN)

INFLX  
OF  
REFRACTION

GEOMETRIC COORDINATES  
32.40043 LAT DEG  
106.37033 LONG DEG

TABLE 7

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREE, CENTIGRADE | WFL HUM. PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>WIND<br>KNOTS | WIND DATA<br>DIRECTION<br>DEGREES (TN) | INFLX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|---------------------------------------|------------------|------------------------------|---------------------------|----------------------------------------|---------------------------|
| 3989.0                         | 864.9                 | 13.0                                  | 56.0             | 1049.1                       | 660.0                     | 200.0                                  | 1.000273                  |
| 4000.0                         | 864.6                 | 12.0                                  | 56.0             | 1049.1                       | 660.1                     | 200.1                                  | 1.000272                  |
| 4500.0                         | 840.9                 | 7.8                                   | 54.4             | 1049.8                       | 654.8                     | 202.9                                  | 1.000262                  |
| 5000.0                         | 833.2                 | 6.5                                   | 60.0             | 1035.1                       | 652.4                     | 205.0                                  | 1.000259                  |
| 5500.0                         | 817.8                 | 5.2                                   | 65.7             | 1020.0                       | 650.4                     | 206.0                                  | 1.000256                  |
| 6000.0                         | 802.7                 | 4.0                                   | 71.3             | 1006.4                       | 649.4                     | 207.9                                  | 1.000253                  |
| 6500.0                         | 787.9                 | 2.7                                   | 77.0             | 992.4                        | 647.4                     | 208.9                                  | 1.000249                  |
| 7000.0                         | 773.2                 | 1.1                                   | 76.8             | 979.8                        | 645.4                     | 209.5                                  | 1.000244                  |
| 7500.0                         | 758.7                 | -0.4                                  | 83.1             | 966.5                        | 644.2                     | 270.1                                  | 1.000241                  |
| 8000.0                         | 744.4                 | -1.7                                  | 92.0             | 953.0                        | 642.6                     | 273.2                                  | 1.000238                  |
| 8500.0                         | 730.2                 | -3.0                                  | 94.2             | 939.4                        | 641.1                     | 276.6                                  | 1.000233                  |
| 9000.0                         | 716.3                 | -4.3                                  | 96.5             | 926.1                        | 639.5                     | 278.4                                  | 1.000229                  |
| 9500.0                         | 702.7                 | -5.6                                  | 83.4             | 913.1                        | 637.4                     | 279.2                                  | 1.000221                  |
| 10000.0                        | 689.2                 | -5.8                                  | 64.9             | 896.7                        | 637.4                     | 278.7                                  | 1.000213                  |
| 10500.0                        | 675.9                 | -5.6                                  | 47.4             | 879.2                        | 637.6                     | 278.5                                  | 1.000206                  |
| 11000.0                        | 662.9                 | -6.0                                  | 41.1             | 863.4                        | 637.0                     | 278.5                                  | 1.000201                  |
| 11500.0                        | 650.1                 | -7.0                                  | 39.4             | 850.1                        | 635.9                     | 278.8                                  | 1.000197                  |
| 12000.0                        | 637.5                 | -8.0                                  | 38.7             | 836.9                        | 634.6                     | 279.2                                  | 1.000193                  |
| 12500.0                        | 625.1                 | -9.1                                  | 38.0             | 824.0                        | 633.3                     | 279.1                                  | 1.000190                  |
| 13000.0                        | 613.0                 | -10.1                                 | 37.3             | 811.3                        | 632.0                     | 278.9                                  | 1.000187                  |
| 13500.0                        | 600.9                 | -11.3                                 | 37.6             | 798.9                        | 630.4                     | 278.8                                  | 1.000183                  |
| 14000.0                        | 589.0                 | -12.5                                 | 38.8             | 786.4                        | 629.1                     | 278.6                                  | 1.000180                  |
| 14500.0                        | 577.3                 | -13.8                                 | 40.0             | 773.1                        | 627.6                     | 278.4                                  | 1.000177                  |
| 15000.0                        | 565.9                 | -15.1                                 | 41.1             | 763.5                        | 626.0                     | 278.2                                  | 1.000174                  |
| 15500.0                        | 554.7                 | -16.3                                 | 42.3             | 752.1                        | 624.5                     | 278.1                                  | 1.000172                  |
| 16000.0                        | 543.6                 | -17.6                                 | 45.0             | 740.7                        | 622.9                     | 278.1                                  | 1.000169                  |
| 16500.0                        | 532.6                 | -18.9                                 | 50.2             | 729.5                        | 621.3                     | 278.1                                  | 1.000167                  |
| 17000.0                        | 521.7                 | -20.3                                 | 55.3             | 718.4                        | 619.7                     | 278.1                                  | 1.000164                  |
| 17500.0                        | 511.2                 | -21.6                                 | 60.5             | 707.5                        | 618.1                     | 278.1                                  | 1.000162                  |
| 18000.0                        | 500.8                 | -22.9                                 | 65.6             | 696.8                        | 616.4                     | 278.1                                  | 1.000160                  |



STATION ALTITUDE 3489.00 FEET ASL  
4 MAR. 43  
ASCENSION NO. 117

LABORATORY LEVELS  
0630020117  
WHITE SANDS

GEODETIC COORDINATES  
12.400000 LAT NFG  
106.370000 LONG WFG

TABLE 8

| PRESSURE GEOPOTENTIAL |        | TEMPERATURE                  |                        | WET-BULB<br>PERCENT | WIND DATA                 |                |
|-----------------------|--------|------------------------------|------------------------|---------------------|---------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES<br>CENTIGRADE | DEWPOINT<br>CENTIGRADE |                     | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |
| 850.0                 | 4461.  | 7.9                          | -0.8                   | 54.                 | 262.7                     | 14.1           |
| 800.0                 | 6091.  | 3.7                          | -0.8                   | 72.                 | 266.1                     | 21.1           |
| 750.0                 | 7797.  | -1.2                         | -2.8                   | 84.                 | 271.7                     | 25.8           |
| 700.0                 | 9589.  | -5.0                         | -9.7                   | 74.                 | 274.1                     | 31.0           |
| 650.0                 | 11494. | -7.0                         | -18.4                  | 34.                 | 278.8                     | 30.5           |
| 600.0                 | 13526. | -11.4                        | -22.9                  | 34.                 | 278.7                     | 30.2           |
| 550.0                 | 15693. | -16.9                        | -26.5                  | 41.                 |                           |                |
| 500.0                 | 18014. | -23.0                        | -27.6                  | 64.                 |                           |                |

STATION ALTITUDE 3489.00 FEET MSL  
 6 MAR. 83  
 ASCENDING NO. 118

SIGNIFICANT LEVEL DATA  
 063002011M  
 WHITE SANDS

TABLE 9

| PRESSURE<br>MILLIBARS | GEOMETRIC<br>ALTITUDE<br>MSL FEET | TEMPERATURE    |                        | REF. HUM.<br>PERCENT |
|-----------------------|-----------------------------------|----------------|------------------------|----------------------|
|                       |                                   | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |
| 864.8                 | 3984.0                            | 12.8           | 2.6                    | 50.0                 |
| 850.0                 | 4462.1                            | 9.2            | -1.2                   | 48.0                 |
| 794.3                 | 6289.9                            | 3.8            | -2.4                   | 64.0                 |
| 736.4                 | 8273.1                            | -1.9           | -2.3                   | 97.0                 |
| 700.0                 | 9604.5                            | -5.4           | -5.7                   | 98.0                 |
| 672.7                 | 10631.3                           | -7.7           | -4.0                   | 98.0                 |
| 654.8                 | 11321.0                           | -8.2           | -4.5                   | 98.0                 |
| 637.1                 | 12017.1                           | -11.1          | -12.5                  | 89.0                 |
| 619.1                 | 12739.2                           | -12.3          | -14.4                  | 60.0                 |
| 559.2                 | 15271.2                           | -17.5          | -23.5                  | 59.0                 |
| 550.9                 | 15638.9                           | -18.3          | -23.2                  | 65.0                 |
| 526.4                 | 16750.7                           | -20.7          | -29.9                  | 43.0                 |
| 500.0                 | 17994.3                           | -23.8          | -39.4                  | 21.0                 |

STATION ALTITUDE 3489.00 FEET MSL  
 4 MAR. 43 1231 HRS MST  
 ASCENDING NO. 114

UPPER AIR DATA  
 0630020114  
 WHITE SANDS

GEODETIC COORDINATES  
 32-400431 LAT NFG  
 106-570331 LONG WFG

TABLE 10

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREE<br>CENTIGRADE | REL. HUM.<br>PERCENT | WIND DIRECTION<br>DEGREES (TN) | WIND DATA<br>SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|-----------------------------------------|----------------------|--------------------------------|-----------------------------|---------------------------|
|                                   |                       |                                         |                      |                                |                             |                           |
| 3994.0                            | 864.8                 | 12.8                                    | 50.0                 | 210.0                          | 12.0                        | 1.000268                  |
| 4000.0                            | 864.5                 | 12.7                                    | 50.0                 | 210.3                          | 12.0                        | 1.000268                  |
| 4500.0                            | 848.8                 | 9.1                                     | 48.3                 | 224.0                          | 12.5                        | 1.000269                  |
| 5000.0                            | 833.2                 | 7.6                                     | 52.7                 | 236.2                          | 13.6                        | 1.000266                  |
| 5500.0                            | 817.9                 | 6.1                                     | 57.1                 | 240.1                          | 15.2                        | 1.000263                  |
| 6000.0                            | 802.9                 | 4.7                                     | 61.5                 | 253.9                          | 17.2                        | 1.000260                  |
| 6500.0                            | 788.0                 | 3.2                                     | 67.5                 | 260.1                          | 19.4                        | 1.000257                  |
| 7000.0                            | 773.3                 | 1.8                                     | 75.8                 | 261.9                          | 20.7                        | 1.000254                  |
| 7500.0                            | 758.8                 | .3                                      | 84.1                 | 262.9                          | 21.8                        | 1.000251                  |
| 8000.0                            | 744.6                 | -1.1                                    | 92.5                 | 263.8                          | 22.9                        | 1.000249                  |
| 8500.0                            | 730.5                 | -2.5                                    | 97.2                 | 267.1                          | 23.7                        | 1.000245                  |
| 9000.0                            | 716.6                 | -3.8                                    | 97.5                 | 270.6                          | 24.7                        | 1.000239                  |
| 9500.0                            | 702.9                 | -5.1                                    | 97.9                 | 273.8                          | 25.7                        | 1.000235                  |
| 10000.0                           | 689.4                 | -6.3                                    | 98.0                 | 277.3                          | 26.6                        | 1.000230                  |
| 10500.0                           | 676.1                 | -7.4                                    | 98.0                 | 280.6                          | 27.6                        | 1.000216                  |
| 11000.0                           | 663.1                 | -8.0                                    | 98.0                 | 282.5                          | 29.0                        | 1.000211                  |
| 11500.0                           | 650.2                 | -8.9                                    | 95.7                 | 280.5                          | 31.7                        | 1.000207                  |
| 12000.0                           | 637.5                 | -11.0                                   | 89.2                 | 274.0                          | 33.9                        | 1.000201                  |
| 12500.0                           | 625.0                 | -11.9                                   | 69.6                 | 278.2                          | 34.7                        | 1.000195                  |
| 13000.0                           | 612.6                 | -12.8                                   | 59.9                 | 278.5                          | 35.8                        | 1.000190                  |
| 13500.0                           | 600.5                 | -13.9                                   | 59.7                 | 279.8                          | 37.1                        | 1.000187                  |
| 14000.0                           | 588.5                 | -14.9                                   | 59.5                 | 280.4                          | 39.4                        | 1.000183                  |
| 14500.0                           | 576.8                 | -15.9                                   | 59.3                 | 281.4                          | 39.4                        | 1.000180                  |
| 15000.0                           | 565.3                 | -16.9                                   | 59.1                 | 283.3                          | 35.8                        | 1.000177                  |
| 15500.0                           | 554.0                 | -18.0                                   | 62.7                 | 286.3                          | 31.4                        | 1.000174                  |
| 16000.0                           | 542.8                 | -19.1                                   | 57.9                 | 286.4                          | 29.4                        | 1.000170                  |
| 16500.0                           | 531.8                 | -20.2                                   | 48.0                 | 286.9                          | 33.0                        | 1.000167                  |
| 17000.0                           | 521.0                 | -21.3                                   | 38.6                 |                                |                             | 1.000163                  |
| 17500.0                           | 510.3                 | -22.6                                   | 29.7                 |                                |                             | 1.000160                  |

STATION ALTITUDE 3489.00 FEET MSL  
 4 MAR. 43  
 ASCENSION NO. 118

LABORATORY LEVELS  
 10.30020114  
 WHITE SANDS

GEODETIC COORDINATES  
 32.44043 LAT NFG  
 106.37033 LONG WFG

TABLE 11

| PRESSURE GEOPOTENTIAL<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | TEMPERATURE<br>DEWPOINT<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | WIND DATA                 |                |
|------------------------------------|---------------------------------------------|--------------------------------------------------|----------------------|---------------------------|----------------|
|                                    |                                             |                                                  |                      | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |
| 850.0                              | 4459.                                       | 9.2                                              | 44.                  | 223.0                     | 14.4           |
| 800.0                              | 6004.                                       | 4.4                                              | 62.                  | 255.2                     | 17.6           |
| 750.0                              | 7804.                                       | -6.                                              | 84.                  | 263.4                     | 22.4           |
| 700.0                              | 9599.                                       | -5.4                                             | 94.                  | 274.5                     | 25.9           |
| 650.0                              | 11477.                                      | -9.0                                             | 94.                  | 280.5                     | 31.7           |
| 600.0                              | 13509.                                      | -13.9                                            | 60.                  | 274.9                     | 37.2           |
| 550.0                              | 15660.                                      | -18.4                                            | 64.                  | 287.5                     | 24.9           |
| 500.0                              | 17970.                                      | -23.8                                            | 21.                  |                           |                |

STATION ALTITUDE 3989.00 FEET MSL  
4 MAR. 43 1341 HRS MST  
ASCENSION NO. 119

SIGNIFICANT LEVEL DATA  
0630020114  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT NFG  
106.37033 LONG WFG

TABLE 12

| PRESSURE<br>MILLIBARS | GEOMETRIC<br>ALTITUDE<br>MSL FEET | TEMPERATURE    |                        | REL. HUM.<br>PERCENT |
|-----------------------|-----------------------------------|----------------|------------------------|----------------------|
|                       |                                   | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |
| 863.5                 | 3989.0                            | 12.8           | 1.8                    | 47.0                 |
| 850.0                 | 4420.6                            | 8.9            | -1.2                   | 49.0                 |
| 826.2                 | 5190.0                            | 6.7            | -1.4                   | 56.0                 |
| 777.7                 | 6809.9                            | 2.3            | -3.2                   | 67.0                 |
| 756.6                 | 7538.0                            | .4             | -3.5                   | 75.0                 |
| 729.7                 | 8488.7                            | -2.1           | -4.1                   | 86.0                 |
| 700.0                 | 9571.3                            | -3.8           | -9.0                   | 67.0                 |
| 654.9                 | 11284.7                           | -8.7           | -12.3                  | 75.0                 |
| 616.9                 | 12798.3                           | -12.2          | -12.6                  | 97.0                 |
| 587.9                 | 14003.7                           | -14.7          | -15.1                  | 97.0                 |
| 500.0                 | 17970.1                           | -23.4          | -23.7                  | 97.0                 |

STATION ALTITUDE 3989.00 FEET MSL  
4 MAR. 43 1341 HRS MST  
ASCENSION NO. 119

UPPER AIR DATA  
0630020114  
WHITE SANDS

GEODETIC COORDINATES  
32.40043 LAT NFG  
106.37033 LON NFG

TABLE 14

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|----------------|------------------------|----------------------|------------------------------|----------------------------|--------------------------|----------------|---------------------------|
|                                   |                       | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |                              |                            | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |                           |
| 3989.0                            | 863.5                 | 12.8           | 1.8                    | 47.0                 | 1048.8                       | 659.8                      | 240.0                    | 18.1           | 1.000266                  |
| 4000.0                            | 863.2                 | 12.7           | 1.7                    | 47.1                 | 1048.7                       | 659.7                      | 240.1                    | 18.1           | 1.000266                  |
| 4500.0                            | 847.5                 | 8.7            | -1.2                   | 49.7                 | 1045.0                       | 654.8                      | 246.3                    | 19.6           | 1.000259                  |
| 5000.0                            | 832.0                 | 7.2            | -1.4                   | 54.3                 | 1031.1                       | 653.2                      | 251.5                    | 21.4           | 1.000256                  |
| 5500.0                            | 816.7                 | 5.9            | -1.7                   | 58.1                 | 1017.2                       | 651.5                      | 255.9                    | 23.3           | 1.000253                  |
| 6000.0                            | 801.6                 | 4.5            | -2.2                   | 61.5                 | 1003.3                       | 649.9                      | 259.7                    | 25.3           | 1.000249                  |
| 6500.0                            | 786.8                 | 3.1            | -2.8                   | 64.9                 | 989.6                        | 648.3                      | 262.8                    | 27.4           | 1.000245                  |
| 7000.0                            | 772.1                 | 1.8            | -3.2                   | 69.1                 | 976.0                        | 646.8                      | 265.5                    | 29.5           | 1.000242                  |
| 7500.0                            | 757.7                 | .5             | -3.5                   | 74.6                 | 962.3                        | 645.2                      | 267.9                    | 31.8           | 1.000238                  |
| 8000.0                            | 743.4                 | -.8            | -3.8                   | 80.3                 | 948.7                        | 643.7                      | 269.3                    | 32.5           | 1.000235                  |
| 8500.0                            | 729.4                 | -2.1           | -4.2                   | 85.8                 | 935.3                        | 642.1                      | 270.5                    | 32.7           | 1.000232                  |
| 9000.0                            | 715.5                 | -2.9           | -6.4                   | 77.0                 | 920.5                        | 641.1                      | 271.7                    | 32.9           | 1.000225                  |
| 9500.0                            | 701.9                 | -3.7           | -8.7                   | 68.3                 | 905.9                        | 640.1                      | 272.8                    | 33.0           | 1.000218                  |
| 10000.0                           | 688.4                 | -5.0           | -9.8                   | 69.0                 | 893.0                        | 638.4                      | 273.4                    | 33.7           | 1.000214                  |
| 10500.0                           | 675.2                 | -6.5           | -10.8                  | 71.3                 | 880.6                        | 636.7                      | 273.9                    | 34.5           | 1.000211                  |
| 11000.0                           | 662.2                 | -7.9           | -11.7                  | 73.7                 | 868.4                        | 635.0                      | 274.3                    | 35.3           | 1.000207                  |
| 11500.0                           | 649.4                 | -9.2           | -12.3                  | 78.1                 | 855.8                        | 633.4                      | 274.7                    | 36.1           | 1.000204                  |
| 12000.0                           | 636.7                 | -10.4          | -12.3                  | 85.4                 | 842.8                        | 632.0                      | 275.1                    | 36.8           | 1.000201                  |
| 12500.0                           | 624.2                 | -11.5          | -12.5                  | 92.7                 | 829.9                        | 630.6                      | 275.5                    | 37.4           | 1.000198                  |
| 13000.0                           | 611.9                 | -12.6          | -13.0                  | 97.0                 | 817.1                        | 629.3                      | 275.9                    | 37.9           | 1.000195                  |
| 13500.0                           | 599.8                 | -13.7          | -14.0                  | 97.0                 | 804.2                        | 628.0                      | 276.3                    | 38.5           | 1.000191                  |
| 14000.0                           | 588.0                 | -14.7          | -15.1                  | 97.0                 | 791.6                        | 626.7                      | 276.6                    | 39.1           | 1.000187                  |
| 14500.0                           | 576.1                 | -15.8          | -16.2                  | 97.0                 | 778.9                        | 625.3                      | 276.6                    | 39.7           | 1.000183                  |
| 15000.0                           | 564.5                 | -16.9          | -17.2                  | 97.0                 | 766.5                        | 624.0                      | 276.5                    | 40.4           | 1.000180                  |
| 15500.0                           | 553.1                 | -18.0          | -18.3                  | 97.0                 | 754.3                        | 622.6                      | 276.5                    | 41.0           | 1.000176                  |
| 16000.0                           | 541.9                 | -19.1          | -19.4                  | 97.0                 | 742.3                        | 621.3                      |                          |                | 1.000173                  |
| 16500.0                           | 530.9                 | -20.2          | -20.5                  | 97.0                 | 730.5                        | 619.4                      |                          |                | 1.000170                  |
| 17000.0                           | 520.2                 | -21.3          | -21.6                  | 97.0                 | 718.9                        | 618.5                      |                          |                | 1.000167                  |
| 17500.0                           | 509.7                 | -22.4          | -22.7                  | 97.0                 | 707.5                        | 617.2                      |                          |                | 1.000164                  |

STATION ALTITUDE 3489.00 FFFY MSL  
 4 MAR. 43  
 ASCENSION NO. 119

MANDATORY 15VFLS  
 0630820119  
 WHITE SANDS

TABLE 14

GEODETRIC COORDINATES  
 32.40043 LAT NFG  
 106.37033 LON NFG

| PRESSURE GFOPOTENTIAL |        | TEMPERATURE    |                        | WFL HUM. |  | WIND DATA                |                |
|-----------------------|--------|----------------|------------------------|----------|--|--------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE | PERCENT  |  | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |
| 850.0                 | 4418.  | 8.9            | -1.2                   | 49.      |  | 245.4                    | 19.4           |
| 800.0                 | 6051.  | 4.4            | -2.3                   | 62.      |  | 260.0                    | 25.5           |
| 750.0                 | 7762.  | -0.2           | -3.6                   | 74.      |  | 268.8                    | 32.5           |
| 700.0                 | 9562.  | -3.8           | -9.0                   | 67.      |  | 273.0                    | 33.1           |
| 650.0                 | 11464. | -9.1           | -12.3                  | 78.      |  | 274.6                    | 30.1           |
| 600.0                 | 13480. | -13.6          | -14.0                  | 97.      |  | 276.3                    | 38.5           |
| 550.0                 | 15633. | -18.3          | -18.6                  | 97.      |  |                          |                |
| 500.0                 | 17946. | -23.4          | -23.7                  | 97.      |  |                          |                |

GEODETIC COORDINATES  
 32.40175 LAT NFG  
 106.31232 LON NFG

SIGNIFICANT LEVEL DATA  
 06301A0032  
 LC-37

STATION ALTITUDE 4051.37 FFFT MSL  
 4 MAR. 63 1413 HRS MST  
 ASCENSION NO. 32

TABLE 15

| PRESSURE<br>MILLIHARS | GEOMETRIC<br>ALTITUDE<br>MSL FEET | TEMPERATURE    |                        | WFL. HUM.<br>PERCENT |
|-----------------------|-----------------------------------|----------------|------------------------|----------------------|
|                       |                                   | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |
| 862.0                 | 4051.4                            | 13.1           | 1.5                    | 45.0                 |
| 855.9                 | 4246.4                            | 10.2           | -1.8                   | 43.0                 |
| 850.0                 | 4435.3                            | 9.8            | -1.9                   | 44.0                 |
| 830.4                 | 5070.1                            | 8.3            | -1.8                   | 49.0                 |
| 763.2                 | 7335.1                            | 2.1            | -4.2                   | 63.0                 |
| 716.6                 | 8992.3                            | -2.9           | -4.5                   | 89.0                 |
| 700.0                 | 9601.5                            | -4.4           | -5.9                   | 89.0                 |
| 662.4                 | 11020.8                           | -8.7           | -9.0                   | 98.0                 |
| 653.2                 | 11377.7                           | -8.4           | -8.5                   | 99.0                 |
| 636.0                 | 12055.6                           | -10.9          | -11.7                  | 94.0                 |
| 593.0                 | 13813.2                           | -14.5          | -14.6                  | 99.0                 |
| 584.6                 | 14168.9                           | -14.5          | -14.7                  | 98.0                 |
| 543.0                 | 15996.6                           | -18.1          | -18.7                  | 95.0                 |
| 534.8                 | 16369.7                           | -19.4          | -20.4                  | 92.0                 |
| 500.0                 | 18000.2                           | -24.0          | -26.3                  | 81.0                 |



GEODETIC COORDINATES  
32°40'17.5" LAT NFG  
106°31'23.2" LON NFG

UPPER AIR DATA  
0630180032  
LC-37

TABLE 16

STATION ALTITUDE 4051.37 FFEET MSL  
4 MAR. 63 1413 HRS MST  
ASCENSION NO. 32

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup><br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|----------------|------------------------|----------------------|----------------------------------------|----------------------------|---------------------------|----------------|---------------------------|
|                                   |                       | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |                                        |                            | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 4051.4                            | 862.0                 | 13.1           | 1.5                    | 45.0                 | 1045.9                                 | 660.1                      | 150.0                     | 8.0            | 1.000264                  |
| 4500.0                            | 848.0                 | 9.6            | -1.8                   | 44.5                 | 1042.1                                 | 655.9                      | 177.0                     | 6.9            | 1.000257                  |
| 5000.0                            | 832.5                 | 8.5            | -1.8                   | 48.4                 | 1027.4                                 | 654.6                      | 208.0                     | 7.8            | 1.000255                  |
| 5500.0                            | 817.2                 | 7.1            | -2.1                   | 51.7                 | 1013.3                                 | 653.0                      | 228.1                     | 10.3           | 1.000251                  |
| 6000.0                            | 802.1                 | 5.8            | -2.6                   | 54.7                 | 999.5                                  | 651.4                      | 239.5                     | 13.6           | 1.000247                  |
| 6500.0                            | 787.3                 | 4.4            | -3.2                   | 57.8                 | 986.0                                  | 649.8                      | 246.3                     | 17.2           | 1.000243                  |
| 7000.0                            | 772.8                 | 3.0            | -3.8                   | 60.9                 | 972.6                                  | 648.1                      | 250.7                     | 21.0           | 1.000240                  |
| 7500.0                            | 758.4                 | 1.6            | -4.1                   | 65.6                 | 959.5                                  | 646.5                      | 253.8                     | 24.8           | 1.000236                  |
| 8000.0                            | 744.1                 | .1             | -4.1                   | 73.4                 | 946.6                                  | 644.7                      | 256.0                     | 28.7           | 1.000234                  |
| 8500.0                            | 730.1                 | -1.4           | -4.2                   | 81.3                 | 933.9                                  | 642.9                      | 258.2                     | 29.2           | 1.000231                  |
| 9000.0                            | 716.4                 | -2.9           | -4.5                   | 89.0                 | 921.4                                  | 641.2                      | 260.5                     | 28.4           | 1.000228                  |
| 9500.0                            | 702.7                 | -4.2           | -5.7                   | 89.0                 | 908.1                                  | 639.6                      | 262.9                     | 27.7           | 1.000223                  |
| 10000.0                           | 689.2                 | -5.6           | -6.8                   | 91.5                 | 895.6                                  | 637.9                      | 266.3                     | 27.9           | 1.000219                  |
| 10500.0                           | 676.0                 | -7.1           | -7.8                   | 94.7                 | 883.5                                  | 636.0                      | 270.2                     | 29.2           | 1.000215                  |
| 11000.0                           | 662.9                 | -8.6           | -8.9                   | 97.9                 | 871.5                                  | 634.2                      | 273.8                     | 30.5           | 1.000211                  |
| 11500.0                           | 650.1                 | -8.9           | -9.1                   | 98.1                 | 855.3                                  | 633.9                      | 277.5                     | 33.6           | 1.000207                  |
| 12000.0                           | 637.4                 | -10.7          | -11.4                  | 94.4                 | 844.8                                  | 631.6                      | 280.6                     | 37.0           | 1.000202                  |
| 12500.0                           | 624.8                 | -11.8          | -12.4                  | 95.3                 | 831.7                                  | 630.2                      | 282.0                     | 40.2           | 1.000198                  |
| 13000.0                           | 612.5                 | -12.8          | -13.2                  | 96.7                 | 818.6                                  | 629.0                      | 282.5                     | 43.4           | 1.000195                  |
| 13500.0                           | 600.4                 | -13.9          | -14.1                  | 98.1                 | 805.7                                  | 627.7                      | 282.8                     | 45.7           | 1.000191                  |
| 14000.0                           | 588.6                 | -14.5          | -14.7                  | 98.5                 | 791.7                                  | 626.9                      | 282.7                     | 46.9           | 1.000187                  |
| 14500.0                           | 576.8                 | -15.2          | -15.5                  | 97.5                 | 777.9                                  | 626.1                      | 282.6                     | 47.6           | 1.000184                  |
| 15000.0                           | 565.3                 | -16.1          | -16.5                  | 96.6                 | 765.4                                  | 624.9                      | 282.2                     | 46.3           | 1.000180                  |
| 15500.0                           | 554.0                 | -17.1          | -17.6                  | 95.8                 | 753.0                                  | 623.7                      | 281.8                     | 45.0           | 1.000177                  |
| 16000.0                           | 542.9                 | -18.1          | -18.7                  | 95.0                 | 740.9                                  | 622.5                      | 280.3                     | 44.5           | 1.000173                  |
| 16500.0                           | 531.9                 | -19.8          | -20.8                  | 91.1                 | 730.7                                  | 620.4                      | 278.6                     | 44.1           | 1.000170                  |
| 17000.0                           | 521.1                 | -21.2          | -22.7                  | 87.7                 | 719.9                                  | 618.6                      |                           |                | 1.000166                  |
| 17500.0                           | 510.4                 | -22.6          | -24.5                  | 84.4                 | 709.2                                  | 616.9                      |                           |                | 1.000163                  |
| 18000.0                           | 500.0                 | -24.0          | -26.3                  | 81.0                 | 698.7                                  | 615.1                      |                           |                | 1.000160                  |

STATION ALTITUDE 4051.37 FEET MS  
 4 MAR. 83 1413 HRS MST  
 ASCENSION NO. 32

MANDATORY LEVELS  
 0630180032  
 LC-37

GEODETTIC COORDINATES  
 32.40175 LAT NFG  
 106.31232 LON NFG

TABLE 17

| PRESSURE GEOPOTENTIAL |        | TEMPERATURE    |                        | REL. HUM. |  | WIND DATA                |                |
|-----------------------|--------|----------------|------------------------|-----------|--|--------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE | PERCENT   |  | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |
| 850.0                 | 4432.  | 9.8            | -1.9                   | 44.       |  | 172.5                    | 7.0            |
| 800.0                 | 6073.  | 5.6            | -2.7                   | 55.       |  | 240.7                    | 14.1           |
| 750.0                 | 7790.  | .7             | -4.1                   | 70.       |  | 255.2                    | 27.1           |
| 700.0                 | 9592.  | -4.4           | -5.9                   | 89.       |  | 263.4                    | 27.6           |
| 650.0                 | 11491. | -8.9           | -9.1                   | 98.       |  | 277.5                    | 33.6           |
| 600.0                 | 13505. | -13.9          | -14.1                  | 94.       |  | 282.8                    | 45.7           |
| 550.0                 | 15662. | -17.5          | -18.0                  | 96.       |  | 281.3                    | 44.8           |
| 500.0                 | 17976. | -24.0          | -26.3                  | 81.       |  |                          |                |

STATION ALTITUDE 4051.37 FFFT MSL  
4 MAR. 83 1525 HRS MST  
ASCENSION NO. 33

SIGNIFICANT LEVEL DATA  
06301400.33  
LC-37

GEOGRAPHIC COORDINATES  
32.40175 LAT NFG  
106.31232 LON NFG

TABLE 13

| PRESSURE  | GEOMETRIC<br>ALTITUDE | TEMPERATURE<br>AIR | DEWPOINT   | REL. HUM.<br>PERCENT |
|-----------|-----------------------|--------------------|------------|----------------------|
| MILLIHARS | MSL FEET              | DEGREES            | CENTIGRADE |                      |
| 861.5     | 4051.4                | 13.4               | 2.0        | 46.0                 |
| 850.0     | 4420.7                | 10.2               | -9         | 46.0                 |
| 794.0     | 6264.4                | 4.5                | -1.7       | 64.0                 |
| 773.0     | 6979.6                | 2.4                | -1.6       | 75.0                 |
| 744.0     | 7990.6                | -0.6               | -1.7       | 92.0                 |
| 700.0     | 9581.2                | -4.7               | -5.7       | 93.0                 |
| 656.9     | 11213.8               | -8.8               | -9.1       | 98.0                 |
| 598.9     | 13544.5               | -14.4              | -14.8      | 97.0                 |
| 590.5     | 13896.3               | -15.2              | -15.7      | 96.0                 |
| 582.3     | 14243.7               | -15.6              | -16.5      | 93.0                 |
| 555.2     | 15418.9               | -18.9              | -22.7      | 72.0                 |
| 538.6     | 16161.2               | -19.9              | -21.6      | 86.0                 |
| 515.9     | 17207.1               | -22.3              | -25.4      | 76.0                 |
| 500.0     | 17961.8               | -23.6              | -29.0      | 61.0                 |

STATION ALTITUDE 4051.37 FEET MSL  
4 MAR. 63 1525 HRS MST  
ASCENSION NO. 33

UPPER AIR DATA  
06301H0033  
LC-37

GEODETIC COORDINATES  
32.40175 LAT DEG  
106.31232 LON DEG

TABLE 19

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                |                | INITIAL<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|----------------------|------------------------------|----------------------------|--------------------------|----------------|-----------------------------|
|                                   |                       |                                             |                      |                              |                            | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |                             |
| 4051.4                            | 861.5                 | 13.4                                        | 46.0                 | 1044.1                       | 660.5                      | 220.0                    | 7.0            | 1.000265                    |
| 4500.0                            | 847.5                 | 10.0                                        | 46.8                 | 1040.2                       | 656.3                      | 225.7                    | 8.4            | 1.000259                    |
| 5000.0                            | 832.0                 | 8.4                                         | 51.7                 | 1026.7                       | 654.5                      | 230.1                    | 10.1           | 1.000256                    |
| 5500.0                            | 816.8                 | 6.9                                         | 56.5                 | 1013.5                       | 652.8                      | 233.2                    | 11.8           | 1.000253                    |
| 6000.0                            | 801.8                 | 5.3                                         | 61.4                 | 1000.5                       | 650.9                      | 235.6                    | 13.5           | 1.000250                    |
| 6500.0                            | 787.0                 | 3.8                                         | 67.6                 | 987.4                        | 649.2                      | 237.4                    | 15.2           | 1.000247                    |
| 7000.0                            | 772.4                 | 2.3                                         | 75.3                 | 974.1                        | 647.5                      | 245.0                    | 16.8           | 1.000244                    |
| 7500.0                            | 757.9                 | .9                                          | 83.8                 | 961.0                        | 645.8                      | 251.3                    | 18.6           | 1.000242                    |
| 8000.0                            | 743.7                 | -6                                          | 92.0                 | 948.1                        | 644.0                      | 256.5                    | 20.6           | 1.000239                    |
| 8500.0                            | 729.6                 | -1.9                                        | 92.3                 | 934.7                        | 642.4                      | 261.2                    | 21.8           | 1.000234                    |
| 9000.0                            | 715.8                 | -3.2                                        | 92.6                 | 921.5                        | 640.8                      | 265.6                    | 22.8           | 1.000229                    |
| 9500.0                            | 702.2                 | -4.5                                        | 92.9                 | 908.5                        | 639.3                      | 269.6                    | 23.9           | 1.000224                    |
| 10000.0                           | 688.7                 | -5.8                                        | 94.3                 | 895.4                        | 637.7                      | 273.2                    | 25.1           | 1.000219                    |
| 10500.0                           | 675.4                 | -7.0                                        | 95.8                 | 882.4                        | 636.2                      | 277.0                    | 26.3           | 1.000215                    |
| 11000.0                           | 662.4                 | -8.3                                        | 97.3                 | 869.6                        | 634.6                      | 280.5                    | 27.6           | 1.000211                    |
| 11500.0                           | 649.5                 | -9.5                                        | 97.9                 | 856.7                        | 633.1                      | 283.7                    | 29.0           | 1.000207                    |
| 12000.0                           | 636.7                 | -10.7                                       | 97.7                 | 843.8                        | 631.6                      | 286.1                    | 30.4           | 1.000203                    |
| 12500.0                           | 624.2                 | -11.9                                       | 97.4                 | 831.1                        | 630.2                      | 286.8                    | 31.3           | 1.000198                    |
| 13000.0                           | 612.0                 | -13.1                                       | 97.2                 | 818.7                        | 628.7                      | 287.4                    | 32.2           | 1.000195                    |
| 13500.0                           | 600.0                 | -14.3                                       | 97.0                 | 806.4                        | 627.2                      | 287.7                    | 33.3           | 1.000191                    |
| 14000.0                           | 588.0                 | -15.3                                       | 95.1                 | 793.6                        | 625.9                      | 287.4                    | 34.8           | 1.000187                    |
| 14500.0                           | 576.3                 | -16.3                                       | 88.4                 | 780.9                        | 624.6                      | 287.2                    | 36.2           | 1.000183                    |
| 15000.0                           | 564.7                 | -17.7                                       | 79.5                 | 769.6                        | 622.9                      | 285.2                    | 37.5           | 1.000178                    |
| 15500.0                           | 553.4                 | -19.0                                       | 73.5                 | 758.0                        | 621.3                      | 282.7                    | 38.7           | 1.000175                    |
| 16000.0                           | 542.2                 | -19.7                                       | 83.0                 | 744.6                        | 620.5                      | 279.3                    | 40.0           | 1.000172                    |
| 16500.0                           | 531.1                 | -20.7                                       | 82.8                 | 732.4                        | 614.2                      | 273.7                    | 41.4           | 1.000169                    |
| 17000.0                           | 520.3                 | -21.8                                       | 78.0                 | 720.8                        | 617.8                      |                          |                | 1.000166                    |
| 17500.0                           | 509.7                 | -22.8                                       | 70.2                 | 708.9                        | 616.6                      |                          |                | 1.000162                    |

STATION ALTITUDE 4051.37 FFFFT MSL  
4 MAR. 83 1525 HRS MST  
ASCENSION NO. 33

MANDATORY LEVELS  
0630180033  
LC-37

GEODETRIC COORDINATES  
32.40175 LAT DEG  
106.31232 LON DEG

TABLE 20

| PRESSURE GFOPOTENTIAL |        | TEMPERATURE                  |                        | WFL HUM. |  | WIND DATA                |                |
|-----------------------|--------|------------------------------|------------------------|----------|--|--------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES<br>CENTIGRADE | DEWPOINT<br>CENTIGRADE | PERCENT  |  | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |
| 850.0                 | 4418.  | 10.2                         | -9.9                   | 4h.      |  | 224.8                    | 8.2            |
| 800.0                 | 6058.  | 5.1                          | -1.5                   | 62.      |  | 235.8                    | 13.7           |
| 750.0                 | 7772.  | .0                           | -1.6                   | 88.      |  | 254.3                    | 19.7           |
| 700.0                 | 9572.  | -4.7                         | -5.7                   | 93.      |  | 270.2                    | 24.1           |
| 650.0                 | 11471. | -9.4                         | -9.7                   | 98.      |  | 283.0                    | 28.9           |
| 600.0                 | 13483. | -14.3                        | -14.7                  | 97.      |  | 287.7                    | 33.3           |
| 550.0                 | 15630. | -19.2                        | -22.3                  | 7h.      |  | 282.1                    | 39.1           |
| 500.0                 | 17937. | -23.6                        | -29.0                  | 61.      |  |                          |                |

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