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ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2  
12823AT LANCE, MISSILE NUMBER 3382, ROUND NUMBER 327ECL (8 MARC--ETC(U)  
MAR 79

UNCLASSIFIED

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| 4. TITLE (and Subtitle)<br>12823AT Lance,<br>Missile Number 3382.<br>Round Number 327ECL (8 March 1979).  |                       | 5. TYPE OF REPORT & PERIOD COVERED                             |
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| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br>Meteorological data gathered for the launching of 12823AT Lance, Missile<br>Number 3382, Round Number 327ECL, are presented in tabular form. |                       |  |

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## INTRODUCTION

12823AT , Missile Number 3382 , Round Number 327ECL  
was launched from Don Site, White Sands Missile Range (WSMR), New Mexico,  
at 0830 MST, 3 March 1979 . The scheduled launch time was  
0830 MST.

## 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 ( $\text{gm}/\text{m}^3$ ), wind direction, wind velocity and cloud cover were made at the Don Met Site at T-0 minutes.

(2) Anemometer data were provided from existing pole-mounted anemometer. 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 RAPTS T-9 pibal observation at T-10 mins and T-0 mins:

## SITE AND ALTITUDE

Don/9000 ft AGL

(2) Air structure data (rawinsonde) were collected at the following Met Sites. Data were collected from surface to 125% of apogee in 500-foot increments.

WSD 0830 MST  
HMN 0830 MST  
JAL 0820 MST

|                     |               |  |  |  |
|---------------------|---------------|--|--|--|
| Accession For       | NTIS GJ&I     |  |  |  |
|                     | DDC TAB       |  |  |  |
|                     | Unannounced   |  |  |  |
|                     | Justification |  |  |  |
| By                  |               |  |  |  |
| Distribution        |               |  |  |  |
| Availability Codes  |               |  |  |  |
| Availand/or special |               |  |  |  |
| Dist                |               |  |  |  |

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The data are presented in the following tabulations:

|                   |       |                   |
|-------------------|-------|-------------------|
| ELEVATION         | 3997  | FEET/MSL          |
| PRESSURE          | 877.9 | MBS               |
| TEMPERATURE       | 8.5   | °C                |
| RELATIVE HUMIDITY | 40    | %                 |
| DEW POINT         | -4.3  | °C                |
| DENSITY           | 1082  | GM/M <sup>3</sup> |
| WIND SPEED        | 05    | MPH               |
| WIND DIRECTION    | 300   | DEGREES           |
| CLOUD COVER       | Clear |                   |

TABLE I. SURFACE OBSERVATIONS TAKEN AT DON SITE  
AT 0830 MST/8 MARCH 1979  
12823 Lance, MISSILE NUMBER 3382  
ROUND NUMBER 327-ECL

OD 12823 Lance (FA), Missile Number 3382, Round Number 327ECL

| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| SUR              | 300                    | 0.5            |
| 100              | 240                    | 2.5            |
| 200              | Calm                   | Calm           |
| 300              | 265                    | 0.5            |
| 400              | 350                    | 1.0            |
| 500              | 346                    | 5.0            |
| 600              | 341                    | 9.0            |
| 700              | 328                    | 7.0            |
| 800              | 315                    | 5.0            |
| 900              | 275                    | 4.0            |
| 1000             | 235                    | 3.0            |
| 1100             | 218                    | 3.0            |
| 1200             | 200                    | 2.5            |
| 1300             | 272                    | 3.5            |
| 1400             | 344                    | 4.5            |
| 1500             | 352                    | 6.5            |
| 1600             | 359                    | 8.0            |
| 1700             | 358                    | 8.0            |
| 1800             | 357                    | 7.5            |
| 1900             | 346                    | 6.0            |
| 2000             | 335                    | 4.0            |

| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 2100             | 329                    | 4.5            |
| 2200             | 322                    | 4.5            |
| 2300             | 320                    | 4.5            |
| 2400             | 318                    | 4.5            |
| 2500             | 294                    | 3.0            |
| 2600             | 270                    | 1.0            |
| 2700             | 240                    | 2.5            |
| 2800             | 210                    | 3.5            |
| 2900             | 201                    | 3.5            |
| 3000             | 192                    | 3.5            |
| 3100             | 194                    | 3.0            |
| 3200             | 196                    | 2.0            |
| 3300             | 215                    | 2.5            |
| 3400             | 234                    | 3.0            |
| 3500             | 288                    | 3.0            |
| 3600             | 342                    | 3.0            |
| 3700             | 259                    | 2.5            |
| 3800             | 175                    | 2.0            |
| 3900             | 204                    | 3.0            |
| 4000             | 232                    | 3.5            |
| 4100             | 244                    | 4.5            |

TABLE II. PILOT-BALLOON-MEASURED WIND DATA,  
RELEASED FROM DON SITE AT 0822 MST, 8 March 1979,  
12823 Lance (FA), MISSILE NUMBER 3382, ROUND NUMBER 327ECL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 511,988.37

Y = 247,396.36

Z = 3996.83



| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 4200             | 255                    | 5.0            |
| 4300             | 262                    | 5.5            |
| 4400             | 269                    | 5.5            |
| 4500             | 272                    | 5.5            |
| 4600             | 275                    | 5.5            |
| 4700             | 293                    | 7.5            |
| 4800             | 311                    | 9.5            |
| 4900             | 311                    | 10.5           |
| 5000             | 310                    | 11.0           |
| 5100             | 314                    | 12.5           |
| 5200             | 318                    | 14.0           |
| 5300             | 312                    | 13.5           |
| 5400             | 306                    | 12.5           |
| 5500             | 302                    | 12.0           |
| 5600             | 297                    | 11.0           |
| 5700             | 301                    | 11.5           |
| 5800             | 304                    | 12.0           |
| 5900             | 301                    | 13.0           |
| 6000             | 297                    | 13.5           |
| 6100             | 299                    | 13.5           |
| 6200             | 300                    | 13.0           |

TABLE II

| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 6300             | 327                    | 11.0           |
| 6400             | 353                    | 8.5            |
| 6500             | 332                    | 11.0           |
| 6600             | 311                    | 13.5           |
| 6700             | 314                    | 13.5           |
| 6800             | 316                    | 13.5           |
| 6900             | 318                    | 14.5           |
| 7000             | 320                    | 15.0           |
| 7100             | 320                    | 14.5           |
| 7200             | 320                    | 14.0           |
| 7300             | 319                    | 14.0           |
| 7400             | 317                    | 13.5           |
| 7500             | 315                    | 14.0           |
| 7600             | 313                    | 14.0           |
| 7700             | 310                    | 13.0           |
| 7800             | 306                    | 12.0           |
| 7900             | 307                    | 12.5           |
| 8000             | 307                    | 12.5           |
| 8100             | 304                    | 12.5           |
| 8200             | 300                    | 12.0           |
| 8300             | 302                    | 12.5           |

| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 8400             | 303                    | 13.0           |
| 8500             | 298                    | 12.5           |
| 8600             | 292                    | 11.5           |
| 8700             | 294                    | 12.0           |
| 8800             | 295                    | 12.0           |
| 8900             | 296                    | 12.5           |
| 9000             | 296                    | 13.0           |
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| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
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|                  |                        |                |

TABLE II.

| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| SUR              | 300                    | 5.0            |
| 100              | 330                    | 2.5            |
| 200              | Calm                   | Calm           |
| 300              | 352                    | 0.5            |
| 400              | 343                    | 1.0            |
| 500              | 337                    | 4.5            |
| 600              | 331                    | 7.5            |
| 700              | 317                    | 5.5            |
| 800              | 302                    | 3.5            |
| 900              | 300                    | 3.0            |
| 1000             | 298                    | 2.0            |
| 1100             | 354                    | 2.0            |
| 1200             | 050                    | 1.5            |
| 1300             | 025                    | 3.5            |
| 1400             | 359                    | 5.5            |
| 1500             | 002                    | 5.5            |
| 1600             | 004                    | 5.0            |
| 1700             | 003                    | 4.5            |
| 1800             | 002                    | 3.5            |
| 1900             | 355                    | 5.0            |
| 2000             | 347                    | 6.5            |

| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 2100             | 336                    | 5.5            |
| 2200             | 324                    | 4.0            |
| 2300             | 338                    | 4.0            |
| 2400             | 352                    | 3.5            |
| 2500             | 275                    | 3.0            |
| 2600             | 198                    | 2.5            |
| 2700             | 189                    | 4.5            |
| 2800             | 179                    | 6.0            |
| 2900             | 181                    | 4.5            |
| 3000             | 182                    | 3.0            |
| 3100             | 186                    | 2.5            |
| 3200             | 189                    | 1.5            |
| 3300             | 185                    | 3.0            |
| 3400             | 181                    | 4.5            |
| 3500             | 198                    | 4.5            |
| 3600             | 215                    | 4.0            |
| 3700             | 217                    | 4.0            |
| 3800             | 219                    | 3.5            |
| 3900             | 257                    | 4.0            |
| 4000             | 295                    | 4.5            |
| 4100             | 299                    | 5.0            |

TABLE III. PILOT-BALLOON-MEASURED WIND DATA RELEASED FROM DON SITE  
 AT 0833 MST/8 MARCH 1979, 12823 LANCE (FA) MISSILE NUMBER 3382  
 ROUND NUMBER 327 ECL.

| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 4200             | 303                    | 5.5            |
| 4300             | 296                    | 6.0            |
| 4400             | 288                    | 6.0            |
| 4500             | 295                    | 8.5            |
| 4600             | 301                    | 10.5           |
| 4700             | 304                    | 10.0           |
| 4800             | 306                    | 9.5            |
| 4900             | 306                    | 10.0           |
| 5000             | 305                    | 10.0           |
| 5100             | 307                    | 11.0           |
| 5200             | 308                    | 11.5           |
| 5300             | 302                    | 11.5           |
| 5400             | 296                    | 11.5           |
| 5500             | 294                    | 11.0           |
| 5600             | 292                    | 10.5           |
| 5700             | 294                    | 11.5           |
| 5800             | 295                    | 12.5           |
| 5900             | 301                    | 12.5           |
| 6000             | 306                    | 12.0           |
| 6100             | 308                    | 12.5           |
| 6200             | 310                    | 13.0           |

TABLE III.

| HEIGHT<br>(Feet) | DIRECTION<br>(Degrees) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 6300             | 309                    | 14.5           |
| 6400             | 308                    | 15.5           |
| 6500             | 312                    | 14.5           |
| 6600             | 316                    | 13.0           |
| 6700             | 315                    | 13.0           |
| 6800             | 314                    | 13.0           |
| 6900             | 315                    | 14.0           |
| 7000             | 315                    | 14.5           |
| 7100             | 321                    | 16.0           |
| 7200             | 326                    | 17.0           |
| 7300             | 323                    | 16.0           |
| 7400             | 320                    | 15.0           |
| 7500             | 323                    | 14.5           |
| 7600             | 325                    | 13.5           |
| 7700             | 323                    | 14.0           |
| 7800             | 321                    | 14.0           |
| 7900             | 320                    | 14.5           |
| 8000             | 319                    | 14.5           |
| 8100             | 312                    | 14.0           |
| 8200             | 305                    | 13.0           |
| 8300             | 305                    | 14.0           |



| ANEMOMETER HEIGHT 50 FT. |            |              |
|--------------------------|------------|--------------|
| T-TIME                   | DIR<br>DEG | SPEED<br>MPH |
| -30                      | 360        | 3.0          |
| -20                      | 354        | 2.5          |
| -10                      | 348        | 3.5          |
| 0.0                      | 357        | 2.0          |
| +10                      | 353        | 1.0          |

TABLE IV. DON SITE FIXED POLE ANEMOMETER  
MEASURED WINDS

TYPE LANCE MISSILE NO. 3382 ROUND NO. 327ECL  
LAUNCHED FROM DON SITE, 8 MARCH 1979, 0830 LST  
NOTE: WIND DIRECTIONS ARE REFERENCED TO TRUE NORTH.

STATION ALTITUDE 3989.00 FEET MSL  
 8 MAR. 79 0630 HRS MST  
 ASCENSION NO. 117

SIGNIFICANT LEVEL DATA  
 0670020117  
 WHITE SANDS

GEODETTIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

| PRESSURE<br>MILLIBARS | GEOMETRIC<br>ALTITUDE<br>MSL FEET | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT |
|-----------------------|-----------------------------------|---|----------------------|
| 678.6                 | 3989.0                            | 9.0   | 44.0                 |
| 664.2                 | 4437.4                            | 7.9   | 34.0                 |
| 650.0                 | 4840.2                            | 13.0  | 28.0                 |
| 607.2                 | 6314.6                            | 12.8  | 29.0                 |
| 748.6                 | 6372.0                            | 9.3   | 30.0                 |
| 760.0                 | 10194.2                           | 5.6   | 18.0                 |
| 637.8                 | 12504.1                           | -8  | 18.0                 |
| 543.5                 | 16308.0                           | -9.0  | 18.0                 |
| 500.0                 | 18902.8                           | -13.7                                       | 20.0                 |
| 457.6                 | 21046.4                           | -18.8                                       | 26.0                 |
| 400.0                 | 24346.3                           | -26.2                                       | 23.0                 |
| 334.6                 | 28512.1                           | -36.0                                       | 23.0                 |
| 300.0                 | 30973.4                           | -42.6                                       |                      |
| 263.4                 | 33820.6                           | -49.9                                       |                      |
| 250.0                 | 34942.8                           | -50.8                                       |                      |
| 233.0                 | 36440.9                           | -54.5                                       |                      |
| 223.0                 | 37364.7                           | -55.3                                       |                      |
| 218.0                 | 37843.5                           | -53.3                                       |                      |
| 213.4                 | 38296.6                           | -52.7                                       |                      |
| 206.0                 | 39575.1                           | -53.1                                       |                      |
| 185.6                 | 41258.9                           | -54.0                                       |                      |
| 163.2                 | 43328.2                           | -56.6                                       |                      |
| 160.0                 | 44371.0                           | -57.3                                       |                      |
| 150.0                 | 45709.0                           | -59.6                                       |                      |
| 140.6                 | 47036.9                           | -61.8                                       |                      |
| 122.6                 | 49827.0                           | -62.8                                       |                      |
| 103.8                 | 52253.7                           | -66.3                                       |                      |
| 102.4                 | 53444.1                           | -66.8                                       |                      |
| 100.0                 | 53915.7                           | -68.0                                       |                      |
| 89.4                  | 56128.0                           | -67.9                                       |                      |
| 80.4                  | 58267.6                           | -63.2                                       |                      |
| 70.0                  | 61046.3                           | -67.9                                       |                      |
| 68.4                  | 61542.9                           | -62.9                                       |                      |
| 50.0                  | 67947.3                           | -58.9                                       |                      |
| 30.0                  | 78578.7                           | -57.5                                       |                      |
| 21.6                  | 85491.5                           | -50.5                                       |                      |

UPPER AIR DATA  
 0670020117  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 8 MAP, 79  
 0630 HRS MST  
 ASCENSION NO. 117

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | AIR TEMPERATURE DEGREES CENTIGRADE | DEWPOINT TEMPERATURE DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DIRECTION DEGREES(TN) | WIND SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|------------------------------------|---|-------------------|------------------------|----------------------|----------------------------|------------------|---------------------|
| 3989.0                      | 876.6              | 9.0                                | -2.6                                    | 44.0              | 1082.4                 | 655.1                | 30.0                       | 1.9              | 1.000265            |
| 4000.0                      | 878.2              | 9.0                                | -2.7                                    | 43.8              | 1082.1                 | 655.1                |                            |                  | 1.000265            |
| 4500.0                      | 802.2              | 8.5                                | -6.7                                    | 33.2              | 1064.3                 | 654.5                |                            |                  | 1.000255            |
| 5000.0                      | 846.6              | 13.0                               | -5.0                                    | 23.1              | 1023.8                 | 659.6                |                            |                  | 1.000249            |
| 5500.0                      | 831.4              | 12.9                               | -4.9                                    | 28.4              | 1010.5                 | 659.5                |                            |                  | 1.000245            |
| 6000.0                      | 816.5              | 12.8                               | -4.8                                    | 28.8              | 992.6                  | 659.5                |                            |                  | 1.000241            |
| 6500.0                      | 801.8              | 12.5                               | -5.0                                    | 29.1              | 975.9                  | 659.1                |                            |                  | 1.000237            |
| 7000.0                      | 787.3              | 11.6                               | -5.6                                    | 29.3              | 951.2                  | 658.1                |                            |                  | 1.000233            |
| 7500.0                      | 773.0              | 10.8                               | -6.3                                    | 29.6              | 946.7                  | 657.1                |                            |                  | 1.000229            |
| 8000.0                      | 759.0              | 9.9                                | -6.9                                    | 29.8              | 932.4                  | 656.1                |                            |                  | 1.000225            |
| 8500.0                      | 745.3              | 9.0                                | -8.0                                    | 29.2              | 918.5                  | 655.0                |                            |                  | 1.000221            |
| 9000.0                      | 731.6              | 8.0                                | -10.3                                   | 25.9              | 905.1                  | 653.7                |                            |                  | 1.000215            |
| 9500.0                      | 718.2              | 7.0                                | -12.9                                   | 22.6              | 892.0                  | 652.5                |                            |                  | 1.000210            |
| 10000.0                     | 705.0              | 6.0                                | -15.7                                   | 19.3              | 879.0                  | 651.2                |                            |                  | 1.000205            |
| 10500.0                     | 692.0              | 4.8                                | -17.5                                   | 18.0              | 866.5                  | 649.8                | 282.9                      | 21.8             | 1.000201            |
| 11000.0                     | 679.1              | 3.5                                | -18.5                                   | 18.0              | 854.4                  | 648.2                | 279.3                      | 22.6             | 1.000197            |
| 11500.0                     | 666.4              | 2.2                                | -19.6                                   | 18.0              | 842.4                  | 646.7                | 277.7                      | 22.7             | 1.000194            |
| 12000.0                     | 654.0              | .9                                 | -20.7                                   | 18.0              | 830.7                  | 645.2                | 280.0                      | 21.5             | 1.000191            |
| 12500.0                     | 641.8              | -4                                 | -21.7                                   | 18.0              | 819.1                  | 643.6                | 281.8                      | 21.2             | 1.000188            |
| 13000.0                     | 629.6              | -1.5                               | -22.6                                   | 18.0              | 806.8                  | 642.3                | 283.2                      | 21.5             | 1.000185            |
| 13500.0                     | 617.5              | -2.5                               | -23.5                                   | 18.0              | 794.2                  | 641.1                | 283.4                      | 23.2             | 1.000182            |
| 14000.0                     | 605.7              | -3.4                               | -24.3                                   | 18.0              | 781.9                  | 640.0                | 283.4                      | 25.0             | 1.000179            |
| 14500.0                     | 594.1              | -4.4                               | -25.1                                   | 18.0              | 769.8                  | 638.8                | 284.6                      | 25.8             | 1.000175            |
| 15000.0                     | 582.7              | -5.4                               | -25.9                                   | 18.0              | 757.8                  | 637.6                | 285.7                      | 26.6             | 1.000173            |
| 15500.0                     | 571.5              | -6.4                               | -26.8                                   | 18.0              | 745.1                  | 636.4                | 285.9                      | 26.7             | 1.000170            |
| 16000.0                     | 560.6              | -7.4                               | -27.6                                   | 18.0              | 734.5                  | 635.2                | 286.2                      | 27.0             | 1.000167            |
| 16500.0                     | 549.8              | -8.4                               | -28.4                                   | 18.0              | 723.1                  | 634.0                | 286.7                      | 27.7             | 1.000164            |
| 17000.0                     | 539.2              | -9.4                               | -29.2                                   | 18.0              | 712.0                  | 632.8                | 287.1                      | 28.5             | 1.000162            |
| 17500.0                     | 528.6              | -10.6                              | -29.8                                   | 18.7              | 701.0                  | 631.4                | 287.3                      | 29.9             | 1.000159            |
| 18000.0                     | 518.2              | -11.7                              | -30.5                                   | 19.1              | 690.2                  | 630.1                | 287.6                      | 31.2             | 1.000156            |
| 18500.0                     | 508.0              | -12.8                              | -31.2                                   | 19.6              | 679.6                  | 628.7                | 288.3                      | 32.2             | 1.000154            |
| 19000.0                     | 498.0              | -13.9                              | -31.8                                   | 20.2              | 669.1                  | 627.3                | 289.2                      | 33.0             | 1.000151            |
| 19500.0                     | 488.1              | -15.1                              | -32.1                                   | 21.6              | 658.7                  | 625.9                | 290.5                      | 32.6             | 1.000149            |
| 20000.0                     | 478.3              | -16.3                              | -32.5                                   | 23.0              | 648.4                  | 624.5                | 291.9                      | 30.2             | 1.000144            |
| 20500.0                     | 468.8              | -17.4                              | -32.9                                   | 24.4              | 638.4                  | 623.1                | 294.2                      | 27.4             | 1.000142            |
| 21000.0                     | 459.4              | -18.6                              | -33.4                                   | 25.7              | 628.4                  | 621.7                | 296.1                      | 25.6             | 1.000140            |
| 21500.0                     | 450.0              | -19.7                              | -34.4                                   | 25.6              | 618.4                  | 620.3                | 298.1                      | 26.7             | 1.000137            |
| 22000.0                     | 440.8              | -20.9                              | -35.6                                   | 25.2              | 608.5                  | 618.9                | 293.5                      | 27.2             | 1.000135            |
| 22500.0                     | 431.6              | -22.0                              | -36.7                                   | 24.7              | 598.6                  | 617.5                | 290.5                      | 27.4             | 1.000133            |
| 23000.0                     | 422.9              | -23.1                              | -37.9                                   | 24.2              | 589.2                  | 616.1                | 288.7                      | 27.9             | 1.000133            |

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



UPPER AIR DATA  
 067002Z117  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 8 NAF. 79  
 0630 HRS MST  
 ASCENSION NO. 117

GEOMETRIC ALTITUDE 3989.00 FEET MSL  
 8 NAF. 79  
 0630 HRS MST  
 ASCENSION NO. 117

GEOMETRIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

| GEOMETRIC ALTITUDE MS - FEET | PRESSURE MILLIBARS | AIR TEMPERATURE DEGREES CENTIGRADE | TEMPERATURE DEWPOINT | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | SPEED OF WIND DIRECTION (TM) DEGREES | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|------------------------------|--------------------|------------------------------------|----------------------|-------------------|------------------------|----------------------|--------------------------------------|-----------------------|---------------------|
| 4350.0                       | 414.3              | -24.3                              | -39.1                | 23.8              | 579.8                  | 614.6                | 289.2                                | 28.8                  | 1.000130            |
| 4300.0                       | 405.8              | -25.4                              | -40.2                | 23.3              | 570.5                  | 613.2                | 289.7                                | 29.3                  | 1.000128            |
| 4250.0                       | 397.4              | -26.6                              | -41.4                | 23.0              | 561.3                  | 611.8                | 290.4                                | 29.2                  | 1.000126            |
| 4200.0                       | 388.9              | -27.7                              | -42.4                | 23.0              | 552.0                  | 610.3                | 290.3                                | 30.6                  | 1.000124            |
| 4150.0                       | 380.7              | -28.9                              | -43.4                | 23.0              | 542.9                  | 608.9                | 289.8                                | 33.4                  | 1.000122            |
| 4100.0                       | 372.6              | -30.1                              | -44.4                | 23.0              | 534.0                  | 607.4                | 288.4                                | 35.4                  | 1.000120            |
| 4050.0                       | 364.7              | -31.3                              | -45.4                | 23.0              | 525.2                  | 605.9                | 286.7                                | 36.9                  | 1.000118            |
| 4000.0                       | 357.0              | -32.4                              | -46.5                | 23.0              | 516.6                  | 604.4                | 285.9                                | 37.2                  | 1.000116            |
| 3950.0                       | 349.4              | -33.6                              | -47.5                | 23.0              | 508.2                  | 603.0                | 279.8                                | 36.2                  | 1.000114            |
| 3900.0                       | 342.0              | -34.8                              | -48.5                | 23.0              | 499.8                  | 601.5                | 276.3                                | 35.3                  | 1.000112            |
| 3850.0                       | 334.8              | -36.0                              | -49.5                | 23.0              | 491.7                  | 600.0                | 275.1                                | 34.3                  | 1.000110            |
| 3800.0                       | 327.4              | -37.3                              | -52.6                | 18.4**            | 483.6                  | 598.3                | 274.3                                | 33.1                  | 1.000108            |
| 3750.0                       | 320.3              | -38.6                              | -56.1                | 13.8**            | 475.7                  | 596.6                | 277.9                                | 31.8                  | 1.000106            |
| 3700.0                       | 313.2              | -40.0                              | -60.4                | 9.1**             | 468.0                  | 594.9                | 281.7                                | 30.5                  | 1.000104            |
| 3650.0                       | 306.4              | -41.3                              | -66.8                | 4.4**             | 460.4                  | 593.2                | 284.3                                | 31.0                  | 1.000103            |
| 3600.0                       | 299.6              | -42.7                              |                      |                   | 452.9                  | 591.4                | 288.8                                | 31.5                  | 1.000101            |
| 3550.0                       | 292.9              | -44.0                              |                      |                   | 445.1                  | 589.8                | 290.8                                | 31.7                  | 1.000099            |
| 3500.0                       | 286.3              | -45.2                              |                      |                   | 437.5                  | 588.1                | 294.9                                | 31.9                  | 1.000097            |
| 3450.0                       | 279.8              | -46.5                              |                      |                   | 430.1                  | 586.5                | 298.8                                | 33.6                  | 1.000096            |
| 3400.0                       | 273.5              | -47.8                              |                      |                   | 422.7                  | 584.8                | 298.1                                | 35.5                  | 1.000094            |
| 3350.0                       | 267.3              | -49.1                              |                      |                   | 415.6                  | 583.2                | 294.4                                | 37.0                  | 1.000093            |
| 3300.0                       | 261.2              | -50.0                              |                      |                   | 407.9                  | 581.9                | 289.4                                | 38.6                  | 1.000091            |
| 3250.0                       | 255.2              | -50.4                              |                      |                   | 399.2                  | 581.4                | 285.9                                | 38.4                  | 1.000089            |
| 3200.0                       | 249.3              | -50.9                              |                      |                   | 390.9                  | 580.7                | 277.6                                | 37.7                  | 1.000087            |
| 3150.0                       | 243.5              | -52.2                              |                      |                   | 383.9                  | 579.1                | 273.9                                | 37.3                  | 1.000086            |
| 3100.0                       | 237.9              | -53.4                              |                      |                   | 377.1                  | 577.5                | 271.6                                | 37.0                  | 1.000084            |
| 3050.0                       | 232.3              | -54.6                              |                      |                   | 370.3                  | 576.0                | 270.9                                | 39.1                  | 1.000082            |
| 3000.0                       | 226.9              | -55.0                              |                      |                   | 362.3                  | 575.4                | 271.7                                | 43.3                  | 1.000081            |
| 2950.0                       | 221.6              | -54.7                              |                      |                   | 353.4                  | 575.8                | 272.6                                | 49.8                  | 1.000079            |
| 2900.0                       | 216.4              | -53.1                              |                      |                   | 342.6                  | 577.9                | 273.4                                | 58.2                  | 1.000076            |
| 2850.0                       | 211.4              | -52.8                              |                      |                   | 334.1                  | 578.4                | 274.5                                | 63.1                  | 1.000074            |
| 2800.0                       | 206.5              | -52.9                              |                      |                   | 326.5                  | 578.2                | 275.8                                | 65.6                  | 1.000073            |
| 2750.0                       | 201.7              | -53.0                              |                      |                   | 319.2                  | 578.0                | 277.1                                | 67.1                  | 1.000071            |
| 2700.0                       | 197.0              | -53.3                              |                      |                   | 312.1                  | 577.7                | 278.4                                | 67.2                  | 1.000069            |
| 2650.0                       | 192.4              | -53.6                              |                      |                   | 305.2                  | 577.3                | 279.7                                | 67.4                  | 1.000068            |
| 2600.0                       | 187.9              | -53.9                              |                      |                   | 298.5                  | 576.9                | 280.7                                | 68.5                  | 1.000066            |
| 2550.0                       | 183.5              | -54.3                              |                      |                   | 292.1                  | 576.3                | 281.6                                | 69.6                  | 1.000065            |
| 2500.0                       | 179.2              | -55.0                              |                      |                   | 286.1                  | 575.4                | 282.2                                | 71.7                  | 1.000064            |
| 2450.0                       | 175.0              | -55.7                              |                      |                   | 280.3                  | 574.5                | 282.5                                | 74.4                  | 1.000062            |
| 2400.0                       | 170.8              | -56.4                              |                      |                   | 274.5                  | 573.6                | 282.8                                | 76.7                  | 1.000061            |

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

UPPER AIR DATA  
 0670020117  
 WHITE SANDS

STATION ALTITUDE 3989.00 FEET MSL  
 8 MAR. 79 0630 HRS MST  
 ASCENSION NO. 117

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES | DEWPOINT DEGREES | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DIRECTION DEGREES (TI) | WIND SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|-------------------------|------------------|-------------------|------------------------|----------------------|-----------------------------|------------------|---------------------|
| 4350.0                      | 166.8              | -56.9                   |                  |                   | 268.7                  | 572.9                | 283.2                       | 76.8             | 1.000060            |
| 4400.0                      | 162.9              | -57.1                   |                  |                   | 262.6                  | 572.6                | 283.6                       | 76.9             | 1.000059            |
| 4450.0                      | 159.0              | -57.5                   |                  |                   | 255.9                  | 572.1                | 283.2                       | 75.1             | 1.000057            |
| 4500.0                      | 155.2              | -58.4                   |                  |                   | 251.8                  | 570.9                | 282.7                       | 73.2             | 1.000056            |
| 4550.0                      | 151.5              | -59.2                   |                  |                   | 246.8                  | 569.8                | 281.6                       | 74.1             | 1.000055            |
| 4600.0                      | 147.9              | -60.1                   |                  |                   | 241.8                  | 568.7                | 280.3                       | 76.5             | 1.000054            |
| 4650.0                      | 144.3              | -60.9                   |                  |                   | 235.9                  | 567.6                | 279.7                       | 77.1             | 1.000053            |
| 4700.0                      | 140.9              | -61.7                   |                  |                   | 232.1                  | 566.4                | 280.0                       | 75.6             | 1.000052            |
| 4750.0                      | 137.4              | -62.0                   |                  |                   | 225.7                  | 566.1                | 280.3                       | 73.9             | 1.000050            |
| 4800.0                      | 134.1              | -62.1                   |                  |                   | 221.4                  | 565.9                | 281.1                       | 72.0             | 1.000049            |
| 4850.0                      | 130.9              | -62.3                   |                  |                   | 216.2                  | 565.7                | 281.9                       | 70.2             | 1.000048            |
| 4900.0                      | 127.7              | -62.5                   |                  |                   | 211.2                  | 565.4                | 282.8                       | 70.2             | 1.000047            |
| 4950.0                      | 124.5              | -62.7                   |                  |                   | 206.2                  | 565.2                | 283.7                       | 70.2             | 1.000045            |
| 5000.0                      | 121.6              | -63.1                   |                  |                   | 201.5                  | 564.7                | 284.3                       | 68.5             | 1.000045            |
| 5050.0                      | 118.6              | -63.8                   |                  |                   | 197.3                  | 564.7                | 284.8                       | 66.0             | 1.000044            |
| 5100.0                      | 115.7              | -64.5                   |                  |                   | 193.1                  | 562.7                | 285.2                       | 63.5             | 1.000043            |
| 5150.0                      | 112.8              | -65.2                   |                  |                   | 189.1                  | 561.7                | 285.4                       | 61.1             | 1.000042            |
| 5200.0                      | 110.1              | -66.0                   |                  |                   | 185.1                  | 560.8                | 285.7                       | 58.6             | 1.000041            |
| 5250.0                      | 107.4              | -66.4                   |                  |                   | 180.9                  | 560.2                | 286.0                       | 57.5             | 1.000040            |
| 5300.0                      | 104.7              | -66.6                   |                  |                   | 176.6                  | 559.9                | 286.4                       | 56.7             | 1.000039            |
| 5350.0                      | 102.1              | -66.9                   |                  |                   | 172.5                  | 559.4                | 287.2                       | 55.2             | 1.000038            |
| 5400.0                      | 99.6               | -68.0                   |                  |                   | 169.1                  | 558.0                | 287.5                       | 56.3             | 1.000037            |
| 5450.0                      | 97.1               | -68.0                   |                  |                   | 164.9                  | 558.0                | 288.0                       | 54.8             | 1.000036            |
| 5500.0                      | 94.7               | -68.0                   |                  |                   | 160.7                  | 558.1                | 288.6                       | 52.8             | 1.000035            |
| 5550.0                      | 92.3               | -67.9                   |                  |                   | 156.7                  | 558.1                | 289.4                       | 49.6             | 1.000034            |
| 5600.0                      | 90.0               | -67.9                   |                  |                   | 152.8                  | 558.1                | 290.4                       | 44.3             | 1.000033            |
| 5650.0                      | 87.8               | -67.1                   |                  |                   | 148.4                  | 559.2                | 291.6                       | 39.1             | 1.000032            |
| 5700.0                      | 85.6               | -66.0                   |                  |                   | 144.0                  | 560.7                | 292.0                       | 33.6             | 1.000031            |
| 5750.0                      | 83.5               | -64.9                   |                  |                   | 139.7                  | 562.2                | 292.6                       | 28.1             | 1.000030            |
| 5800.0                      | 81.5               | -63.8                   |                  |                   | 135.6                  | 563.7                | 291.4                       | 24.2             | 1.000029            |
| 5850.0                      | 79.5               | -63.6                   |                  |                   | 132.1                  | 564.0                | 289.4                       | 20.7             | 1.000029            |
| 5900.0                      | 77.5               | -64.4                   |                  |                   | 128.4                  | 564.0                | 288.0                       | 18.3             | 1.000028            |
| 5950.0                      | 75.6               | -65.3                   |                  |                   | 124.1                  | 561.7                | 281.5                       | 16.9             | 1.000028            |
| 6000.0                      | 73.8               | -66.1                   |                  |                   | 121.5                  | 560.3                | 276.5                       | 15.7             | 1.000027            |
| 6050.0                      | 71.9               | -67.0                   |                  |                   | 119.0                  | 558.2                | 273.9                       | 15.9             | 1.000027            |
| 6100.0                      | 70.2               | -67.8                   |                  |                   | 113.5                  | 564.7                | 271.4                       | 16.2             | 1.000025            |
| 6150.0                      | 68.4               | -63.0                   |                  |                   | 110.5                  | 563.3                | 271.5                       | 16.5             | 1.000025            |
| 6200.0                      | 66.6               | -62.6                   |                  |                   | 107.7                  | 563.3                | 273.1                       | 16.9             | 1.000024            |
| 6250.0                      | 65.2               | -62.3                   |                  |                   | 105.0                  | 563.1                | 275.1                       | 17.2             | 1.000023            |
| 6300.0                      | 63.6               | -62.0                   |                  |                   |                        |                      |                             |                  |                     |

STATION ALTITUDE 3989.00 FEET MSL  
 8 MAP. 79  
 ASCENSION NO. 117

UPPER AIR DATA  
 0570020117  
 WHITE SANDS

GEOMETRIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | AIR TEMPERATURE DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | DIRECTION DEGREES (TN) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|------------------------------------|-------------------|------------------------|----------------------|------------------------|-----------------------|---------------------|
| 03500.0                     | 02.1               | -61.7                              |                   | 102.3                  | 566.5                | 261.5                  | 16.9                  | 1.000023            |
| 04000.0                     | 60.6               | -61.4                              |                   | 99.7                   | 567.0                | 288.1                  | 16.8                  | 1.000022            |
| 04500.0                     | 59.1               | -61.0                              |                   | 97.1                   | 567.4                | 293.3                  | 16.6                  | 1.000022            |
| 05000.0                     | 57.7               | -60.7                              |                   | 94.7                   | 567.8                | 297.3                  | 16.3                  | 1.000021            |
| 05500.0                     | 56.3               | -60.4                              |                   | 92.2                   | 568.2                | 301.3                  | 16.1                  | 1.000021            |
| 06000.0                     | 55.0               | -60.1                              |                   | 89.9                   | 568.6                | 302.9                  | 14.5                  | 1.000020            |
| 06500.0                     | 53.7               | -59.8                              |                   | 87.6                   | 569.0                | 304.7                  | 12.8                  | 1.000020            |
| 07000.0                     | 52.4               | -59.5                              |                   | 85.4                   | 569.5                | 307.3                  | 11.9                  | 1.000019            |
| 07500.0                     | 51.1               | -59.2                              |                   | 83.2                   | 569.9                | 310.4                  | 12.4                  | 1.000019            |
| 08000.0                     | 49.9               | -58.9                              |                   | 81.1                   | 570.2                | 313.2                  | 13.0                  | 1.000018            |
| 08500.0                     | 48.7               | -58.8                              |                   | 79.1                   | 570.3                | 315.3                  | 13.2                  | 1.000018            |
| 09000.0                     | 47.5               | -58.8                              |                   | 77.2                   | 570.4                | 317.1                  | 13.4                  | 1.000017            |
| 09500.0                     | 46.4               | -58.7                              |                   | 75.4                   | 570.5                | 319.0                  | 13.5                  | 1.000017            |
| 70000.0                     | 45.3               | -58.6                              |                   | 73.6                   | 570.6                | 323.7                  | 12.2                  | 1.000016            |
| 70500.0                     | 44.2               | -58.6                              |                   | 71.8                   | 570.7                | 329.4                  | 10.9                  | 1.000016            |
| 71000.0                     | 43.2               | -58.5                              |                   | 70.1                   | 570.8                | 335.7                  | 9.5                   | 1.000016            |
| 71500.0                     | 42.2               | -58.4                              |                   | 68.4                   | 570.9                | 347.5                  | 7.6                   | 1.000015            |
| 72000.0                     | 41.2               | -58.4                              |                   | 66.7                   | 570.9                | 4.2                    | 6.2                   | 1.000015            |
| 72500.0                     | 40.2               | -58.3                              |                   | 65.1                   | 571.0                | 11.7                   | 4.5                   | 1.000014            |
| 73000.0                     | 39.2               | -58.2                              |                   | 63.6                   | 571.1                | 6.1                    | 2.4                   | 1.000014            |
| 73500.0                     | 38.3               | -58.2                              |                   | 62.0                   | 571.2                | 312.4                  | .5                    | 1.000014            |
| 74000.0                     | 37.4               | -58.1                              |                   | 60.6                   | 571.3                | 264.8                  | .8                    | 1.000013            |
| 74500.0                     | 36.5               | -58.0                              |                   | 59.1                   | 571.4                | 264.8                  | 1.1                   | 1.000013            |
| 75000.0                     | 35.6               | -58.0                              |                   | 57.7                   | 571.5                | 279.4                  | 1.3                   | 1.000013            |
| 75500.0                     | 34.8               | -57.9                              |                   | 56.3                   | 571.5                | 211.8                  | 1.6                   | 1.000013            |
| 76000.0                     | 34.0               | -57.8                              |                   | 54.9                   | 571.5                | 160.5                  | 2.9                   | 1.000012            |
| 76500.0                     | 33.2               | -57.8                              |                   | 53.6                   | 571.7                | 162.5                  | 4.5                   | 1.000012            |
| 77000.0                     | 32.4               | -57.7                              |                   | 52.3                   | 571.8                | 190.2                  | 6.4                   | 1.000012            |
| 77500.0                     | 31.6               | -57.6                              |                   | 51.1                   | 571.9                | 194.3                  | 8.5                   | 1.000011            |
| 78000.0                     | 30.8               | -57.6                              |                   | 49.8                   | 572.0                | 194.3                  | 9.1                   | 1.000011            |
| 78500.0                     | 30.1               | -57.5                              |                   | 48.6                   | 572.1                | 189.5                  | 7.8                   | 1.000011            |
| 79000.0                     | 29.4               | -57.3                              |                   | 47.5                   | 572.3                | 162.6                  | 6.5                   | 1.000011            |
| 79500.0                     | 28.7               | -57.1                              |                   | 46.3                   | 572.6                | 193.8                  | 5.8                   | 1.000010            |
| 80000.0                     | 28.0               | -56.9                              |                   | 45.2                   | 572.9                | 219.5                  | 6.4                   | 1.000010            |
| 80500.0                     | 27.4               | -56.7                              |                   | 44.1                   | 573.2                | 237.7                  | 8.0                   | 1.000010            |
| 81000.0                     | 26.7               | -56.4                              |                   | 43.0                   | 573.5                | 239.2                  | 10.2                  | 1.000010            |
| 81500.0                     | 26.1               | -56.2                              |                   | 41.9                   | 573.8                | 235.5                  | 12.5                  | 1.000009            |
| 82000.0                     | 25.5               | -56.0                              |                   | 40.9                   | 574.1                | 234.5                  | 14.8                  | 1.000009            |
| 82500.0                     | 24.9               | -55.8                              |                   | 39.9                   | 574.4                | 235.8                  | 12.8                  | 1.000009            |
| 83000.0                     | 24.3               | -55.6                              |                   | 38.9                   | 574.6                | 233.7                  | 9.6                   | 1.000009            |

STATION ALTITUDE 3989.00 FEET MSL  
 8 MAR. 79 0030 HRS MST  
 ASCENSION NO. 117

UPPER AIR DATA  
 0670020117  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

| GEOMETRIC 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<br>CENTIGRADE | DEWPOINT<br>DEGREES<br>CENTIGRADE |                      |                              |                            | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |                           |
| 03500.0                        | 23.7                  | -55.4                        |                                   |                      | 38.0                         | 574.9                      | 244.4                    | 6.8            | 1.000008                  |
| 04000.0                        | 23.2                  | -55.1                        |                                   |                      | 37.1                         | 575.2                      |                          |                | 1.000008                  |
| 04500.0                        | 22.6                  | -54.9                        |                                   |                      | 36.1                         | 575.5                      |                          |                | 1.000008                  |
| 05000.0                        | 22.1                  | -54.7                        |                                   |                      | 35.3                         | 575.8                      |                          |                | 1.000008                  |

STATION ALTITUDE 3989.00 FEET MSL  
 8 MAR. 79 0830 HRS MST  
 ASCENSION 140. 117

MRN SIGNIFICANT LEVEL DATA  
 0670020117  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

| GEOPOTENTIAL<br>ALTITUDE<br>METERS | DIRECTION<br>DEG (TI) | SPEED<br>MPS | WIND DATA  |            | DEW PT DEP<br>DEG C | TEMPERATURE  |         | PRESSURE<br>MILLIBARS |
|------------------------------------|-----------------------|--------------|------------|------------|---------------------|--------------|---------|-----------------------|
|                                    |                       |              | N-S<br>MPS | E-W<br>MPS |                     | AIR<br>DEG C |         |                       |
| 2594.                              | 9999.**               | 9999.**      | -9999.**   | -9999.**   | 99                  | -54.5        | 2.100+1 |                       |
| 2385.                              | 189.                  | 4.           | 4.         | 1.         | 99                  | -57.5        | 3.000+1 |                       |
| 2063.                              | 313.                  | 7.           | -5.        | 5.         | 99                  | -58.9        | 5.000+1 |                       |
| 1800.                              | 271.                  | 8.           | -0.        | 8.         | 99                  | -62.9        | 6.840+1 |                       |
| 1654.                              | 274.                  | 8.           | -1.        | 8.         | 99                  | -67.9        | 7.000+1 |                       |
| 1770.                              | 292.                  | 13.          | -5.        | 12.        | 99                  | -63.2        | 8.040+1 |                       |
| 1700.                              | 290.                  | 25.          | -8.        | 23.        | 99                  | -67.9        | 8.940+1 |                       |
| 1638.                              | 287.                  | 29.          | -9.        | 28.        | 99                  | -68.0        | 1.000+2 |                       |

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL  
 8 MAR. 79 0630 HRS MST  
 ASCENSION NO. 117

MANDATORY LEVELS  
 0670020117  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

| PRESSURE GEOPOTENTIAL |        | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | WIND DATA                |                |
|-----------------------|--------|---|----------------------|--------------------------|----------------|
| MILLIBARS             | FEET   |   |                      | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |
| 850.0                 | 4887.  | 13.0  | 28.                  | 9999.0                   | 9999.0XX       |
| 800.0                 | 6950.  | 12.4  | 29.                  | 9999.0                   | 9999.0XX       |
| 750.0                 | 6321.  | 9.4   | 30.                  | 9999.0                   | 9999.0XX       |
| 700.0                 | 10184. | 5.6   | 16.                  | 9999.0                   | 9999.0XX       |
| 650.0                 | 12153. | .5  | 18.                  | 280.7                    | 21.1           |
| 600.0                 | 14241. | -3.9  | 18.                  | 284.0                    | 25.4           |
| 550.0                 | 16474. | -8.4  | 18.                  | 286.7                    | 27.6           |
| 500.0                 | 18876. | -13.7                                       | 20.                  | 288.9                    | 33.0           |
| 450.0                 | 21473. | -19.7                                       | 26.                  | 295.1                    | 27.4           |
| 400.0                 | 24300. | -26.2                                       | 23.                  | 290.2                    | 29.2           |
| 350.0                 | 27420. | -33.5                                       | 23.                  | 280.1                    | 36.3           |
| 300.0                 | 30912. | -42.6                                       |                      | 286.6                    | 31.4           |
| 250.0                 | 34667. | -50.8                                       |                      | 278.7                    | 37.8           |
| 200.0                 | 39580. | -53.1                                       |                      | 277.5                    | 67.1           |
| 175.0                 | 42391. | -55.7                                       |                      | 282.5                    | 74.3           |
| 150.0                 | 45580. | -59.6                                       |                      | 281.1                    | 75.0           |
| 125.0                 | 49291. | -62.7                                       |                      | 283.6                    | 70.2           |
| 100.0                 | 53750. | -68.0                                       |                      | 287.1                    | 56.2           |
| 80.0                  | 58177. | -63.4                                       |                      | 292.0                    | 25.4           |
| 70.0                  | 60840. | -67.9                                       |                      | 273.8                    | 15.9           |
| 60.0                  | 63959. | -61.2                                       |                      | 290.2                    | 16.8           |
| 50.0                  | 67693. | -58.9                                       |                      | 312.7                    | 12.9           |
| 40.0                  | 72294. | -58.3                                       |                      | 11.4                     | 4.3            |
| 30.0                  | 78245. | -57.5                                       |                      | 189.1                    | 7.7            |
| 25.0                  | 82036. | -55.8                                       |                      | 235.2                    | 13.6           |

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.  
 XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 3989.00 FEET MSL  
 8 MAP. 79  
 ASCENSION NO. 117

MPN MANDATORY LEVELS  
 0670020117  
 WHITE SANDS

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LONG DEG

| GEOPOTENTIAL<br>ALTITUDE<br>METERS | DIRECTION<br>DEG (TN) | WIND DATA<br>SPEED<br>MPS | N-S<br>MPS | E-W<br>MPS | DEW PT DEP<br>DEG C | TEMPERATURE  |  | PRESSURE<br>MILLIBARS |
|------------------------------------|-----------------------|---------------------------|------------|------------|---------------------|--------------|--|-----------------------|
|                                    |                       |                           |            |            |                     | AIR<br>DEG C |  |                       |
| 2501.                              | 235.                  | 7.                        | 4.         | 6.         | 99                  | -55.8        |  | 2.500+1               |
| 2385.                              | 189.                  | 4.                        | 4.         | 1.         | 99                  | -57.5        |  | 3.000+1               |
| 2204.                              | 11.                   | 2.                        | -2.        | -0.        | 99                  | -58.3        |  | 4.000+1               |
| 2063.                              | 313.                  | 7.                        | -4.        | 5.         | 99                  | -58.9        |  | 5.000+1               |
| 1949.                              | 290.                  | 9.                        | -3.        | 8.         | 99                  | -61.2        |  | 6.000+1               |
| 1854.                              | 274.                  | 8.                        | -1.        | 8.         | 99                  | -67.9        |  | 7.000+1               |
| 1773.                              | 292.                  | 13.                       | -5.        | 12.        | 99                  | -63.4        |  | 8.000+1               |
| 1638.                              | 287.                  | 29.                       | -8.        | 28.        | 99                  | -68.0        |  | 1.000+2               |
| 1502.                              | 284.                  | 36.                       | -8.        | 35.        | 99                  | -62.7        |  | 1.250+2               |
| 1339.                              | 281.                  | 39.                       | -7.        | 36.        | 99                  | -59.6        |  | 1.500+2               |
| 1292.                              | 282.                  | 38.                       | -8.        | 37.        | 99                  | -55.7        |  | 1.750+2               |
| 1206.                              | 278.                  | 35.                       | -5.        | 34.        | 99                  | -53.1        |  | 2.000+2               |
| 1053.                              | 279.                  | 19.                       | -3.        | 19.        | 99                  | -50.8        |  | 2.500+2               |
| 942.                               | 287.                  | 16.                       | -5.        | 15.        | 99                  | -42.6        |  | 3.000+2               |
| 836.                               | 280.                  | 19.                       | -3.        | 16.        | 14                  | -33.5        |  | 3.500+2               |
| 741.                               | 290.                  | 15.                       | -5.        | 14.        | 15                  | -26.2        |  | 4.000+2               |
| 655.                               | 295.                  | 14.                       | -6.        | 13.        | 15                  | -19.7        |  | 4.500+2               |
| 575.                               | 289.                  | 17.                       | -6.        | 16.        | 18                  | -13.7        |  | 5.000+2               |
| 502.                               | 287.                  | 14.                       | -4.        | 14.        | 20                  | -8.4         |  | 5.500+2               |
| 434.                               | 284.                  | 13.                       | -3.        | 13.        | 21                  | -3.9         |  | 6.000+2               |
| 370.                               | 281.                  | 11.                       | -2.        | 11.        | 22                  | .5           |  | 6.500+2               |
| 310.                               | 9999.**               | 9999.**                   | -9999.**   | -9999.**   | 22                  | 5.6          |  | 7.000+2               |
| 254.                               | 9999.**               | 9999.**                   | -9999.**   | -9999.**   | 17                  | 9.4          |  | 7.500+2               |
| 200.                               | 9999.**               | 9999.**                   | -9999.**   | -9999.**   | 17                  | 12.4         |  | 8.000+2               |
| 149.                               | 9999.**               | 9999.**                   | -9999.**   | -9999.**   | 18                  | 13.0         |  | 8.500+2               |

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4126.59 FEET MSL  
 8 MAR. 79 0730 PMS MST  
 ASCENSION NO. 107

SIGNIFICANT LEVEL DATA  
 0670010107  
 HOLLONAN

GEODEIC COORDINATES  
 32.83365 LAT DEG  
 106.09265 LON DEG

| GEOMETRIC ALTITUDE | TEMPERATURE AIR    | REL. HUM. PERCENT |
|--------------------|--------------------|-------------------|
| MILLIBARS          | DEGREES CENTIGRADE |                   |
| 873.2              | 7.0                | 45.0              |
| 858.0              | 11.7               | 37.0              |
| 850.0              | 11.7               | 35.0              |
| 727.0              | 5.0                | 42.0              |
| 700.0              | 3.2                | 44.0              |
| 663.6              | -3                 | 35.0              |
| 654.6              | -4                 | 28.0              |
| 574.6              | -8.6               | 27.0              |
| 500.0              | -14.9              | 32.0              |
| 400.0              | -27.8              | 34.0              |
| 323.4              | -39.7              | 34.0              |
| 300.0              | -44.0              |                   |
| 300.0              | -52.6              |                   |
| 250.0              | -55.3              |                   |
| 233.4              | -56.7              |                   |
| 213.6              | -58.3              |                   |
| 207.6              | -58.3              |                   |
| 200.0              | -58.8              |                   |
| 150.0              | -61.1              |                   |
| 131.2              | -63.2              |                   |
| 123.1              | -61.6              |                   |
| 111.2              | -65.6              |                   |
| 110.5              | -63.5              |                   |
| 100.0              | -67.6              |                   |
| 87.6               | -69.4              |                   |
| 82.0               | -67.6              |                   |
| 76.0               | -69.0              |                   |
| 74.2               | -65.2              |                   |
| 70.0               | -62.6              |                   |
| 50.0               | -60.1              |                   |
| 38.4               | -59.9              |                   |
| 30.0               | -57.7              |                   |
| 22.4               | -56.8              |                   |
| 20.0               | -52.9              |                   |
| 17.8               | -50.8              |                   |
| 12.6               | -46.9              |                   |



STATION ALTITUDE 4126.59 FEET MSL  
 8 MAR. 79 0730 HRS MET  
 ASCENSION NO. 107

UPPER AIR DATA  
 0670010107  
 FOLLOMAN

GEODETIC COORDINATES  
 32.86865 LAT DEG  
 106.09965 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES | TEMPERATURE DEWPOINT DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DIRECTION DEGREES (TH) | WIND SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|-------------------------|---|-------------------|------------------------|----------------------|-----------------------------|------------------|---------------------|
| 4126.6                      | 873.2              | 7.0                     | -4.1                                    | 45.0              | 1083.7                 | 652.7                | 270.0                       | 1.9              | 1.000263            |
| 4500.0                      | 861.3              | 10.7                    | -2.8                                    | 39.8              | 1054.9                 | 657.0                | 260.2                       | 1.4              | 1.000258            |
| 5000.0                      | 845.7              | 11.5                    | -3.3                                    | 35.2              | 1032.8                 | 658.0                | 231.2                       | .9               | 1.000252            |
| 5500.0                      | 830.2              | 10.7                    | -3.7                                    | 36.1              | 1019.8                 | 657.0                | 160.2                       | .9               | 1.000248            |
| 6000.0                      | 815.1              | 9.9                     | -4.1                                    | 36.9              | 1001.1                 | 656.1                | 210.0                       | 1.0              | 1.000244            |
| 6500.0                      | 800.2              | 9.1                     | -4.5                                    | 37.7              | 985.6                  | 655.2                | 270.6                       | 3.4              | 1.000240            |
| 7000.0                      | 785.6              | 8.5                     | -5.0                                    | 39.5              | 970.3                  | 654.3                | 289.7                       | 6.4              | 1.000236            |
| 7500.0                      | 771.3              | 7.5                     | -5.4                                    | 39.4              | 955.3                  | 653.3                | 295.4                       | 9.7              | 1.000233            |
| 8000.0                      | 757.2              | 6.7                     | -5.8                                    | 40.2              | 940.6                  | 652.4                | 293.9                       | 12.2             | 1.000229            |
| 8500.0                      | 743.4              | 6.0                     | -6.3                                    | 41.0              | 926.0                  | 651.5                | 291.3                       | 14.7             | 1.000225            |
| 9000.0                      | 729.8              | 5.2                     | -6.7                                    | 41.8              | 911.7                  | 650.5                | 285.9                       | 17.1             | 1.000221            |
| 9500.0                      | 716.3              | 4.3                     | -7.2                                    | 42.8              | 897.7                  | 649.5                | 285.8                       | 19.7             | 1.000217            |
| 10000.0                     | 703.0              | 3.4                     | -7.7                                    | 43.8              | 884.0                  | 648.5                | 267.0                       | 22.5             | 1.000214            |
| 10500.0                     | 689.9              | 2.2                     | -9.4                                    | 41.8              | 871.3                  | 647.0                | 266.3                       | 23.9             | 1.000209            |
| 11000.0                     | 677.0              | 1.0                     | -11.4                                   | 39.0              | 859.0                  | 645.5                | 247                         | 24.7             | 1.000204            |
| 11500.0                     | 664.3              | -2                      | -13.4                                   | 36.2              | 846.9                  | 644.0                | 282.8                       | 24.9             | 1.000200            |
| 12000.0                     | 651.8              | -7                      | -16.9                                   | 28.0              | 832.5                  | 643.4                | 282.0                       | 25.2             | 1.000194            |
| 12500.0                     | 639.3              | -1.9                    | -18.0                                   | 27.8              | 820.3                  | 641.9                | 281.9                       | 26.0             | 1.000190            |
| 13000.0                     | 627.1              | -3.1                    | -19.1                                   | 27.5              | 808.3                  | 640.4                | 260.4                       | 26.6             | 1.000187            |
| 13500.0                     | 615.1              | -4.3                    | -20.2                                   | 27.5              | 796.5                  | 639.0                | 277.6                       | 27.2             | 1.000184            |
| 14000.0                     | 603.3              | -5.5                    | -21.4                                   | 27.4              | 784.8                  | 637.5                | 277.8                       | 28.0             | 1.000181            |
| 14500.0                     | 591.8              | -6.6                    | -22.5                                   | 27.2              | 773.4                  | 636.0                | 279.2                       | 28.9             | 1.000178            |
| 15000.0                     | 580.4              | -8.0                    | -23.6                                   | 27.1              | 762.1                  | 634.6                | 282.0                       | 29.0             | 1.000175            |
| 15500.0                     | 569.2              | -9.0                    | -24.4                                   | 27.4              | 750.3                  | 633.3                | 285.2                       | 29.0             | 1.000172            |
| 16000.0                     | 558.0              | -9.9                    | -24.9                                   | 28.1              | 738.1                  | 632.2                | 280.1                       | 29.2             | 1.000169            |
| 16500.0                     | 547.0              | -10.8                   | -25.4                                   | 28.8              | 726.1                  | 631.1                | 287.0                       | 29.2             | 1.000166            |
| 17000.0                     | 536.3              | -11.7                   | -25.9                                   | 28.5              | 714.3                  | 630.0                | 280.3                       | 29.6             | 1.000163            |
| 17500.0                     | 525.7              | -12.6                   | -26.5                                   | 30.2              | 702.7                  | 629.0                | 289.6                       | 33.6             | 1.000160            |
| 18000.0                     | 515.4              | -13.5                   | -27.0                                   | 30.9              | 691.2                  | 627.9                | 291.0                       | 34.5             | 1.000158            |
| 18500.0                     | 505.3              | -14.4                   | -27.6                                   | 31.6              | 680.0                  | 626.8                | 292.3                       | 34.3             | 1.000155            |
| 19000.0                     | 495.2              | -15.5                   | -28.5                                   | 32.3              | 669.1                  | 625.5                | 293.6                       | 33.5             | 1.000152            |
| 19500.0                     | 485.1              | -16.7                   | -29.3                                   | 32.5              | 658.5                  | 624.1                | 294.0                       | 32.7             | 1.000150            |
| 20000.0                     | 475.2              | -17.8                   | -30.3                                   | 32.5              | 648.1                  | 622.6                | 293.4                       | 32.1             | 1.000147            |
| 20500.0                     | 465.5              | -19.0                   | -31.3                                   | 32.6              | 637.9                  | 621.1                | 295.3                       | 31.7             | 1.000145            |
| 21000.0                     | 456.0              | -20.2                   | -32.3                                   | 32.8              | 627.8                  | 619.7                | 296.3                       | 31.3             | 1.000142            |
| 21500.0                     | 446.7              | -21.4                   | -33.3                                   | 33.0              | 618.0                  | 618.2                | 295.2                       | 30.8             | 1.000140            |
| 22000.0                     | 437.6              | -22.6                   | -34.3                                   | 33.2              | 608.3                  | 616.7                | 294.6                       | 30.1             | 1.000137            |
| 22500.0                     | 428.6              | -23.6                   | -35.3                                   | 33.4              | 598.7                  | 615.3                | 294.2                       | 29.4             | 1.000135            |
| 23000.0                     | 419.9              | -25.0                   | -36.4                                   | 33.6              | 589.3                  | 613.9                | 296.3                       | 29.2             | 1.000133            |
| 23500.0                     | 411.3              | -26.2                   | -37.4                                   | 33.7              | 580.1                  | 612.3                | 298.4                       | 29.0             | 1.000131            |

STATION ALTITUDE 4126.59 FEET MSL  
 8 MAR. 79  
 ASCENSION NO. 107

UPPER AIR DATA  
 0670010107  
 HOLLONMA'

GEODETIC COORDINATES  
 32.86865 LAT DEG  
 106.09965 LONG DEG

| GEOMETRIC 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 |                           |
| 24000.0                        | 403.0                 | -27.4          | -35.4                  | 33.9                 | 571.0                        | 610.8                      | 300.2                    | 28.6           | 1.000129                  |
| 24500.0                        | 394.5                 | -28.5          | -39.5                  | 34.0                 | 561.8                        | 609.3                      | 299.8                    | 29.5           | 1.000126                  |
| 25000.0                        | 386.0                 | -29.8          | -40.5                  | 34.0                 | 552.5                        | 607.8                      | 297.7                    | 31.5           | 1.000124                  |
| 25500.0                        | 377.7                 | -31.0          | -41.6                  | 34.0                 | 543.4                        | 606.3                      | 294.8                    | 34.3           | 1.000122                  |
| 26000.0                        | 369.6                 | -32.2          | -42.7                  | 34.0                 | 534.4                        | 604.7                      | 292.0                    | 37.2           | 1.000120                  |
| 26500.0                        | 361.7                 | -33.4          | -43.8                  | 34.0                 | 525.6                        | 603.2                      | 287.9                    | 39.7           | 1.000118                  |
| 27000.0                        | 354.0                 | -34.6          | -44.9                  | 34.0                 | 517.0                        | 601.7                      | 283.6                    | 36.2           | 1.000116                  |
| 27500.0                        | 346.4                 | -35.9          | -46.0                  | 34.0                 | 508.5                        | 600.2                      | 278.9                    | 35.0           | 1.000114                  |
| 28000.0                        | 339.0                 | -37.1          | -47.1                  | 34.0                 | 500.1                        | 598.6                      | 275.2                    | 33.9           | 1.000112                  |
| 28500.0                        | 331.7                 | -38.3          | -48.2                  | 34.0                 | 491.9                        | 597.1                      | 276.3                    | 32.6           | 1.000110                  |
| 29000.0                        | 324.6                 | -39.5          | -49.3                  | 34.0                 | 483.9                        | 595.5                      | 278.1                    | 31.9           | 1.000108                  |
| 29500.0                        | 317.4                 | -40.8          | -50.8                  | 25.6**               | 475.6                        | 593.9                      | 280.8                    | 31.4           | 1.000106                  |
| 30000.0                        | 310.4                 | -42.0          | -52.0                  | 15.4**               | 467.9                        | 592.2                      | 283.9                    | 31.8           | 1.000104                  |
| 30500.0                        | 303.5                 | -43.3          | -53.3                  | 5.3**                | 460.1                        | 590.6                      | 285.4                    | 32.3           | 1.000103                  |
| 31000.0                        | 296.7                 | -44.5          | -54.5                  |                      | 452.1                        | 589.1                      | 287.9                    | 32.9           | 1.000101                  |
| 31500.0                        | 289.9                 | -45.6          | -55.6                  |                      | 443.9                        | 587.7                      | 289.7                    | 34.1           | 1.000099                  |
| 32000.0                        | 283.3                 | -46.7          | -56.7                  |                      | 435.9                        | 586.3                      | 292.3                    | 36.2           | 1.000097                  |
| 32500.0                        | 276.9                 | -47.8          | -57.8                  |                      | 428.0                        | 584.8                      | 293.3                    | 37.4           | 1.000095                  |
| 33000.0                        | 270.6                 | -48.9          | -58.9                  |                      | 420.2                        | 583.4                      | 293.4                    | 37.9           | 1.000094                  |
| 33500.0                        | 264.4                 | -50.0          | -60.0                  |                      | 412.7                        | 582.0                      | 288.0                    | 37.9           | 1.000092                  |
| 34000.0                        | 258.4                 | -51.0          | -61.0                  |                      | 405.2                        | 580.6                      | 281.7                    | 38.1           | 1.000090                  |
| 34500.0                        | 252.5                 | -52.1          | -62.1                  |                      | 397.9                        | 579.2                      | 277.5                    | 37.9           | 1.000089                  |
| 35000.0                        | 246.6                 | -53.3          | -63.3                  |                      | 390.6                        | 577.8                      | 273.7                    | 37.7           | 1.000087                  |
| 35500.0                        | 240.9                 | -54.6          | -64.6                  |                      | 383.9                        | 575.9                      | 272.9                    | 37.1           | 1.000086                  |
| 36000.0                        | 235.2                 | -55.9          | -65.9                  |                      | 377.1                        | 574.2                      | 272.5                    | 36.9           | 1.000084                  |
| 36500.0                        | 229.7                 | -56.7          | -66.7                  |                      | 369.7                        | 573.1                      | 273.5                    | 37.7           | 1.000082                  |
| 37000.0                        | 224.2                 | -57.4          | -67.4                  |                      | 362.0                        | 572.2                      | 274.7                    | 38.9           | 1.000081                  |
| 37500.0                        | 218.9                 | -58.1          | -68.1                  |                      | 354.5                        | 571.4                      | 275.4                    | 44.0           | 1.000079                  |
| 38000.0                        | 213.7                 | -58.7          | -68.7                  |                      | 347.1                        | 570.5                      | 275.3                    | 49.1           | 1.000077                  |
| 38500.0                        | 208.6                 | -58.4          | -68.4                  |                      | 339.5                        | 571.0                      | 277.4                    | 55.3           | 1.000075                  |
| 39000.0                        | 203.5                 | -58.6          | -68.6                  |                      | 330.5                        | 570.7                      | 273.4                    | 61.8           | 1.000074                  |
| 39500.0                        | 198.7                 | -58.9          | -68.9                  |                      | 323.1                        | 570.3                      | 273.0                    | 67.7           | 1.000072                  |
| 40000.0                        | 194.0                 | -59.0          | -69.0                  |                      | 315.5                        | 570.0                      | 273.5                    | 73.0           | 1.000070                  |
| 40500.0                        | 189.3                 | -59.2          | -69.2                  |                      | 308.3                        | 569.6                      | 273.6                    | 78.3           | 1.000069                  |
| 41000.0                        | 184.8                 | -59.4          | -69.4                  |                      | 301.2                        | 569.5                      | 273.8                    | 83.4           | 1.000067                  |
| 41500.0                        | 180.3                 | -59.6          | -69.6                  |                      | 294.2                        | 569.3                      | 273.9                    | 87.9           | 1.000066                  |
| 42000.0                        | 176.0                 | -59.8          | -69.8                  |                      | 287.4                        | 569.0                      | 281.0                    | 86.7           | 1.000064                  |
| 42500.0                        | 171.8                 | -60.0          | -70.0                  |                      | 280.8                        | 568.8                      | 283.1                    | 85.6           | 1.000063                  |
| 43000.0                        | 167.7                 | -60.2          | -70.2                  |                      | 274.3                        | 568.5                      | 283.2                    | 83.7           | 1.000061                  |
| 43500.0                        | 163.6                 | -60.4          | -70.4                  |                      | 267.9                        | 568.2                      | 284.4                    | 81.7           | 1.000060                  |

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4126.59 FEET MSL  
 8 MAP. 79  
 ASCENSION NO. 107

UPPER AIR DATA  
 067001G107  
 HOLLOWAY

GEOMETRIC ALTITUDE MSL FEET  
 PRESSURE MILLIBARS  
 TEMPERATURE AIR DEGREES  
 REL. HUM. PERCENT  
 DENSITY GM/CUBIC METER  
 SPEED OF SOUND KNOTS  
 WIND DATA DIRECTION DEGREES (TN)  
 SPEED KNOTS  
 INDEX OF REFRACTION

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES (TN) | SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|-------------------------|-------------------|------------------------|----------------------|----------------------------------|-------------|---------------------|
| 44000.0                     | 159.7              | -60.6                   |                   | 261.6                  | 568.0                | 284.4                            | 82.0        | 1.000058            |
| 44500.0                     | 153.9              | -60.6                   |                   | 253.7                  | 567.7                | 284.4                            | 82.4        | 1.000057            |
| 45000.0                     | 152.1              | -61.0                   |                   | 249.8                  | 567.5                | 283.9                            | 83.2        | 1.000056            |
| 45500.0                     | 145.5              | -61.3                   |                   | 247.1                  | 567.1                | 283.4                            | 84.1        | 1.000054            |
| 46000.0                     | 148.9              | -61.6                   |                   | 238.6                  | 566.6                | 283.2                            | 85.3        | 1.000053            |
| 46500.0                     | 141.4              | -62.0                   |                   | 233.3                  | 566.1                | 283.1                            | 85.8        | 1.000052            |
| 47000.0                     | 137.9              | -62.4                   |                   | 228.0                  | 565.5                | 283.4                            | 84.1        | 1.000051            |
| 47500.0                     | 134.6              | -62.8                   |                   | 222.9                  | 565.0                | 283.7                            | 82.1        | 1.000050            |
| 48000.0                     | 131.3              | -63.2                   |                   | 217.9                  | 564.5                | 284.3                            | 78.9        | 1.000049            |
| 48500.0                     | 128.1              | -62.6                   |                   | 212.0                  | 563.3                | 285.0                            | 76.1        | 1.000047            |
| 49000.0                     | 125.0              | -62.0                   |                   | 205.3                  | 562.1                | 285.9                            | 74.5        | 1.000046            |
| 49500.0                     | 122.0              | -62.0                   |                   | 201.2                  | 560.2                | 285.8                            | 72.8        | 1.000045            |
| 50000.0                     | 119.0              | -62.9                   |                   | 197.2                  | 558.9                | 287.3                            | 70.5        | 1.000044            |
| 50500.0                     | 116.1              | -63.9                   |                   | 193.3                  | 558.5                | 287.7                            | 68.3        | 1.000043            |
| 51000.0                     | 113.3              | -64.9                   |                   | 189.5                  | 562.2                | 287.8                            | 66.3        | 1.000042            |
| 51500.0                     | 110.5              | -64.0                   |                   | 184.1                  | 563.4                | 287.9                            | 64.3        | 1.000041            |
| 52000.0                     | 107.8              | -64.5                   |                   | 179.9                  | 562.8                | 288.0                            | 62.9        | 1.000040            |
| 52500.0                     | 105.1              | -65.5                   |                   | 175.4                  | 561.4                | 288.1                            | 61.7        | 1.000039            |
| 53000.0                     | 102.6              | -66.5                   |                   | 172.9                  | 560.0                | 288.3                            | 60.5        | 1.000039            |
| 53500.0                     | 100.0              | -67.6                   |                   | 169.5                  | 558.6                | 288.4                            | 58.9        | 1.000036            |
| 54000.0                     | 97.5               | -67.9                   |                   | 165.6                  | 558.1                | 288.9                            | 57.2        | 1.000037            |
| 54500.0                     | 95.1               | -68.3                   |                   | 161.7                  | 557.6                | 288.8                            | 55.1        | 1.000035            |
| 55000.0                     | 92.7               | -68.6                   |                   | 157.9                  | 557.1                | 289.1                            | 51.9        | 1.000035            |
| 55500.0                     | 90.4               | -69.0                   |                   | 154.2                  | 556.7                | 289.5                            | 48.7        | 1.000034            |
| 56000.0                     | 88.2               | -69.3                   |                   | 150.7                  | 556.2                | 289.2                            | 43.7        | 1.000034            |
| 56500.0                     | 86.0               | -68.9                   |                   | 146.6                  | 556.6                | 288.7                            | 38.2        | 1.000033            |
| 57000.0                     | 83.8               | -68.2                   |                   | 142.4                  | 557.7                | 287.3                            | 33.0        | 1.000032            |
| 57500.0                     | 81.7               | -67.7                   |                   | 138.5                  | 558.5                | 284.3                            | 28.3        | 1.000031            |
| 58000.0                     | 79.7               | -68.1                   |                   | 135.4                  | 557.8                | 280.1                            | 23.8        | 1.000030            |
| 58500.0                     | 77.7               | -68.6                   |                   | 132.3                  | 557.2                | 277.3                            | 22.0        | 1.000029            |
| 59000.0                     | 75.8               | -68.5                   |                   | 128.9                  | 557.5                | 274.0                            | 20.4        | 1.000029            |
| 59500.0                     | 73.9               | -65.0                   |                   | 123.7                  | 562.1                | 272.8                            | 19.5        | 1.000028            |
| 60000.0                     | 72.1               | -63.9                   |                   | 120.0                  | 563.3                | 272.3                            | 18.8        | 1.000027            |
| 60500.0                     | 70.3               | -62.8                   |                   | 116.5                  | 565.0                | 272.5                            | 18.3        | 1.000026            |
| 61000.0                     | 68.6               | -62.5                   |                   | 113.5                  | 563.5                | 272.9                            | 17.9        | 1.000025            |
| 61500.0                     | 67.0               | -62.3                   |                   | 110.8                  | 563.7                | 273.8                            | 17.5        | 1.000025            |
| 62000.0                     | 65.4               | -62.1                   |                   | 107.9                  | 563.0                | 275.7                            | 17.0        | 1.000024            |
| 62500.0                     | 63.8               | -61.9                   |                   | 105.2                  | 563.2                | 277.7                            | 16.5        | 1.000023            |
| 63000.0                     | 62.2               | -61.7                   |                   | 102.6                  | 566.5                | 273.4                            | 16.1        | 1.000023            |
| 63500.0                     | 60.7               | -61.5                   |                   | 100.6                  | 566.7                | 283.1                            | 15.6        | 1.000022            |

STATION ALTITUDE 4126.59 FEET MSL  
 8 WAF. 79 0730 HRS MST  
 ASCENSION NO. 107

UPPER AIR DATA  
 0670010107  
 HOLLOWAY

GEOMETRIC COORDINATES  
 32.88865 LAT DEG  
 106.09895 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE |                     | REL. HUM. PERCENT | DENSITY G/M <sup>3</sup> CUBIC METER | SPEED OF SOUND KNOTS | WIND DATA             |             | INDEX OF REFRACTION |
|-----------------------------|--------------------|-------------|---------------------|-------------------|--------------------------------------|----------------------|-----------------------|-------------|---------------------|
|                             |                    | AIR DEGREES | DEWPOINT CENTIGRADE |                   |                                      |                      | DIRECTION DEGREES (T) | SPEED KNOTS |                     |
| 64000.0                     | 59.3               | -61.4       |                     |                   | 97.5                                 | 500.9                | 263.2                 | 15.3        | 1.000022            |
| 64500.0                     | 57.8               | -61.2       |                     |                   | 95.1                                 | 567.2                | 269.0                 | 15.1        | 1.000021            |
| 65000.0                     | 56.5               | -61.0       |                     |                   | 92.7                                 | 567.4                | 286.9                 | 14.9        | 1.000021            |
| 65500.0                     | 55.1               | -60.8       |                     |                   | 90.4                                 | 567.7                | 293.3                 | 14.2        | 1.000020            |
| 66000.0                     | 53.8               | -60.6       |                     |                   | 88.1                                 | 567.9                | 299.5                 | 13.5        | 1.000020            |
| 66500.0                     | 52.5               | -60.5       |                     |                   | 85.9                                 | 568.2                | 303.3                 | 12.9        | 1.000019            |
| 67000.0                     | 51.2               | -60.3       |                     |                   | 83.8                                 | 568.4                | 307.5                 | 12.3        | 1.000019            |
| 67500.0                     | 50.0               | -60.1       |                     |                   | 81.7                                 | 568.6                | 312.0                 | 11.8        | 1.000018            |
| 68000.0                     | 48.8               | -60.1       |                     |                   | 79.7                                 | 568.7                | 314.7                 | 11.5        | 1.000018            |
| 68500.0                     | 47.6               | -60.1       |                     |                   | 77.8                                 | 568.7                | 318.8                 | 11.2        | 1.000017            |
| 69000.0                     | 46.5               | -60.0       |                     |                   | 76.0                                 | 568.7                | 319.3                 | 10.9        | 1.000017            |
| 69500.0                     | 45.3               | -60.0       |                     |                   | 74.1                                 | 568.7                | 323.8                 | 10.4        | 1.000017            |
| 70000.0                     | 44.3               | -60.0       |                     |                   | 72.3                                 | 568.6                | 328.9                 | 9.9         | 1.000016            |
| 70500.0                     | 43.2               | -60.0       |                     |                   | 70.6                                 | 568.8                | 335.1                 | 9.6         | 1.000016            |
| 71000.0                     | 42.2               | -60.0       |                     |                   | 68.9                                 | 568.8                | 342.2                 | 9.7         | 1.000015            |
| 71500.0                     | 41.2               | -60.0       |                     |                   | 67.3                                 | 568.6                | 349.1                 | 9.9         | 1.000015            |
| 72000.0                     | 40.2               | -59.9       |                     |                   | 65.6                                 | 569.9                | 346.3                 | 9.1         | 1.000015            |
| 72500.0                     | 39.2               | -59.9       |                     |                   | 64.1                                 | 568.9                | 349.4                 | 8.1         | 1.000014            |
| 73000.0                     | 38.3               | -59.9       |                     |                   | 62.5                                 | 568.9                | 331.1                 | 7.1         | 1.000014            |
| 73500.0                     | 37.4               | -59.7       |                     |                   | 61.0                                 | 569.2                | 330.2                 | 4.5         | 1.000014            |
| 74000.0                     | 36.5               | -59.4       |                     |                   | 59.5                                 | 569.5                | 326.8                 | 2.0         | 1.000013            |
| 74500.0                     | 35.6               | -59.2       |                     |                   | 58.0                                 | 569.6                | 63.3                  | .4          | 1.000013            |
| 75000.0                     | 34.8               | -59.0       |                     |                   | 56.5                                 | 570.1                | 78.7                  | 2.3         | 1.000013            |
| 75500.0                     | 33.9               | -58.8       |                     |                   | 55.1                                 | 570.4                | 80.0                  | 4.2         | 1.000012            |
| 76000.0                     | 33.1               | -58.6       |                     |                   | 53.8                                 | 570.7                | 79.5                  | 4.8         | 1.000012            |
| 76500.0                     | 32.3               | -58.4       |                     |                   | 52.4                                 | 570.9                | 77.4                  | 4.5         | 1.000012            |
| 77000.0                     | 31.5               | -58.2       |                     |                   | 51.1                                 | 571.2                | 75.2                  | 4.2         | 1.000011            |
| 77500.0                     | 30.8               | -57.9       |                     |                   | 49.9                                 | 571.5                | 93.0                  | 4.1         | 1.000011            |
| 78000.0                     | 30.1               | -57.7       |                     |                   | 48.6                                 | 571.6                | 114.0                 | 4.5         | 1.000011            |
| 78500.0                     | 29.4               | -57.6       |                     |                   | 47.5                                 | 571.9                | 129.4                 | 5.4         | 1.000011            |
| 79000.0                     | 28.7               | -57.5       |                     |                   | 46.3                                 | 572.0                | 141.4                 | 5.0         | 1.000010            |
| 79500.0                     | 28.0               | -57.5       |                     |                   | 45.2                                 | 572.1                | 154.5                 | 4.9         | 1.000010            |
| 80000.0                     | 27.3               | -57.4       |                     |                   | 44.1                                 | 572.2                | 171.2                 | 5.1         | 1.000010            |
| 80500.0                     | 26.7               | -57.3       |                     |                   | 43.1                                 | 572.5                | 182.8                 | 6.2         | 1.000010            |
| 81000.0                     | 26.1               | -57.3       |                     |                   | 42.1                                 | 572.4                | 208.0                 | 7.9         | 1.000009            |
| 81500.0                     | 25.4               | -57.2       |                     |                   | 41.0                                 | 572.5                | 212.2                 | 10.1        | 1.000009            |
| 82000.0                     | 24.8               | -57.1       |                     |                   | 40.1                                 | 572.6                | 215.3                 | 12.6        | 1.000009            |
| 82500.0                     | 24.3               | -57.0       |                     |                   | 39.1                                 | 572.7                | 214.0                 | 13.1        | 1.000009            |
| 83000.0                     | 23.7               | -57.0       |                     |                   | 38.2                                 | 572.8                | 217.9                 | 15.6        | 1.000008            |
| 83500.0                     | 23.1               | -56.9       |                     |                   | 37.3                                 | 572.9                | 223.3                 | 15.5        | 1.000008            |

STATION ALTITUDE 4126.59 FEET MSL  
 8 MAR 79 0730 HRS MST  
 ASCENSION NO. 107

UPPER AIR DATA  
 0670010107  
 HOLLOWAY

GEODETTIC COORDINATES  
 32.88665 LAT DEG  
 105.09965 LON DEG

| 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 |                           |
| 8400.0                            | 22.6                  | -56.8          |                        | 36.4                 | 573.0                        | 226.7                      | 15.5                     | 1.000008       |                           |
| 8450.0                            | 22.1                  | -56.3          |                        | 35.4                 | 573.7                        | 237.5                      | 14.9                     | 1.000008       |                           |
| 8500.0                            | 21.5                  | -55.4          |                        | 34.5                 | 574.8                        | 246.9                      | 14.7                     | 1.000008       |                           |
| 8550.0                            | 21.0                  | -54.6          |                        | 33.5                 | 575.9                        | 256.5                      | 14.8                     | 1.000007       |                           |
| 8600.0                            | 20.5                  | -53.6          |                        | 32.6                 | 577.0                        | 257.2                      | 14.1                     | 1.000007       |                           |
| 8650.0                            | 20.1                  | -53.0          |                        | 31.7                 | 578.0                        | 254.7                      | 13.0                     | 1.000007       |                           |
| 8700.0                            | 19.6                  | -52.5          |                        | 30.9                 | 578.6                        | 251.6                      | 12.0                     | 1.000007       |                           |
| 8750.0                            | 19.1                  | -52.1          |                        | 30.2                 | 579.2                        | 248.8                      | 11.7                     | 1.000007       |                           |
| 8800.0                            | 18.7                  | -51.7          |                        | 29.4                 | 579.7                        | 246.8                      | 12.3                     | 1.000007       |                           |
| 8850.0                            | 18.3                  | -51.3          |                        | 28.7                 | 580.3                        | 245.0                      | 12.9                     | 1.000006       |                           |
| 8900.0                            | 17.9                  | -50.9          |                        | 28.0                 | 580.8                        | 249.1                      | 13.7                     | 1.000006       |                           |
| 8950.0                            | 17.4                  | -50.6          |                        | 27.3                 | 581.2                        | 257.2                      | 15.8                     | 1.000006       |                           |
| 9000.0                            | 17.1                  | -50.3          |                        | 26.7                 | 581.5                        | 265.5                      | 18.4                     | 1.000006       |                           |
| 9050.0                            | 16.7                  | -50.1          |                        | 26.0                 | 581.9                        | 271.7                      | 21.3                     | 1.000006       |                           |
| 9100.0                            | 16.3                  | -49.8          |                        | 25.4                 | 582.2                        | 272.3                      | 21.4                     | 1.000006       |                           |
| 9150.0                            | 15.9                  | -49.5          |                        | 24.8                 | 582.6                        | 272.0                      | 21.1                     | 1.000006       |                           |
| 9200.0                            | 15.6                  | -49.3          |                        | 24.2                 | 582.9                        | 271.7                      | 20.7                     | 1.000005       |                           |
| 9250.0                            | 15.2                  | -49.0          |                        | 23.6                 | 583.2                        | 271.4                      | 20.4                     | 1.000005       |                           |
| 9300.0                            | 14.9                  | -48.8          |                        | 23.1                 | 583.6                        | 271.2                      | 20.0                     | 1.000005       |                           |
| 9350.0                            | 14.5                  | -48.5          |                        | 22.5                 | 583.9                        | 270.9                      | 19.7                     | 1.000005       |                           |
| 9400.0                            | 14.2                  | -48.2          |                        | 22.0                 | 584.3                        |                            |                          | 1.000005       |                           |
| 9450.0                            | 13.9                  | -48.0          |                        | 21.5                 | 584.6                        |                            |                          | 1.000005       |                           |
| 9500.0                            | 13.6                  | -47.7          |                        | 20.9                 | 584.9                        |                            |                          | 1.000005       |                           |
| 9550.0                            | 13.2                  | -47.5          |                        | 20.4                 | 585.3                        |                            |                          | 1.000005       |                           |
| 9600.0                            | 12.9                  | -47.2          |                        | 20.0                 | 585.6                        |                            |                          | 1.000004       |                           |
| 9650.0                            | 12.6                  | -46.9          |                        | 19.5                 | 585.9                        |                            |                          | 1.000004       |                           |

STATION ALTITUDE 4126.59 FEET MSL  
 8 MAR. 79 0730 HRS MST  
 ASCENSION NO. 107

MRN SIGNIFICANT LEVEL DATA  
 0673010107  
 FOLLOWING

GEODETIC COORDINATES  
 32.62265 LAT DEG  
 106.09985 LON DEG

| GEOPOTENTIAL<br>ALTITUDE<br>METERS | DIRECTION<br>DEG (TN) | WIND DATA    |            | E-W<br>MPS | DEW PT DEP<br>DEG C | TEMPERATURE  |         | PRESSURE<br>MILLIBARS |
|------------------------------------|-----------------------|--------------|------------|------------|---------------------|--------------|---------|-----------------------|
|                                    |                       | SPEED<br>MPS | N-S<br>MPS |            |                     | AIR<br>DEG C |         |                       |
| 2929.                              | 9999.**               | 9999.**      | -9999.**   | -9999.**   | 99                  | -45.9        | 1.260+1 |                       |
| 2702.                              | 248.                  | 7.           | 3.         | 7.         | 99                  | -50.6        | 1.780+1 |                       |
| 2626.                              | 254.                  | 7.           | 2.         | 5.         | 99                  | -52.9        | 2.000+1 |                       |
| 2554.                              | 231.                  | 8.           | 5.         | 6.         | 99                  | -55.8        | 2.240+1 |                       |
| 2389.                              | 116.                  | 2.           | 1.         | -2.        | 99                  | -57.7        | 3.000+1 |                       |
| 2214.                              | 332.                  | 4.           | -3.        | 2.         | 99                  | -59.9        | 3.840+1 |                       |
| 2049.                              | 312.                  | 6.           | -4.        | 5.         | 99                  | -60.1        | 5.000+1 |                       |
| 1641.                              | 272.                  | 9.           | -0.        | 9.         | 99                  | -62.6        | 7.000+1 |                       |
| 1605.                              | 273.                  | 10.          | -1.        | 10.        | 99                  | -65.2        | 7.420+1 |                       |
| 1790.                              | 274.                  | 11.          | -1.        | 11.        | 99                  | -69.0        | 7.600+1 |                       |
| 1745.                              | 285.                  | 15.          | -4.        | 14.        | 99                  | -67.6        | 8.200+1 |                       |
| 1705.                              | 289.                  | 22.          | -7.        | 21.        | 99                  | -69.4        | 8.760+1 |                       |
| 1626.                              | 288.                  | 30.          | -10.       | 29.        | 99                  | -67.6        | 1.000+2 |                       |

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4126.59 FEET MSL  
 8 MAR, 79  
 ASCENSION NO. 107

MANDATORY LEVELS  
 0670010107  
 HOLLOWAY

GEODETIC COORDINATES  
 32.86865 LAT DEG  
 106.09965 LON DEG

| PRESSURE GEOPOTENTIAL |        | TEMPERATURE    |                        | REL. HUM. | WIND DATA                |                |
|-----------------------|--------|----------------|------------------------|-----------|--------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE | PERCENT   | DIRECTION<br>DEGREES(TI) | SPEED<br>KNOTS |
| 850.0                 | 4859.  | 11.7           | -3.2                   | 35.       | 242.2                    | 1.0            |
| 800.0                 | 6514.  | 9.1            | -4.5                   | 36.       | 271.2                    | 3.5            |
| 750.0                 | 8200.  | 6.3            | -6.1                   | 41.       | 292.7                    | 13.6           |
| 700.0                 | 10100. | 3.2            | -7.9                   | 44.       | 281.9                    | 23.1           |
| 650.0                 | 12060. | -1.5           | -17.9                  | 23.       | 252.0                    | 25.3           |
| 600.0                 | 14157. | -5.9           | -21.7                  | 27.       | 278.2                    | 28.3           |
| 550.0                 | 16352. | -10.6          | -25.3                  | 29.       | 280.7                    | 29.3           |
| 500.0                 | 18739. | -14.9          | -27.9                  | 32.       | 293.0                    | 35.9           |
| 450.0                 | 21323. | -21.0          | -33.0                  | 33.       | 295.5                    | 30.9           |
| 400.0                 | 24140. | -27.8          | -38.8                  | 34.       | 300.8                    | 28.5           |
| 350.0                 | 27241. | -35.3          | -45.5                  |           | 281.1                    | 35.5           |
| 300.0                 | 30700. | -44.0          |                        |           | 287.2                    | 32.6           |
| 250.0                 | 34640. | -52.6          |                        |           | 275.8                    | 37.8           |
| 200.0                 | 39278. | -58.8          |                        |           | 278.9                    | 66.1           |
| 175.0                 | 43022. | -59.9          |                        |           | 281.2                    | 80.5           |
| 150.0                 | 45172. | -61.1          |                        |           | 283.8                    | 83.6           |
| 125.0                 | 48867. | -62.0          |                        |           | 285.9                    | 74.5           |
| 100.0                 | 53344. | -67.6          |                        |           | 288.4                    | 58.9           |
| 80.0                  | 57754. | -69.1          |                        |           | 281.1                    | 24.7           |
| 70.0                  | 60389. | -62.6          |                        |           | 272.4                    | 16.2           |
| 60.0                  | 63517. | -61.5          |                        |           | 281.9                    | 15.5           |
| 50.0                  | 67236. | -60.1          |                        |           | 311.5                    | 11.8           |
| 40.0                  | 71808. | -59.9          |                        |           | 345.8                    | 9.0            |
| 30.0                  | 77729. | -57.7          |                        |           | 114.7                    | 4.5            |
| 25.0                  | 81509. | -57.1          |                        |           | 254.9                    | 11.8           |
| 20.0                  | 86166. | -52.9          |                        |           | 254.5                    | 13.0           |
| 15.0                  | 92319. | -46.9          |                        |           | 271.3                    | 20.2           |

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4126.59 FEET MSL  
 8 MAR. 79 0730 HRS MST  
 ASCENSION NO. 107

MR: MANDATORY LEVELS  
 0673010107  
 HOLLOWAY

GEOMETRIC COORDINATES  
 32.88865 LAT DEG  
 106.09965 LON DEG

| GEOPOTENTIAL<br>ALTITUDE<br>DECAMETERS | DIRECTION<br>DEG (TN) | SPEED<br>MPS | WIND DATA  |  | E-W<br>MPS | DEW PT DEP<br>DEG C | TEMPERATURE  |  | PRESSURE<br>MILLIBARS |
|--|-----------------------|--------------|------------|--|------------|---------------------|--------------|--|-----------------------|
|  |                       |              | N-S<br>MPS |  |            |                     | AIR<br>DEG C |  |                       |
| 2614.                                  | 271.                  | 10.          | -0.        |  | 10.        | 99                  | -46.9        |  | 1.500+1               |
| 2620.                                  | 255.                  | 7.           | 2.         |  | 6.         | 99                  | -52.9        |  | 2.000+1               |
| 2454.                                  | 213.                  | 6.           | 5.         |  | 3.         | 99                  | -57.1        |  | 2.500+1               |
| 2369.                                  | 115.                  | 2.           | 1.         |  | -2.        | 99                  | -57.7        |  | 3.000+1               |
| 2169.                                  | 346.                  | 5.           | -4.        |  | 1.         | 99                  | -59.9        |  | 4.000+1               |
| 2049.                                  | 312.                  | 6.           | -4.        |  | 5.         | 99                  | -60.1        |  | 5.000+1               |
| 1935.                                  | 282.                  | 8.           | -2.        |  | 8.         | 99                  | -61.5        |  | 6.000+1               |
| 1841.                                  | 272.                  | 9.           | -0.        |  | 9.         | 99                  | -62.6        |  | 7.000+1               |
| 1760.                                  | 281.                  | 13.          | -2.        |  | 12.        | 99                  | -68.1        |  | 8.000+1               |
| 1620.                                  | 288.                  | 30.          | -10.       |  | 29.        | 99                  | -67.6        |  | 1.000+2               |
| 1489.                                  | 256.                  | 38.          | -11.       |  | 37.        | 99                  | -62.0        |  | 1.250+2               |
| 1377.                                  | 284.                  | 43.          | -10.       |  | 42.        | 99                  | -61.1        |  | 1.500+2               |
| 1281.                                  | 261.                  | 45.          | -9.        |  | 44.        | 99                  | -59.6        |  | 1.750+2               |
| 1197.                                  | 279.                  | 34.          | -5.        |  | 34.        | 99                  | -58.8        |  | 2.000+2               |
| 1055.                                  | 276.                  | 19.          | -2.        |  | 19.        | 99                  | -52.6        |  | 2.500+2               |
| 930.                                   | 287.                  | 17.          | -5.        |  | 16.        | 99                  | -44.0        |  | 3.000+2               |
| 830.                                   | 281.                  | 18.          | -4.        |  | 18.        | 10                  | -35.3        |  | 3.500+2               |
| 736.                                   | 301.                  | 15.          | -8.        |  | 13.        | 11                  | -27.8        |  | 4.000+2               |
| 650.                                   | 295.                  | 18.          | -7.        |  | 14.        | 12                  | -21.0        |  | 4.500+2               |
| 571.                                   | 293.                  | 17.          | -7.        |  | 16.        | 13                  | -14.9        |  | 5.000+2               |
| 498.                                   | 287.                  | 15.          | -4.        |  | 14.        | 15                  | -10.6        |  | 5.500+2               |
| 431.                                   | 278.                  | 15.          | -2.        |  | 14.        | 15                  | -5.9         |  | 6.000+2               |
| 368.                                   | 282.                  | 13.          | -3.        |  | 13.        | 16                  | -1.8         |  | 6.500+2               |
| 308.                                   | 290.                  | 12.          | -4.        |  | 11.        | 11                  | 3.2          |  | 7.000+2               |
| 252.                                   | 293.                  | 7.           | -3.        |  | 8.         | 12                  | 6.3          |  | 7.500+2               |
| 199.                                   | 271.                  | 2.           | -0.        |  | 2.         | 14                  | 9.1          |  | 8.000+2               |
| 148.                                   | 242.                  | 1.           | 0.         |  | 0.         | 15                  | 11.7         |  | 8.500+2               |



GEOGETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

SIGNIFICANT LEVEL DATA  
 0370030033  
 JALLEN

STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR. 79 0420 HRS MST  
 ASCENSION NO. 35

| PRESSURE GEOMETRIC<br>ALTITUDE<br>MILLIBARS MEL FEET | TEMPERATURE<br>AIR<br>DEGREES CENTIGRADE | REL. HUM.<br>PERCENT |
|--|--|----------------------|
| 875.0  | 5.1                                      | 77.0                 |
| 865.4  | 5.0                                      | 39.0                 |
| 850.0  | 5.2                                      | 30.0                 |
| 816.4  | 9.0                                      | 33.0                 |
| 778.8  | 10.7                                     | 35.0                 |
| 700.0  | 9.5                                      | 24.0                 |
| 682.2  | 9.0                                      | 20.0                 |
| 560.0  | -7.0                                     | 24.0                 |
| 400.0  | -12.4                                    | 35.0                 |
| 323.6  | -20.0                                    | 35.0                 |
| 300.0  | -30.9                                    | 35.0                 |
| 250.0  | -41.2                                    |                      |
| 220.2  | -53.1                                    |                      |
| 212.0  | -53.5                                    |                      |
| 200.0  | -54.5                                    |                      |
| 150.0  | -54.8                                    |                      |
| 131.0  | -60.5                                    |                      |
| 122.4  | -64.8                                    |                      |
| 113.2  | -62.8                                    |                      |
| 100.0  | -63.5                                    |                      |
| 92.3   | -69.2                                    |                      |
| 81.8   | -69.5                                    |                      |
| 70.0   | -62.5                                    |                      |
| 66.0   | -67.2                                    |                      |
| 56.0   | -69.9                                    |                      |
| 50.0   | -61.2                                    |                      |
| 30.0   | -60.5                                    |                      |
| 24.1   | -58.5                                    |                      |
| 20.0   | -59.1                                    |                      |
| 17.5   | -55.3                                    |                      |
| 13.4   | -52.0                                    |                      |
|  | -49.5                                    |                      |

STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR. 79 0820 HRS MST  
 ASCENSION NO. 35

UPPER AIR DATA  
 0670030035  
 JALLEN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LONG DEG

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES<br>DEWPOINT<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                |                | INDEX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|--|----------------------|------------------------------|----------------------------|--------------------------|----------------|---------------------------|
|                                |                       |  |                      |                              |                            | DIRECTION<br>DEGREES(TM) | SPEED<br>KNOTS |                           |
| 4051.0                         | 875.0                 | 5.1  | 77.0                 | 1092.3                       | 650.8                      | 0.0                      | 0.0            | 1.000276                  |
| 4500.0                         | 860.6                 | 8.3  | 38.1                 | 1063.2                       | 654.2                      | 358.1                    | 1.6            | 1.000257                  |
| 5000.0                         | 844.9                 | 9.3  | 35.6                 | 1040.5                       | 655.3                      | 353.1                    | 3.4            | 1.000252                  |
| 5500.0                         | 829.5                 | 10.0   | 34.2                 | 1018.9                       | 656.2                      | 350.1                    | 5.2            | 1.000247                  |
| 6000.0                         | 814.5                 | 10.6   | 33.1                 | 997.9                        | 656.9                      | 354.6                    | 6.9            | 1.000242                  |
| 6500.0                         | 799.7                 | 10.1   | 33.8                 | 981.4                        | 656.4                      | 315.0                    | 9.3            | 1.000238                  |
| 7000.0                         | 785.2                 | 9.7  | 34.5                 | 965.3                        | 655.8                      | 300.5                    | 13.2           | 1.000235                  |
| 7500.0                         | 770.9                 | 9.0  | 34.5                 | 949.3                        | 655.1                      | 296.9                    | 14.3           | 1.000230                  |
| 8000.0                         | 755.7                 | 8.1  | 32.4                 | 935.8                        | 653.9                      | 295.1                    | 15.1           | 1.000225                  |
| 8500.0                         | 742.8                 | 7.1  | 30.4                 | 921.9                        | 652.7                      | 298.8                    | 15.0           | 1.000220                  |
| 9000.0                         | 729.2                 | 6.1  | 28.4                 | 908.3                        | 651.5                      | 295.0                    | 15.3           | 1.000215                  |
| 9500.0                         | 715.8                 | 5.2  | 28.4                 | 894.8                        | 650.5                      | 295.2                    | 16.4           | 1.000211                  |
| 10000.0                        | 702.6                 | 4.2  | 28.4                 | 881.6                        | 649.1                      | 296.7                    | 17.8           | 1.000206                  |
| 10500.0                        | 689.4                 | 3.1  | 23.7                 | 868.5                        | 647.8                      | 295.8                    | 19.8           | 1.000202                  |
| 11000.0                        | 676.4                 | 1.9  | 22.3                 | 855.7                        | 646.5                      | 290.6                    | 21.1           | 1.000199                  |
| 11500.0                        | 663.6                 | .8   | 22.8                 | 843.1                        | 645.1                      | 267.5                    | 21.8           | 1.000195                  |
| 12000.0                        | 651.0                 | -.3  | 22.4                 | 830.6                        | 643.7                      | 284.7                    | 22.4           | 1.000192                  |
| 12500.0                        | 638.7                 | -1.5   | 22.0                 | 818.4                        | 642.4                      | 292.3                    | 23.1           | 1.000188                  |
| 13000.0                        | 626.6                 | -2.6   | 21.6                 | 806.3                        | 641.0                      | 281.0                    | 23.8           | 1.000185                  |
| 13500.0                        | 614.7                 | -3.8   | 21.2                 | 794.4                        | 639.6                      | 280.2                    | 24.4           | 1.000182                  |
| 14000.0                        | 603.1                 | -4.9   | 20.8                 | 782.8                        | 638.2                      | 280.6                    | 24.0           | 1.000179                  |
| 14500.0                        | 591.7                 | -6.0   | 20.4                 | 771.3                        | 636.9                      | 281.3                    | 23.3           | 1.000176                  |
| 15000.0                        | 580.4                 | -7.1   | 20.1                 | 759.8                        | 635.5                      | 261.7                    | 24.4           | 1.000173                  |
| 15500.0                        | 569.1                 | -8.1   | 20.6                 | 747.6                        | 634.4                      | 261.8                    | 25.8           | 1.000170                  |
| 16000.0                        | 557.9                 | -9.1   | 21.1                 | 735.7                        | 633.2                      | 261.5                    | 28.1           | 1.000167                  |
| 16500.0                        | 547.0                 | -10.0  | 21.6                 | 723.9                        | 632.1                      | 281.8                    | 29.1           | 1.000165                  |
| 17000.0                        | 535.3                 | -11.0  | 22.2                 | 712.5                        | 630.9                      | 282.7                    | 30.2           | 1.000162                  |
| 17500.0                        | 523.8                 | -12.0  | 22.7                 | 701.0                        | 629.7                      | 283.5                    | 31.7           | 1.000159                  |
| 18000.0                        | 515.5                 | -12.9  | 23.2                 | 689.8                        | 628.6                      | 284.3                    | 33.8           | 1.000157                  |
| 18500.0                        | 505.4                 | -13.9  | 23.7                 | 678.8                        | 627.4                      | 284.7                    | 34.2           | 1.000154                  |
| 19000.0                        | 495.3                 | -15.0  | 24.5                 | 668.1                        | 626.1                      | 285.0                    | 34.2           | 1.000151                  |
| 19500.0                        | 485.2                 | -16.2  | 25.5                 | 657.7                        | 624.5                      | 285.1                    | 33.8           | 1.000149                  |
| 20000.0                        | 475.3                 | -17.3  | 26.5                 | 647.5                        | 623.0                      | 285.0                    | 33.1           | 1.000147                  |
| 20500.0                        | 465.6                 | -18.7  | 27.5                 | 637.4                        | 621.5                      | 290.2                    | 32.5           | 1.000144                  |
| 21000.0                        | 456.1                 | -20.0  | 28.5                 | 627.5                        | 619.9                      | 292.7                    | 31.9           | 1.000142                  |
| 21500.0                        | 446.8                 | -21.3  | 29.5                 | 617.8                        | 618.4                      | 293.4                    | 32.2           | 1.000140                  |
| 22000.0                        | 437.7                 | -22.5  | 30.6                 | 608.2                        | 616.9                      | 293.1                    | 33.0           | 1.000137                  |
| 22500.0                        | 428.8                 | -23.0  | 31.6                 | 598.5                        | 615.3                      | 293.8                    | 33.1           | 1.000135                  |
| 23000.0                        | 420.1                 | -23.0  | 32.6                 | 589.5                        | 613.7                      | 294.9                    | 32.9           | 1.000133                  |
| 23500.0                        | 411.5                 | -23.3  | 33.6                 | 580.5                        | 612.2                      | 295.7                    | 31.9           | 1.000131                  |

STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR. 79 0420 HRS MST  
 ASCENSION NO. 35

UPPER AIR DATA  
 067003035  
 JALLEN

GEOMETRIC ALTITUDE MSL FEET

GEOMETRIC ALTITUDE MSL FEET

GEOMETRIC ALTITUDE MSL FEET

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | AIR TEMPERATURE DEGREES | TEMPERATURE DEWPOINT DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | WIND DIRECTION DEGREES(TM) | WIND SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|-------------------------|---|-------------------|------------------------|----------------------|----------------------------|------------------|---------------------|
| 2400.0                      | 403.1              | -27.5                   | -32.3                                   | 34.5              | 571.6                  | 610.6                | 295.3                      | 30.5             | 1.000129            |
| 2450.0                      | 394.6              | -28.8                   | -39.3                                   | 35.0              | 562.4                  | 609.1                | 299.2                      | 31.4             | 1.000127            |
| 2500.0                      | 386.2              | -30.0                   | -40.4                                   | 35.0              | 553.1                  | 607.6                | 302.5                      | 32.1             | 1.000124            |
| 2550.0                      | 377.9              | -31.2                   | -41.5                                   | 35.0              | 544.0                  | 606.0                | 302.1                      | 32.8             | 1.000122            |
| 2600.0                      | 369.8              | -32.4                   | -42.6                                   | 35.0              | 535.0                  | 604.5                | 300.5                      | 33.4             | 1.000120            |
| 2650.0                      | 361.8              | -33.6                   | -43.7                                   | 35.0              | 526.2                  | 602.9                | 294.7                      | 37.6             | 1.000118            |
| 2700.0                      | 354.1              | -34.9                   | -44.8                                   | 35.0              | 517.6                  | 601.4                | 288.0                      | 39.0             | 1.000116            |
| 2750.0                      | 346.5              | -36.1                   | -45.9                                   | 35.0              | 509.1                  | 599.9                | 282.9                      | 39.9             | 1.000114            |
| 2800.0                      | 339.1              | -37.3                   | -47.1                                   | 35.0              | 500.8                  | 598.3                | 278.5                      | 40.5             | 1.000112            |
| 2850.0                      | 331.8              | -38.5                   | -48.2                                   | 35.0              | 492.6                  | 596.8                | 276.7                      | 40.0             | 1.000110            |
| 2900.0                      | 324.7              | -39.7                   | -49.3                                   | 35.0              | 484.6                  | 595.2                | 279.4                      | 38.8             | 1.000108            |
| 2950.0                      | 317.5              | -41.0                   | -52.9                                   | 26.0**            | 476.4                  | 593.6                | 277.0                      | 37.8             | 1.000106            |
| 3000.0                      | 310.4              | -42.3                   | -58.1                                   | 15.7**            | 468.4                  | 592.0                | 278.6                      | 37.1             | 1.000104            |
| 3050.0                      | 303.6              | -43.5                   | -67.0                                   | 5.4**             | 460.5                  | 590.3                | 279.5                      | 36.4             | 1.000103            |
| 3100.0                      | 295.7              | -44.7                   |   |                   | 452.6                  | 588.8                | 279.5                      | 35.7             | 1.000101            |
| 3150.0                      | 290.0              | -45.9                   |   |                   | 444.4                  | 587.3                | 281.2                      | 36.4             | 1.000099            |
| 3200.0                      | 283.3              | -47.0                   |   |                   | 436.4                  | 585.9                | 284.4                      | 38.5             | 1.000097            |
| 3250.0                      | 276.8              | -48.1                   |   |                   | 428.6                  | 584.4                | 287.1                      | 41.4             | 1.000095            |
| 3300.0                      | 270.6              | -49.2                   |   |                   | 420.9                  | 582.9                | 289.4                      | 44.9             | 1.000093            |
| 3350.0                      | 264.4              | -50.4                   |   |                   | 413.4                  | 581.5                | 289.1                      | 45.1             | 1.000092            |
| 3400.0                      | 258.3              | -51.5                   |   |                   | 406.0                  | 580.0                | 287.7                      | 46.0             | 1.000090            |
| 3450.0                      | 252.4              | -52.6                   |   |                   | 398.8                  | 578.5                | 283.5                      | 46.5             | 1.000089            |
| 3500.0                      | 246.6              | -53.7                   |   |                   | 391.5                  | 577.1                | 278.0                      | 47.7             | 1.000087            |
| 3550.0                      | 240.8              | -54.8                   |   |                   | 384.1                  | 575.7                | 276.1                      | 50.9             | 1.000086            |
| 3600.0                      | 235.1              | -55.9                   |   |                   | 376.9                  | 574.3                | 276.1                      | 55.1             | 1.000084            |
| 3650.0                      | 229.5              | -56.9                   |   |                   | 369.8                  | 572.8                | 276.8                      | 56.1             | 1.000082            |
| 3700.0                      | 224.1              | -58.0                   |   |                   | 362.9                  | 571.4                | 276.1                      | 54.7             | 1.000081            |
| 3750.0                      | 218.6              | -58.1                   |   |                   | 354.5                  | 571.3                | 273.6                      | 55.3             | 1.000079            |
| 3800.0                      | 213.7              | -55.4                   |   |                   | 341.8                  | 574.9                | 278.1                      | 58.2             | 1.000076            |
| 3850.0                      | 208.6              | -54.6                   |   |                   | 332.3                  | 576.0                | 278.1                      | 62.7             | 1.000074            |
| 3900.0                      | 203.7              | -54.7                   |   |                   | 324.9                  | 575.6                | 278.8                      | 70.3             | 1.000072            |
| 3950.0                      | 199.0              | -54.9                   |   |                   | 317.6                  | 573.5                | 279.3                      | 76.7             | 1.000071            |
| 4000.0                      | 194.2              | -55.4                   |   |                   | 310.7                  | 574.9                | 279.7                      | 77.7             | 1.000069            |
| 4050.0                      | 189.6              | -55.9                   |   |                   | 304.0                  | 574.3                | 280.1                      | 78.8             | 1.000068            |
| 4100.0                      | 185.1              | -56.3                   |   |                   | 297.4                  | 573.8                | 280.6                      | 80.1             | 1.000066            |
| 4150.0                      | 180.7              | -56.8                   |   |                   | 291.0                  | 573.0                | 281.1                      | 81.5             | 1.000065            |
| 4200.0                      | 176.4              | -57.3                   |   |                   | 284.7                  | 572.4                | 282.1                      | 81.1             | 1.000063            |
| 4250.0                      | 172.2              | -57.8                   |   |                   | 278.6                  | 571.8                | 283.4                      | 80.3             | 1.000062            |
| 4300.0                      | 168.1              | -58.2                   |   |                   | 272.6                  | 571.1                | 284.2                      | 78.7             | 1.000061            |
| 4350.0                      | 164.2              | -58.7                   |   |                   | 266.7                  | 570.5                | 284.7                      | 76.6             | 1.000059            |

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

UPPER AIR DATA  
 057003Z  
 JALLEN

STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR 79 0820 HRS MST  
 ASCENSION NO. 35

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY GM/CUBIC METER | SPEED OF SOUND KNOTS | DIRECTION DEGREES (TU) | WIND DATA SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|------------------------------------|-------------------|------------------------|----------------------|------------------------|-----------------------|---------------------|
| 4400.0                      | 150.3              | -59.2                              |                   | 250.9                  | 569.9                | 289.6                  | 75.5                  | 1.000058            |
| 4450.0                      | 150.5              | -59.7                              |                   | 255.3                  | 569.2                | 293.8                  | 76.5                  | 1.000057            |
| 4500.0                      | 152.7              | -60.1                              |                   | 249.8                  | 568.6                | 292.4                  | 77.6                  | 1.000055            |
| 4550.0                      | 149.1              | -60.7                              |                   | 244.5                  | 567.9                | 291.8                  | 78.6                  | 1.000054            |
| 4600.0                      | 145.5              | -61.5                              |                   | 239.4                  | 567.3                | 291.6                  | 79.5                  | 1.000053            |
| 4650.0                      | 141.9              | -62.3                              |                   | 234.4                  | 566.6                | 291.5                  | 80.2                  | 1.000052            |
| 4700.0                      | 138.5              | -63.0                              |                   | 229.5                  | 565.7                | 291.5                  | 80.6                  | 1.000051            |
| 4750.0                      | 135.1              | -63.8                              |                   | 224.5                  | 564.7                | 291.9                  | 80.8                  | 1.000050            |
| 4800.0                      | 131.8              | -64.6                              |                   | 220.2                  | 562.9                | 292.1                  | 80.3                  | 1.000049            |
| 4850.0                      | 128.6              | -64.3                              |                   | 214.5                  | 564.1                | 291.9                  | 79.9                  | 1.000048            |
| 4900.0                      | 125.5              | -65.5                              |                   | 208.5                  | 564.0                | 291.5                  | 78.3                  | 1.000046            |
| 4950.0                      | 122.4              | -62.8                              |                   | 202.7                  | 563.5                | 290.2                  | 78.6                  | 1.000045            |
| 5000.0                      | 119.4              | -63.9                              |                   | 198.6                  | 563.5                | 289.0                  | 75.0                  | 1.000044            |
| 5050.0                      | 116.5              | -65.0                              |                   | 195.0                  | 562.0                | 289.6                  | 73.0                  | 1.000043            |
| 5100.0                      | 113.6              | -66.1                              |                   | 191.2                  | 560.5                | 291.1                  | 70.9                  | 1.000043            |
| 5150.0                      | 110.8              | -65.8                              |                   | 187.1                  | 559.7                | 291.4                  | 68.1                  | 1.000042            |
| 5200.0                      | 108.1              | -67.4                              |                   | 182.9                  | 558.9                | 291.8                  | 65.3                  | 1.000041            |
| 5250.0                      | 105.4              | -67.9                              |                   | 178.9                  | 558.1                | 291.0                  | 64.0                  | 1.000040            |
| 5300.0                      | 102.7              | -68.5                              |                   | 174.9                  | 557.3                | 289.9                  | 63.2                  | 1.000039            |
| 5350.0                      | 100.2              | -69.1                              |                   | 171.0                  | 556.6                | 289.8                  | 62.3                  | 1.000038            |
| 5400.0                      | 97.7               | -69.2                              |                   | 167.8                  | 556.4                | 289.0                  | 61.5                  | 1.000037            |
| 5450.0                      | 95.2               | -69.2                              |                   | 162.7                  | 556.3                | 287.2                  | 60.1                  | 1.000036            |
| 5500.0                      | 92.9               | -69.3                              |                   | 158.7                  | 556.2                | 288.2                  | 55.4                  | 1.000035            |
| 5550.0                      | 90.6               | -68.2                              |                   | 153.9                  | 557.7                | 289.3                  | 50.8                  | 1.000034            |
| 5600.0                      | 88.3               | -66.7                              |                   | 149.1                  | 559.7                | 291.5                  | 45.9                  | 1.000033            |
| 5650.0                      | 86.1               | -65.3                              |                   | 144.4                  | 561.7                | 291.6                  | 40.8                  | 1.000032            |
| 5700.0                      | 84.0               | -63.9                              |                   | 139.9                  | 563.5                | 297.9                  | 36.0                  | 1.000031            |
| 5750.0                      | 82.0               | -62.4                              |                   | 135.5                  | 565.5                | 300.3                  | 31.5                  | 1.000030            |
| 5800.0                      | 79.9               | -63.0                              |                   | 132.5                  | 567.7                | 303.4                  | 27.1                  | 1.000030            |
| 5850.0                      | 78.0               | -63.8                              |                   | 129.8                  | 569.7                | 303.3                  | 23.8                  | 1.000029            |
| 5900.0                      | 75.1               | -64.6                              |                   | 127.1                  | 562.9                | 300.5                  | 21.0                  | 1.000028            |
| 5950.0                      | 74.2               | -65.4                              |                   | 124.4                  | 561.9                | 298.7                  | 16.5                  | 1.000028            |
| 6000.0                      | 72.4               | -66.1                              |                   | 121.8                  | 560.5                | 290.7                  | 19.3                  | 1.000027            |
| 6050.0                      | 70.6               | -66.9                              |                   | 119.3                  | 560.5                | 285.2                  | 20.5                  | 1.000027            |
| 6100.0                      | 68.9               | -67.7                              |                   | 116.5                  | 561.5                | 281.7                  | 21.5                  | 1.000026            |
| 6150.0                      | 67.2               | -68.4                              |                   | 114.3                  | 561.5                | 281.4                  | 21.8                  | 1.000025            |
| 6200.0                      | 65.5               | -68.5                              |                   | 111.5                  | 561.3                | 281.0                  | 22.1                  | 1.000025            |
| 6250.0                      | 63.9               | -67.4                              |                   | 108.1                  | 561.6                | 281.3                  | 21.3                  | 1.000024            |
| 6300.0                      | 62.3               | -66.2                              |                   | 104.9                  | 562.5                | 283.2                  | 19.5                  | 1.000023            |
| 6350.0                      | 60.8               | -65.0                              |                   | 101.8                  | 562.0                | 283.3                  | 17.3                  | 1.000023            |

SECRETIC COORDINATES  
 70.14712 LAT DEG  
 106.99011 LON DEG

UPPER AIR DATA  
 067000Z0909  
 JALLER

STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR 79 0820 HRS MST  
 ASCENSION NO. 35

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | AIR TEMPERATURE DEGREES CENTIGRADE | REL. HUM. PERCENT | DENSITY (G/CUBIC METER) | SPEED OF SOUND (KNOTS) | WIND DIRECTION DEGREES(TU) | WIND SPEED (KNOTS) | INDEX OF REFRACTION |
|-----------------------------|--------------------|------------------------------------|-------------------|-------------------------|------------------------|----------------------------|--------------------|---------------------|
| 64000.0                     | 59.3               | -63.9                              |                   | 98.7                    | 560.9                  | 284.7                      | 15.4               | 1.000022            |
| 64500.0                     | 57.8               | -62.7                              |                   | 95.6                    | 555.1                  | 280.5                      | 13.4               | 1.000021            |
| 65000.0                     | 56.4               | -61.6                              |                   | 92.9                    | 549.7                  | 286.9                      | 11.4               | 1.000021            |
| 65500.0                     | 55.1               | -61.1                              |                   | 90.4                    | 547.3                  | 298.2                      | 10.4               | 1.000020            |
| 66000.0                     | 53.7               | -60.9                              |                   | 88.2                    | 547.3                  | 290.2                      | 9.4                | 1.000020            |
| 66500.0                     | 52.4               | -60.8                              |                   | 85.0                    | 547.7                  | 300.9                      | 8.7                | 1.000019            |
| 67000.0                     | 51.2               | -60.6                              |                   | 83.9                    | 547.9                  | 300.0                      | 8.8                | 1.000019            |
| 67500.0                     | 49.9               | -60.5                              |                   | 81.6                    | 548.1                  | 309.0                      | 9.0                | 1.000018            |
| 68000.0                     | 48.8               | -60.5                              |                   | 79.9                    | 548.2                  | 312.2                      | 9.5                | 1.000018            |
| 68500.0                     | 47.6               | -60.4                              |                   | 77.9                    | 548.2                  | 313.7                      | 10.5               | 1.000017            |
| 69000.0                     | 46.4               | -60.4                              |                   | 76.0                    | 548.3                  | 314.9                      | 11.5               | 1.000017            |
| 69500.0                     | 45.3               | -60.3                              |                   | 74.2                    | 548.4                  | 315.9                      | 12.4               | 1.000017            |
| 70000.0                     | 44.3               | -60.3                              |                   | 72.4                    | 548.4                  | 318.6                      | 13.2               | 1.000016            |
| 70500.0                     | 43.2               | -60.2                              |                   | 70.7                    | 548.5                  | 317.2                      | 14.1               | 1.000016            |
| 71000.0                     | 42.2               | -60.2                              |                   | 69.0                    | 548.5                  | 321.1                      | 14.1               | 1.000015            |
| 71500.0                     | 41.1               | -60.1                              |                   | 67.3                    | 548.6                  | 327.2                      | 13.7               | 1.000015            |
| 72000.0                     | 40.2               | -60.1                              |                   | 65.7                    | 548.7                  | 333.5                      | 13.6               | 1.000015            |
| 72500.0                     | 39.2               | -60.0                              |                   | 64.1                    | 548.7                  | 341.9                      | 12.5               | 1.000014            |
| 73000.0                     | 38.3               | -60.0                              |                   | 62.5                    | 548.6                  | 350.1                      | 11.3               | 1.000014            |
| 73500.0                     | 37.3               | -59.9                              |                   | 61.9                    | 548.9                  | 358.5                      | 10.6               | 1.000014            |
| 74000.0                     | 36.5               | -59.8                              |                   | 59.8                    | 548.9                  | 368.5                      | 9.1                | 1.000015            |
| 74500.0                     | 35.6               | -59.8                              |                   | 58.1                    | 549.0                  | 378.0                      | 7.1                | 1.000013            |
| 75000.0                     | 34.7               | -59.8                              |                   | 56.7                    | 549.1                  | 387.7                      | 5.1                | 1.000013            |
| 75500.0                     | 33.9               | -59.7                              |                   | 55.3                    | 549.1                  | 397.7                      | 3.3                | 1.000012            |
| 76000.0                     | 33.1               | -59.7                              |                   | 54.0                    | 549.2                  | 407.4                      | 2.6                | 1.000012            |
| 76500.0                     | 32.3               | -59.6                              |                   | 52.7                    | 549.2                  | 417.9                      | 3.5                | 1.000012            |
| 77000.0                     | 31.5               | -59.6                              |                   | 51.4                    | 549.3                  | 428.9                      | 4.9                | 1.000011            |
| 77500.0                     | 30.8               | -59.5                              |                   | 50.2                    | 549.4                  | 439.8                      | 6.2                | 1.000011            |
| 78000.0                     | 30.0               | -59.5                              |                   | 49.0                    | 549.4                  | 450.8                      | 7.6                | 1.000011            |
| 78500.0                     | 29.3               | -59.5                              |                   | 47.8                    | 549.5                  | 461.5                      | 8.9                | 1.000011            |
| 79000.0                     | 28.6               | -59.4                              |                   | 46.5                    | 549.6                  | 472.5                      | 9.6                | 1.000010            |
| 79500.0                     | 27.9               | -59.4                              |                   | 45.5                    | 549.6                  | 483.2                      | 10.6               | 1.000010            |
| 80000.0                     | 27.3               | -59.3                              |                   | 44.4                    | 549.7                  | 493.6                      | 11.8               | 1.000010            |
| 80500.0                     | 26.6               | -59.3                              |                   | 43.4                    | 549.7                  | 503.9                      | 12.5               | 1.000010            |
| 81000.0                     | 26.0               | -59.2                              |                   | 42.3                    | 549.7                  | 514.5                      | 13.1               | 1.000009            |
| 81500.0                     | 25.4               | -59.2                              |                   | 41.3                    | 549.6                  | 524.8                      | 13.6               | 1.000009            |
| 82000.0                     | 24.8               | -59.1                              |                   | 40.3                    | 549.6                  | 535.7                      | 14.3               | 1.000009            |
| 82500.0                     | 24.2               | -59.1                              |                   | 39.3                    | 549.6                  | 546.9                      | 15.1               | 1.000009            |
| 83000.0                     | 23.6               | -59.1                              |                   | 38.3                    | 549.6                  | 558.4                      | 15.9               | 1.000009            |
| 83500.0                     | 23.0               | -59.2                              |                   | 37.3                    | 549.6                  | 569.9                      | 16.6               | 1.000008            |
| 84000.0                     | 22.5               | -59.2                              |                   | 37.0                    | 549.6                  | 581.2                      |                    |                     |

STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR. 79 0620 HRS MST  
 ASCENSION. NO. 35

UPPER AIR DATA  
 0070039035  
 JALLEN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

| GEOMETRIC ALTITUDE MSL FEET | PRESSURE MILLIBARS | TEMPERATURE AIR DEGREES | REL. HUM. PERCENT | DENSITY G/CM <sup>3</sup> | SPEED OF SOUND KNOTS | WIND DATA DIRECTION DEGREES (TN) | SPEED KNOTS | INDEX OF REFRACTION |
|-----------------------------|--------------------|-------------------------|-------------------|---------------------------|----------------------|----------------------------------|-------------|---------------------|
| 04000.0                     | 22.5               | -57.7                   | 36.4              | 571.8                     | 225.2                | 16.9                             | 1.000008    |                     |
| 04500.0                     | 22.0               | -57.2                   | 35.4              | 573.5                     | 225.2                | 16.9                             | 1.000008    |                     |
| 05000.0                     | 21.4               | -56.7                   | 34.5              | 573.1                     | 225.3                | 16.9                             | 1.000008    |                     |
| 05500.0                     | 20.9               | -56.2                   | 33.6              | 573.2                     | 227.7                | 16.3                             | 1.000007    |                     |
| 06000.0                     | 20.4               | -55.7                   | 32.9              | 574.4                     | 232.7                | 15.0                             | 1.000007    |                     |
| 06500.0                     | 20.0               | -55.3                   | 31.9              | 575.1                     | 236.5                | 13.9                             | 1.000007    |                     |
| 07000.0                     | 19.5               | -54.6                   | 31.1              | 575.9                     | 245.2                | 13.0                             | 1.000007    |                     |
| 07500.0                     | 19.0               | -54.0                   | 30.3              | 576.7                     | 251.5                | 12.9                             | 1.000007    |                     |
| 08000.0                     | 18.6               | -53.4                   | 29.5              | 577.5                     | 258.0                | 13.0                             | 1.000007    |                     |
| 08500.0                     | 18.2               | -52.8                   | 28.7              | 578.3                     | 264.2                | 13.2                             | 1.000006    |                     |
| 09000.0                     | 17.8               | -52.2                   | 28.0              | 579.1                     | 269.1                | 12.6                             | 1.000006    |                     |
| 09500.0                     | 17.3               | -51.9                   | 27.3              | 579.5                     | 273.9                | 11.9                             | 1.000006    |                     |
| 90000.0                     | 16.9               | -51.7                   | 26.6              | 579.8                     | 279.4                | 11.1                             | 1.000006    |                     |
| 90500.0                     | 16.6               | -51.4                   | 26.0              | 580.1                     | 285.4                | 10.6                             | 1.000006    |                     |
| 91000.0                     | 16.2               | -51.2                   | 25.4              | 580.4                     | 288.2                | 12.4                             | 1.000006    |                     |
| 91500.0                     | 15.8               | -51.0                   | 24.8              | 580.6                     | 290.2                | 14.2                             | 1.000006    |                     |
| 92000.0                     | 15.4               | -50.8                   | 24.2              | 580.9                     | 291.8                | 16.0                             | 1.000005    |                     |
| 92500.0                     | 15.1               | -50.6                   | 23.6              | 581.2                     |                      |                                  | 1.000005    |                     |
| 93000.0                     | 14.7               | -50.4                   | 23.1              | 581.5                     |                      |                                  | 1.000005    |                     |
| 93500.0                     | 14.4               | -50.2                   | 22.5              | 581.7                     |                      |                                  | 1.000005    |                     |
| 94000.0                     | 14.1               | -50.0                   | 22.0              | 582.0                     |                      |                                  | 1.000005    |                     |
| 94500.0                     | 13.8               | -49.7                   | 21.4              | 582.3                     |                      |                                  | 1.000005    |                     |
| 95000.0                     | 13.4               | -49.5                   | 20.9              | 582.6                     |                      |                                  | 1.000005    |                     |

STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR. 79 0920 HRS MST  
 ASCENSION NO. 35

MRN SIGNIFICANT LEVEL DATA  
 0570030035  
 VALLEY

GEODETIC COORDINATES  
 32.16712 LAT DEG  
 106.49511 LON DEG

| GEOPCENTRAL<br>ALTITUDE<br>DECAMETERS | DIRECTION<br>DEG (TN) | SPEED<br>MPS | WIND DATA  |          | E-W<br>MPS | DEW PT DEP<br>DEG C | TEMPERATURE  |         | PRESSURE<br>MILLIBARS |
|---------------------------------------|-----------------------|--------------|------------|----------|------------|---------------------|--------------|---------|-----------------------|
|                                       |                       |              | N-S<br>MPS | 9999.**  |            |                     | AIR<br>DEG C |         |                       |
| 2683.                                 | 9999.**               | 9999.**      | -9999.**   | -9999.** | 99         | -49.5               |              | 1.340+1 |                       |
| 2705.                                 | 271.                  | 5.           | -0.        | -0.      | 99         | -52.0               |              | 1.700+1 |                       |
| 2625.                                 | 235.                  | 7.           | 4.         | 0.       | 99         | -55.3               |              | 2.000+1 |                       |
| 2505.                                 | 224.                  | 8.           | 6.         | 5.       | 99         | -58.1               |              | 2.410+1 |                       |
| 2308.                                 | 262.                  | 4.           | 1.         | 4.       | 99         | -59.5               |              | 3.000+1 |                       |
| 2049.                                 | 309.                  | 5.           | -0.        | 4.       | 99         | -60.5               |              | 5.000+1 |                       |
| 1979.                                 | 290.                  | 6.           | -2.        | 5.       | 99         | -61.2               |              | 5.000+1 |                       |
| 1879.                                 | 281.                  | 11.          | -2.        | 11.      | 99         | -63.9               |              | 6.000+1 |                       |
| 1843.                                 | 283.                  | 11.          | -3.        | 10.      | 99         | -67.2               |              | 7.000+1 |                       |
| 1749.                                 | 300.                  | 16.          | -2.        | 14.      | 99         | -62.3               |              | 8.180+1 |                       |
| 1675.                                 | 258.                  | 28.          | -9.        | 27.      | 99         | -68.3               |              | 9.230+1 |                       |
| 1627.                                 | 289.                  | 32.          | -10.       | 30.      | 99         | -69.1               |              | 1.000+2 |                       |

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.

STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR. 79 0820 HRS MST  
 ASCENSION NO. 35

MANDATORY LEVELS  
 0670000000  
 JALLEN

GEODETIC COORDINATES  
 53.16712 LAT DEG  
 106.49511 LON DEG

| PRESSURE GEOPOTENTIAL<br>MILLIBARS | FEET   | TEMPERATURE                  |                        | REL. HUM.<br>PERCENT | WIND DATA                |                |
|------------------------------------|--------|------------------------------|------------------------|----------------------|--------------------------|----------------|
|                                    |        | AIR<br>DEGREES<br>CENTIGRADE | DEWPOINT<br>CENTIGRADE |                      | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |
| 850.0                              | 4833.  | 9.0                          | -5.2                   | 36.                  | 358.1                    | 2.8            |
| 800.0                              | 6485.  | 10.2                         | -5.1                   | 34.                  | 317.6                    | 9.2            |
| 750.0                              | 8239.  | 7.6                          | -8.2                   | 21.                  | 295.9                    | 15.1           |
| 700.0                              | 10091. | 4.0                          | -14.7                  | 24.                  | 296.1                    | 18.2           |
| 650.0                              | 12031. | -4.4                         | -19.3                  | 22.                  | 284.4                    | 22.5           |
| 600.0                              | 14122. | -5.2                         | -21.2                  | 21.                  | 280.8                    | 23.8           |
| 550.0                              | 16354. | -9.6                         | -27.7                  | 21.                  | 281.5                    | 29.7           |
| 500.0                              | 18746. | -14.4                        | -30.5                  | 21.                  | 284.9                    | 34.2           |
| 450.0                              | 21334. | -20.8                        | -34.0                  | 19.                  | 293.5                    | 38.0           |
| 400.0                              | 24159. | -28.0                        | -38.7                  | 35.                  | 296.9                    | 50.3           |
| 350.0                              | 27248. | -35.5                        | -45.4                  |                      | 204.8                    | 39.7           |
| 300.0                              | 30704. | -41.2                        |                        |                      | 279.6                    | 36.1           |
| 250.0                              | 34631. | -53.1                        |                        |                      | 281.3                    | 46.9           |
| 200.0                              | 39000. | -64.6                        |                        |                      | 279.2                    | 75.0           |
| 175.0                              | 42055. | -69.1                        |                        |                      | 202.5                    | 80.9           |
| 150.0                              | 45253. | -77.2                        |                        |                      | 282.4                    | 78.3           |
| 125.0                              | 48339. | -84.4                        |                        |                      | 284.7                    | 78.2           |
| 100.0                              | 53378. | -90.5                        |                        |                      | 288.8                    | 62.3           |
| 60.0                               | 57005. | -96.1                        |                        |                      | 303.2                    | 27.4           |
| 70.0                               | 60473. | -97.2                        |                        |                      | 285.7                    | 20.9           |
| 60.0                               | 63520. | -98.4                        |                        |                      | 283.9                    | 16.5           |
| 50.0                               | 67232. | -99.5                        |                        |                      | 308.6                    | 9.0            |
| 40.0                               | 71797. | -100.1                       |                        |                      | 334.2                    | 13.6           |
| 30.0                               | 77099. | -100.5                       |                        |                      | 262.4                    | 7.5            |
| 25.0                               | 81442. | -100.2                       |                        |                      | 222.5                    | 13.9           |
| 20.0                               | 86066. | -100.3                       |                        |                      | 257.5                    |                |
| 15.0                               | 92171. | -100.5                       |                        |                      |                          |                |

\*\* AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.



STATION ALTITUDE 4051.00 FEET MSL  
 8 MAR. 79 0620 HRS MST  
 ASCENSION NO. 35

MRN MANDATORY LEVELS  
 05700303E  
 JALLEN

GEODETIC COORDINATES  
 33.16712 LAT DEG  
 106.49511 LON DEG

| GEOCENTRAL<br>ALTITUDE<br>DECIMETERS | DIRECTION<br>DEG (TN) | WIND DATA<br>SPEED<br>MPS | WIND DATA<br>N-S<br>MPS | WIND DATA<br>E-W<br>MPS | CLM PT DEP<br>DEG C | TEMPERATURE  |              | PRESSURE<br>MILLIBARS |
|--------------------------------------|-----------------------|---------------------------|-------------------------|-------------------------|---------------------|--------------|--------------|-----------------------|
|                                      |                       |                           |                         |                         |                     | AIR<br>DEG C | DEP<br>DEG C |                       |
| 2809.                                | 999.**                | 999.**                    | -999.**                 | -999.**                 | 99                  | -50.5        | 1.500+1      |                       |
| 2823.                                | 238.                  | 7.                        | 4.                      | 0.                      | 99                  | -55.3        | 2.000+1      |                       |
| 2823.                                | 223.                  | 7.                        | 5.                      | 5.                      | 99                  | -59.2        | 2.500+1      |                       |
| 2358.                                | 262.                  | 4.                        | 1.                      | 4.                      | 99                  | -59.5        | 3.000+1      |                       |
| 2198.                                | 334.                  | 7.                        | -5.                     | 3.                      | 99                  | -60.1        | 4.000+1      |                       |
| 2049.                                | 309.                  | 5.                        | -3.                     | 4.                      | 99                  | -60.5        | 5.000+1      |                       |
| 1930.                                | 284.                  | 0.                        | -2.                     | 0.                      | 99                  | -64.4        | 6.000+1      |                       |
| 1843.                                | 284.                  | 11.                       | -3.                     | 10.                     | 99                  | -67.2        | 7.000+1      |                       |
| 1762.                                | 303.                  | 14.                       | -8.                     | 12.                     | 99                  | -68.0        | 8.000+1      |                       |
| 1627.                                | 289.                  | 32.                       | -10.                    | 30.                     | 99                  | -69.1        | 1.000+2      |                       |
| 1492.                                | 285.                  | 40.                       | -10.                    | 39.                     | 99                  | -63.4        | 1.250+2      |                       |
| 1379.                                | 282.                  | 40.                       | -9.                     | 39.                     | 99                  | -60.5        | 1.500+2      |                       |
| 1283.                                | 283.                  | 42.                       | -9.                     | 41.                     | 99                  | -57.4        | 1.750+2      |                       |
| 1198.                                | 279.                  | 39.                       | -6.                     | 39.                     | 99                  | -54.8        | 2.000+2      |                       |
| 1055.                                | 281.                  | 24.                       | -5.                     | 24.                     | 99                  | -53.1        | 2.500+2      |                       |
| 831.                                 | 285.                  | 19.                       | -5.                     | 18.                     | 99                  | -44.2        | 3.000+2      |                       |
| 736.                                 | 297.                  | 20.                       | -5.                     | 20.                     | 10                  | -35.5        | 3.500+2      |                       |
| 650.                                 | 293.                  | 16.                       | -7.                     | 14.                     | 11                  | -28.0        | 4.000+2      |                       |
| 571.                                 | 265.                  | 16.                       | -7.                     | 15.                     | 15                  | -20.8        | 4.500+2      |                       |
| 498.                                 | 282.                  | 13.                       | -5.                     | 17.                     | 15                  | -14.4        | 5.000+2      |                       |
| 431.                                 | 282.                  | 15.                       | -5.                     | 15.                     | 18                  | -9.8         | 5.500+2      |                       |
| 367.                                 | 284.                  | 12.                       | -2.                     | 12.                     | 19                  | -5.2         | 6.000+2      |                       |
| 309.                                 | 296.                  | 9.                        | -4.                     | 11.                     | 19                  | -4.0         | 6.500+2      |                       |
| 251.                                 | 296.                  | 6.                        | -3.                     | 8.                      | 16                  | 7.6          | 7.000+2      |                       |
| 198.                                 | 310.                  | 5.                        | -5.                     | 3.                      | 15                  | 10.2         | 8.000+2      |                       |
| 147.                                 | 358.                  | 1.                        | -1.                     | 0.                      | 14                  | 9.0          | 8.500+2      |                       |

\*\* WIND DATA NOT COMPUTED DUE TO MISSING RAW AZIMUTH AND ELEVATION ANGLES.