

AD-A054 798 ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/G 4/2  
14819A LANCE MISSILE NO. 3315, ROUND NO. 309 APT (25 JANUARY 19--ETC(U)  
JAN 78

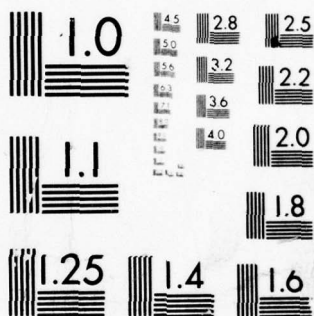
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14819A LANCE MISSILE NO. 3315, ROUND NO. 309 APT (25 JANUARY 19--ETC(U)  
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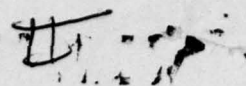
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DR-961  
January 1978

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AD A 054798

METEOROLOGICAL DATA REPORT

14819A LANCE  
MISSILE NO. 3315, ROUND NO. 309 APT  
(25 JANUARY 1978)

BY

WSMR METEOROLOGICAL TEAM

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WHITE SANDS MISSILE RANGE, NEW MEXICO

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| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br><br>Meteorological data gathered for the launching of 14819A Lance,<br>Missile Number 3315, Round Number 309 APT, are presented in tabular form. |                       |                                                                |

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| 71. AUTHOR                | 72. PERFORMING ORG. REPORT NUMBER  |
| 73. AUTHOR                | 74. PERFORMING ORG. REPORT NUMBER  |
| 75. AUTHOR                | 76. PERFORMING ORG. REPORT NUMBER  |
| 77. AUTHOR                | 78. PERFORMING ORG. REPORT NUMBER  |
| 79. AUTHOR                | 80. PERFORMING ORG. REPORT NUMBER  |
| 81. AUTHOR                | 82. PERFORMING ORG. REPORT NUMBER  |
| 83. AUTHOR                | 84. PERFORMING ORG. REPORT NUMBER  |
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| 91. AUTHOR                | 92. PERFORMING ORG. REPORT NUMBER  |
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# INTRODUCTION

14819A Lance, Missile Number 3315, Round Number 309 APT, was launched from LC-39, White Sands Missile Range (WSMR), New Mexico, at 1133 HRS MST, 25 January 1978. The scheduled launch time was 1130 HRS MST.

# DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

|                   |       |                   |
|-------------------|-------|-------------------|
| ELEVATION         | 4,064 | FEET/MSL          |
| PRESSURE          | 877.9 | MBS               |
| TEMPERATURE       | 6.7   | °C                |
| RELATIVE HUMIDITY | 35    | %                 |
| DEW POINT         | -7.5  | °C                |
| DENSITY           | 1,090 | GM/M <sup>3</sup> |
| WIND SPEED        | 02    | MPH               |
| WIND DIRECTION    | 240   | DEGREES           |
| CLOUD COVER       | CLEAR |                   |

TABLE I. SURFACE OBSERVATIONS TAKEN AT LC-39, 1130 HRS MST/25 JANUARY 1978.

|                                 |                                                   |
|---------------------------------|---------------------------------------------------|
| ACCESSION No.                   |                                                   |
| NTIS                            | White Section <input checked="" type="checkbox"/> |
| DDC                             | Buff Section <input type="checkbox"/>             |
| UNANNOUNCED                     | <input type="checkbox"/>                          |
| JUSTIFICATION                   |                                                   |
| BY                              |                                                   |
| DISTRIBUTION/AVAILABILITY CODES |                                                   |
| Dist.                           | AVAIL. and/or SPECIAL                             |
| A. 23                           |                                                   |

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) | HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|------------------|------------------------|----------------|
| SUR              | CALM                   |                | 2100             | 333                    | 08.0           |
| 100              | 200                    | 00.5           | 2200             | 327                    | 07.5           |
| 200              | 239                    | 00.5           | 2300             | 326                    | 07.5           |
| 300              | 270                    | 01.5           | 2400             | 324                    | 07.0           |
| 400              | 264                    | 02.0           | 2500             | 327                    | 10.0           |
| 500              | 258                    | 02.0           | 2600             | 331                    | 13.5           |
| 600              | 254                    | 00.5           | 2700             | 333                    | 15.0           |
| 700              | 292                    | 01.5           | 2800             | 335                    | 16.5           |
| 800              | 330                    | 02.0           | 2900             | 335                    | 16.0           |
| 900              | 338                    | 03.5           | 3000             | 334                    | 15.5           |
| 1000             | 349                    | 05.0           | 3100             | 338                    | 16.0           |
| 1100             | 348                    | 05.0           | 3200             | 343                    | 16.5           |
| 1200             | 347                    | 05.5           | 3300             | 342                    | 19.0           |
| 1300             | 350                    | 07.0           | 3400             | 341                    | 21.5           |
| 1400             | 353                    | 08.0           | 3500             | 345                    | 19.0           |
| 1500             | 344                    | 06.5           | 3600             | 349                    | 17.0           |
| 1600             | 334                    | 05.0           | 3700             | 350                    | 20.5           |
| 1700             | 334                    | 05.5           | 3800             | 351                    | 24.0           |
| 1800             | 335                    | 06.0           | 3900             | 353                    | 25.0           |
| 1900             | 336                    | 07.5           | 4000             | 355                    | 26.0           |
| 2000             | 337                    | 09.0           | 4100             | 353                    | 28.0           |

TABLE II. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1  
RELEASED FROM LC-39, AT 1:20 MST/25 JANUARY 1978  
14819A LANCE, MISSILE NO. 3315, ROUND NO. 309 APT.

PIBAL RELEASE POINT WSTM COORDINATES:

X = 530,938.82      Y = 186,564.96      Z = 4,063.75

APPROXIMATELY: 1 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 4200             | 352                    | 30.5           |
| 4300             | 352                    | 27.5           |
| 4400             | 353                    | 24.5           |
| 4500             | 351                    | 24.5           |
| 4600             | 348                    | 25.0           |
| 4700             | 348                    | 27.0           |
| 4800             | 348                    | 28.5           |
| 4900             | 348                    | 28.0           |
| 5000             | 349                    | 27.5           |
| 5100             | 346                    | 26.0           |
| 5200             | 344                    | 24.0           |
| 5300             | 344                    | 25.5           |
| 5400             | 344                    | 27.0           |
| 5500             | 345                    | 29.5           |
| 5600             | 346                    | 32.0           |
| 5700             | 346                    | 32.0           |
| 5800             | 345                    | 32.5           |
| 5900             | 345                    | 33.0           |
| 6000             | 345                    | 33.5           |
| 6100             | 347                    | 34.0           |
| 6200             | 348                    | 34.5           |
| 6300             | 349                    | 35.0           |
| 6400             | 350                    | 36.0           |
| 6500             | 350                    | 37.0           |
| 6600             | 350                    | 38.0           |

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 6700             | 350                    | 39.0           |
| 6800             | 351                    | 39.5           |
| 6900             | 350                    | 40.5           |
| 7000             | 349                    | 41.5           |
| 7100             | 350                    | 41.5           |
| 7200             | 351                    | 41.5           |
| 7300             | 350                    | 42.0           |
| 7400             | 349                    | 43.0           |
| 7500             | 348                    | 40.5           |
| 7600             | 348                    | 38.5           |
| 7700             | 348                    | 39.5           |
| 7800             | 348                    | 40.5           |
| 7900             | 347                    | 39.0           |
| 8000             | 347                    | 38.0           |
| 8100             | 345                    | 39.5           |
| 8200             | 343                    | 41.0           |
| 8300             | 343                    | 41.5           |
| 8400             | 342                    | 42.0           |
| 8500             | 342                    | 40.0           |
| 8600             | 343                    | 37.5           |
| 8700             | 341                    | 39.5           |
| 8800             | 339                    | 41.0           |
| 8900             | 339                    | 39.5           |
| 9000             | 338                    | 38.5           |

TABLE II. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) | HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|------------------|------------------------|----------------|
| SUR              | 240                    | 02.0           | 2100             | 326                    | 08.0           |
| 100              | 210                    | 01.5           | 2200             | 325                    | 10.0           |
| 200              | 180                    | 00.5           | 2300             | 328                    | 11.0           |
| 300              | 265                    | 02.0           | 2400             | 332                    | 12.0           |
| 400              | 347                    | 03.5           | 2500             | 332                    | 14.0           |
| 500              | 337                    | 03.0           | 2600             | 333                    | 16.5           |
| 600              | 327                    | 03.0           | 2700             | 338                    | 18.5           |
| 700              | 334                    | 04.0           | 2800             | 343                    | 20.0           |
| 800              | 332                    | 04.5           | 2900             | 343                    | 18.0           |
| 900              | 337                    | 04.0           | 3000             | 344                    | 16.0           |
| 1000             | 342                    | 03.5           | 3100             | 340                    | 16.0           |
| 1100             | 337                    | 04.0           | 3200             | 337                    | 15.5           |
| 1200             | 333                    | 04.0           | 3300             | 340                    | 16.0           |
| 1300             | 330                    | 04.0           | 3400             | 342                    | 16.0           |
| 1400             | 327                    | 03.5           | 3500             | 343                    | 15.5           |
| 1500             | 322                    | 04.0           | 3600             | 344                    | 15.5           |
| 1600             | 318                    | 04.5           | 3700             | 346                    | 18.5           |
| 1700             | 316                    | 05.0           | 3800             | 348                    | 21.5           |
| 1800             | 312                    | 05.0           | 3900             | 349                    | 22.5           |
| 1900             | 304                    | 05.5           | 4000             | 350                    | 23.0           |
| 2000             | 297                    | 06.0           | 4100             | 350                    | 24.0           |

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 2  
RELEASED FROM LC-39, AT 1130/25 JANUARY 1978  
14819A LANCE, MISSILE NO. 3315, ROUND NO. 309 APT.

PIBAL RELEASE POINT WSTM COORDINATES:

X = 530,938.82    Y = 186,564.96    Z = 4,063.75

APPROXIMATELY: 1 MILE SOUTH OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 4200             | 350                    | 25.5           |
| 4300             | 349                    | 25.5           |
| 4400             | 348                    | 25.5           |
| 4500             | 347                    | 25.0           |
| 4600             | 345                    | 24.0           |
| 4700             | 345                    | 24.0           |
| 4800             | 346                    | 24.0           |
| 4900             | 346                    | 25.0           |
| 5000             | 347                    | 26.5           |
| 5100             | 347                    | 26.0           |
| 5200             | 346                    | 25.0           |
| 5300             | 345                    | 25.0           |
| 5400             | 344                    | 24.5           |
| 5500             | 344                    | 27.5           |
| 5600             | 344                    | 30.0           |
| 5700             | 344                    | 30.5           |
| 5800             | 344                    | 31.0           |
| 5900             | 346                    | 33.0           |
| 6000             | 347                    | 34.5           |
| 6100             | 347                    | 35.0           |
| 6200             | 347                    | 35.5           |
| 6300             | 348                    | 35.5           |
| 6400             | 349                    | 35.5           |
| 6500             | 349                    | 37.0           |
| 6600             | 349                    | 38.5           |

| HEIGHT<br>(FEET) | DIIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|-------------------------|----------------|
| 6700             | 349                     | 39.0           |
| 6800             | 349                     | 39.5           |
| 6900             | 349                     | 40.5           |
| 7000             | 350                     | 41.5           |
| 7100             | 350                     | 42.0           |
| 7200             | 350                     | 42.5           |
| 7300             | 349                     | 43.0           |
| 7400             | 348                     | 43.0           |
| 7500             | 348                     | 41.5           |
| 7600             | 348                     | 40.5           |
| 7700             | 348                     | 41.0           |
| 7800             | 347                     | 42.0           |
| 7900             | 346                     | 41.0           |
| 8000             | 345                     | 40.0           |
| 8100             | 345                     | 40.5           |
| 8200             | 344                     | 41.0           |
| 8300             | 343                     | 39.5           |
| 8400             | 342                     | 38.0           |
| 8500             | 341                     | 38.0           |
| 8600             | 340                     | 38.0           |
| 8700             | 340                     | 37.5           |
| 8800             | 340                     | 37.0           |
| 8900             | 338                     | 38.0           |
| 9000             | 336                     | 38.5           |

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 3989.00 FEET NSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 65

SIGNIFICANT LEVEL DATA  
0250020065  
WHITE SANDS  
TABLE IV.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

| PRESSURE GEOMETRIC |                      | TEMPERATURE    |                        | REL. HUM. |
|--------------------|----------------------|----------------|------------------------|-----------|
| MILLIBARS          | ALTITUDE<br>MSL FEET | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |           |
| 882.0              | 3989.0               | 5.3            | -7.8                   | 38.0      |
| 874.4              | 4223.8               | 2.8            | -8.8                   | 42.0      |
| 850.0              | 4972.4               | .6             | -9.7                   | 46.0      |
| 768.6              | 7599.2               | -4.4           | -13.7                  | 48.0      |
| 758.8              | 7932.1               | -2.4           | -12.4                  | 46.0      |
| 729.8              | 8945.4               | -3.2           | -13.1                  | 46.0      |
| 700.0              | 10029.5              | -2.2           | -13.4                  | 42.0      |
| 625.4              | 12937.9              | -7.1           | -17.2                  | 43.0      |
| 616.4              | 13308.5              | -7.1           | -19.6                  | 36.0      |
| 599.2              | 14032.1              | -7.1           | -19.3                  | 37.0      |
| 539.6              | 16681.3              | -12.8          | -24.7                  | 36.0      |
| 500.0              | 18568.6              | -17.8          | -29.2                  | 36.0      |
| 475.2              | 19811.1              | -19.7          | -31.5                  | 34.0      |
| 400.0              | 23920.3              | -29.2          | -40.3                  | 34.0      |
| 322.4              | 28848.7              | -40.3          | -50.3                  | 33.0      |
| 300.0              | 30444.7              | -43.6          |                        |           |
| 250.0              | 34364.6              | -54.1          |                        |           |
| 228.6              | 36229.2              | -57.3          |                        |           |
| 200.0              | 38970.6              | -60.8          |                        |           |
| 179.0              | 41233.1              | -59.6          |                        |           |
| 162.4              | 43226.0              | -59.0          |                        |           |
| 150.0              | 44865.1              | -56.2          |                        |           |
| 143.0              | 45654.0              | -57.6          |                        |           |
| 122.3              | 48984.1              | -59.0          |                        |           |
| 100.0              | 53149.0              | -63.4          |                        |           |
| 76.0               | 58580.9              | -68.5          |                        |           |
| 70.0               | 60219.8              | -62.4          |                        |           |
| 67.0               | 61112.9              | -57.3          |                        |           |
| 55.8               | 64817.1              | -65.2          |                        |           |
| 50.0               | 67012.8              | -64.3          |                        |           |

GEOMETRIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

SIGNIFICANT LEVEL DATA

0250020065  
WHITE SANDS  
TABLE IV. (CONT)

STATION ALTITUDE 3909.00 FEET MSL  
25 JAN. 78  
ASCENSION NO. 65

| PRESSURE GEOMETRIC ALTITUDE |          | TEMPERATURE AIR DEW POINT |            | REL. HUM. |
|-----------------------------|----------|---------------------------|------------|-----------|
| MILLIBARS                   | MSL FEET | DEGREES                   | CENTIGRADE | PERCENT   |
| 36.6                        | 73202.6  | -61.1                     |            |           |
| 30.0                        | 77364.1  | -58.4                     |            |           |
| 20.0                        | 85728.5  | -55.4                     |            |           |
| 10.0                        | 100309.0 | -49.4                     |            |           |
| 8.9                         | 102797.6 | -46.3                     |            |           |

# UPPER AIR DATA

STATION ALTITUDE 3909.00 FEET MSL  
25 JAN. 78  
ASCENSION NO. 60

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

0250020065  
WHITE SANDS  
TABLE V.

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF SOUND |        | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|----------------|------------------------|----------------------|------------------------------|----------------|--------|---------------------------|----------------|---------------------------|
|                                |                       | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |                              | KNOTS          | KT/SEC | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 3989.0                         | 682.0                 | 5.3            | -7.8                   | 38.0                 | 1101.9                       | 650.6          | .0     | .0                        | .0             | 1.000262                  |
| 4000.0                         | 881.6                 | 5.2            | -7.9                   | 38.2                 | 1101.9                       | 650.4          | 302.0  | 302.0                     | .0             | 1.000262                  |
| 4500.0                         | 865.3                 | 2.0            | -9.1                   | 43.5                 | 1094.2                       | 646.6          | 302.0  | 302.0                     | .6             | 1.000259                  |
| 5000.0                         | 849.1                 | .5             | -9.7                   | 46.0                 | 1079.3                       | 644.9          | 302.0  | 302.0                     | 1.2            | 1.000255                  |
| 5500.0                         | 833.0                 | -.4            | -10.5                  | 46.4                 | 1062.6                       | 643.8          | 302.0  | 302.0                     | 1.8            | 1.000251                  |
| 6000.0                         | 817.2                 | -1.4           | -11.2                  | 46.8                 | 1046.1                       | 642.6          | 302.0  | 302.0                     | 2.4            | 1.000246                  |
| 6500.0                         | 801.7                 | -2.3           | -12.0                  | 47.2                 | 1029.9                       | 641.5          | 314.6  | 314.6                     | 9.1            | 1.000242                  |
| 7000.0                         | 786.5                 | -3.3           | -12.8                  | 47.5                 | 1014.0                       | 640.4          | 316.5  | 316.5                     | 16.1           | 1.000238                  |
| 7500.0                         | 771.5                 | -4.2           | -13.6                  | 47.9                 | 998.3                        | 639.2          | 322.2  | 322.2                     | 21.3           | 1.000234                  |
| 8000.0                         | 756.8                 | -2.5           | -12.5                  | 46.0                 | 972.8                        | 641.3          | 326.2  | 326.2                     | 26.4           | 1.000229                  |
| 8500.0                         | 742.4                 | -2.8           | -12.8                  | 46.0                 | 955.7                        | 640.9          | 331.0  | 331.0                     | 26.3           | 1.000225                  |
| 9000.0                         | 728.3                 | -3.2           | -13.2                  | 45.8                 | 938.6                        | 640.5          | 335.6  | 335.6                     | 26.2           | 1.000221                  |
| 9500.0                         | 714.4                 | -2.7           | -13.3                  | 44.0                 | 919.3                        | 641.0          | 333.4  | 333.4                     | 29.3           | 1.000216                  |
| 10000.0                        | 700.8                 | -2.3           | -13.4                  | 42.1                 | 900.4                        | 641.5          | 331.9  | 331.9                     | 32.3           | 1.000212                  |
| 10500.0                        | 687.4                 | -3.1           | -14.1                  | 42.2                 | 882.6                        | 640.6          | 332.0  | 332.0                     | 34.7           | 1.000206                  |
| 11000.0                        | 674.2                 | -3.9           | -14.8                  | 42.5                 | 871.3                        | 639.6          | 331.6  | 331.6                     | 36.7           | 1.000204                  |
| 11500.0                        | 661.2                 | -4.7           | -15.5                  | 42.5                 | 857.3                        | 638.6          | 328.5  | 328.5                     | 37.1           | 1.000201                  |
| 12000.0                        | 648.5                 | -5.6           | -16.2                  | 42.7                 | 843.4                        | 637.6          | 325.5  | 325.5                     | 37.7           | 1.000197                  |
| 12500.0                        | 636.1                 | -6.4           | -16.9                  | 42.8                 | 829.9                        | 636.6          | 322.8  | 322.8                     | 38.9           | 1.000194                  |
| 13000.0                        | 623.9                 | -7.1           | -17.8                  | 41.8                 | 816.2                        | 635.7          | 320.6  | 320.6                     | 40.0           | 1.000190                  |
| 13500.0                        | 611.6                 | -7.1           | -19.5                  | 36.3                 | 800.4                        | 635.7          | 321.3  | 321.3                     | 40.8           | 1.000185                  |
| 14000.0                        | 600.0                 | -7.1           | -19.3                  | 37.0                 | 784.9                        | 635.7          | 322.0  | 322.0                     | 41.5           | 1.000182                  |
| 14500.0                        | 588.2                 | -8.1           | -20.2                  | 36.8                 | 772.5                        | 634.5          | 323.1  | 323.1                     | 41.3           | 1.000179                  |
| 15000.0                        | 576.7                 | -9.2           | -21.3                  | 36.6                 | 760.5                        | 633.2          | 324.0  | 324.0                     | 41.4           | 1.000175                  |
| 15500.0                        | 565.4                 | -10.5          | -22.5                  | 36.4                 | 748.7                        | 631.9          | 324.5  | 324.5                     | 42.5           | 1.000172                  |
| 16000.0                        | 554.5                 | -11.3          | -23.5                  | 36.3                 | 737.1                        | 630.6          | 324.8  | 324.8                     | 43.5           | 1.000169                  |
| 16500.0                        | 543.5                 | -12.4          | -24.3                  | 36.1                 | 725.7                        | 629.5          | 324.4  | 324.4                     | 44.0           | 1.000166                  |
| 17000.0                        | 532.7                 | -13.6          | -25.5                  | 36.0                 | 714.7                        | 627.7          | 323.9  | 323.9                     | 44.4           | 1.000164                  |
| 17500.0                        | 522.0                 | -15.0          | -26.6                  | 36.0                 | 704.1                        | 626.1          | 322.5  | 322.5                     | 44.3           | 1.000161                  |
| 18000.0                        | 511.6                 | -16.3          | -27.8                  | 36.0                 | 693.6                        | 624.5          | 321.1  | 321.1                     | 44.2           | 1.000158                  |

STATION ALTITUDE 3929.00 FEET MSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 65

UPPER AIR DATA  
0250020065  
WHITE SANDS  
TABLE V. (CONT)

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | TEMPERATURE<br>DEWPOINT<br>CENTIGRADE | RFL. 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 (TN) | SPEED<br>KNOTS |                           |
| 16500.0                           | 501.4                 | -17.6                                       | -29.0                                 | 36.0                 | 683.3                        | 622.9                      | 319.6                     | 44.5           | 1.000155                  |
| 17000.0                           | 491.2                 | -18.5                                       | -30.0                                 | 35.3                 | 671.7                        | 621.6                      | 318.9                     | 45.0           | 1.000153                  |
| 17500.0                           | 481.3                 | -19.2                                       | -30.9                                 | 34.5                 | 660.1                        | 620.9                      | 319.9                     | 46.0           | 1.000150                  |
| 20000.0                           | 471.5                 | -20.2                                       | -31.9                                 | 34.0                 | 640.9                        | 619.8                      | 321.5                     | 46.4           | 1.000147                  |
| 20500.0                           | 461.7                 | -21.3                                       | -33.0                                 | 34.0                 | 638.5                        | 618.3                      | 323.9                     | 46.1           | 1.000144                  |
| 21000.0                           | 452.1                 | -22.5                                       | -34.0                                 | 34.0                 | 628.3                        | 616.8                      | 325.2                     | 46.3           | 1.000142                  |
| 21500.0                           | 442.7                 | -23.7                                       | -35.1                                 | 34.0                 | 618.2                        | 615.5                      | 326.0                     | 46.8           | 1.000140                  |
| 22000.0                           | 433.5                 | -24.9                                       | -36.2                                 | 34.0                 | 608.3                        | 613.9                      | 325.5                     | 47.4           | 1.000137                  |
| 22500.0                           | 424.5                 | -26.1                                       | -37.2                                 | 34.0                 | 598.5                        | 612.4                      | 324.9                     | 47.9           | 1.000135                  |
| 23000.0                           | 415.7                 | -27.3                                       | -38.3                                 | 34.0                 | 589.0                        | 610.9                      | 325.0                     | 47.3           | 1.000133                  |
| 23500.0                           | 407.1                 | -28.5                                       | -39.4                                 | 34.0                 | 579.6                        | 609.4                      | 324.7                     | 47.1           | 1.000130                  |
| 24000.0                           | 398.6                 | -29.7                                       | -40.4                                 | 34.0                 | 570.2                        | 607.9                      | 323.8                     | 47.6           | 1.000126                  |
| 24500.0                           | 390.0                 | -30.8                                       | -41.5                                 | 33.9                 | 560.4                        | 606.6                      | 322.1                     | 47.8           | 1.000126                  |
| 25000.0                           | 381.5                 | -31.9                                       | -42.5                                 | 33.8                 | 550.8                        | 605.2                      | 320.1                     | 48.0           | 1.000124                  |
| 25500.0                           | 373.3                 | -33.0                                       | -43.5                                 | 33.7                 | 541.3                        | 603.6                      | 319.3                     | 48.4           | 1.000121                  |
| 26000.0                           | 365.2                 | -34.1                                       | -44.5                                 | 33.6                 | 532.1                        | 602.4                      | 318.6                     | 48.7           | 1.000119                  |
| 26500.0                           | 357.3                 | -35.2                                       | -45.5                                 | 33.5                 | 522.9                        | 601.6                      | 317.7                     | 48.6           | 1.000117                  |
| 27000.0                           | 349.6                 | -36.2                                       | -46.5                                 | 33.4                 | 514.0                        | 599.7                      | 316.3                     | 48.5           | 1.000115                  |
| 27500.0                           | 342.0                 | -37.3                                       | -47.5                                 | 33.3                 | 505.2                        | 598.3                      | 314.1                     | 48.2           | 1.000113                  |
| 28000.0                           | 334.6                 | -38.4                                       | -48.5                                 | 33.2                 | 496.6                        | 596.9                      | 311.7                     | 47.9           | 1.000111                  |
| 28500.0                           | 327.4                 | -39.5                                       | -49.6                                 | 33.1                 | 488.1                        | 595.5                      | 309.1                     | 47.8           | 1.000109                  |
| 29000.0                           | 320.2                 | -40.6                                       | -51.4                                 | 29.9**               | 479.7                        | 594.1                      | 306.8                     | 48.0           | 1.000107                  |
| 29500.0                           | 313.1                 | -41.6                                       | -55.8                                 | 19.5**               | 471.1                        | 592.8                      | 304.6                     | 48.5           | 1.000105                  |
| 30000.0                           | 306.1                 | -42.7                                       | -62.5                                 | 9.2**                | 462.6                        | 591.4                      | 301.7                     | 49.1           | 1.000103                  |
| 30500.0                           | 299.2                 | -43.7                                       |                                       |                      | 454.4                        | 590.1                      | 296.7                     | 49.9           | 1.000101                  |
| 31000.0                           | 292.4                 | -45.1                                       |                                       |                      | 446.0                        | 588.5                      | 295.5                     | 48.9           | 1.000099                  |
| 31500.0                           | 285.6                 | -46.4                                       |                                       |                      | 438.9                        | 586.6                      | 292.5                     | 48.1           | 1.000096                  |
| 32000.0                           | 279.1                 | -47.8                                       |                                       |                      | 431.3                        | 584.9                      | 291.1                     | 47.2           | 1.000096                  |
| 32500.0                           | 272.7                 | -49.1                                       |                                       |                      | 423.9                        | 583.1                      | 289.6                     | 46.6           | 1.000094                  |
| 33000.0                           | 266.4                 | -50.4                                       |                                       |                      | 416.7                        | 581.4                      | 289.1                     | 47.2           | 1.000093                  |

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

GEOMETRIC COORDINATES  
32.40043 LAT DEG  
106.57033 LON DEG

UPPER AIR DATA  
0250020165  
WHITE SANDS  
TABLE V. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
25 JAN. 78  
ASCENSION NO. 65  
1145 HRS MST

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | RFL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup> | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|----------------------|-------------------------------|----------------------------|---------------------------|----------------|---------------------------|
|                                   |                       |                                             |                      |                               |                            | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 33500.0                           | 260.3                 | -51.8                                       |                      | 405.6                         | 579.6                      | 288.6                     | 48.6           | 1.0000691                 |
| 34000.0                           | 254.3                 | -53.1                                       |                      | 402.6                         | 577.9                      | 288.4                     | 51.8           | 1.0000090                 |
| 34500.0                           | 248.4                 | -54.3                                       |                      | 395.4                         | 576.3                      | 288.8                     | 56.2           | 1.0000088                 |
| 35000.0                           | 242.5                 | -55.2                                       |                      | 387.0                         | 575.2                      | 289.7                     | 62.3           | 1.0000086                 |
| 35500.0                           | 236.7                 | -56.0                                       |                      | 379.9                         | 574.0                      | 290.5                     | 68.5           | 1.0000085                 |
| 36000.0                           | 231.1                 | -56.9                                       |                      | 372.3                         | 572.9                      | 291.5                     | 74.9           | 1.0000083                 |
| 36500.0                           | 225.6                 | -57.6                                       |                      | 364.7                         | 571.9                      | 292.5                     | 80.6           | 1.0000081                 |
| 37000.0                           | 220.2                 | -58.3                                       |                      | 357.0                         | 571.1                      | 294.0                     | 84.8           | 1.0000079                 |
| 37500.0                           | 214.9                 | -58.9                                       |                      | 349.4                         | 570.2                      | 295.3                     | 88.1           | 1.0000078                 |
| 38000.0                           | 209.7                 | -59.6                                       |                      | 342.0                         | 569.4                      | 296.2                     | 88.5           | 1.0000076                 |
| 38500.0                           | 204.6                 | -60.2                                       |                      | 334.6                         | 568.5                      | 296.8                     | 88.7           | 1.0000075                 |
| 39000.0                           | 199.7                 | -60.8                                       |                      | 327.6                         | 567.7                      | 295.8                     | 88.0           | 1.0000073                 |
| 39500.0                           | 194.9                 | -60.5                                       |                      | 319.3                         | 568.1                      | 294.5                     | 87.7           | 1.0000071                 |
| 40000.0                           | 190.2                 | -60.3                                       |                      | 311.2                         | 568.4                      | 292.8                     | 88.7           | 1.0000069                 |
| 40500.0                           | 185.6                 | -60.0                                       |                      | 303.2                         | 568.6                      | 291.1                     | 89.0           | 1.0000068                 |
| 41000.0                           | 181.1                 | -59.7                                       |                      | 295.5                         | 569.1                      | 289.6                     | 90.0           | 1.0000066                 |
| 41500.0                           | 176.7                 | -59.5                                       |                      | 288.1                         | 569.4                      | 287.9                     | 89.9           | 1.0000064                 |
| 42000.0                           | 172.4                 | -59.4                                       |                      | 281.0                         | 569.6                      | 285.8                     | 89.2           | 1.0000063                 |
| 42500.0                           | 168.3                 | -59.2                                       |                      | 274.0                         | 569.8                      | 284.1                     | 88.7           | 1.0000061                 |
| 43000.0                           | 164.2                 | -59.1                                       |                      | 267.2                         | 570.0                      | 282.9                     | 88.4           | 1.0000060                 |
| 43500.0                           | 160.3                 | -58.5                                       |                      | 260.1                         | 570.7                      | 282.7                     | 87.6           | 1.0000058                 |
| 44000.0                           | 156.4                 | -57.7                                       |                      | 252.9                         | 571.9                      | 282.8                     | 86.6           | 1.0000056                 |
| 44500.0                           | 152.7                 | -56.8                                       |                      | 245.9                         | 573.0                      | 282.7                     | 85.2           | 1.0000055                 |
| 45000.0                           | 149.0                 | -56.4                                       |                      | 239.5                         | 573.5                      | 282.6                     | 83.7           | 1.0000053                 |
| 45500.0                           | 145.5                 | -57.2                                       |                      | 234.7                         | 572.5                      | 282.1                     | 82.6           | 1.0000052                 |
| 46000.0                           | 142.0                 | -57.9                                       |                      | 229.7                         | 571.6                      | 281.5                     | 81.4           | 1.0000051                 |
| 46500.0                           | 138.6                 | -58.0                                       |                      | 224.4                         | 571.4                      | 280.8                     | 79.1           | 1.0000050                 |
| 47000.0                           | 135.2                 | -58.2                                       |                      | 219.2                         | 571.1                      | 280.0                     | 76.6           | 1.0000049                 |
| 47500.0                           | 132.0                 | -58.4                                       |                      | 214.2                         | 570.9                      | 279.1                     | 73.3           | 1.0000048                 |
| 48000.0                           | 128.8                 | -58.6                                       |                      | 209.2                         | 570.6                      | 278.1                     | 69.7           | 1.0000047                 |

STATION ALTITUDE 3909.00 FEET MSL  
25 JAN. 78  
ASCENSION NO. 65

UPPER AIR DATA  
0250020065  
WHITE SANDS  
TABLE V. (CONT)

GEOMETRIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND<br>KNOTS | DIRECTION<br>DEGREES(TN) | WIND DATA<br>SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|----------------------|------------------------------|----------------------------|--------------------------|-----------------------------|---------------------------|
| 40500.0                           | 125.7                 | -58.6                                       |                      | 204.3                        | 570.4                      | 277.1                    | 66.5                        | 1.000046                  |
| 44000.0                           | 122.7                 | -59.0                                       |                      | 199.6                        | 570.1                      | 276.4                    | 63.6                        | 1.000044                  |
| 44500.0                           | 119.7                 | -59.5                                       |                      | 195.2                        | 569.4                      | 275.6                    | 61.0                        | 1.000043                  |
| 50300.0                           | 116.8                 | -60.1                                       |                      | 191.0                        | 568.7                      | 274.9                    | 59.1                        | 1.000043                  |
| 50500.0                           | 114.0                 | -60.6                                       |                      | 186.8                        | 568.0                      | 274.7                    | 57.7                        | 1.000042                  |
| 51000.0                           | 111.2                 | -61.1                                       |                      | 182.7                        | 567.3                      | 276.1                    | 57.9                        | 1.000041                  |
| 51500.0                           | 108.5                 | -61.7                                       |                      | 178.7                        | 566.6                      | 278.0                    | 56.5                        | 1.000040                  |
| 52000.0                           | 105.8                 | -62.2                                       |                      | 174.8                        | 565.8                      | 281.1                    | 60.3                        | 1.000039                  |
| 52500.0                           | 103.3                 | -62.7                                       |                      | 170.9                        | 565.1                      | 283.9                    | 62.0                        | 1.000038                  |
| 53000.0                           | 100.7                 | -63.2                                       |                      | 167.2                        | 564.4                      | 284.7                    | 60.3                        | 1.000037                  |
| 53500.0                           | 98.2                  | -63.7                                       |                      | 163.4                        | 563.6                      | 285.4                    | 58.7                        | 1.000036                  |
| 54000.0                           | 95.8                  | -64.2                                       |                      | 159.7                        | 563.1                      | 285.0                    | 55.3                        | 1.000036                  |
| 54500.0                           | 93.4                  | -64.7                                       |                      | 156.1                        | 562.5                      | 283.6                    | 50.7                        | 1.000035                  |
| 55000.0                           | 91.1                  | -65.1                                       |                      | 152.5                        | 561.9                      | 282.1                    | 46.9                        | 1.000034                  |
| 55500.0                           | 88.8                  | -65.6                                       |                      | 149.1                        | 561.2                      | 281.4                    | 45.6                        | 1.000033                  |
| 56000.0                           | 86.6                  | -66.1                                       |                      | 145.7                        | 560.6                      | 280.7                    | 44.2                        | 1.000032                  |
| 56500.0                           | 84.4                  | -66.5                                       |                      | 142.4                        | 560.0                      | 280.7                    | 43.8                        | 1.000032                  |
| 57000.0                           | 82.3                  | -67.0                                       |                      | 139.1                        | 559.3                      | 280.8                    | 43.0                        | 1.000031                  |
| 57500.0                           | 80.3                  | -67.5                                       |                      | 136.0                        | 558.7                      | 280.6                    | 42.4                        | 1.000030                  |
| 58000.0                           | 78.3                  | -67.9                                       |                      | 132.9                        | 558.1                      | 279.9                    | 39.8                        | 1.000030                  |
| 58500.0                           | 76.3                  | -68.4                                       |                      | 129.9                        | 557.4                      | 279.0                    | 37.2                        | 1.000029                  |
| 59000.0                           | 74.4                  | -67.0                                       |                      | 125.8                        | 559.4                      | 278.9                    | 33.8                        | 1.000028                  |
| 59500.0                           | 72.6                  | -65.1                                       |                      | 121.5                        | 561.9                      | 278.8                    | 30.5                        | 1.000027                  |
| 60000.0                           | 70.8                  | -63.2                                       |                      | 117.5                        | 564.5                      | 280.8                    | 26.1                        | 1.000026                  |
| 60500.0                           | 69.0                  | -60.8                                       |                      | 113.3                        | 567.7                      | 284.1                    | 26.3                        | 1.000025                  |
| 61000.0                           | 67.4                  | -57.9                                       |                      | 109.1                        | 571.5                      | 287.2                    | 24.8                        | 1.000024                  |
| 61500.0                           | 65.7                  | -58.1                                       |                      | 106.5                        | 571.3                      | 288.3                    | 23.7                        | 1.000024                  |
| 62000.0                           | 64.1                  | -59.2                                       |                      | 104.4                        | 569.8                      | 289.5                    | 22.6                        | 1.000023                  |
| 62500.0                           | 62.6                  | -60.3                                       |                      | 102.4                        | 568.4                      | 287.1                    | 22.1                        | 1.000023                  |
| 63000.0                           | 61.0                  | -61.3                                       |                      | 100.4                        | 567.0                      | 283.8                    | 21.8                        | 1.000022                  |

UPPER AIR DATA  
 025000Z0065  
 WHITE SANDS  
 TABLE V. (CONT)

STATION ALTITUDE 3969.00 FEET MSL  
 25 JAN. 78  
 ASCENSION NO. 65

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON DEG

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REF. 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 (TN) | SPEED<br>KNOTS |                           |
| 63500.0                           | 59.5                  | -62.4                                       |                      | 98.4                         | 565.6                      | 280.6                     | 21.6           | 1.000022                  |
| 64000.0                           | 58.1                  | -63.5                                       |                      | 96.5                         | 564.1                      | 277.6                     | 21.7           | 1.000021                  |
| 64500.0                           | 56.7                  | -64.5                                       |                      | 94.6                         | 562.7                      | 274.7                     | 21.8           | 1.000021                  |
| 65000.0                           | 55.3                  | -65.0                                       |                      | 92.5                         | 562.1                      | 273.6                     | 19.6           | 1.000021                  |
| 65500.0                           | 53.9                  | -64.3                                       |                      | 90.0                         | 563.0                      | 272.5                     | 17.6           | 1.000020                  |
| 66000.0                           | 52.6                  | -63.6                                       |                      | 87.5                         | 563.9                      | 271.4                     | 14.8           | 1.000019                  |
| 66500.0                           | 51.3                  | -63.0                                       |                      | 85.0                         | 564.6                      | 270.5                     | 11.4           | 1.000019                  |
| 67000.0                           | 50.0                  | -62.3                                       |                      | 82.7                         | 565.7                      | 268.7                     | 8.0            | 1.000018                  |
| 67500.0                           | 48.8                  | -62.2                                       |                      | 80.6                         | 565.8                      | 265.5                     | 6.3            | 1.000018                  |
| 68000.0                           | 47.6                  | -62.1                                       |                      | 78.6                         | 566.0                      | 260.1                     | 4.8            | 1.000017                  |
| 68500.0                           | 46.4                  | -62.0                                       |                      | 76.6                         | 566.1                      | 255.4                     | 3.8            | 1.000017                  |
| 69000.0                           | 45.3                  | -61.9                                       |                      | 74.7                         | 566.2                      | 256.0                     | 3.5            | 1.000017                  |
| 69500.0                           | 44.2                  | -61.8                                       |                      | 72.9                         | 566.3                      | 256.7                     | 3.2            | 1.000016                  |
| 70000.0                           | 43.1                  | -61.7                                       |                      | 71.1                         | 566.5                      | 258.2                     | 2.8            | 1.000016                  |
| 70500.0                           | 42.1                  | -61.6                                       |                      | 69.3                         | 566.6                      | 260.8                     | 2.4            | 1.000015                  |
| 71000.0                           | 41.0                  | -61.5                                       |                      | 67.6                         | 566.7                      | 264.5                     | 1.9            | 1.000015                  |
| 71500.0                           | 40.0                  | -61.4                                       |                      | 65.9                         | 566.9                      | 278.6                     | 1.2            | 1.000015                  |
| 72000.0                           | 39.1                  | -61.3                                       |                      | 64.2                         | 567.0                      | 321.5                     | .8             | 1.000014                  |
| 72500.0                           | 38.1                  | -61.2                                       |                      | 62.6                         | 567.1                      | 14.8                      | 1.1            | 1.000014                  |
| 73000.0                           | 37.2                  | -61.1                                       |                      | 61.1                         | 567.3                      | 23.0                      | 2.0            | 1.000014                  |
| 73500.0                           | 36.3                  | -60.9                                       |                      | 59.5                         | 567.6                      | 25.6                      | 3.0            | 1.000013                  |
| 74000.0                           | 35.4                  | -60.6                                       |                      | 58.0                         | 568.0                      | 25.2                      | 4.0            | 1.000013                  |
| 74500.0                           | 34.5                  | -60.3                                       |                      | 56.5                         | 568.4                      | 14.2                      | 4.7            | 1.000013                  |
| 75000.0                           | 33.7                  | -59.9                                       |                      | 55.0                         | 568.9                      | 6.2                       | 5.4            | 1.000012                  |
| 75500.0                           | 32.9                  | -59.6                                       |                      | 53.6                         | 569.3                      | .6                        | 6.2            | 1.000012                  |
| 76000.0                           | 32.1                  | -59.3                                       |                      | 52.3                         | 569.7                      | 356.6                     | 6.6            | 1.000012                  |
| 76500.0                           | 31.3                  | -59.0                                       |                      | 50.9                         | 570.2                      | 353.2                     | 7.1            | 1.000011                  |
| 77000.0                           | 30.5                  | -58.6                                       |                      | 49.6                         | 570.6                      | 351.2                     | 7.5            | 1.000011                  |
| 77500.0                           | 29.8                  | -58.4                                       |                      | 48.3                         | 571.0                      | 357.6                     | 7.5            | 1.000011                  |
| 78000.0                           | 29.1                  | -58.2                                       |                      | 47.1                         | 571.2                      | 4.4                       | 7.6            | 1.000010                  |

STATION ALTITUDE 3909.00 FEET MSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 65

UPPER AIR DATA  
J250020J065  
WHITE SANDS  
TABLE V. (CONT)

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES | TEMPERATURE<br>DEWPOINT DEGREES | REF. 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(TN) | SPEED<br>KNOTS |                           |
| 70500.0                        | 20.4                  | -58.0                      |                                 |                      | 46.0                         | 571.4                      | 10.7                     | 7.6            | 1.000010                  |
| 79000.0                        | 27.7                  | -57.8                      |                                 |                      | 44.8                         | 571.7                      | 15.1                     | 6.5            | 1.000010                  |
| 74500.0                        | 27.0                  | -57.6                      |                                 |                      | 43.7                         | 571.9                      | 18.7                     | 9.3            | 1.000010                  |
| 80000.0                        | 26.4                  | -57.5                      |                                 |                      | 42.6                         | 572.2                      | 21.7                     | 10.1           | 1.000009                  |
| 80500.0                        | 25.8                  | -57.3                      |                                 |                      | 41.6                         | 572.4                      | 27.1                     | 10.9           | 1.000009                  |
| 81000.0                        | 25.2                  | -57.1                      |                                 |                      | 40.6                         | 572.6                      | 32.3                     | 11.7           | 1.000009                  |
| 81500.0                        | 24.5                  | -56.9                      |                                 |                      | 39.6                         | 572.9                      | 36.7                     | 12.7           | 1.000009                  |
| 82000.0                        | 24.0                  | -56.7                      |                                 |                      | 38.6                         | 573.1                      | 41.2                     | 13.1           | 1.000009                  |
| 82500.0                        | 23.4                  | -56.6                      |                                 |                      | 37.6                         | 573.3                      | 45.9                     | 13.4           | 1.000008                  |
| 83000.0                        | 22.8                  | -56.4                      |                                 |                      | 36.7                         | 573.6                      | 50.3                     | 13.8           | 1.000008                  |
| 83500.0                        | 22.3                  | -56.2                      |                                 |                      | 35.6                         | 573.8                      | 47.5                     | 12.7           | 1.000008                  |
| 84000.0                        | 21.7                  | -56.0                      |                                 |                      | 34.9                         | 574.1                      | 36.9                     | 10.6           | 1.000006                  |
| 84500.0                        | 21.2                  | -55.8                      |                                 |                      | 34.0                         | 574.3                      | 22.5                     | 9.5            | 1.000008                  |
| 85000.0                        | 20.7                  | -55.7                      |                                 |                      | 33.2                         | 574.5                      | 10.7                     | 8.7            | 1.000007                  |
| 85500.0                        | 20.2                  | -55.5                      |                                 |                      | 32.4                         | 574.8                      | 5.5                      | 7.9            | 1.000007                  |
| 86000.0                        | 19.7                  | -55.3                      |                                 |                      | 31.6                         | 575.0                      | 359.3                    | 7.3            | 1.000007                  |
| 86500.0                        | 19.3                  | -55.1                      |                                 |                      | 30.8                         | 575.3                      | 351.2                    | 6.9            | 1.000007                  |
| 87000.0                        | 18.8                  | -54.9                      |                                 |                      | 30.0                         | 575.6                      | 335.9                    | 6.4            | 1.000007                  |
| 87500.0                        | 18.4                  | -54.7                      |                                 |                      | 29.3                         | 575.8                      | 326.8                    | 11.4           | 1.000007                  |
| 88000.0                        | 18.0                  | -54.5                      |                                 |                      | 28.6                         | 576.1                      | 320.9                    | 14.0           | 1.000006                  |
| 88500.0                        | 17.5                  | -54.3                      |                                 |                      | 27.4                         | 576.4                      | 322.2                    | 13.8           | 1.000006                  |
| 89000.0                        | 17.1                  | -54.1                      |                                 |                      | 27.2                         | 576.7                      | 341.9                    | 8.9            | 1.000006                  |
| 89500.0                        | 16.7                  | -53.8                      |                                 |                      | 26.6                         | 576.9                      | 25.3                     | 6.8            | 1.000006                  |
| 90000.0                        | 16.3                  | -53.6                      |                                 |                      | 25.9                         | 577.2                      | 66.4                     | 9.3            | 1.000006                  |
| 90500.0                        | 15.9                  | -53.4                      |                                 |                      | 25.3                         | 577.5                      | 75.0                     | 12.3           | 1.000006                  |
| 91000.0                        | 15.6                  | -53.2                      |                                 |                      | 24.7                         | 577.7                      | 75.6                     | 14.5           | 1.000005                  |
| 91500.0                        | 15.2                  | -53.0                      |                                 |                      | 24.1                         | 578.0                      | 76.1                     | 16.6           | 1.000005                  |
| 92000.0                        | 14.8                  | -52.8                      |                                 |                      | 23.5                         | 578.3                      | 76.4                     | 19.0           | 1.000005                  |
| 92500.0                        | 14.5                  | -52.6                      |                                 |                      | 22.9                         | 578.5                      | 66.6                     | 16.3           | 1.000005                  |
| 93000.0                        | 14.2                  | -52.4                      |                                 |                      | 22.3                         | 578.8                      | 52.6                     | 14.0           | 1.000005                  |

UPPER AIR DATA  
 U250020005  
 WHITE SANDS  
 TABLE V. (CONT)

STATION ALTITUDE 3989.00 FEET MSL  
 25 JAN. 76  
 ASCENSION NO. 65

GEODETIC COORDINATES  
 32.40043 LAT DEG  
 106.37033 LON 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 |                           |
| 9500.0                         | 13.8                  | -52.2          |                        |                      | 21.8                         | 579.1                      | 34.7                     | 12.9           | 1.000005                  |
| 9400.0                         | 13.5                  | -52.0          |                        |                      | 21.3                         | 579.4                      | 19.6                     | 12.8           | 1.000005                  |
| 9300.0                         | 13.2                  | -51.8          |                        |                      | 20.7                         | 579.6                      | 16.4                     | 12.2           | 1.000005                  |
| 9200.0                         | 12.9                  | -51.6          |                        |                      | 20.2                         | 579.9                      | 12.9                     | 11.7           | 1.000005                  |
| 9100.0                         | 12.6                  | -51.4          |                        |                      | 19.7                         | 580.2                      | 9.2                      | 11.2           | 1.000004                  |
| 9000.0                         | 12.3                  | -51.2          |                        |                      | 19.3                         | 580.4                      | 5.0                      | 11.2           | 1.000004                  |
| 8900.0                         | 12.0                  | -51.0          |                        |                      | 18.8                         | 580.7                      | 1.1                      | 11.6           | 1.000004                  |
| 8800.0                         | 11.7                  | -50.8          |                        |                      | 18.3                         | 581.0                      | 357.4                    | 12.1           | 1.000004                  |
| 8700.0                         | 11.4                  | -50.6          |                        |                      | 17.9                         | 581.2                      | 354.0                    | 12.7           | 1.000004                  |
| 8600.0                         | 11.2                  | -50.4          |                        |                      | 17.4                         | 581.5                      | 354.5                    | 11.9           | 1.000004                  |
| 8500.0                         | 10.9                  | -50.1          |                        |                      | 17.0                         | 581.8                      | 355.9                    | 10.9           | 1.000004                  |
| 8400.0                         | 10.6                  | -49.9          |                        |                      | 16.6                         | 582.0                      | 357.5                    | 9.9            | 1.000004                  |
| 8300.0                         | 10.4                  | -49.7          |                        |                      | 16.2                         | 582.3                      |                          |                | 1.000004                  |
| 8200.0                         | 10.1                  | -49.5          |                        |                      | 15.8                         | 582.6                      |                          |                | 1.000004                  |
| 8100.0                         | 9.9                   | -49.3          |                        |                      | 15.4                         | 582.9                      |                          |                | 1.000003                  |
| 8000.0                         | 9.7                   | -49.1          |                        |                      | 15.1                         | 583.1                      |                          |                | 1.000003                  |
| 7900.0                         | 9.5                   | -48.9          |                        |                      | 14.7                         | 583.4                      |                          |                | 1.000003                  |
| 7800.0                         | 9.2                   | -48.7          |                        |                      | 14.3                         | 583.7                      |                          |                | 1.000003                  |
| 7700.0                         | 9.0                   | -48.4          |                        |                      | 14.0                         | 584.0                      |                          |                | 1.000003                  |

MANDATORY LEVELS  
0250020065  
WHITE SANDS  
TABLE VI.

GEODETIC COORDINATES  
32.40043 LAT DEG  
106.37033 LON DEG

STATION ALTITUDE 3989.00 FEET MSL  
25 JAN. 78  
ASCENSION NO. 65

| PRESSURE GEOPOTENTIAL |         | TEMPERATURE               |                                | REL. HUM.<br>PERCENT | WIND DATA                |                |
|-----------------------|---------|---------------------------|--------------------------------|----------------------|--------------------------|----------------|
| MILLIBARS             | FEET    | AIR<br>DEGREES CFNTRIGRAD | DEWPOINT<br>DEGREES CFNTRIGRAD |                      | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |
| 850.0                 | 4971.   | .0                        | -4.7                           | 46.                  | 302.0                    | 1.2            |
| 800.0                 | 6559.   | -2.4                      | -12.1                          | 47.                  | 315.0                    | 10.0           |
| 750.0                 | 8235.   | -2.6                      | -12.6                          | 46.                  | 328.4                    | 26.5           |
| 700.0                 | 10029.  | -2.5                      | -13.4                          | 42.                  | 331.9                    | 32.4           |
| 650.0                 | 11949.  | -5.5                      | -16.1                          | 43.                  | 325.7                    | 37.7           |
| 600.0                 | 14000.  | -7.1                      | -19.3                          | 37.                  | 322.1                    | 41.5           |
| 550.0                 | 16208.  | -11.8                     | -23.7                          | 36.                  | 324.6                    | 43.8           |
| 500.0                 | 18576.  | -17.8                     | -29.2                          | 36.                  | 319.4                    | 44.6           |
| 450.0                 | 21140.  | -22.8                     | -34.3                          | 34.                  | 325.5                    | 46.4           |
| 400.0                 | 23936.  | -29.5                     | -40.3                          | 34.                  | 323.8                    | 47.6           |
| 350.0                 | 27020.  | -36.2                     | -46.5                          | 35.                  | 316.1                    | 48.4           |
| 300.0                 | 30474.  | -43.6                     |                                |                      | 298.6                    | 49.8           |
| 250.0                 | 34404.  | -54.1                     |                                |                      | 288.7                    | 55.7           |
| 200.0                 | 39024.  | -60.8                     |                                |                      | 295.5                    | 87.9           |
| 175.0                 | 41758.  | -59.5                     |                                |                      | 286.4                    | 89.4           |
| 150.0                 | 44940.  | -56.2                     |                                |                      | 282.6                    | 83.6           |
| 125.0                 | 48710.  | -58.9                     |                                |                      | 276.7                    | 64.6           |
| 100.0                 | 53259.  | -63.4                     |                                |                      | 285.3                    | 59.1           |
| 80.0                  | 57712.  | -67.5                     |                                |                      | 280.1                    | 40.5           |
| 70.0                  | 60365.  | -62.4                     |                                |                      | 284.4                    | 28.2           |
| 60.0                  | 63526.  | -62.1                     |                                |                      | 275.3                    | 21.6           |
| 50.0                  | 67196.  | -62.5                     |                                |                      | 266.2                    | 6.6            |
| 40.0                  | 71727.  | -61.4                     |                                |                      | 310.2                    | .8             |
| 30.0                  | 77614.  | -58.4                     |                                |                      | 3.2                      | 7.6            |
| 25.0                  | 81389.  | -57.1                     |                                |                      | 38.4                     | 13.0           |
| 20.0                  | 86040.  | -55.4                     |                                |                      | 353.6                    | 6.8            |
| 15.0                  | 92095.  | -52.9                     |                                |                      | 00.6                     | 16.2           |
| 10.0                  | 100745. | -49.4                     |                                |                      |                          |                |

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

STATION ALTITUDE 3951.40 FELT MSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 4

SIGNIFICANT LEVEL DATA  
0250050009  
APACHE  
TABLE VII.

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.34352 LON DEG

| PRESSURE GEOMETRIC ALTITUDE |          | TEMPERATURE    |                        | REF. HUP.<br>PERCENT |
|-----------------------------|----------|----------------|------------------------|----------------------|
| MILLIBARS                   | MSL FEET | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |
| 884.8                       | 3951.4   | 4.0            | -12.4                  | 29.0                 |
| 874.3                       | 4272.2   | 1.8            | -12.4                  | 34.0                 |
| 850.0                       | 5015.0   | -2.2           | -13.4                  | 36.0                 |
| 820.3                       | 5948.3   | -5.5           | -14.0                  | 35.0                 |
| 768.3                       | 7654.4   | -4.0           | -16.5                  | 37.0                 |
| 749.3                       | 8302.8   | -3.7           | -16.6                  | 36.0                 |
| 720.3                       | 9329.7   | -1.4           | -15.9                  | 32.0                 |
| 700.0                       | 10077.3  | -5.9           | -17.5                  | 27.0                 |
| 642.8                       | 12290.8  | -5.1           | -19.0                  | 31.0                 |
| 630.4                       | 12793.6  | -4.0           | -23.6                  | 20.0                 |
| 574.3                       | 15183.2  | -8.5           | -27.4                  | 20.0                 |
| 500.0                       | 18645.2  | -17.3          | -35.3                  | 14.0                 |
| 459.3                       | 20716.8  | -20.6          | -39.7                  | 16.0                 |
| 400.0                       | 24009.5  | -29.2          | -46.4                  | 17.0                 |
| 377.3                       | 25360.0  | -33.0          | -50.1                  | 16.0                 |
| 300.0                       | 30531.1  | -43.4          |                        |                      |
| 250.0                       | 34458.5  | -53.4          |                        |                      |
| 236.8                       | 35593.9  | -56.0          |                        |                      |
| 200.0                       | 39073.5  | -60.2          |                        |                      |
| 158.3                       | 43856.6  | -56.7          |                        |                      |
| 150.0                       | 44967.7  | -57.4          |                        |                      |
| 118.3                       | 49845.0  | -59.6          |                        |                      |
| 100.0                       | 53247.0  | -63.5          |                        |                      |
| 81.8                        | 57256.6  | -65.4          |                        |                      |
| 70.0                        | 60370.8  | -62.7          |                        |                      |
| 64.8                        | 61937.9  | -58.6          |                        |                      |
| 54.3                        | 65514.9  | -64.0          |                        |                      |
| 50.0                        | 67174.0  | -61.3          |                        |                      |
| 30.0                        | 77608.8  | -57.1          |                        |                      |
| 20.0                        | 86028.9  | -53.8          |                        |                      |

STATION ALTITUDE 5951.40 FEET MSL  
 25 JAN. 76 1145 HRS MST  
 ASCENSION NO. 9

SIGNIFICANT LEVEL DATA  
 J25005009  
 APACHE  
 TABLE VII. (CONT)

GEOMETRIC COORDINATES  
 32.62700 LAT DEG  
 106.39352 LON DEG

| PRESSURE<br>MILLIBARS | GEOMETRIC<br>ALTITUDE<br>MSL FEET | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT |
|-----------------------|-----------------------------------|---------------------------------------------|----------------------|
| 11.1                  | 48515.8                           | -47.4                                       |                      |

STATION ALTITUDE 3951.40 FEET MSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 9

UPPER AIR DATA  
J250050009  
APACHE  
TABLE VIII.

GEOMETRIC COORDINATES  
32.62700 LAT NEG  
106.39352 LON DEG

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | AIR<br>TEMPERATURE<br>DEGREES | TEMPERATURE<br>DEWPOINT<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA<br>DIRECTION (TN)<br>DEGREES | SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|-------------------------------|---------------------------------------|----------------------|------------------------------|----------------------------|----------------------------------------|----------------|---------------------------|
| 3951.4                            | 884.8                 | 4.0                           | -12.4                                 | 29.0                 | 1111.0                       | 648.9                      | 350.0                                  | 6.0            | 1.000259                  |
| 4000.0                            | 883.2                 | 3.7                           | -12.4                                 | 29.8                 | 1110.4                       | 648.5                      | 349.6                                  | 5.9            | 1.000259                  |
| 4500.0                            | 866.8                 | 1.2                           | -12.7                                 | 34.6                 | 1099.6                       | 645.6                      | 344.9                                  | 4.9            | 1.000257                  |
| 5000.0                            | 850.5                 | -2                            | -13.4                                 | 36.0                 | 1084.3                       | 644.0                      | 337.9                                  | 4.0            | 1.000253                  |
| 5500.0                            | 834.4                 | -4                            | -13.7                                 | 35.5                 | 1064.6                       | 643.8                      | 326.8                                  | 3.1            | 1.000248                  |
| 6000.0                            | 818.7                 | -6                            | -14.1                                 | 35.1                 | 1045.4                       | 643.5                      | 301.1                                  | 4.0            | 1.000247                  |
| 6500.0                            | 803.1                 | -1.6                          | -14.8                                 | 35.6                 | 1029.5                       | 642.2                      | 293.8                                  | 5.6            | 1.000239                  |
| 7000.0                            | 787.8                 | -2.7                          | -15.5                                 | 36.2                 | 1013.8                       | 641.0                      | 213.0                                  | 7.7            | 1.000235                  |
| 7500.0                            | 772.9                 | -3.7                          | -16.3                                 | 36.8                 | 998.3                        | 639.8                      | 327.6                                  | 11.8           | 1.000231                  |
| 8000.0                            | 758.1                 | -3.8                          | -16.5                                 | 36.5                 | 979.8                        | 639.6                      | 336.8                                  | 18.9           | 1.000227                  |
| 8500.0                            | 743.6                 | -3.3                          | -16.4                                 | 35.2                 | 959.0                        | 640.3                      | 339.2                                  | 24.3           | 1.000222                  |
| 9000.0                            | 729.5                 | -2.1                          | -16.1                                 | 33.3                 | 936.9                        | 641.6                      | 339.7                                  | 28.4           | 1.000218                  |
| 9500.0                            | 715.6                 | -1.3                          | -16.3                                 | 30.9                 | 916.2                        | 642.6                      | 338.2                                  | 30.2           | 1.000213                  |
| 10000.0                           | 702.1                 | -1.0                          | -17.3                                 | 27.5                 | 897.8                        | 643.0                      | 336.1                                  | 31.2           | 1.000208                  |
| 10500.0                           | 688.7                 | -1.7                          | -17.9                                 | 27.8                 | 863.1                        | 642.1                      | 335.3                                  | 33.8           | 1.000204                  |
| 11000.0                           | 675.6                 | -2.7                          | -18.3                                 | 28.7                 | 869.3                        | 641.0                      | 334.6                                  | 36.7           | 1.000201                  |
| 11500.0                           | 662.7                 | -3.6                          | -18.8                                 | 29.6                 | 855.8                        | 639.9                      | 331.8                                  | 38.6           | 1.000198                  |
| 12000.0                           | 650.0                 | -4.5                          | -19.3                                 | 30.5                 | 842.4                        | 638.7                      | 329.4                                  | 40.5           | 1.000195                  |
| 12500.0                           | 637.6                 | -4.6                          | -21.0                                 | 26.4                 | 826.7                        | 638.6                      | 327.6                                  | 42.4           | 1.000190                  |
| 13000.0                           | 625.3                 | -4.4                          | -23.9                                 | 20.0                 | 810.1                        | 638.8                      | 326.9                                  | 43.5           | 1.000185                  |
| 13500.0                           | 613.3                 | -5.3                          | -24.7                                 | 20.0                 | 797.3                        | 637.7                      | 327.5                                  | 43.6           | 1.000182                  |
| 14000.0                           | 601.4                 | -6.3                          | -25.5                                 | 20.0                 | 784.7                        | 636.6                      | 327.2                                  | 42.6           | 1.000179                  |
| 14500.0                           | 589.8                 | -7.2                          | -26.3                                 | 20.0                 | 772.3                        | 635.5                      | 326.0                                  | 40.7           | 1.000176                  |
| 15000.0                           | 578.4                 | -8.2                          | -27.1                                 | 20.0                 | 760.1                        | 634.3                      | 325.0                                  | 39.6           | 1.000173                  |
| 15500.0                           | 567.1                 | -9.3                          | -28.1                                 | 19.9                 | 748.4                        | 632.9                      | 324.1                                  | 38.9           | 1.000170                  |
| 16000.0                           | 555.8                 | -10.6                         | -29.2                                 | 19.8                 | 737.2                        | 631.4                      | 323.7                                  | 39.4           | 1.000167                  |
| 16500.0                           | 544.8                 | -11.8                         | -30.4                                 | 19.6                 | 726.1                        | 629.9                      | 323.3                                  | 40.1           | 1.000164                  |
| 17000.0                           | 534.0                 | -13.1                         | -31.5                                 | 19.5                 | 715.2                        | 628.3                      | 322.5                                  | 42.0           | 1.000162                  |
| 17500.0                           | 523.4                 | -14.4                         | -32.7                                 | 19.3                 | 704.5                        | 626.6                      | 321.5                                  | 43.5           | 1.000159                  |
| 18000.0                           | 513.1                 | -15.7                         | -33.8                                 | 19.2                 | 694.0                        | 625.2                      | 319.9                                  | 44.5           | 1.000157                  |

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LON DEG

UPPER AIR DATA  
0250050009  
APACHE  
TABLE VIII. (CONT)

STATION ALTITUDE 3951.40 FEET MSL  
20 JAN. 78 1145 HRS MST  
ASCENSION NO. 4

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup> IC<br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|------------------------------------------|----------------------|-------------------------------------------|----------------------------|---------------------------|----------------|---------------------------|
|                                   |                       |                                          |                      |                                           |                            | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 16500.0                           | 502.4                 | -16.4                                    | 19.0                 | 663.6                                     | 625.7                      | 319.1                     | 44.9           | 1.000154                  |
| 19000.0                           | 492.8                 | -17.9                                    | 18.5                 | 672.3                                     | 622.5                      | 318.8                     | 44.9           | 1.000151                  |
| 19500.0                           | 482.8                 | -18.7                                    | 17.8                 | 660.8                                     | 621.5                      | 320.4                     | 45.9           | 1.000149                  |
| 20000.0                           | 473.0                 | -19.5                                    | 17.0                 | 649.4                                     | 620.6                      | 322.4                     | 47.1           | 1.000146                  |
| 20500.0                           | 463.4                 | -20.3                                    | 16.3                 | 638.2                                     | 619.6                      | 323.5                     | 47.5           | 1.000143                  |
| 21000.0                           | 453.9                 | -21.3                                    | 16.1                 | 627.8                                     | 618.2                      | 324.4                     | 47.6           | 1.000141                  |
| 21500.0                           | 444.4                 | -22.6                                    | 16.2                 | 618.0                                     | 616.6                      | 325.1                     | 47.5           | 1.000139                  |
| 22000.0                           | 435.2                 | -24.0                                    | 16.4                 | 608.3                                     | 615.0                      | 325.4                     | 47.8           | 1.000136                  |
| 22500.0                           | 426.2                 | -25.3                                    | 16.5                 | 596.8                                     | 613.4                      | 325.5                     | 48.4           | 1.000134                  |
| 23000.0                           | 417.3                 | -26.6                                    | 16.7                 | 589.5                                     | 611.8                      | 325.0                     | 49.2           | 1.000132                  |
| 23500.0                           | 408.6                 | -27.9                                    | 16.8                 | 580.3                                     | 610.2                      | 324.5                     | 50.1           | 1.000130                  |
| 24000.0                           | 400.2                 | -29.2                                    | 17.0                 | 571.3                                     | 608.5                      | 323.3                     | 51.2           | 1.000126                  |
| 24500.0                           | 391.6                 | -30.6                                    | 16.6                 | 562.4                                     | 606.8                      | 322.1                     | 52.2           | 1.000126                  |
| 25000.0                           | 383.3                 | -32.0                                    | 16.3                 | 553.6                                     | 605.0                      | 320.6                     | 52.1           | 1.000124                  |
| 25500.0                           | 375.1                 | -33.3                                    | 15.6**               | 544.7                                     | 603.4                      | 319.6                     | 51.9           | 1.000122                  |
| 26000.0                           | 366.8                 | -34.3                                    | 14.0**               | 534.9                                     | 602.1                      | 318.8                     | 51.3           | 1.000119                  |
| 26500.0                           | 358.8                 | -35.3                                    | 12.5**               | 525.4                                     | 600.9                      | 318.1                     | 50.9           | 1.000117                  |
| 27000.0                           | 350.9                 | -36.3                                    | 10.9**               | 516.1                                     | 599.6                      | 317.5                     | 50.8           | 1.000115                  |
| 27500.0                           | 343.2                 | -37.3                                    | 9.4**                | 506.9                                     | 598.3                      | 316.5                     | 50.3           | 1.000113                  |
| 28000.0                           | 335.7                 | -38.3                                    | 7.8**                | 497.9                                     | 597.0                      | 315.1                     | 49.5           | 1.000111                  |
| 28500.0                           | 328.3                 | -39.3                                    | 6.3**                | 489.1                                     | 595.7                      | 313.3                     | 48.7           | 1.000109                  |
| 29000.0                           | 321.1                 | -40.3                                    | 4.7**                | 480.4                                     | 594.5                      | 311.3                     | 47.9           | 1.000107                  |
| 29500.0                           | 314.0                 | -41.3                                    | 3.2**                | 471.9                                     | 593.2                      | 309.2                     | 49.7           | 1.000105                  |
| 30000.0                           | 307.2                 | -42.3                                    | 1.6**                | 463.6                                     | 591.9                      | 307.3                     | 51.9           | 1.000103                  |
| 30500.0                           | 300.4                 | -43.3                                    | .1**                 | 455.4                                     | 590.6                      | 305.1                     | 53.6           | 1.000101                  |
| 31000.0                           | 293.5                 | -44.6                                    |                      | 447.4                                     | 589.0                      | 303.1                     | 55.1           | 1.000100                  |
| 31500.0                           | 286.8                 | -45.9                                    |                      | 439.6                                     | 587.3                      | 300.6                     | 53.7           | 1.000098                  |
| 32000.0                           | 280.2                 | -47.1                                    |                      | 431.9                                     | 585.7                      | 298.0                     | 52.4           | 1.000096                  |
| 32500.0                           | 273.8                 | -48.4                                    |                      | 424.4                                     | 584.0                      | 295.6                     | 51.4           | 1.000095                  |
| 33000.0                           | 267.5                 | -49.7                                    |                      | 417.0                                     | 582.4                      | 293.2                     | 50.7           | 1.000093                  |

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

UPPER AIR DATA  
0200050009  
APACHE  
TABLE VIII. (CONT)

STATION ALTITUDE 3951.40 FEET MSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 9

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LONG 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 |                           |
| 33500.0                           | 261.4                 | -51.0          |                        |                      | 405.8                        | 580.7                      | 291.4                    | 51.5           | 1.000091                  |
| 34000.0                           | 255.4                 | -52.2          |                        |                      | 402.7                        | 579.0                      | 289.7                    | 52.6           | 1.000090                  |
| 34500.0                           | 249.5                 | -53.5          |                        |                      | 395.7                        | 577.4                      | 288.5                    | 54.7           | 1.000086                  |
| 35000.0                           | 243.6                 | -54.6          |                        |                      | 388.4                        | 575.9                      | 287.6                    | 56.9           | 1.000087                  |
| 35500.0                           | 237.9                 | -55.8          |                        |                      | 381.2                        | 574.4                      | 287.3                    | 59.5           | 1.000085                  |
| 36000.0                           | 232.2                 | -56.5          |                        |                      | 373.3                        | 573.4                      | 287.2                    | 62.6           | 1.000083                  |
| 36500.0                           | 226.6                 | -57.1          |                        |                      | 365.4                        | 572.6                      | 287.9                    | 66.8           | 1.000081                  |
| 37000.0                           | 221.2                 | -57.7          |                        |                      | 357.6                        | 571.8                      | 288.9                    | 71.1           | 1.000080                  |
| 37500.0                           | 215.9                 | -58.3          |                        |                      | 350.0                        | 571.0                      | 290.7                    | 75.5           | 1.000078                  |
| 38000.0                           | 210.7                 | -58.9          |                        |                      | 342.6                        | 570.2                      | 292.2                    | 79.8           | 1.000076                  |
| 38500.0                           | 205.6                 | -59.5          |                        |                      | 335.3                        | 569.4                      | 293.8                    | 83.0           | 1.000075                  |
| 39000.0                           | 200.7                 | -60.1          |                        |                      | 328.2                        | 568.6                      | 295.3                    | 86.2           | 1.000073                  |
| 39500.0                           | 195.9                 | -60.1          |                        |                      | 320.2                        | 568.7                      | 295.1                    | 87.4           | 1.000071                  |
| 40000.0                           | 191.1                 | -59.9          |                        |                      | 312.3                        | 568.9                      | 294.9                    | 88.4           | 1.000070                  |
| 40500.0                           | 186.5                 | -59.8          |                        |                      | 304.5                        | 569.1                      | 293.0                    | 87.7           | 1.000068                  |
| 41000.0                           | 182.0                 | -59.6          |                        |                      | 296.9                        | 569.3                      | 290.5                    | 86.5           | 1.000066                  |
| 41500.0                           | 177.6                 | -59.4          |                        |                      | 289.6                        | 569.5                      | 287.7                    | 85.4           | 1.000064                  |
| 42000.0                           | 173.4                 | -59.3          |                        |                      | 282.4                        | 569.7                      | 284.4                    | 84.4           | 1.000063                  |
| 42500.0                           | 169.2                 | -59.1          |                        |                      | 275.3                        | 569.9                      | 282.0                    | 83.4           | 1.000061                  |
| 43000.0                           | 165.1                 | -59.0          |                        |                      | 268.5                        | 570.1                      | 280.5                    | 82.2           | 1.000060                  |
| 43500.0                           | 161.1                 | -58.8          |                        |                      | 261.8                        | 570.4                      | 280.2                    | 81.1           | 1.000056                  |
| 44000.0                           | 157.2                 | -58.5          |                        |                      | 255.2                        | 570.7                      | 280.5                    | 80.0           | 1.000057                  |
| 44500.0                           | 153.4                 | -57.9          |                        |                      | 248.4                        | 571.5                      | 280.6                    | 79.7           | 1.000055                  |
| 45000.0                           | 149.6                 | -57.4          |                        |                      | 241.6                        | 572.2                      | 280.7                    | 79.8           | 1.000054                  |
| 45500.0                           | 146.2                 | -57.6          |                        |                      | 236.3                        | 571.9                      | 280.6                    | 79.4           | 1.000053                  |
| 46000.0                           | 142.6                 | -57.9          |                        |                      | 230.8                        | 571.6                      | 280.3                    | 78.8           | 1.000051                  |
| 46500.0                           | 139.2                 | -58.1          |                        |                      | 225.5                        | 571.3                      | 279.7                    | 77.3           | 1.000050                  |
| 47000.0                           | 135.9                 | -58.3          |                        |                      | 220.3                        | 571.0                      | 278.8                    | 75.0           | 1.000049                  |
| 47500.0                           | 132.6                 | -58.5          |                        |                      | 215.3                        | 570.7                      | 277.9                    | 72.5           | 1.000048                  |
| 48000.0                           | 129.4                 | -58.8          |                        |                      | 210.3                        | 570.4                      | 276.9                    | 69.4           | 1.000047                  |

UPPER AIR DATA  
0250050009  
APACHE  
TABLE VIII. (CONT)

STATION ALTITUDE 3921.40 FEET MSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 9

GEODETIC COORDINATES  
32.62700 LAT NEG  
106.39352 LON NEG

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES | DEWPOINT<br>CENTIGRADE | RFL. HUM.<br>PERCENT | DENSITY<br>GM/CURIC<br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA<br>DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|----------------------------|------------------------|----------------------|------------------------------|----------------------------|---------------------------------------|----------------|---------------------------|
| 40500.0                        | 126.3                 | -59.0                      |                        |                      | 205.5                        | 570.1                      | 276.2                                 | 67.1           | 1.000046                  |
| 49000.0                        | 123.3                 | -59.2                      |                        |                      | 200.7                        | 569.8                      | 276.3                                 | 66.7           | 1.000045                  |
| 49500.0                        | 120.3                 | -59.4                      |                        |                      | 196.1                        | 569.5                      | 276.4                                 | 66.5           | 1.000044                  |
| 50000.0                        | 117.4                 | -59.8                      |                        |                      | 191.7                        | 569.1                      | 276.8                                 | 67.6           | 1.000043                  |
| 50500.0                        | 114.5                 | -60.4                      |                        |                      | 187.5                        | 568.3                      | 277.2                                 | 68.7           | 1.000042                  |
| 51000.0                        | 111.7                 | -60.9                      |                        |                      | 183.4                        | 567.5                      | 278.8                                 | 67.2           | 1.000041                  |
| 51500.0                        | 109.0                 | -61.5                      |                        |                      | 179.4                        | 566.8                      | 280.6                                 | 65.4           | 1.000040                  |
| 52000.0                        | 106.4                 | -62.1                      |                        |                      | 175.5                        | 566.0                      | 282.7                                 | 62.6           | 1.000039                  |
| 52500.0                        | 103.8                 | -62.6                      |                        |                      | 171.7                        | 565.2                      | 285.2                                 | 59.0           | 1.000038                  |
| 53000.0                        | 101.2                 | -63.2                      |                        |                      | 168.0                        | 564.5                      | 287.8                                 | 55.7           | 1.000037                  |
| 53500.0                        | 98.7                  | -63.6                      |                        |                      | 164.2                        | 563.9                      | 289.1                                 | 53.2           | 1.000037                  |
| 54000.0                        | 96.3                  | -63.9                      |                        |                      | 160.3                        | 563.6                      | 290.5                                 | 50.8           | 1.000036                  |
| 54500.0                        | 93.9                  | -64.1                      |                        |                      | 156.5                        | 563.3                      | 291.3                                 | 50.4           | 1.000035                  |
| 55000.0                        | 91.6                  | -64.3                      |                        |                      | 152.6                        | 563.0                      | 291.7                                 | 51.0           | 1.000034                  |
| 55500.0                        | 89.3                  | -64.6                      |                        |                      | 149.2                        | 562.6                      | 291.9                                 | 51.6           | 1.000033                  |
| 56000.0                        | 87.1                  | -64.8                      |                        |                      | 145.7                        | 562.3                      | 291.3                                 | 52.7           | 1.000032                  |
| 56500.0                        | 85.0                  | -65.0                      |                        |                      | 142.2                        | 562.0                      | 290.6                                 | 53.7           | 1.000032                  |
| 57000.0                        | 82.9                  | -65.3                      |                        |                      | 138.9                        | 561.7                      | 289.3                                 | 50.9           | 1.000031                  |
| 57500.0                        | 80.8                  | -65.2                      |                        |                      | 135.4                        | 561.6                      | 287.6                                 | 48.1           | 1.000030                  |
| 58000.0                        | 78.8                  | -64.8                      |                        |                      | 131.7                        | 562.4                      | 285.5                                 | 43.7           | 1.000029                  |
| 58500.0                        | 76.9                  | -64.3                      |                        |                      | 128.2                        | 563.0                      | 282.9                                 | 38.7           | 1.000029                  |
| 59000.0                        | 75.0                  | -63.9                      |                        |                      | 124.8                        | 563.6                      | 280.6                                 | 34.6           | 1.000026                  |
| 59500.0                        | 73.1                  | -63.5                      |                        |                      | 121.5                        | 564.1                      | 279.0                                 | 31.5           | 1.000027                  |
| 60000.0                        | 71.3                  | -63.0                      |                        |                      | 118.2                        | 564.7                      | 277.7                                 | 28.8           | 1.000026                  |
| 60500.0                        | 69.6                  | -62.4                      |                        |                      | 115.0                        | 565.0                      | 278.7                                 | 27.7           | 1.000026                  |
| 61000.0                        | 67.9                  | -61.1                      |                        |                      | 111.5                        | 567.3                      | 279.8                                 | 26.7           | 1.000025                  |
| 61500.0                        | 66.2                  | -59.9                      |                        |                      | 106.2                        | 568.9                      | 278.3                                 | 22.7           | 1.000024                  |
| 62000.0                        | 64.6                  | -56.9                      |                        |                      | 105.0                        | 570.3                      | 275.6                                 | 18.5           | 1.000023                  |
| 62500.0                        | 63.0                  | -59.6                      |                        |                      | 102.8                        | 569.3                      | 266.5                                 | 13.1           | 1.000023                  |
| 63000.0                        | 61.5                  | -60.3                      |                        |                      | 100.7                        | 568.3                      | 239.0                                 | 8.2            | 1.000022                  |

UPPER AIR DATA  
 0250050009  
 APACHE

STATION ALTITUDE 3951.40 FEET MSL  
 25 JAN. 78 1145 HRS MST  
 ASCENSION NO. 9

GEODETTIC COORDINATES  
 32.62700 LAT NEG  
 106.39352 LON NEG

TABLE VIII. (CONT)

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES | 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 (TN) | SPEED<br>KNOTS |                           |
| 63500.0                           | 60.0                  | -61.1                         |                        |                      | 98.5                         | 567.3                      | 199.1                     | 7.3            | 1.000022                  |
| 64000.0                           | 58.5                  | -61.8                         |                        |                      | 96.5                         | 566.4                      | 165.0                     | 8.3            | 1.000021                  |
| 64500.0                           | 57.1                  | -62.5                         |                        |                      | 94.4                         | 565.4                      | 174.4                     | 9.7            | 1.000021                  |
| 65000.0                           | 55.7                  | -63.3                         |                        |                      | 92.4                         | 564.4                      | 185.4                     | 8.7            | 1.000021                  |
| 65500.0                           | 54.3                  | -64.0                         |                        |                      | 90.5                         | 563.4                      | 202.0                     | 8.0            | 1.000020                  |
| 66000.0                           | 53.0                  | -63.2                         |                        |                      | 88.0                         | 564.5                      | 225.6                     | 8.0            | 1.000020                  |
| 66500.0                           | 51.7                  | -62.4                         |                        |                      | 85.5                         | 565.6                      | 253.1                     | 9.4            | 1.000019                  |
| 67000.0                           | 50.4                  | -61.6                         |                        |                      | 83.0                         | 566.7                      | 270.4                     | 12.4           | 1.000018                  |
| 67500.0                           | 49.2                  | -61.2                         |                        |                      | 80.9                         | 567.2                      | 281.2                     | 14.3           | 1.000018                  |
| 68000.0                           | 48.0                  | -61.0                         |                        |                      | 78.8                         | 567.5                      | 289.3                     | 16.5           | 1.000016                  |
| 68500.0                           | 46.9                  | -60.8                         |                        |                      | 76.9                         | 567.7                      | 293.9                     | 17.4           | 1.000017                  |
| 69000.0                           | 45.7                  | -60.6                         |                        |                      | 74.9                         | 568.0                      | 296.5                     | 16.6           | 1.000017                  |
| 69500.0                           | 44.6                  | -60.4                         |                        |                      | 73.0                         | 568.3                      | 299.4                     | 15.7           | 1.000016                  |
| 70000.0                           | 43.5                  | -60.2                         |                        |                      | 71.2                         | 568.6                      | 298.5                     | 13.6           | 1.000016                  |
| 70500.0                           | 42.5                  | -60.0                         |                        |                      | 69.4                         | 568.8                      | 296.5                     | 11.4           | 1.000015                  |
| 71000.0                           | 41.5                  | -59.8                         |                        |                      | 67.7                         | 569.1                      | 295.4                     | 9.3            | 1.000015                  |
| 71500.0                           | 40.5                  | -59.6                         |                        |                      | 66.0                         | 569.4                      | 298.5                     | 7.8            | 1.000015                  |
| 72000.0                           | 39.5                  | -59.4                         |                        |                      | 64.3                         | 569.6                      | 303.1                     | 6.2            | 1.000014                  |
| 72500.0                           | 38.5                  | -59.2                         |                        |                      | 62.7                         | 569.9                      | 315.9                     | 5.8            | 1.000014                  |
| 73000.0                           | 37.6                  | -59.0                         |                        |                      | 61.1                         | 570.2                      | 330.7                     | 6.0            | 1.000014                  |
| 73500.0                           | 36.7                  | -58.8                         |                        |                      | 59.6                         | 570.4                      | 342.9                     | 6.5            | 1.000013                  |
| 74000.0                           | 35.8                  | -58.6                         |                        |                      | 58.1                         | 570.7                      | 349.2                     | 7.1            | 1.000013                  |
| 74500.0                           | 34.9                  | -58.4                         |                        |                      | 56.7                         | 571.0                      | 354.4                     | 7.8            | 1.000013                  |
| 75000.0                           | 34.1                  | -58.2                         |                        |                      | 55.2                         | 571.2                      | 1.2                       | 8.1            | 1.000012                  |
| 75500.0                           | 33.3                  | -57.9                         |                        |                      | 53.6                         | 571.5                      | 9.7                       | 8.2            | 1.000012                  |
| 76000.0                           | 32.5                  | -57.7                         |                        |                      | 52.5                         | 571.8                      | 17.9                      | 8.4            | 1.000012                  |
| 76500.0                           | 31.7                  | -57.5                         |                        |                      | 51.2                         | 572.0                      | 23.7                      | 8.6            | 1.000011                  |
| 77000.0                           | 30.9                  | -57.3                         |                        |                      | 49.9                         | 572.3                      | 28.2                      | 8.6            | 1.000011                  |
| 77500.0                           | 30.2                  | -57.1                         |                        |                      | 48.6                         | 572.6                      | 32.8                      | 8.6            | 1.000011                  |
| 78000.0                           | 29.4                  | -56.9                         |                        |                      | 47.4                         | 572.8                      | 35.5                      | 8.5            | 1.000011                  |

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LON DEG

UPPER AIR DATA  
025000ZJUN9  
APACHE  
TABLE VIII. (CONT)

STATION ALTITUDE 3951.40 FEET 4SL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 9

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES<br>CENTIGRADE | RFL.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(TN) | SPEED<br>KNOTS |                           |
| 76500.0                        | 26.7                  | -56.8                                    |                     | 46.3                         | 573.1                      | 37.6                     | 8.3            | 1.000010                  |
| 79000.0                        | 28.1                  | -56.6                                    |                     | 45.1                         | 573.4                      | 39.7                     | 8.1            | 1.000010                  |
| 79500.0                        | 27.4                  | -56.4                                    |                     | 44.0                         | 573.6                      | 45.3                     | 8.0            | 1.000010                  |
| 80000.0                        | 26.7                  | -56.2                                    |                     | 42.9                         | 573.9                      | 52.1                     | 6.1            | 1.000010                  |
| 80500.0                        | 26.1                  | -56.0                                    |                     | 41.9                         | 574.1                      | 58.7                     | 8.3            | 1.000009                  |
| 81000.0                        | 25.5                  | -55.8                                    |                     | 40.8                         | 574.4                      | 64.3                     | 8.6            | 1.000009                  |
| 81500.0                        | 24.9                  | -55.6                                    |                     | 39.8                         | 574.6                      | 69.4                     | 6.4            | 1.000009                  |
| 82000.0                        | 24.3                  | -55.4                                    |                     | 38.8                         | 574.9                      | 74.1                     | 9.3            | 1.000009                  |
| 82500.0                        | 23.7                  | -55.2                                    |                     | 37.9                         | 575.2                      | 78.1                     | 9.9            | 1.000008                  |
| 83000.0                        | 23.1                  | -55.0                                    |                     | 37.0                         | 575.4                      | 81.5                     | 10.7           | 1.000008                  |
| 83500.0                        | 22.6                  | -54.8                                    |                     | 36.0                         | 575.7                      | 84.4                     | 11.5           | 1.000008                  |
| 84000.0                        | 22.1                  | -54.6                                    |                     | 35.2                         | 575.9                      | 87.6                     | 12.7           | 1.000008                  |
| 84500.0                        | 21.5                  | -54.4                                    |                     | 34.3                         | 576.2                      | 90.5                     | 14.0           | 1.000008                  |
| 85000.0                        | 21.0                  | -54.2                                    |                     | 33.4                         | 576.5                      | 92.8                     | 15.4           | 1.000007                  |
| 85500.0                        | 20.5                  | -54.0                                    |                     | 32.6                         | 576.7                      | 91.7                     | 15.9           | 1.000007                  |
| 86000.0                        | 20.0                  | -53.8                                    |                     | 31.8                         | 577.0                      | 90.5                     | 16.3           | 1.000007                  |
| 86500.0                        | 19.6                  | -53.6                                    |                     | 31.0                         | 577.3                      | 89.9                     | 16.7           | 1.000007                  |
| 87000.0                        | 19.1                  | -53.3                                    |                     | 30.3                         | 577.6                      | 91.4                     | 16.6           | 1.000007                  |
| 87500.0                        | 18.7                  | -53.0                                    |                     | 29.5                         | 578.0                      | 93.0                     | 16.5           | 1.000007                  |
| 88000.0                        | 18.2                  | -52.8                                    |                     | 28.8                         | 578.3                      | 93.0                     | 16.4           | 1.000006                  |
| 88500.0                        | 17.8                  | -52.5                                    |                     | 28.1                         | 578.6                      | 89.1                     | 16.1           | 1.000006                  |
| 89000.0                        | 17.4                  | -52.3                                    |                     | 27.4                         | 579.0                      | 85.1                     | 15.9           | 1.000006                  |
| 89500.0                        | 17.0                  | -52.0                                    |                     | 26.8                         | 579.3                      | 77.7                     | 16.0           | 1.000006                  |
| 90000.0                        | 16.6                  | -51.8                                    |                     | 26.1                         | 579.7                      | 67.0                     | 16.7           | 1.000006                  |
| 90500.0                        | 16.2                  | -51.5                                    |                     | 25.5                         | 580.0                      | 57.4                     | 17.4           | 1.000006                  |
| 91000.0                        | 15.6                  | -51.3                                    |                     | 24.8                         | 580.3                      | 54.6                     | 18.5           | 1.000006                  |
| 91500.0                        | 15.5                  | -51.0                                    |                     | 24.2                         | 580.7                      | 55.4                     | 18.6           | 1.000005                  |
| 92000.0                        | 15.1                  | -50.7                                    |                     | 23.6                         | 581.0                      | 56.1                     | 18.7           | 1.000005                  |
| 92500.0                        | 14.7                  | -50.5                                    |                     | 23.1                         | 581.3                      | 62.0                     | 16.6           | 1.000005                  |
| 93000.0                        | 14.4                  | -50.2                                    |                     | 22.5                         | 581.7                      | 71.8                     | 14.3           | 1.000005                  |

STATION ALTITUDE 3951.40 FEET MSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NO. 9

UPPER AIR DATA  
0250050009  
APACHE  
TABLE VIII. (CONT)

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LON DEG

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF SOUND |       | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|----------------|------------------------|----------------------|------------------------------|----------------|-------|---------------------------|----------------|---------------------------|
|                                |                       | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |                              | KNOTS          | KNOTS | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 93500.0                        | 14.1                  | -50.0          |                        |                      | 21.9                         | 562.0          |       | 84.8                      | 12.5           | 1.000005                  |
| 94000.0                        | 13.7                  | -49.7          |                        |                      | 21.4                         | 582.3          |       | 91.0                      | 11.1           | 1.000005                  |
| 94500.0                        | 13.4                  | -49.5          |                        |                      | 20.9                         | 582.7          |       | 97.9                      | 9.8            | 1.000005                  |
| 95000.0                        | 13.1                  | -49.2          |                        |                      | 20.4                         | 583.0          |       | 105.3                     | 8.7            | 1.000005                  |
| 95500.0                        | 12.8                  | -48.9          |                        |                      | 19.9                         | 583.3          |       | 97.9                      | 8.2            | 1.000004                  |
| 96000.0                        | 12.5                  | -48.7          |                        |                      | 19.4                         | 583.7          |       | 89.7                      | 7.8            | 1.000004                  |
| 96500.0                        | 12.2                  | -48.4          |                        |                      | 18.9                         | 584.0          |       |                           |                | 1.000004                  |
| 97000.0                        | 11.9                  | -48.2          |                        |                      | 18.5                         | 584.3          |       |                           |                | 1.000004                  |
| 97500.0                        | 11.6                  | -47.9          |                        |                      | 18.0                         | 584.7          |       |                           |                | 1.000004                  |
| 98000.0                        | 11.4                  | -47.7          |                        |                      | 17.6                         | 585.0          |       |                           |                | 1.000004                  |
| 98500.0                        | 11.1                  | -47.4          |                        |                      | 17.1                         | 585.3          |       |                           |                | 1.000004                  |

STATION ALTITUDE 3951.40 FEET MSL  
25 JAN. 78  
ASCENSION NO. 9

MANDATORY LEVELS  
0250050009  
APACHE  
TABLE IX.

GEODETIC COORDINATES  
32.62700 LAT DEG  
106.39352 LON DEG

| PRESSURE GEOPOTENTIAL |        | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | WIND DATA                 |                |
|-----------------------|--------|----------------|------------------------|----------------------|---------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |
| 850.0                 | 5014.  | -2             | -13.4                  | 36.                  | 237.6                     | 3.9            |
| 800.0                 | 6603.  | -1.8           | -15.0                  | 36.                  | 298.9                     | 6.0            |
| 750.0                 | 8278.  | -3.7           | -16.4                  | 36.                  | 338.9                     | 22.5           |
| 700.0                 | 10077. | -9             | -17.5                  | 27.                  | 355.7                     | 31.3           |
| 650.0                 | 12005. | -4.6           | -19.3                  | 30.                  | 325.4                     | 40.6           |
| 600.0                 | 14069. | -6.4           | -25.6                  | 20.                  | 327.0                     | 42.3           |
| 550.0                 | 16281. | -11.2          | -29.8                  | 20.                  | 323.5                     | 39.7           |
| 500.0                 | 18653. | -17.3          | -35.3                  | 19.                  | 319.0                     | 44.9           |
| 450.0                 | 21223. | -21.9          | -40.7                  | 16.                  | 324.7                     | 47.6           |
| 400.0                 | 24026. | -29.2          | -46.4                  | 17.                  | 323.1                     | 51.3           |
| 350.0                 | 27106. | -36.4          | -56.2                  | 11.**                | 317.3                     | 50.7           |
| 300.0                 | 30561. | -43.4          |                        |                      | 304.7                     | 53.9           |
| 250.0                 | 34499. | -53.4          |                        |                      | 266.4                     | 54.9           |
| 200.0                 | 39128. | -60.2          |                        |                      | 295.3                     | 86.7           |
| 175.0                 | 41867. | -59.3          |                        |                      | 264.7                     | 64.5           |
| 150.0                 | 45044. | -57.4          |                        |                      | 260.8                     | 79.6           |
| 125.0                 | 48809. | -59.1          |                        |                      | 276.3                     | 66.7           |
| 100.0                 | 53358. | -63.5          |                        |                      | 269.1                     | 53.3           |
| 80.0                  | 57832. | -65.0          |                        |                      | 265.6                     | 43.8           |
| 70.0                  | 60518. | -62.7          |                        |                      | 279.1                     | 27.3           |
| 60.0                  | 63670. | -61.1          |                        |                      | 166.4                     | 6.0            |
| 50.0                  | 67359. | -61.3          |                        |                      | 262.6                     | 14.6           |
| 40.0                  | 71922. | -59.5          |                        |                      | 305.9                     | 5.8            |
| 30.0                  | 77862. | -57.1          |                        |                      | 36.1                      | 8.4            |
| 25.0                  | 81661. | -55.6          |                        |                      | 73.9                      | 9.3            |
| 20.0                  | 86345. | -53.8          |                        |                      | 90.5                      | 16.6           |
| 15.0                  | 92452. | -50.7          |                        |                      | 66.8                      | 14.9           |

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

STATION ALTITUDE 4940.00 FEET MSL  
23 JAN. 72  
ASCENSION NO. 19

SIGNIFICANT LEVEL DATA  
02500-0319  
CJALLION  
TABLE X.

GEOMETRIC COORDINATES  
33.81920 LAT DEG  
106.60501 LON DEG

| PRESSURE GEOMETRIC |                      | TEMPERATURE               |                     | REL. HUM. |
|--------------------|----------------------|---------------------------|---------------------|-----------|
| MILLIBARS          | ALTITUDE<br>MSL FEET | AIR<br>DEGREES CENTIGRADE | DEWPOINT<br>PERCENT |           |
| 850.4              | 4940.0               | 2.2                       | -8.6                | 43.0      |
| 839.3              | 5290.9               | .6                        | -15.3               | 29.0      |
| 786.3              | 6993.2               | -4.1                      | -15.7               | 40.0      |
| 777.7              | 10003.6              | -5.5                      | -16.9               | 29.0      |
| 622.3              | 13013.2              | -10.4                     | -22.4               | 55.0      |
| 618.9              | 13152.1              | -8.0                      | -23.7               | 27.0      |
| 588.3              | 14441.0              | -8.7                      | -24.9               | 16.0      |
| 530.0              | 18506.0              | -17.0                     | -37.4               | 15.0      |
| 481.8              | 19415.6              | -16.1                     | -41.2               | 11.0      |
| 400.0              | 23860.0              | -29.6                     | -50.5               | 11.0      |
| 305.3              | 29690.3              | -44.3                     |                     |           |
| 300.0              | 30358.4              | -45.4                     |                     |           |
| 250.0              | 34254.1              | -55.0                     |                     |           |
| 215.3              | 37324.9              | -62.2                     |                     |           |
| 200.0              | 38817.9              | -61.1                     |                     |           |
| 165.3              | 42727.4              | -56.7                     |                     |           |
| 160.8              | 43322.0              | -54.7                     |                     |           |
| 150.0              | 44743.0              | -50.4                     |                     |           |
| 124.6              | 47716.4              | -58.4                     |                     |           |
| 126.2              | 47972.5              | -56.5                     |                     |           |
| 122.3              | 48942.9              | -54.2                     |                     |           |
| 100.0              | 53024.0              | -63.1                     |                     |           |
| 79.3               | 57650.0              | -65.2                     |                     |           |
| 73.3               | 59257.2              | -60.2                     |                     |           |
| 77.7               | 61172.2              | -61.1                     |                     |           |
| 50.0               | 66570.2              | -64.2                     |                     |           |
| 50.0               | 77500.2              | -63.4                     |                     |           |
| 20.0               | 85725.0              | -64.2                     |                     |           |

STATION ALTITUDE 4500.00 FEET MSL  
25 JAN. 78 1145 HRS MST  
ASCENSION NC. 14

UPPER AIR DATA  
STATION  
TABLE XI.

GEOMETRIC COORDINATES  
35.81920 LAT NFG  
106.66501 LON NEG

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES | TEMPERATURE<br>JUNPOINT<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup> | SOUND<br>VELOCITY<br>M/SEC | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|-------------------------------|---------------------------------------|----------------------|-------------------------------|----------------------------|---------------------------|----------------|---------------------------|
|                                   |                       |                               |                                       |                      |                               |                            | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 4940.0                            | 550.4                 | 2.5                           | -8.8                                  | 43.0                 | 1.073.2                       | 647.3                      | 313.0                     | 9.9            | 1.000255                  |
| 5000.0                            | 548.5                 | 2.2                           | -9.6                                  | 40.6                 | 1.072.2                       | 646.8                      | 311.5                     | 10.0           | 1.000253                  |
| 5500.0                            | 532.6                 | .0                            | -15.3                                 | 30.4                 | 1.060.9                       | 644.2                      | 322.4                     | 11.3           | 1.000246                  |
| 6000.0                            | 516.6                 | -1.4                          | -15.5                                 | 33.6                 | 1.046.0                       | 642.5                      | 330.9                     | 12.9           | 1.000243                  |
| 6500.0                            | 501.3                 | -2.7                          | -15.4                                 | 36.8                 | 1.031.4                       | 640.9                      | 337.4                     | 14.7           | 1.000239                  |
| 7000.0                            | 486.1                 | -4.1                          | -15.7                                 | 40.0                 | 1.016.9                       | 639.3                      | 337.2                     | 17.2           | 1.000236                  |
| 7500.0                            | 471.1                 | -4.0                          | -16.1                                 | 36.1                 | 997.1                         | 639.4                      | 335.1                     | 20.0           | 1.000231                  |
| 8000.0                            | 456.3                 | -5.9                          | -16.6                                 | 36.3                 | 977.7                         | 639.5                      | 336.7                     | 22.8           | 1.000226                  |
| 8500.0                            | 441.9                 | -3.8                          | -17.2                                 | 34.5                 | 958.7                         | 639.6                      | 337.9                     | 25.8           | 1.000222                  |
| 9000.0                            | 427.7                 | -5.7                          | -17.7                                 | 32.7                 | 940.0                         | 639.7                      | 339.0                     | 28.9           | 1.000217                  |
| 9500.0                            | 413.7                 | -3.6                          | -18.3                                 | 30.8                 | 921.7                         | 639.9                      | 339.7                     | 31.4           | 1.000213                  |
| 10000.0                           | 400.1                 | -3.5                          | -18.9                                 | 29.0                 | 903.8                         | 640.0                      | 340.0                     | 33.0           | 1.000208                  |
| 10500.0                           | 386.5                 | -4.6                          | -19.5                                 | 30.0                 | 890.1                         | 638.6                      | 339.8                     | 34.6           | 1.000205                  |
| 11000.0                           | 373.3                 | -5.8                          | -20.2                                 | 31.0                 | 876.6                         | 637.2                      | 339.3                     | 36.1           | 1.000202                  |
| 11500.0                           | 360.2                 | -6.9                          | -20.8                                 | 32.0                 | 863.4                         | 635.9                      | 337.1                     | 37.8           | 1.000199                  |
| 12000.0                           | 347.4                 | -8.1                          | -21.5                                 | 33.0                 | 850.3                         | 634.5                      | 334.3                     | 39.7           | 1.000195                  |
| 12500.0                           | 334.9                 | -9.2                          | -22.1                                 | 34.0                 | 837.5                         | 633.1                      | 332.9                     | 40.7           | 1.000192                  |
| 13000.0                           | 322.6                 | -10.4                         | -22.8                                 | 35.0                 | 824.9                         | 631.7                      | 332.1                     | 41.7           | 1.000189                  |
| 13500.0                           | 310.5                 | -8.2                          | -25.1                                 | 24.0                 | 802.3                         | 634.3                      | 331.9                     | 43.6           | 1.000183                  |
| 14000.0                           | 298.6                 | -8.5                          | -27.5                                 | 19.8                 | 787.5                         | 633.9                      | 330.8                     | 45.2           | 1.000179                  |
| 14500.0                           | 286.9                 | -6.8                          | -30.0                                 | 16.0                 | 773.3                         | 633.5                      | 329.2                     | 46.6           | 1.000175                  |
| 15000.0                           | 275.3                 | -9.8                          | -30.9                                 | 15.9                 | 760.9                         | 632.3                      | 328.0                     | 47.7           | 1.000172                  |
| 15500.0                           | 263.9                 | -10.9                         | -31.9                                 | 15.7                 | 748.6                         | 631.0                      | 327.2                     | 46.5           | 1.000169                  |
| 16000.0                           | 252.7                 | -11.9                         | -32.8                                 | 15.6                 | 736.8                         | 629.8                      | 327.3                     | 48.9           | 1.000166                  |
| 16500.0                           | 241.6                 | -12.9                         | -33.7                                 | 15.5                 | 725.1                         | 628.5                      | 327.2                     | 48.6           | 1.000163                  |
| 17000.0                           | 231.1                 | -13.9                         | -34.6                                 | 15.4                 | 713.5                         | 627.3                      | 327.1                     | 47.7           | 1.000161                  |
| 17500.0                           | 220.5                 | -14.9                         | -35.5                                 | 15.2                 | 702.2                         | 626.1                      | 326.3                     | 49.7           | 1.000158                  |
| 18000.0                           | 210.2                 | -16.0                         | -36.5                                 | 15.1                 | 691.0                         | 624.8                      | 325.7                     | 51.8           | 1.000155                  |
| 18500.0                           | 200.1                 | -17.0                         | -37.4                                 | 15.0                 | 680.0                         | 623.6                      | 325.7                     | 53.3           | 1.000153                  |
| 19000.0                           | 190.0                 | -17.6                         | -39.4                                 | 12.6                 | 667.9                         | 622.0                      | 325.8                     | 53.7           | 1.000150                  |

STATION ALTITUDE 4900.00 FEET MSL  
 25 JAN. 72  
 ASCENSION NO. 19

UPPER AIR DATA  
 125004Z 72  
 STATION

GEOMETRIC COORDINATES  
 33.01420 LAT DEG  
 106.00501 LON DEG

TABLE XI. (CONT)

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | AIR TEMPERATURE<br>DEGREES | TEMPERATURE<br>DEGREE CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA<br>DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|----------------------------|----------------------------------|----------------------|------------------------------|----------------------------|----------------------------------------|----------------|---------------------------|
| 19500.0                        | 480.1                 | -16.3                      | -41.4                            | 11.0                 | 656.2                        | 621.9                      | 326.2                                  | 52.5           | 1.000147                  |
| 20000.0                        | 470.2                 | -19.6                      | -42.5                            | 11.0                 | 645.9                        | 623.4                      | 326.2                                  | 52.0           | 1.000145                  |
| 20500.0                        | 460.4                 | -20.9                      | -43.5                            | 11.0                 | 635.8                        | 618.0                      | 326.1                                  | 51.9           | 1.000142                  |
| 21000.0                        | 450.9                 | -22.2                      | -44.5                            | 11.0                 | 625.9                        | 617.2                      | 325.4                                  | 52.4           | 1.000140                  |
| 21500.0                        | 441.6                 | -23.5                      | -45.6                            | 11.0                 | 616.1                        | 615.0                      | 324.7                                  | 52.8           | 1.000138                  |
| 22000.0                        | 432.5                 | -24.8                      | -46.6                            | 11.0                 | 606.5                        | 614.0                      | 323.7                                  | 52.4           | 1.000136                  |
| 22500.0                        | 423.5                 | -26.1                      | -47.6                            | 11.0                 | 597.1                        | 612.4                      | 322.5                                  | 52.0           | 1.000133                  |
| 23000.0                        | 414.7                 | -27.4                      | -48.7                            | 11.0                 | 587.8                        | 610.8                      | 321.1                                  | 51.6           | 1.000131                  |
| 23500.0                        | 406.2                 | -28.7                      | -49.7                            | 11.0                 | 578.7                        | 609.2                      | 319.8                                  | 52.1           | 1.000129                  |
| 24000.0                        | 397.6                 | -29.9                      | -51.0                            | 10.7**               | 569.5                        | 607.6                      | 318.6                                  | 53.2           | 1.000127                  |
| 24500.0                        | 389.0                 | -31.2                      | -52.8                            | 9.8**                | 560.0                        | 606.0                      | 317.8                                  | 54.1           | 1.000125                  |
| 25000.0                        | 380.5                 | -32.5                      | -54.6                            | 8.9**                | 550.7                        | 604.4                      | 317.0                                  | 55.0           | 1.000123                  |
| 25500.0                        | 372.2                 | -33.7                      | -56.5                            | 7.9**                | 541.5                        | 602.0                      | 316.5                                  | 54.3           | 1.000121                  |
| 26000.0                        | 364.0                 | -35.0                      | -58.5                            | 7.0**                | 532.5                        | 601.2                      | 316.0                                  | 53.3           | 1.000119                  |
| 26500.0                        | 356.1                 | -36.2                      | -60.6                            | 6.0**                | 523.6                        | 599.0                      | 315.6                                  | 51.8           | 1.000117                  |
| 27000.0                        | 348.3                 | -37.5                      | -62.9                            | 5.1**                | 514.9                        | 598.0                      | 315.0                                  | 50.6           | 1.000115                  |
| 27500.0                        | 340.7                 | -38.8                      | -65.3                            | 4.1**                | 506.4                        | 596.4                      | 314.2                                  | 50.2           | 1.000113                  |
| 28000.0                        | 333.3                 | -40.0                      | -68.1                            | 3.2**                | 498.0                        | 594.8                      | 313.2                                  | 50.2           | 1.000111                  |
| 28500.0                        | 326.0                 | -41.3                      | -71.4                            | 2.2**                | 489.3                        | 593.2                      | 311.8                                  | 50.3           | 1.000109                  |
| 29000.0                        | 318.9                 | -42.6                      | -75.9                            | 1.3**                | 481.7                        | 591.6                      | 310.1                                  | 51.6           | 1.000107                  |
| 29500.0                        | 311.9                 | -43.8                      | -84.4                            | .4**                 | 473.3                        | 590.0                      | 307.9                                  | 53.1           | 1.000106                  |
| 30000.0                        | 305.0                 | -44.8                      |                                  |                      | 465.3                        | 588.7                      | 305.9                                  | 54.3           | 1.000104                  |
| 30500.0                        | 298.0                 | -45.7                      |                                  |                      | 456.5                        | 587.5                      | 304.1                                  | 55.4           | 1.000102                  |
| 31000.0                        | 291.1                 | -47.0                      |                                  |                      | 448.4                        | 585.9                      | 302.7                                  | 56.6           | 1.000100                  |
| 31500.0                        | 284.4                 | -48.2                      |                                  |                      | 440.4                        | 584.3                      | 301.8                                  | 57.9           | 1.000098                  |
| 32000.0                        | 277.6                 | -49.4                      |                                  |                      | 432.7                        | 582.7                      | 301.0                                  | 59.3           | 1.000096                  |
| 32500.0                        | 271.4                 | -50.7                      |                                  |                      | 425.0                        | 581.1                      | 300.7                                  | 61.0           | 1.000095                  |
| 33000.0                        | 265.1                 | -51.9                      |                                  |                      | 417.4                        | 579.5                      | 300.4                                  | 62.7           | 1.000093                  |
| 33500.0                        | 259.0                 | -53.1                      |                                  |                      | 410.1                        | 577.0                      | 299.9                                  | 64.0           | 1.000091                  |
| 34000.0                        | 253.0                 | -54.4                      |                                  |                      | 402.8                        | 576.2                      | 299.4                                  | 65.2           | 1.000090                  |

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

COOPER AIR DATA  
 2420000 19  
 STATION ALTITUDE 4940.00 FEET MSL  
 25 JAN. 78  
 1145 HRS MST  
 ASCENSION NO. 17

COOPER AIR DATA  
 2420000 19  
 STATION ALTITUDE 4940.00 FEET MSL  
 25 JAN. 78  
 1145 HRS MST  
 ASCENSION NO. 17

STATION ALTITUDE 4940.00 FEET MSL  
 25 JAN. 78  
 1145 HRS MST  
 ASCENSION NO. 17

TABLE XI. (CONT)

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GRAMS PER<br>CUBIC METER | SPEED OF<br>SOUND<br>KNOTS | WIND<br>DIRECTION<br>DEGREES (T) | WIND<br>SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|------------------------------------------|----------------------|-------------------------------------|----------------------------|----------------------------------|------------------------|---------------------------|
| 34500.0                        | 247.0                 | -55.6                                    | 395.0                | 574.0                               | 298.8                      | 298.8                            | 66.5                   | 1.000028                  |
| 35000.0                        | 241.1                 | -56.8                                    | 368.1                | 573.1                               | 293.2                      | 293.2                            | 67.7                   | 1.000036                  |
| 35500.0                        | 235.5                 | -58.0                                    | 341.9                | 571.5                               | 287.9                      | 287.9                            | 68.6                   | 1.000045                  |
| 36000.0                        | 229.9                 | -59.2                                    | 315.8                | 569.9                               | 282.6                      | 282.6                            | 71.7                   | 1.000053                  |
| 36500.0                        | 224.1                 | -60.3                                    | 289.9                | 568.3                               | 277.2                      | 277.2                            | 73.5                   | 1.000062                  |
| 37000.0                        | 218.7                 | -61.5                                    | 264.1                | 566.7                               | 271.8                      | 271.8                            | 75.2                   | 1.000070                  |
| 37500.0                        | 213.4                 | -62.2                                    | 238.6                | 565.9                               | 266.3                      | 266.3                            | 76.5                   | 1.000078                  |
| 38000.0                        | 208.2                 | -61.8                                    | 213.2                | 566.4                               | 260.9                      | 260.9                            | 77.2                   | 1.000076                  |
| 38500.0                        | 203.2                 | -61.4                                    | 187.9                | 567.0                               | 255.5                      | 255.5                            | 78.4                   | 1.000074                  |
| 39000.0                        | 198.2                 | -60.9                                    | 162.5                | 567.6                               | 250.1                      | 250.1                            | 80.2                   | 1.000072                  |
| 39500.0                        | 193.5                 | -60.5                                    | 137.1                | 568.3                               | 244.7                      | 244.7                            | 82.4                   | 1.000071                  |
| 40000.0                        | 188.8                 | -59.6                                    | 111.7                | 569.1                               | 239.3                      | 239.3                            | 85.1                   | 1.000069                  |
| 40500.0                        | 184.3                 | -59.2                                    | 86.0                 | 569.8                               | 233.9                      | 233.9                            | 86.0                   | 1.000067                  |
| 41000.0                        | 179.6                 | -58.6                                    | 60.2                 | 570.6                               | 228.5                      | 228.5                            | 85.4                   | 1.000065                  |
| 41500.0                        | 175.5                 | -58.1                                    | 34.3                 | 571.3                               | 223.1                      | 223.1                            | 84.3                   | 1.000063                  |
| 42000.0                        | 171.5                 | -57.5                                    | 8.7                  | 572.1                               | 217.7                      | 217.7                            | 81.5                   | 1.000062                  |
| 42500.0                        | 167.1                 | -57.0                                    | 23.0                 | 572.8                               | 212.3                      | 212.3                            | 79.6                   | 1.000060                  |
| 43000.0                        | 163.1                 | -56.6                                    | 20.1                 | 574.4                               | 206.9                      | 206.9                            | 78.7                   | 1.000058                  |
| 43500.0                        | 159.3                 | -56.2                                    | 25.0                 | 575.1                               | 201.5                      | 201.5                            | 77.8                   | 1.000057                  |
| 44000.0                        | 155.5                 | -56.5                                    | 250.0                | 575.4                               | 196.1                      | 196.1                            | 76.9                   | 1.000056                  |
| 44500.0                        | 151.6                 | -57.2                                    | 245.3                | 571.7                               | 190.7                      | 190.7                            | 76.0                   | 1.000055                  |
| 45000.0                        | 148.1                 | -58.4                                    | 240.3                | 570.9                               | 185.3                      | 185.3                            | 75.0                   | 1.000054                  |
| 45500.0                        | 144.6                 | -58.4                                    | 234.0                | 570.9                               | 180.0                      | 180.0                            | 73.8                   | 1.000052                  |
| 46000.0                        | 141.1                 | -58.4                                    | 228.5                | 570.9                               | 174.7                      | 174.7                            | 72.6                   | 1.000051                  |
| 46500.0                        | 137.7                 | -58.4                                    | 223.0                | 570.9                               | 169.3                      | 169.3                            | 71.6                   | 1.000050                  |
| 47000.0                        | 134.4                 | -58.4                                    | 218.0                | 570.9                               | 163.9                      | 163.9                            | 71.0                   | 1.000049                  |
| 47500.0                        | 131.2                 | -58.4                                    | 212.6                | 570.9                               | 158.5                      | 158.5                            | 70.6                   | 1.000047                  |
| 48000.0                        | 128.0                 | -56.6                                    | 207.9                | 573.3                               | 153.1                      | 153.1                            | 70.2                   | 1.000046                  |
| 48500.0                        | 125.0                 | -58.0                                    | 202.3                | 571.4                               | 147.7                      | 147.7                            | 70.5                   | 1.000045                  |
| 49000.0                        | 122.0                 | -59.4                                    | 196.7                | 569.6                               | 142.3                      | 142.3                            | 71.1                   | 1.000044                  |

GEOMETRIC COORDINATES  
35.01927 LAT DEG  
106.66501 LON DEG

UPPER AIR DATA  
STATION 15  
STALLION  
TABLE XI. (CONT)

STATION ALTITUDE 4940.00 FEET MSL  
25 JAN. 78  
1145 HRS MST  
ASCENSION NO. 15

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GRAMS/CUBIC<br>METER | SPEED OF<br>SOUND<br>KILOMETERS | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|----------------------|---------------------------------|---------------------------------|---------------------------|----------------|---------------------------|
|                                   |                       |                                             |                      |                                 |                                 | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 49500.0                           | 119.0                 | -59.2                                       |                      | 194.8                           | 359.3                           | 279.1                     | 71.5           | 1.000042                  |
| 50000.0                           | 116.1                 | -60.3                                       |                      | 190.0                           | 366.4                           | 279.4                     | 71.8           | 1.000042                  |
| 50500.0                           | 113.3                 | -60.7                                       |                      | 185.8                           | 367.3                           | 279.9                     | 71.7           | 1.000041                  |
| 51000.0                           | 110.5                 | -61.2                                       |                      | 181.0                           | 367.1                           | 280.9                     | 70.4           | 1.000040                  |
| 51500.0                           | 107.8                 | -61.7                                       |                      | 177.0                           | 368.5                           | 281.9                     | 68.2           | 1.000040                  |
| 52000.0                           | 105.2                 | -62.4                                       |                      | 173.7                           | 369.9                           | 282.9                     | 66.0           | 1.000039                  |
| 52500.0                           | 102.6                 | -62.6                                       |                      | 169.8                           | 365.2                           | 283.9                     | 63.8           | 1.000036                  |
| 53000.0                           | 100.1                 | -63.1                                       |                      | 165.0                           | 364.7                           | 285.1                     | 62.2           | 1.000037                  |
| 53500.0                           | 97.6                  | -63.3                                       |                      | 162.1                           | 364.5                           | 286.4                     | 61.1           | 1.000036                  |
| 54000.0                           | 95.2                  | -63.6                                       |                      | 158.0                           | 363.9                           | 287.5                     | 59.7           | 1.000035                  |
| 54500.0                           | 92.9                  | -63.9                                       |                      | 154.6                           | 363.6                           | 288.2                     | 57.4           | 1.000034                  |
| 55000.0                           | 90.6                  | -64.1                                       |                      | 151.0                           | 363.2                           | 288.9                     | 55.2           | 1.000034                  |
| 55500.0                           | 88.3                  | -64.4                                       |                      | 147.4                           | 362.9                           | 288.7                     | 50.6           | 1.000033                  |
| 56000.0                           | 86.2                  | -64.6                                       |                      | 143.9                           | 362.5                           | 288.1                     | 45.6           | 1.000032                  |
| 56500.0                           | 84.0                  | -64.9                                       |                      | 140.6                           | 362.2                           | 287.3                     | 40.5           | 1.000031                  |
| 57000.0                           | 82.0                  | -65.2                                       |                      | 137.2                           | 361.6                           | 285.1                     | 36.0           | 1.000031                  |
| 57500.0                           | 79.9                  | -65.4                                       |                      | 134.0                           | 361.5                           | 284.6                     | 31.4           | 1.000030                  |
| 58000.0                           | 78.0                  | -64.4                                       |                      | 130.1                           | 362.9                           | 283.6                     | 29.0           | 1.000029                  |
| 58500.0                           | 76.0                  | -62.6                                       |                      | 126.9                           | 365.0                           | 283.1                     | 27.0           | 1.000028                  |
| 59000.0                           | 74.2                  | -61.5                                       |                      | 121.0                           | 367.1                           | 281.8                     | 24.7           | 1.000027                  |
| 59500.0                           | 72.4                  | -60.7                                       |                      | 116.6                           | 367.9                           | 279.7                     | 22.2           | 1.000026                  |
| 60000.0                           | 70.6                  | -61.0                                       |                      | 112.0                           | 367.5                           | 277.1                     | 20.1           | 1.000026                  |
| 60500.0                           | 68.9                  | -61.2                                       |                      | 107.8                           | 367.2                           | 274.5                     | 19.2           | 1.000025                  |
| 61000.0                           | 67.2                  | -61.2                                       |                      | 103.5                           | 367.1                           | 271.6                     | 18.4           | 1.000025                  |
| 61500.0                           | 65.5                  | -61.5                                       |                      | 100.0                           | 367.0                           | 271.2                     | 19.3           | 1.000024                  |
| 62000.0                           | 63.9                  | -61.4                                       |                      | 96.2                            | 366.9                           | 271.2                     | 20.4           | 1.000023                  |
| 62500.0                           | 62.4                  | -61.5                                       |                      | 92.7                            | 366.0                           | 271.2                     | 21.5           | 1.000023                  |
| 63000.0                           | 60.9                  | -61.6                                       |                      | 89.2                            | 366.0                           | 271.0                     | 22.1           | 1.000022                  |
| 63500.0                           | 59.4                  | -61.7                                       |                      | 85.8                            | 366.5                           | 270.9                     | 22.7           | 1.000022                  |
| 64000.0                           | 57.9                  | -61.8                                       |                      | 82.5                            | 366.4                           | 271.4                     | 23.1           | 1.000021                  |

# UPPER AIR DATA

STATION ALTITUDE 4941.00 FEET ASL  
23 JAN. 76  
1145 HRS PST  
ASCENSION NO. 14

STATION ALTITUDE 4941.00 FEET ASL  
23 JAN. 76  
1145 HRS PST  
ASCENSION NO. 14

TABLE XI. (CONT)

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup> | SOUND<br>SPEED<br>KNOTS | WIND DATA             |                       | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|----------------------|-------------------------------|-------------------------|-----------------------|-----------------------|---------------------------|
|                                   |                       |                                             |                      |                               |                         | VELOCITY<br>DIRECTION | VELOCITY<br>DIRECTION |                           |
| 64500.0                           | 56.5                  | -61.4                                       |                      | 93.2                          | 506.5                   | 275.1                 | 275.1                 | 1.000021                  |
| 65000.0                           | 55.1                  | -62.0                                       |                      | 90.9                          | 560.2                   | 274.8                 | 274.8                 | 1.000020                  |
| 65500.0                           | 53.6                  | -62.0                                       |                      | 88.7                          | 566.0                   | 276.4                 | 276.4                 | 1.000020                  |
| 66000.0                           | 52.5                  | -62.1                                       |                      | 86.0                          | 569.7                   | 276.1                 | 276.1                 | 1.000019                  |
| 66500.0                           | 51.2                  | -62.2                                       |                      | 84.5                          | 565.5                   | 279.9                 | 279.9                 | 1.000019                  |
| 67000.0                           | 49.9                  | -62.3                                       |                      | 82.5                          | 565.7                   | 280.5                 | 280.5                 | 1.000018                  |
| 67500.0                           | 48.7                  | -62.1                                       |                      | 80.0                          | 566.0                   | 281.1                 | 281.1                 | 1.000018                  |
| 68000.0                           | 47.5                  | -61.9                                       |                      | 78.4                          | 566.2                   | 281.8                 | 281.8                 | 1.000017                  |
| 68500.0                           | 46.4                  | -61.7                                       |                      | 76.8                          | 566.5                   | 282.2                 | 282.2                 | 1.000017                  |
| 69000.0                           | 45.2                  | -61.5                                       |                      | 74.5                          | 565.7                   | 282.7                 | 282.7                 | 1.000017                  |
| 69500.0                           | 44.1                  | -61.3                                       |                      | 72.6                          | 567.0                   | 282.9                 | 282.9                 | 1.000016                  |
| 70000.0                           | 43.1                  | -61.2                                       |                      | 70.6                          | 567.2                   | 283.1                 | 283.1                 | 1.000016                  |
| 70500.0                           | 42.0                  | -61.0                                       |                      | 69.0                          | 567.5                   | 277.1                 | 277.1                 | 1.000015                  |
| 71000.0                           | 41.0                  | -60.8                                       |                      | 67.3                          | 567.7                   | 274.9                 | 274.9                 | 1.000015                  |
| 71500.0                           | 40.0                  | -60.6                                       |                      | 65.6                          | 568.0                   | 275.5                 | 275.5                 | 1.000015                  |
| 72000.0                           | 39.0                  | -60.4                                       |                      | 63.9                          | 568.2                   | 276.3                 | 276.3                 | 1.000014                  |
| 72500.0                           | 38.1                  | -60.2                                       |                      | 62.1                          | 568.5                   | 278.5                 | 278.5                 | 1.000014                  |
| 73000.0                           | 37.2                  | -60.0                                       |                      | 60.7                          | 568.7                   | 292.6                 | 292.6                 | 1.000014                  |
| 73500.0                           | 36.3                  | -59.8                                       |                      | 59.7                          | 569.0                   | 320.8                 | 320.8                 | 1.000013                  |
| 74000.0                           | 35.4                  | -59.7                                       |                      | 57.7                          | 569.2                   | .4                    | .4                    | 1.000013                  |
| 74500.0                           | 34.5                  | -59.5                                       |                      | 56.3                          | 569.5                   | 29.9                  | 29.9                  | 1.000013                  |
| 75000.0                           | 33.7                  | -59.3                                       |                      | 54.9                          | 569.7                   | 40.3                  | 40.3                  | 1.000012                  |
| 75500.0                           | 32.9                  | -59.1                                       |                      | 53.0                          | 570.0                   | 49.0                  | 49.0                  | 1.000012                  |
| 76000.0                           | 32.1                  | -58.9                                       |                      | 52.1                          | 570.2                   | 61.9                  | 61.9                  | 1.000012                  |
| 76500.0                           | 31.3                  | -58.7                                       |                      | 50.8                          | 570.5                   | 70.6                  | 70.6                  | 1.000011                  |
| 77000.0                           | 30.5                  | -58.5                                       |                      | 49.5                          | 570.7                   | 76.1                  | 76.1                  | 1.000011                  |
| 77500.0                           | 29.8                  | -58.3                                       |                      | 48.3                          | 571.0                   | 75.4                  | 75.4                  | 1.000011                  |
| 78000.0                           | 29.1                  | -58.1                                       |                      | 47.1                          | 571.3                   | 73.1                  | 73.1                  | 1.000010                  |
| 78500.0                           | 28.4                  | -57.9                                       |                      | 45.9                          | 571.6                   | 73.9                  | 73.9                  | 1.000010                  |
| 79000.0                           | 27.7                  | -57.6                                       |                      | 44.5                          | 571.9                   | 82.8                  | 82.8                  | 1.000010                  |

UPPER AIR DATA  
 22 JAN. 72  
 STATION ALTITUDE 4700.00 FEET MSL  
 23 JAN. 72  
 1145 HRS PST  
 ASCENSION NO. 19

GEOMETRIC COORDINATES  
 23.81920 LAT DEG  
 100.00531 LON DEG

TABLE XI. (CONT)

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES<br>CELSIUS | REL. HUMID.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup> | SPEED OF<br>SOUND<br>METERS<br>PER SECOND | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------|------------------------|-------------------------------|-------------------------------------------|---------------------------|----------------|---------------------------|
|                                   |                       |                                       |                        |                               |                                           | DIRECTION<br>DEGREES (TR) | SPEED<br>KNOTS |                           |
| 79500.0                           | 27.0                  | -57.4                                 |                        | 43.7                          | 572.2                                     | 44.3                      | 13.0           | 1.000010                  |
| 80000.0                           | 26.4                  | -57.2                                 |                        | 42.8                          | 572.5                                     | 19.8                      | 12.0           | 1.000019                  |
| 80500.0                           | 25.8                  | -56.9                                 |                        | 41.6                          | 572.8                                     | 350.8                     | 13.5           | 1.000009                  |
| 81000.0                           | 25.1                  | -56.7                                 |                        | 40.2                          | 573.2                                     | 333.9                     | 13.2           | 1.000014                  |
| 81500.0                           | 24.5                  | -56.5                                 |                        | 39.2                          | 573.5                                     | 321.1                     | 13.6           | 1.000004                  |
| 82000.0                           | 24.0                  | -56.2                                 |                        | 38.2                          | 573.8                                     | 348.4                     | 13.7           | 1.000009                  |
| 82500.0                           | 23.4                  | -56.0                                 |                        | 37.2                          | 574.1                                     | 356.2                     | 12.5           | 1.000008                  |
| 83000.0                           | 22.8                  | -55.8                                 |                        | 36.6                          | 574.4                                     | 17.4                      | 11.2           | 1.000006                  |
| 83500.0                           | 22.3                  | -55.5                                 |                        | 35.7                          | 574.7                                     | 40.4                      | 11.6           | 1.000008                  |
| 84000.0                           | 21.7                  | -55.3                                 |                        | 34.8                          | 575.0                                     |                           |                | 1.000008                  |
| 84500.0                           | 21.2                  | -55.1                                 |                        | 33.9                          | 575.3                                     |                           |                | 1.000008                  |
| 85000.0                           | 20.7                  | -54.8                                 |                        | 33.1                          | 575.6                                     |                           |                | 1.000007                  |
| 85500.0                           | 20.2                  | -54.6                                 |                        | 32.2                          | 575.9                                     |                           |                | 1.000007                  |

STATION ALTITUDE 4940.00 FEET ASL  
25 JAN. 78  
ASCENSION NO. 14

ADDITIONAL DATA  
STATION  
TABLE XII.

COORDINATE COORDINATES  
55.01920 LAT DEG  
106.66501 LON DEG

| PRESSURE GEOPOTENTIAL |        | TEMPERATURE                  |                                   | REL. HUM.<br>PERCENT | WIND DATA                |                |
|-----------------------|--------|------------------------------|-----------------------------------|----------------------|--------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES<br>CENTIGRADE | DEWPOINT<br>DEGREES<br>CENTIGRADE |                      | DIRECTION<br>DEGREES (°) | SPEED<br>KNOTS |
| 850.0                 | 4956.  | 2.4                          | -9.1                              | 42.                  | 310.4                    | 9.9            |
| 800.0                 | 6545.  | -2.9                         | -15.4                             | 37.                  | 337.9                    | 14.9           |
| 750.0                 | 8217.  | -3.9                         | -16.9                             | 36.                  | 337.2                    | 24.1           |
| 700.0                 | 10005. | -3.9                         | -16.9                             | 29.                  | 340.4                    | 35.1           |
| 650.0                 | 11911. | -7.8                         | -21.3                             | 35.                  | 334.7                    | 39.4           |
| 600.0                 | 13946. | -8.4                         | -27.2                             | 20.                  | 331.0                    | 45.1           |
| 550.0                 | 16147. | -12.1                        | -33.3                             | 16.                  | 327.3                    | 49.1           |
| 500.0                 | 18516. | -17.0                        | -37.4                             | 15.                  | 325.7                    | 55.4           |
| 450.0                 | 21086. | -22.3                        | -44.6                             | 11.                  | 320.3                    | 52.5           |
| 400.0                 | 23684. | -29.6                        | -50.5                             | 11.                  | 316.8                    | 55.0           |
| 350.0                 | 26981. | -37.2                        | -62.3                             | 5.***                | 315.0                    | 50.6           |
| 300.0                 | 30391. | -45.4                        |                                   |                      | 304.4                    | 55.3           |
| 250.0                 | 34296. | -55.0                        |                                   |                      | 299.0                    | 66.1           |
| 200.0                 | 38876. | -61.1                        |                                   |                      | 294.4                    | 50.0           |
| 175.0                 | 41617. | -58.0                        |                                   |                      | 290.3                    | 43.3           |
| 150.0                 | 44825. | -52.4                        |                                   |                      | 282.6                    | 75.2           |
| 125.0                 | 48590. | -58.0                        |                                   |                      | 279.4                    | 70.7           |
| 100.0                 | 52140. | -63.1                        |                                   |                      | 282.8                    | 61.6           |
| 80.0                  | 57620. | -65.4                        |                                   |                      | 284.0                    | 49.0           |
| 70.0                  | 60324. | -61.1                        |                                   |                      | 274.5                    | 19.2           |
| 60.0                  | 63401. | -61.6                        |                                   |                      | 271.8                    | 22.9           |
| 50.0                  | 67161. | -62.2                        |                                   |                      | 261.0                    | 19.8           |
| 40.0                  | 71731. | -60.6                        |                                   |                      | 276.2                    | 8.4            |
| 30.0                  | 77607. | -58.4                        |                                   |                      | 13.6                     | 17.3           |
| 25.0                  | 81385. | -56.6                        |                                   |                      | 351.0                    | 13.6           |
| 20.0                  | 86051. | -54.2                        |                                   |                      |                          |                |

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

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

# SIGNIFICANT LEVEL DATA

0250030128

JALLEN

TABLE XIII.

STATION ALTITUDE 4021.00 FEET MSL  
29 JAN. 78  
ASCENSION NO. 28  
1300 HRS MST

| PRESSURE  |          | GEOMETRIC | TEMPERATURE |          | REL. HUM. |
|-----------|----------|-----------|-------------|----------|-----------|
| MILLIBARS | ALTITUDE |           | AIR         | DEWPOINT | PERCENT   |
|           | MSL FEET | DEGREES   | CENTIGRADE  |          |           |
| 876.7     | 4051.0   | 6.3       | -6.0        |          | 41.0      |
| 868.8     | 4358.0   | 4.0       | -8.0        |          | 41.0      |
| 850.0     | 4939.5   | 2.1       | -8.9        |          | 44.0      |
| 843.5     | 5139.0   | 2.0       | -8.7        |          | 45.0      |
| 764.2     | 7734.7   | -2.5      | -13.3       |          | 45.0      |
| 745.6     | 8377.0   | -1.1      | -12.6       |          | 41.0      |
| 700.0     | 10025.4  | -2.2      | -15.2       |          | 36.0      |
| 671.4     | 11106.8  | -4.8      | -10.3       |          | 40.0      |
| 617.8     | 13247.0  | -0.0      | -20.0       |          | 32.0      |
| 500.0     | 18571.3  | -16.3     | -32.2       |          | 23.0      |
| 484.9     | 19325.9  | -17.3     | -35.3       |          | 19.0      |
| 400.0     | 23935.0  | -29.9     | -45.1       |          | 21.0      |
| 366.4     | 25959.6  | -35.2     | -49.6       |          | 21.0      |
| 300.0     | 30412.3  | -46.6     |             |          |           |
| 250.0     | 34291.5  | -55.7     |             |          |           |
| 213.6     | 37064.7  | -59.3     |             |          |           |
| 200.0     | 38890.2  | -58.4     |             |          |           |
| 195.8     | 39325.8  | -59.3     |             |          |           |
| 166.6     | 40316.8  | -57.0     |             |          |           |
| 150.0     | 44816.5  | -58.8     |             |          |           |
| 135.6     | 46289.8  | -59.1     |             |          |           |
| 128.6     | 47901.3  | -61.6     |             |          |           |
| 106.2     | 51441.6  | -63.5     |             |          |           |
| 100.0     | 53030.3  | -61.4     |             |          |           |
| 84.7      | 56411.3  | -59.1     |             |          |           |
| 70.0      | 60278.4  | -62.8     |             |          |           |
| 62.7      | 62514.7  | -56.6     |             |          |           |
| 51.8      | 66380.2  | -64.0     |             |          |           |
| 50.0      | 67089.3  | -62.5     |             |          |           |
| 34.0      | 74925.8  | -58.2     |             |          |           |

GEOMETRIC COORDINATES  
33.16712 LAT DEG  
106.49511 LONG DEG

UPPER AIR DATA  
025000Z  
JALLEN  
TABLE XIV.

STATION ALTITUDE 4001.00 FEET 4SL  
25 JAN. 76 1300 HRS MST  
ASCENSION NO. 28

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES | TEMPERATURE<br>DEWPOINT<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup><br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA<br>DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|----------------------------|---------------------------------------|----------------------|----------------------------------------|----------------------------|---------------------------------------|----------------|---------------------------|
| 4051.0                         | 676.7                 | 6.3                        | -6.0                                  | 41.0                 | 1093.6                                 | 651.8                      | 140.0                                 | 2.9            | 1.000263                  |
| 4500.0                         | 664.2                 | 3.5                        | -8.2                                  | 41.7                 | 1086.5                                 | 648.2                      | 122.1                                 | .7             | 1.000258                  |
| 5000.0                         | 648.1                 | 2.1                        | -8.8                                  | 44.3                 | 1071.9                                 | 646.2                      | 234.8                                 | 1.8            | 1.000255                  |
| 5500.0                         | 632.1                 | 1.4                        | -7.3                                  | 44.7                 | 1054.5                                 | 645.9                      | 329.6                                 | 4.3            | 1.000250                  |
| 6000.0                         | 616.4                 | .5                         | -10.2                                 | 44.5                 | 1037.9                                 | 644.9                      | 322.8                                 | 6.8            | 1.000245                  |
| 6500.0                         | 601.0                 | -0.4                       | -11.1                                 | 44.0                 | 1021.6                                 | 643.8                      | 317.2                                 | 9.3            | 1.000241                  |
| 7000.0                         | 585.9                 | -1.2                       | -12.0                                 | 43.6                 | 1005.6                                 | 642.8                      | 318.5                                 | 9.8            | 1.000236                  |
| 7500.0                         | 571.1                 | -2.1                       | -12.9                                 | 43.2                 | 989.9                                  | 641.7                      | 320.5                                 | 10.1           | 1.000232                  |
| 8000.0                         | 556.5                 | -1.9                       | -13.0                                 | 42.2                 | 970.5                                  | 642.0                      | 325.0                                 | 13.7           | 1.000228                  |
| 8500.0                         | 542.1                 | -1.2                       | -12.8                                 | 40.6                 | 949.5                                  | 642.8                      | 328.6                                 | 17.9           | 1.000223                  |
| 9000.0                         | 528.0                 | -1.5                       | -13.6                                 | 39.1                 | 932.7                                  | 642.4                      | 333.0                                 | 24.4           | 1.000219                  |
| 9500.0                         | 514.2                 | -1.8                       | -14.4                                 | 37.6                 | 916.1                                  | 642.0                      | 335.4                                 | 29.5           | 1.000214                  |
| 10000.0                        | 500.7                 | -2.2                       | -15.2                                 | 36.1                 | 899.9                                  | 641.6                      | 337.0                                 | 33.1           | 1.000210                  |
| 10500.0                        | 487.3                 | -3.3                       | -15.7                                 | 37.8                 | 886.5                                  | 640.2                      | 336.0                                 | 34.9           | 1.000207                  |
| 11000.0                        | 474.2                 | -4.5                       | -16.2                                 | 39.6                 | 873.5                                  | 638.8                      | 333.5                                 | 35.5           | 1.000204                  |
| 11500.0                        | 461.2                 | -5.0                       | -16.9                                 | 38.5                 | 858.3                                  | 638.2                      | 331.6                                 | 36.4           | 1.000200                  |
| 12000.0                        | 448.5                 | -5.3                       | -17.5                                 | 36.1                 | 842.7                                  | 637.9                      | 330.1                                 | 37.7           | 1.000196                  |
| 12500.0                        | 436.0                 | -5.6                       | -18.6                                 | 34.8                 | 827.4                                  | 637.5                      | 331.2                                 | 39.2           | 1.000192                  |
| 13000.0                        | 423.8                 | -5.9                       | -19.5                                 | 32.9                 | 812.3                                  | 637.2                      | 333.2                                 | 40.9           | 1.000188                  |
| 13500.0                        | 411.6                 | -6.5                       | -20.6                                 | 31.6                 | 798.5                                  | 636.4                      | 333.6                                 | 41.1           | 1.000184                  |
| 14000.0                        | 399.6                 | -7.5                       | -21.7                                 | 30.7                 | 785.6                                  | 635.2                      | 333.5                                 | 41.0           | 1.000181                  |
| 14500.0                        | 387.8                 | -8.4                       | -22.9                                 | 29.9                 | 773.0                                  | 634.1                      | 331.3                                 | 40.0           | 1.000177                  |
| 15000.0                        | 376.2                 | -9.4                       | -24.1                                 | 29.0                 | 760.7                                  | 632.9                      | 328.8                                 | 39.2           | 1.000174                  |
| 15500.0                        | 364.9                 | -10.4                      | -25.2                                 | 28.2                 | 748.5                                  | 631.7                      | 325.6                                 | 38.6           | 1.000171                  |
| 16000.0                        | 353.6                 | -11.3                      | -26.4                                 | 27.3                 | 736.5                                  | 630.5                      | 323.4                                 | 38.6           | 1.000168                  |
| 16500.0                        | 342.9                 | -12.3                      | -27.6                                 | 26.5                 | 724.7                                  | 629.3                      | 321.8                                 | 38.9           | 1.000165                  |
| 17000.0                        | 332.2                 | -13.3                      | -28.8                                 | 25.7                 | 713.1                                  | 628.2                      | 321.2                                 | 39.4           | 1.000162                  |
| 17500.0                        | 321.7                 | -14.2                      | -30.0                                 | 24.8                 | 701.7                                  | 627.0                      | 320.6                                 | 40.2           | 1.000159                  |
| 18000.0                        | 311.5                 | -15.2                      | -31.2                                 | 24.0                 | 690.5                                  | 625.8                      | 319.6                                 | 42.0           | 1.000156                  |
| 18500.0                        | 301.4                 | -16.2                      | -32.4                                 | 23.1                 | 679.5                                  | 624.6                      | 319.0                                 | 44.2           | 1.000154                  |

STATION ALTITUDE 4001.00 FEET MSL  
25 JAN. 78 1300 HRS MST  
ASCENSION NO. 28

UPPER AIR DATA  
0250030028  
JALLEN  
TABLE XIV. (CONT)

GEOMETRIC COORDINATES  
33.16712 LAT DEG  
105.49511 LON DEG

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | AIR<br>TEMPERATURE<br>DEGREES<br>CENTIGRADE | DEW POINT<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup><br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA<br>DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|-------------------------|----------------------|----------------------------------------|----------------------------|----------------------------------------|----------------|---------------------------|
| 19000.0                           | 491.4                 | -16.9                                       | -34.1                   | 20.7                 | 667.7                                  | 623.7                      | 318.8                                  | 46.6           | 1.000151                  |
| 19500.0                           | 481.4                 | -17.8                                       | -35.7                   | 19.1                 | 656.5                                  | 621.6                      | 318.6                                  | 46.5           | 1.000146                  |
| 20000.0                           | 471.4                 | -19.1                                       | -36.7                   | 19.3                 | 646.4                                  | 621.0                      | 315.5                                  | 45.7           | 1.000146                  |
| 20500.0                           | 461.7                 | -20.5                                       | -37.8                   | 19.5                 | 636.5                                  | 619.5                      | 317.3                                  | 44.5           | 1.000142                  |
| 21000.0                           | 452.2                 | -21.9                                       | -38.8                   | 19.7                 | 626.8                                  | 617.6                      | 316.2                                  | 43.5           | 1.000141                  |
| 21500.0                           | 442.6                 | -23.2                                       | -39.9                   | 19.9                 | 617.2                                  | 615.9                      | 315.2                                  | 44.9           | 1.000139                  |
| 22000.0                           | 433.7                 | -24.6                                       | -40.9                   | 20.2                 | 607.6                                  | 614.2                      | 314.3                                  | 45.6           | 1.000136                  |
| 22500.0                           | 424.7                 | -26.0                                       | -42.0                   | 20.4                 | 598.5                                  | 612.5                      | 313.4                                  | 45.7           | 1.000134                  |
| 23000.0                           | 415.9                 | -27.3                                       | -43.1                   | 20.6                 | 589.4                                  | 610.8                      | 312.7                                  | 46.2           | 1.000132                  |
| 23500.0                           | 407.3                 | -28.7                                       | -44.1                   | 20.8                 | 580.5                                  | 609.1                      | 312.0                                  | 46.9           | 1.000130                  |
| 24000.0                           | 398.9                 | -30.1                                       | -45.2                   | 21.0                 | 571.6                                  | 607.4                      | 311.4                                  | 49.2           | 1.000128                  |
| 24500.0                           | 390.5                 | -31.4                                       | -46.4                   | 21.0                 | 562.4                                  | 605.6                      | 310.8                                  | 51.6           | 1.000126                  |
| 25000.0                           | 382.0                 | -32.7                                       | -47.5                   | 21.0                 | 553.3                                  | 604.1                      | 309.8                                  | 53.3           | 1.000124                  |
| 25500.0                           | 373.8                 | -34.0                                       | -48.6                   | 21.0                 | 544.4                                  | 602.5                      | 308.8                                  | 54.7           | 1.000122                  |
| 26000.0                           | 365.7                 | -35.3                                       | -49.8                   | 20.8**               | 535.6                                  | 600.8                      | 307.1                                  | 55.4           | 1.000120                  |
| 26500.0                           | 357.6                 | -36.6                                       | -51.9                   | 18.5**               | 526.6                                  | 599.2                      | 305.2                                  | 56.6           | 1.000118                  |
| 27000.0                           | 349.7                 | -37.9                                       | -54.1                   | 16.1**               | 517.7                                  | 597.6                      | 302.3                                  | 49.9           | 1.000116                  |
| 27500.0                           | 341.9                 | -39.1                                       | -56.5                   | 13.7**               | 509.0                                  | 596.0                      | 299.1                                  | 48.1           | 1.000114                  |
| 28000.0                           | 334.3                 | -40.4                                       | -59.0                   | 11.4**               | 500.4                                  | 594.3                      | 297.3                                  | 50.1           | 1.000112                  |
| 28500.0                           | 326.5                 | -41.7                                       | -61.9                   | 9.0**                | 492.0                                  | 592.7                      | 295.7                                  | 52.2           | 1.000110                  |
| 29000.0                           | 319.6                 | -43.0                                       | -65.1                   | 6.7**                | 483.2                                  | 591.0                      | 295.8                                  | 55.3           | 1.000108                  |
| 29500.0                           | 312.5                 | -44.3                                       | -69.2                   | 4.3**                | 475.7                                  | 589.4                      | 295.9                                  | 58.4           | 1.000106                  |
| 30000.0                           | 305.6                 | -45.5                                       | -75.4                   | 1.9**                | 467.7                                  | 587.7                      | 295.9                                  | 59.1           | 1.000104                  |
| 30500.0                           | 298.8                 | -46.8                                       |                         |                      | 459.8                                  | 586.1                      | 295.9                                  | 59.8           | 1.000102                  |
| 31000.0                           | 291.8                 | -48.0                                       |                         |                      | 451.5                                  | 584.6                      | 295.7                                  | 60.4           | 1.000101                  |
| 31500.0                           | 285.0                 | -49.2                                       |                         |                      | 443.3                                  | 583.1                      | 295.5                                  | 61.0           | 1.000099                  |
| 32000.0                           | 278.4                 | -50.5                                       |                         |                      | 435.3                                  | 581.5                      | 295.3                                  | 62.5           | 1.000097                  |
| 32500.0                           | 272.0                 | -51.5                                       |                         |                      | 427.4                                  | 580.0                      | 295.2                                  | 64.2           | 1.000095                  |
| 33000.0                           | 265.6                 | -52.7                                       |                         |                      | 419.7                                  | 578.5                      | 295.3                                  | 66.9           | 1.000093                  |
| 33500.0                           | 259.5                 | -53.8                                       |                         |                      | 412.2                                  | 576.8                      | 295.7                                  | 70.8           | 1.000092                  |

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

STATION ALTITUDE 4021.00 FEET MSL  
25 JAN. 78 1300 HRS 4ST  
ASCENSION NO. 20

UPPER AIR DATA  
0250030028  
JALLEN  
TABLE XIV. (CONT)

GEOMETRIC COORDINATES  
33.16712 LAT OFG  
106.44511 LON DEG

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIPARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>CMETER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|----------------------|-------------------------------|----------------------------|---------------------------|----------------|---------------------------|
|                                   |                       |                                             |                      |                               |                            | DIRECTION<br>DEGREES (TR) | SPEED<br>KNOTS |                           |
| 34000.0                           | 253.4                 | -55.0                                       |                      | 404.8                         | 575.4                      | 276.5                     | 76.9           | 1.000090                  |
| 34500.0                           | 247.5                 | -56.0                                       |                      | 397.0                         | 574.1                      | 296.8                     | 82.7           | 1.000086                  |
| 35000.0                           | 241.6                 | -56.6                                       |                      | 388.7                         | 573.3                      | 296.9                     | 88.3           | 1.000087                  |
| 35500.0                           | 235.8                 | -57.3                                       |                      | 380.1                         | 572.4                      | 296.1                     | 89.4           | 1.000085                  |
| 36000.0                           | 230.2                 | -57.9                                       |                      | 372.5                         | 571.5                      | 294.9                     | 88.4           | 1.000083                  |
| 36500.0                           | 224.7                 | -58.6                                       |                      | 364.7                         | 570.7                      | 293.3                     | 85.2           | 1.000081                  |
| 37000.0                           | 219.3                 | -59.2                                       |                      | 357.1                         | 569.8                      | 291.4                     | 81.6           | 1.000080                  |
| 37500.0                           | 214.0                 | -59.1                                       |                      | 348.3                         | 570.0                      | 289.8                     | 79.7           | 1.000076                  |
| 38000.0                           | 208.9                 | -58.8                                       |                      | 339.5                         | 570.3                      | 286.1                     | 76.0           | 1.000074                  |
| 38500.0                           | 203.8                 | -58.6                                       |                      | 331.0                         | 570.6                      | 286.7                     | 77.1           | 1.000074                  |
| 39000.0                           | 198.9                 | -58.6                                       |                      | 323.0                         | 570.6                      | 285.4                     | 76.3           | 1.000072                  |
| 39500.0                           | 194.2                 | -58.9                                       |                      | 315.7                         | 570.2                      | 284.5                     | 76.2           | 1.000070                  |
| 40000.0                           | 189.5                 | -57.7                                       |                      | 306.4                         | 571.8                      | 283.8                     | 76.3           | 1.000066                  |
| 40500.0                           | 184.9                 | -57.1                                       |                      | 296.2                         | 572.7                      | 283.4                     | 77.2           | 1.000066                  |
| 41000.0                           | 180.5                 | -57.3                                       |                      | 291.3                         | 572.4                      | 283.1                     | 78.6           | 1.000065                  |
| 41500.0                           | 176.2                 | -57.5                                       |                      | 284.6                         | 572.1                      | 282.8                     | 80.0           | 1.000063                  |
| 42000.0                           | 172.0                 | -57.7                                       |                      | 276.0                         | 571.9                      | 282.5                     | 81.6           | 1.000062                  |
| 42500.0                           | 167.8                 | -57.9                                       |                      | 271.6                         | 571.0                      | 282.3                     | 82.4           | 1.000060                  |
| 43000.0                           | 163.8                 | -58.1                                       |                      | 265.3                         | 571.3                      | 282.1                     | 82.7           | 1.000059                  |
| 43500.0                           | 159.9                 | -58.3                                       |                      | 259.2                         | 571.1                      | 281.6                     | 81.4           | 1.000058                  |
| 44000.0                           | 156.1                 | -58.5                                       |                      | 253.2                         | 570.8                      | 280.8                     | 79.1           | 1.000056                  |
| 44500.0                           | 152.3                 | -58.7                                       |                      | 247.4                         | 570.5                      | 280.0                     | 76.9           | 1.000055                  |
| 45000.0                           | 148.7                 | -58.8                                       |                      | 241.7                         | 570.3                      | 279.2                     | 74.7           | 1.000054                  |
| 45500.0                           | 145.1                 | -58.9                                       |                      | 235.9                         | 570.2                      | 278.6                     | 73.2           | 1.000053                  |
| 46000.0                           | 141.6                 | -59.0                                       |                      | 230.4                         | 570.1                      | 278.3                     | 72.4           | 1.000051                  |
| 46500.0                           | 138.2                 | -59.4                                       |                      | 225.2                         | 569.6                      | 278.0                     | 71.5           | 1.000050                  |
| 47000.0                           | 134.8                 | -60.2                                       |                      | 220.5                         | 568.6                      | 277.2                     | 69.9           | 1.000049                  |
| 47500.0                           | 131.5                 | -60.9                                       |                      | 215.9                         | 567.6                      | 276.4                     | 68.3           | 1.000048                  |
| 48000.0                           | 128.4                 | -61.6                                       |                      | 211.4                         | 566.6                      | 275.9                     | 66.4           | 1.000047                  |
| 48500.0                           | 125.2                 | -61.9                                       |                      | 206.5                         | 566.2                      | 275.6                     | 64.4           | 1.000046                  |

UPPER AIR DATA  
J25030128  
JALLEN  
TABLE XIV. (CONT)

GEODETIC COORDINATES  
33.16712 LAT NEG  
106.49511 LONG DEG

STATION ALTITUDE 401.00 FEET MSL  
25 JAN. 76  
ASCENSION NO. 28  
1300 HRS PST

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup><br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|------------------------------------------|----------------------|----------------------------------------|----------------------------|--------------------------|----------------|---------------------------|
|                                   |                       |                                          |                      |                                        |                            | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |                           |
| 49000.0                           | 122.1                 | -62.2                                    |                      | 201.7                                  | 565.9                      | 276.4                    | 62.2           | 1.000045                  |
| 49500.0                           | 119.1                 | -62.4                                    |                      | 197.0                                  | 565.2                      | 278.1                    | 60.0           | 1.000044                  |
| 50000.0                           | 116.2                 | -62.7                                    |                      | 192.4                                  | 565.1                      | 280.0                    | 58.0           | 1.000043                  |
| 50500.0                           | 113.4                 | -63.0                                    |                      | 187.9                                  | 564.8                      | 282.2                    | 56.2           | 1.000042                  |
| 51000.0                           | 110.6                 | -63.3                                    |                      | 183.6                                  | 564.4                      | 284.0                    | 55.4           | 1.000041                  |
| 51500.0                           | 107.9                 | -63.4                                    |                      | 179.2                                  | 564.2                      | 285.2                    | 55.8           | 1.000040                  |
| 52000.0                           | 105.2                 | -62.8                                    |                      | 174.7                                  | 565.1                      | 286.1                    | 55.5           | 1.000039                  |
| 52500.0                           | 102.7                 | -62.1                                    |                      | 169.2                                  | 566.0                      | 286.4                    | 54.2           | 1.000038                  |
| 53000.0                           | 100.2                 | -61.4                                    |                      | 164.8                                  | 566.8                      | 286.5                    | 51.6           | 1.000037                  |
| 53500.0                           | 97.7                  | -61.1                                    |                      | 160.5                                  | 567.2                      | 287.6                    | 45.1           | 1.000036                  |
| 54000.0                           | 95.3                  | -60.7                                    |                      | 156.4                                  | 567.6                      | 284.4                    | 38.6           | 1.000035                  |
| 54500.0                           | 93.0                  | -60.4                                    |                      | 152.3                                  | 568.2                      | 282.1                    | 32.6           | 1.000034                  |
| 55000.0                           | 90.6                  | -60.1                                    |                      | 148.4                                  | 568.7                      | 276.8                    | 26.7           | 1.000033                  |
| 55500.0                           | 88.6                  | -59.7                                    |                      | 144.6                                  | 569.1                      | 276.3                    | 25.4           | 1.000032                  |
| 56000.0                           | 86.4                  | -59.4                                    |                      | 140.8                                  | 569.6                      | 274.2                    | 25.0           | 1.000031                  |
| 56500.0                           | 84.3                  | -59.2                                    |                      | 137.3                                  | 569.9                      | 272.4                    | 25.5           | 1.000031                  |
| 57000.0                           | 82.3                  | -59.7                                    |                      | 134.2                                  | 565.2                      | 271.0                    | 26.2           | 1.000030                  |
| 57500.0                           | 80.3                  | -60.1                                    |                      | 131.3                                  | 566.6                      | 270.4                    | 27.1           | 1.000029                  |
| 58000.0                           | 78.3                  | -60.6                                    |                      | 128.4                                  | 567.9                      | 270.7                    | 27.1           | 1.000029                  |
| 58500.0                           | 76.4                  | -61.1                                    |                      | 125.5                                  | 567.2                      | 271.6                    | 27.2           | 1.000028                  |
| 59000.0                           | 74.6                  | -61.6                                    |                      | 122.8                                  | 566.7                      | 275.3                    | 27.7           | 1.000027                  |
| 59500.0                           | 72.7                  | -62.1                                    |                      | 120.0                                  | 566.0                      | 276.8                    | 26.4           | 1.000027                  |
| 60000.0                           | 71.0                  | -62.5                                    |                      | 117.4                                  | 565.4                      | 280.9                    | 27.7           | 1.000026                  |
| 60500.0                           | 69.2                  | -62.4                                    |                      | 114.4                                  | 565.6                      | 282.9                    | 27.0           | 1.000025                  |
| 61000.0                           | 67.6                  | -61.4                                    |                      | 111.2                                  | 566.8                      | 283.0                    | 24.5           | 1.000025                  |
| 61500.0                           | 65.9                  | -60.5                                    |                      | 108.0                                  | 568.1                      | 281.7                    | 21.2           | 1.000024                  |
| 62000.0                           | 64.3                  | -59.6                                    |                      | 104.9                                  | 569.4                      | 279.6                    | 18.0           | 1.000023                  |
| 62500.0                           | 62.7                  | -58.6                                    |                      | 101.6                                  | 570.6                      | 277.2                    | 15.5           | 1.000023                  |
| 63000.0                           | 61.2                  | -59.2                                    |                      | 99.7                                   | 569.7                      | 273.6                    | 13.0           | 1.000022                  |
| 63500.0                           | 59.7                  | -60.0                                    |                      | 97.6                                   | 568.8                      | 271.2                    | 11.6           | 1.000022                  |

STATION ALTITUDE 4021.00 FEET MSL  
25 JAN. 78  
ASCENSION NO. 20

UPPER AIR DATA  
02500000Z  
JALLEN  
TABLE XIV. (CONT)

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.44511 LONG DEG

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup><br>METER | SPEED OF<br>SOUND<br>KNOTS | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|----------------------|----------------------------------------|----------------------------|---------------------------|----------------|---------------------------|
|                                   |                       |                                             |                      |                                        |                            | DIRECTION<br>DEGREES TRUE | SPEED<br>KNOTS |                           |
| 64000.0                           | 58.3                  | -60.7                                       | 95.2                 | 507.9                                  | 209.6                      | 10.8                      | 1.000021       |                           |
| 64500.0                           | 56.6                  | -61.4                                       | 93.5                 | 506.9                                  | 208.2                      | 9.9                       | 1.000021       |                           |
| 65000.0                           | 55.5                  | -62.1                                       | 91.5                 | 506.0                                  | 270.0                      | 9.6                       | 1.000020       |                           |
| 65500.0                           | 54.1                  | -62.6                                       | 89.6                 | 505.1                                  | 271.9                      | 9.2                       | 1.000020       |                           |
| 66000.0                           | 52.8                  | -63.5                                       | 87.7                 | 504.1                                  | 276.1                      | 9.6                       | 1.000020       |                           |
| 66500.0                           | 51.5                  | -63.7                                       | 85.7                 | 503.8                                  | 281.3                      | 10.8                      | 1.000019       |                           |
| 67000.0                           | 50.2                  | -62.7                                       | 83.1                 | 503.2                                  | 285.5                      | 12.0                      | 1.000019       |                           |
| 67500.0                           | 49.0                  | -62.3                                       | 80.9                 | 505.7                                  | 288.4                      | 13.2                      | 1.000018       |                           |
| 68000.0                           | 47.8                  | -62.0                                       | 78.9                 | 506.1                                  | 290.7                      | 14.3                      | 1.000018       |                           |
| 68500.0                           | 46.6                  | -61.7                                       | 76.9                 | 505.5                                  | 292.8                      | 15.2                      | 1.000017       |                           |
| 69000.0                           | 45.5                  | -61.5                                       | 74.9                 | 506.8                                  | 295.9                      | 13.5                      | 1.000017       |                           |
| 69500.0                           | 44.4                  | -61.2                                       | 73.0                 | 507.2                                  | 299.9                      | 12.0                      | 1.000016       |                           |
| 70000.0                           | 43.3                  | -60.9                                       | 71.1                 | 507.6                                  | 305.7                      | 10.4                      | 1.000016       |                           |
| 70500.0                           | 42.3                  | -60.6                                       | 69.3                 | 507.9                                  | 315.0                      | 8.9                       | 1.000015       |                           |
| 71000.0                           | 41.2                  | -60.4                                       | 67.5                 | 508.3                                  | 327.5                      | 7.8                       | 1.000015       |                           |
| 71500.0                           | 40.2                  | -60.1                                       | 65.2                 | 508.7                                  | 335.2                      | 7.7                       | 1.000015       |                           |
| 72000.0                           | 39.3                  | -59.8                                       | 64.1                 | 509.0                                  | 336.4                      | 6.2                       | 1.000014       |                           |
| 72500.0                           | 38.3                  | -59.5                                       | 62.5                 | 509.4                                  | 337.5                      | 8.6                       | 1.000014       |                           |
| 73000.0                           | 37.4                  | -59.3                                       | 60.9                 | 509.8                                  |                            |                           | 1.000014       |                           |
| 73500.0                           | 36.5                  | -59.0                                       | 59.3                 | 570.1                                  |                            |                           | 1.000013       |                           |
| 74000.0                           | 35.6                  | -58.7                                       | 57.8                 | 570.5                                  |                            |                           | 1.000013       |                           |
| 74500.0                           | 34.7                  | -58.4                                       | 56.3                 | 570.9                                  |                            |                           | 1.000013       |                           |

STATION ALTITUDE +051.00 FEET MSL  
25 JAN. 78 1300 HRS MST  
ASCENSION NO. 28

MANDATORY LEVELS  
J250J30028  
JALLÉN  
TABLE XV.

GEODETIC COORDINATES  
33.16712 LAT DEG  
106.49511 LON DEG

| PRESSURE GEOPOTENTIAL |        | TEMPERATURE                  |                        | REL. HUM.<br>PERCENT | WIND DATA                |                |
|-----------------------|--------|------------------------------|------------------------|----------------------|--------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES<br>CENTIGRADE | DEWPOINT<br>CENTIGRADE |                      | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |
| 850.0                 | 4939.  | 2.1                          | -8.9                   | 44.                  | 336.5                    | 1.6            |
| 800.0                 | 6538.  | -4                           | -11.2                  | 44.                  | 316.9                    | 9.5            |
| 750.0                 | 8224.  | -1.4                         | -12.8                  | 41.                  | 326.4                    | 15.3           |
| 700.0                 | 10026. | -2.2                         | -15.2                  | 36.                  | 357.1                    | 35.4           |
| 650.0                 | 11943. | -5.3                         | -17.7                  | 37.                  | 330.3                    | 37.6           |
| 600.0                 | 14000. | -7.4                         | -21.7                  | 31.                  | 333.4                    | 41.0           |
| 550.0                 | 16205. | -11.7                        | -26.8                  | 27.                  | 322.7                    | 36.7           |
| 500.0                 | 18580. | -16.3                        | -32.5                  | 23.                  | 319.0                    | 44.7           |
| 450.0                 | 21155. | -22.2                        | -39.1                  | 20.                  | 315.8                    | 44.2           |
| 400.0                 | 23952. | -29.9                        | -45.1                  | 21.                  | 311.4                    | 49.1           |
| 350.0                 | 27022. | -37.8                        | -54.1                  | 16.**                | 301.9                    | 49.7           |
| 300.0                 | 30444. | -46.6                        |                        |                      | 295.9                    | 59.8           |
| 250.0                 | 34333. | -55.7                        |                        |                      | 296.8                    | 81.4           |
| 200.0                 | 38946. | -58.4                        |                        |                      | 265.3                    | 76.3           |
| 175.0                 | 41709. | -57.5                        |                        |                      | 282.7                    | 80.9           |
| 150.0                 | 44894. | -58.8                        |                        |                      | 275.2                    | 74.7           |
| 125.0                 | 48628. | -61.9                        |                        |                      | 275.6                    | 63.4           |
| 100.0                 | 53143. | -61.4                        |                        |                      | 266.1                    | 48.0           |
| 80.0                  | 57712. | -60.2                        |                        |                      | 270.6                    | 27.1           |
| 70.0                  | 60427. | -62.8                        |                        |                      | 285.4                    | 26.8           |
| 60.0                  | 63581. | -59.8                        |                        |                      | 270.3                    | 11.2           |
| 50.0                  | 67277. | -62.5                        |                        |                      | 286.4                    | 13.1           |
| 40.0                  | 71821. | -60.0                        |                        |                      | 336.6                    | 8.2            |

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