

AD-A037 939

ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/6 4/2  
12811A LANCE MISSILE NUMBER 2200, ROUND NUMBER 293 RCL (13 JANU--ETC(U)  
JAN 77

UNCLASSIFIED

DR-935

NL

| OF |  
AD  
A037939



AD A 037939

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

DR-935  
January 1977

AD

12  
B.S.

METEOROLOGICAL DATA REPORT

12811A LANCE  
MISSILE NO. 2200, ROUND NO. 293 RCL  
(13 January 1977)

BY

WSMR METEOROLOGICAL TEAM

COPY AVAILABLE TO DDC DOES NOT  
PERMIT FULLY LEGIBLE PRODUCTION

ATMOSPHERIC SCIENCES LABORATORY  
WHITE SANDS MISSILE RANGE, NEW MEXICO

DDC  
RECEIVED  
APR 8 1977  
A

AD No. \_\_\_\_\_  
DDC FILE COPY

ECOM

UNITED STATES ARMY ELECTRONICS COMMAND

**DISPOSITION INSTRUCTIONS**

Destroy this report when it is no longer needed. Do not return to the originator.

**DISCLAIMER**

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

UNCLASSIFIED  
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

| REPORT DOCUMENTATION PAGE                                                                                                                                                                                                            |                       | READ INSTRUCTIONS<br>BEFORE COMPLETING FORM                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------|
| 1. REPORT NUMBER<br>14 DR-935                                                                                                                                                                                                        | 2. GOVT ACCESSION NO. | 3. RECIPIENT'S CATALOG NUMBER                                           |
| 4. TITLE (and Subtitle)<br>6 12811A LANCE<br>MISSILE NO. 2200, ROUND NO. 293 RCL<br>(13 January 1977).<br>Number                                                                                                                     |                       | 5. TYPE OF REPORT & PERIOD COVERED                                      |
| 7. AUTHOR(s)<br>WSMR Meteorological Team                                                                                                                                                                                             |                       | 6. PERFORMING ORG. REPORT NUMBER                                        |
| 9. PERFORMING ORGANIZATION NAME AND ADDRESS<br>9 Meteorological data rept.                                                                                                                                                           |                       | 8. CONTRACT OR GRANT NUMBER(s)<br>16 DA Task/1T665702D127-02            |
| 11. CONTROLLING OFFICE NAME AND ADDRESS<br>US Army Electronics Command<br>Atmospheric Sciences Laboratory<br>White Sands Missile Range, New Mexico                                                                                   |                       | 10. PROGRAM ELEMENT, PROJECT, TASK<br>AREA & WORK UNIT NUMBERS<br>17 02 |
| 14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)<br>12 29p.<br>US Army Electronics Command<br>Ft. Monmouth, New Jersey                                                                                    |                       | 12. REPORT DATE<br>11 January 1977                                      |
|                                                                                                                                                                                                                                      |                       | 13. NUMBER OF PAGES<br>33                                               |
|                                                                                                                                                                                                                                      |                       | 15. SECURITY CLASS. (of this report)<br>UNCLASSIFIED                    |
|                                                                                                                                                                                                                                      |                       | 15a. DECLASSIFICATION/DOWNGRADING<br>SCHEDULE                           |
| 16. DISTRIBUTION STATEMENT (of this Report)<br><br>Approved for public release; distribution unlimited.                                                                                                                              |                       |                                                                         |
| 17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)                                                                                                                                           |                       |                                                                         |
| 18. SUPPLEMENTARY NOTES                                                                                                                                                                                                              |                       |                                                                         |
| 19. KEY WORDS (Continue on reverse side if necessary and identify by block number)<br>1. Ballistics<br>2. Meteorology<br>3. Wind                                                                                                     |                       |                                                                         |
| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br>Meteorological data gathered for the launching of 12811A Lance,<br>Missile Number 2200, Round Number 293 RCL, are presented in tabular<br>form. |                       |                                                                         |

400844



# CONTENTS

|                                                                           | PAGE |
|---------------------------------------------------------------------------|------|
| INTRODUCTION -----                                                        | 1    |
| DISCUSSION -----                                                          | 1    |
| TABLES                                                                    |      |
| I. Surface Observations Taken at Don Site -----                           | 1    |
| II. Anemometer-Measured Wind Speed and Direction,<br>Pole No. 1 -----     | 2    |
| III. Pilot-Balloon-Measured Wind Data, Release No. 1<br>at 0835 MST ----- | 3    |
| IV. Pilot-Balloon-Measured Wind Data, Release No. 1<br>at 0835 MST -----  | 5    |
| V. Pilot-Balloon-Measured Wind Data, Release No. 2<br>at 0852 MST -----   | 6    |
| VI. Holloman Significant Level Data (Release Time:<br>0755 MST) -----     | 9    |
| VII. Holloman Upper Air Data (Release Time:<br>0755 MST) -----            | 11   |
| VIII. Holloman Mandatory Levels (Release Time:<br>0755 MST) -----         | 17   |
| IX. Jallen Significant Level Data (Release Time:<br>0815 MST) -----       | 18   |
| X. Jallen Upper Air Data (Release Time:<br>0815 MST) -----                | 20   |
| XI. Jallen Mandatory Levels (Release Time:<br>0815 MST) -----             | 26   |

A 23  
122

## INTRODUCTION

12811A Lance, Missile Number 2200, Round Number 293 RCL, was launched from Don Site, White Sands Missile Range (WSMR), New Mexico, at 0851 HRS MST, 13 January 1977. The scheduled launch time was 0815 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         | 3,997.0 | FEET/MSL          |
| PRESSURE          | 879.0   | MBS               |
| TEMPERATURE       | -1.4    | °C                |
| RELATIVE HUMIDITY | 93      | %                 |
| DEW POINT         | -2.4    | °C                |
| DENSITY           | 1,124.0 | GM/M <sup>3</sup> |
| WIND SPEED        | 04      | MPH               |
| WIND DIRECTION    | 120     | DEGREES           |
| CLOUD COVER       | 10      | FOG               |

TABLE I. SURFACE OBSERVATIONS TAKEN AT DON SITE,  
0854 HRS MST/13 JANUARY 1977.

| T-TIME<br>(MIN-SEC) | SPEED<br>(MPH) | DIR<br>DEG |
|---------------------|----------------|------------|
| -0.30               | 3.5            | 116        |
| -0.20               | 3.5            | 119        |
| -0.10               | 4.0            | 122        |
| 00.00               | 4.0            | 132        |

TABLE II. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 1  
12811A LANCE, MISSILE NO. 2200, ROUND NO. 293 RCL  
LAUNCHED FROM DON SITE, 0854 MST/13 JANUARY 1977

WSTM COORDINATES: X = 512,027.48 Y = 247,400.25 Z = 3,997.64

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| SUR              | MISSING                | DATA           |
| 100              |                        |                |
| 200              |                        |                |
| 300              |                        |                |
| 400              |                        |                |
| 500              |                        |                |
| 600              | MISSING                | DATA           |
| 700              | 360                    | 3.0            |
| 800              | 083                    | 1.5            |
| 900              | 287                    | 1.0            |
| 1000             | 243                    | 0.5            |
| 1100             | 298                    | 2.0            |
| 1200             | 275                    | 4.5            |
| 1300             | 236                    | 0.5            |
| 1400             | 090                    | 2.0            |
| 1500             | 325                    | 2.0            |
| 1600             | 358                    | 3.5            |
| 1700             | 336                    | 6.5            |
| 1800             | 307                    | 7.0            |
| 1900             | 305                    | 9.0            |
| 2000             | 299                    | 11.5           |

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 2100             | 302                    | 9.0            |
| 2200             | 285                    | 5.5            |
| 2300             | 302                    | 9.0            |
| 2400             | 291                    | 10.5           |
| 2500             | 316                    | 9.5            |
| 2600             | 341                    | 12.0           |
| 2700             | 321                    | 11.5           |
| 2800             | 328                    | 11.5           |
| 2900             | 320                    | 12.5           |
| 3000             | 323                    | 13.0           |
| 3100             | 324                    | 13.5           |
| 3200             | 329                    | 13.5           |
| 3300             | 323                    | 11.5           |
| 3400             | 342                    | 9.0            |
| 3500             | 341                    | 6.5            |
| 3600             | 331                    | 9.5            |
| 3700             | 327                    | 11.0           |
| 3800             | 312                    | 14.0           |
| 3900             | 303                    | 15.0           |
| 4000             | 313                    | 11.5           |
| 4100             | 331                    | 14.0           |

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1  
RELEASED FROM DON SITE, AT 0835 MST/13 JANUARY 1977  
12811A LANCE, MISSILE NO. 2200, ROUND NO. 293 RCL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 511,988.37    Y = 247,396.36    Z = 3,996.83

APPROXIMATELY: 1/4 MILE EAST OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.



| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 4200             | 311                    | 13.5           |
| 4300             | 312                    | 14.5           |
| 4400             | 302                    | 16.5           |
| 4500             | 296                    | 15.0           |
| 4600             | 308                    | 14.5           |
| 4700             | 302                    | 15.0           |
| 4800             | 303                    | 15.5           |
| 4900             | 303                    | 15.5           |
| 5000             | 306                    | 16.0           |
| 5100             | 312                    | 17.0           |
| 5200             | 307                    | 17.0           |
| 5300             | 306                    | 15.5           |
| 5400             | 296                    | 15.0           |
| 5500             | 290                    | 18.0           |
| 5600             | 294                    | 14.0           |

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 5700             | 302                    | 15.5           |
| 5800             | 292                    | 15.5           |
| 5900             | 301                    | 17.5           |
| 6000             | 292                    | 16.0           |
| 6100             | 079                    | 17.5           |
| 6200             | 284                    | 18.5           |
| 6300             | 284                    | 17.5           |
| 6400             | 296                    | 20.5           |
| 6500             | 292                    | 18.0           |
| 6600             | 270                    | 20.5           |
| 6700             | 278                    | 24.5           |
| 6800             | 283                    | 27.0           |
| 6900             | 284                    | 25.5           |
| 7000             | 275                    | 22.0           |

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| SUR              |                        | CALM           |
| 500              | 355                    | 1.0            |
| 1000             | 355                    | 3.0            |
| 1500             | 335                    | 4.0            |
| 2000             | 320                    | 7.0            |
| 2500             | 310                    | 9.0            |
| 3000             |                        | 11.0           |
| 3500             |                        | 12.0           |
| 4000             |                        | 12.0           |
| 4500             | 310                    | 12.0           |
| 5000             | 305                    | 12.0           |
| 5500             | 295                    | 11.0           |
| 6000             | 280                    | 12.0           |
| 6500             | 270                    | 13.0           |
| 7000             | 265                    | 16.0           |
| 7500             | 260                    | 20.0           |

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1  
RELEASED FROM NW-50, AT 0835 MST/13 JANUARY 1977  
12811A LANCE, MISSILE NO. 2200, ROUND NO. 293 RCL

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| SUR              |                        | CALM           |
| 100              | 360                    | 0.5            |
| 200              | 319                    | 2.0            |
| 300              | 317                    | 4.0            |
| 400              | 045                    | 0.5            |
| 500              | 108                    | 2.5            |
| 600              | 113                    | 1.5            |
| 700              | 310                    | 4.0            |
| 800              | 304                    | 4.5            |
| 900              | 308                    | 4.0            |
| 1000             | 297                    | 3.0            |
| 1100             | 293                    | 3.5            |
| 1200             | 290                    | 4.0            |
| 1300             | 286                    | 5.0            |
| 1400             | 282                    | 5.5            |
| 1500             | 278                    | 6.0            |
| 1600             | 275                    | 7.0            |
| 1700             | 271                    | 7.5            |
| 1800             | 267                    | 8.0            |
| 1900             | 263                    | 8.5            |
| 2000             | 260                    | 9.0            |

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 2100             | 256                    | 10.0           |
| 2200             | 307                    | 7.5            |
| 2300             | 312                    | 8.5            |
| 2400             | 311                    | 8.5            |
| 2500             | 313                    | 9.5            |
| 2600             | 324                    | 10.0           |
| 2700             | 326                    | 10.5           |
| 2800             | 325                    | 10.5           |
| 2900             | 321                    | 10.5           |
| 3000             | 323                    | 11.0           |
| 3100             | 322                    | 10.5           |
| 3200             | 320                    | 11.0           |
| 3300             | 318                    | 11.0           |
| 3400             | 316                    | 10.5           |
| 3500             | 320                    | 11.0           |
| 3600             | 341                    | 10.0           |
| 3700             | 324                    | 10.5           |
| 3800             | 323                    | 12.5           |
| 3900             | 315                    | 14.5           |
| 4000             | 316                    | 13.0           |
| 4100             | 311                    | 14.0           |

TABLE V. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 2  
RELEASED FROM DON SITE, AT 0852 MST/13 JANUARY 1977  
12811A LANCE, MISSILE NO. 2200, ROUND NO. 293 RCL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 511,988.37 Y = 247,396.36 Z = 3,996.83

APPROXIMATELY: 1/4 MILE EAST OF LAUNCHER.

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) |
|------------------|------------------------|----------------|------------------|------------------------|----------------|
| 4200             | 313                    | 13.0           | 6600             | 289                    | 20.5           |
| 4300             | 310                    | 14.0           | 6700             | 283                    | 23.0           |
| 4400             | 310                    | 3.5            | 6800             | 281                    | 22.5           |
| 4500             | 309                    | 13.0           | 6900             | 283                    | 24.5           |
| 4600             | 306                    | 13.0           | 7000             | 279                    | 24.5           |
| 4700             | 311                    | 12.0           | 7100             | 278                    | 24.5           |
| 4800             | 308                    | 14.0           | 7200             | 276                    | 25.0           |
| 4900             | 312                    | 14.0           | 7300             | 272                    | 26.0           |
| 5000             | 309                    | 14.0           | 7400             | 271                    | 24.5           |
| 5100             | 306                    | 14.5           | 7500             | 269                    | 23.5           |
| 5200             | 305                    | 15.5           | 7600             | 270                    | 25.0           |
| 5300             | 301                    | 15.5           | 7700             | 268                    | 26.0           |
| 5400             | 304                    | 15.5           | 7800             | 268                    | 27.0           |
| 5500             | 305                    | 16.5           | 7900             | 266                    | 28.5           |
| 5600             | 304                    | 16.0           | 8000             | 263                    | 30.0           |
| 5700             | 300                    | 15.5           | 8100             | 265                    | 31.5           |
| 5800             | 304                    | 16.0           | 8200             | 261                    | 29.5           |
| 5900             | 305                    | 17.0           | 8300             | 262                    | 30.0           |
| 6000             | 298                    | 16.5           | 8400             | 265                    | 27.5           |
| 6100             | 297                    | 17.0           | 8500             | 259                    | 28.0           |
| 6200             | 296                    | 16.0           | 8600             | 253                    | 28.5           |
| 6300             | 294                    | 18.0           | 8700             | 259                    | 27.0           |
| 6400             | 294                    | 20.0           | 8800             | 257                    | 31.5           |
| 6500             | 293                    | 20.5           | 8900             | 259                    | 32.0           |

TABLE V. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.



| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 9000             | 259                    | 31.0           |
| 9100             | 248                    | 35.0           |
| 9200             | 250                    | 34.0           |
| 9300             | 249                    | 36.5           |
| 9400             | 246                    | 34.0           |
| 9500             | 245                    | 35.0           |
| 9600             | 243                    | 32.5           |
| 9700             | 242                    | 34.5           |
| 9800             | 241                    | 33.5           |
| 9900             | 241                    | 33.0           |
| 10000            | 239                    | 34.0           |
| 10100            | 239                    | 35.5           |

| HEIGHT<br>(FEET) | DIRECTION<br>(DEGREES) | SPEED<br>(MPH) |
|------------------|------------------------|----------------|
| 10200            | 239                    | 35.0           |
| 10300            | 240                    | 35.0           |
| 10400            | 240                    | 35.0           |
| 10500            | 241                    | 34.5           |
| 10600            | 238                    | 32.0           |
| 10700            | 232                    | 33.0           |
| 10800            | 244                    | 31.5           |
| 10900            | 241                    | 32.0           |
| 11000            | 243                    | 32.0           |
| 11100            | 252                    | 32.0           |
| 11200            | 248                    | 33.0           |
| 11300            | 241                    | 33.0           |

TABLE V. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 4126.59 FEET MSL  
13 JAN. 77 0755 HRS MST  
ASCENSION NO. 25

SIGNIFICANT LEVEL DATA

0130010025  
HOLLISMAN

TABLE VI

| PRESSURE GEOMETRIC |                      | TEMPERATURE    |                        | REL. HUM. |
|--------------------|----------------------|----------------|------------------------|-----------|
| MILLIBARS          | ALTITUDE<br>MSL FEET | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE | PERCENT   |
| 874.2              | 4126.6               | -7.7           | -8.8                   | 92.0      |
| 863.7              | 4437.0               | -5.2           | -5.3                   | 99.0      |
| 853.8              | 4737.6               | -1.1           | -2.2                   | 99.0      |
| 852.0              | 4855.1               | .4             | .3                     | 99.0      |
| 826.2              | 5606.0               | 1.9            | -6.2                   | 55.0      |
| 795.0              | 6627.4               | 2.7            | -10.5                  | 37.0      |
| 712.8              | 9489.8               | -4.3           | -16.4                  | 28.0      |
| 702.0              | 9958.3               | -5.0           | -14.5                  | 47.0      |
| 673.0              | 10969.8              | -7.4           | -15.5                  | 52.0      |
| 660.0              | 11433.6              | -7.8           | -34.0                  | 10.0      |
| 642.5              | 12152.9              | -9.3           | -22.9                  | 22.0      |
| 625.0              | 12844.2              | -10.7          | -14.1                  | 76.0      |
| 613.7              | 13312.9              | -12.3          | -16.1                  | 73.0      |
| 604.7              | 13683.0              | -12.8          | -18.7                  | 61.0      |
| 581.6              | 14656.3              | -15.1          | -21.5                  | 58.0      |
| 564.5              | 15392.1              | -16.1          | -40.6                  | 10.0      |
| 500.0              | 18363.6              | -22.2          | -45.4                  | 10.0      |
| 407.0              | 27625.3              | -34.4          | -50.8                  | 17.0      |
| 300.0              | 50115.4              | -43.6          |                        |           |
| 250.0              | 34040.4              | -50.4          |                        |           |
| 222.4              | 36590.0              | -52.8          |                        |           |
| 212.2              | 37589.1              | -52.3          |                        |           |
| 200.0              | 38844.1              | -54.0          |                        |           |
| 177.8              | 41342.7              | -51.5          |                        |           |
| 173.8              | 41828.6              | -52.5          |                        |           |
| 157.5              | 43925.0              | -50.0          |                        |           |
| 150.0              | 44989.0              | -50.3          |                        |           |
| 138.9              | 46650.0              | -52.6          |                        |           |
| 122.1              | 49314.3              | -54.8          |                        |           |
| 117.0              | 50949.4              | -58.2          |                        |           |

STATION ALTITUDE 4126.59 FEET MSL  
 13 JAN. 77 0755 HRS MST  
 ASCENSION NO. 25

SIGNIFICANT LEVEL DATA

0130010005  
 HOLLDMAN

TABLE VI (CONT)

| PRESSURE GEOMETRIC<br>ALTITUDE | TEMPERATURE<br>AIR | DEWPOINT<br>CENTIGRADE | REL. HUM.<br>PERCENT |
|--------------------------------|--------------------|------------------------|----------------------|
| MILLIBARS MSL FEET             | DEGREES            |                        |                      |
| 109.8 51582.9                  | -58.0              |                        |                      |
| 100.0 53505.7                  | -62.5              |                        |                      |
| 85.7 56681.9                   | -70.3              |                        |                      |
| 78.0 58479.8                   | -69.4              |                        |                      |
| 70.0 60595.2                   | -64.0              |                        |                      |
| 66.6 61606.7                   | -61.3              |                        |                      |
| 56.2 65076.6                   | -62.3              |                        |                      |
| 50.0 67474.2                   | -59.9              |                        |                      |
| 41.6 71300.1                   | -56.4              |                        |                      |
| 41.2 71504.6                   | -52.4              |                        |                      |
| 33.8 75713.5                   | -54.6              |                        |                      |
| 30.0 78243.7                   | -53.5              |                        |                      |
| 20.0 86941.8                   | -49.8              |                        |                      |
| 16.8 90728.3                   | -48.4              |                        |                      |

STATION ALTITUDE 4126.59 FEET MSL  
 13 JAN. 77 0755 HRS MST  
 ASCENSION NO. 35

UPPER AIR DATA  
 0130010025  
 HOLLOWMAN

WSH SITE COORDINATES  
 571739.24 FEET E  
 362745.21 FEET N

TABLE VII

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | DENSITY<br>CM/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 |                           |
| 4126.6                            | 874.2                 | -7.7           | -8.9                   | 92.0                 | 1145.7                       | 635.2                      | 145.0                     | 4.1            | 1.000272                  |
| 4500.0                            | 861.6                 | -4.1           | -4.7                   | 99.0                 | 1113.6                       | 639.6                      | 129.4                     | 1.6            | 1.000271                  |
| 5000.0                            | 845.4                 | .7             | -7                     | 90.5                 | 1072.6                       | 645.5                      | 354.9                     | 2.1            | 1.000268                  |
| 5500.0                            | 829.5                 | 1.7            | -5.0                   | 51.2                 | 1049.4                       | 646.5                      | 342.4                     | 5.4            | 1.000255                  |
| 6000.0                            | 814.0                 | 2.2            | -7.6                   | 48.1                 | 1028.7                       | 647.0                      | 334.4                     | 7.9            | 1.000246                  |
| 6500.0                            | 798.8                 | 2.5            | -9.9                   | 39.2                 | 1007.8                       | 647.4                      | 323.3                     | 9.4            | 1.000239                  |
| 7000.0                            | 783.8                 | 1.8            | -11.3                  | 37.1                 | 991.9                        | 646.4                      | 315.0                     | 11.1           | 1.000234                  |
| 7500.0                            | 769.0                 | .6             | -12.3                  | 37.3                 | 977.6                        | 644.9                      | 308.9                     | 13.1           | 1.000230                  |
| 8000.0                            | 754.5                 | -7             | -13.2                  | 27.5                 | 963.5                        | 643.4                      | 208.9                     | 14.9           | 1.000226                  |
| 8500.0                            | 740.2                 | -1.9           | -14.4                  | 37.7                 | 949.6                        | 642.0                      | 307.9                     | 16.6           | 1.000222                  |
| 9000.0                            | 726.2                 | -3.1           | -15.4                  | 37.8                 | 936.0                        | 640.5                      | 304.3                     | 18.1           | 1.000218                  |
| 9500.0                            | 712.5                 | -4.3           | -16.4                  | 38.2                 | 922.5                        | 639.0                      | 299.4                     | 19.3           | 1.000214                  |
| 10000.0                           | 698.9                 | -5.1           | -14.6                  | 47.2                 | 907.7                        | 638.2                      | 293.6                     | 20.5           | 1.000213                  |
| 10500.0                           | 685.4                 | -6.3           | -15.1                  | 47.7                 | 893.8                        | 636.7                      | 286.7                     | 22.1           | 1.000209                  |
| 11000.0                           | 672.2                 | -7.4           | -16.2                  | 45.3                 | 880.4                        | 635.4                      | 280.5                     | 24.1           | 1.000205                  |
| 11500.0                           | 658.7                 | -7.9           | -32.2                  | 32.0                 | 865.7                        | 634.5                      | 271.5                     | 27.3           | 1.000195                  |
| 12000.0                           | 646.4                 | -9.0           | -24.4                  | 27.3                 | 852.0                        | 633.3                      | 264.4                     | 30.8           | 1.000194                  |
| 12500.0                           | 633.8                 | -10.0          | -17.5                  | 54.1                 | 838.2                        | 632.3                      | 258.3                     | 33.1           | 1.000195                  |
| 13000.0                           | 621.4                 | -11.2          | -14.8                  | 75.0                 | 825.5                        | 630.9                      | 253.2                     | 35.1           | 1.000195                  |
| 13500.0                           | 609.1                 | -12.6          | -17.4                  | 56.9                 | 813.5                        | 629.2                      | 249.1                     | 35.8           | 1.000190                  |
| 14000.0                           | 597.1                 | -13.5          | -19.6                  | 60.0                 | 800.6                        | 626.0                      | 245.9                     | 36.4           | 1.000186                  |
| 14500.0                           | 585.3                 | -14.7          | -21.0                  | 58.5                 | 788.4                        | 626.5                      | 244.1                     | 36.8           | 1.000182                  |
| 15000.0                           | 573.6                 | -15.6          | -27.3                  | 35.6                 | 775.4                        | 625.4                      | 243.7                     | 36.8           | 1.000176                  |
| 15500.0                           | 562.1                 | -16.3          | -40.7                  | 10.0                 | 762.4                        | 624.4                      | 245.3                     | 36.1           | 1.000171                  |
| 16000.0                           | 550.7                 | -17.3          | -41.5                  | 10.0                 | 749.9                        | 623.1                      | 246.6                     | 36.4           | 1.000168                  |
| 16500.0                           | 539.6                 | -18.4          | -42.4                  | 10.0                 | 737.7                        | 621.9                      | 247.4                     | 37.5           | 1.000165                  |
| 17000.0                           | 528.7                 | -19.4          | -43.2                  | 10.0                 | 725.7                        | 620.6                      | 247.5                     | 39.8           | 1.000162                  |
| 17500.0                           | 518.0                 | -20.4          | -44.0                  | 10.0                 | 713.9                        | 619.3                      | 247.1                     | 42.8           | 1.000160                  |
| 18000.0                           | 507.5                 | -21.5          | -44.8                  | 10.0                 | 702.2                        | 618.1                      | 247.3                     | 45.6           | 1.000157                  |
| 18500.0                           | 497.1                 | -22.5          | -45.5                  | 10.2                 | 690.9                        | 616.8                      | 247.5                     | 48.3           | 1.000155                  |



UPPER AIR DATA  
 0120010025  
 HOLLANDAN  
 WSTM SITE COORDINATES  
 571739.24 FEET E  
 362745.21 FEET N

STATION ALTITUDE 4126.59 FEET MSL  
 13 JAN. 77 0755 HRS MST  
 ASCENSION NO. 25  
 TABLE VII (CONT)

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES | TEMPERATURE<br>DEWPOINT<br>CENTIGRADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND<br>MNTS | WIND DATA                |               | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|-------------------------------|---------------------------------------|----------------------|------------------------------|---------------------------|--------------------------|---------------|---------------------------|
|                                   |                       |                               |                                       |                      |                              |                           | DIRECTION<br>DEGREES(TN) | SPEED<br>KNTS |                           |
| 19000.0                           | 486.7                 | -23.7                         | -45.8                                 | 10.8                 | 679.5                        | 615.4                     | 244.9                    | 49.0          | 1.000152                  |
| 19500.0                           | 478.5                 | -24.8                         | -46.2                                 | 11.5                 | 668.4                        | 613.9                     | 242.3                    | 49.7          | 1.000149                  |
| 20000.0                           | 466.5                 | -26.0                         | -46.7                                 | 12.2                 | 657.5                        | 612.5                     | 239.4                    | 49.9          | 1.000147                  |
| 20500.0                           | 456.7                 | -27.2                         | -47.2                                 | 12.8                 | 646.7                        | 611.0                     | 236.8                    | 50.3          | 1.000145                  |
| 21000.0                           | 447.1                 | -28.3                         | -47.7                                 | 13.5                 | 636.1                        | 609.6                     | 234.8                    | 50.7          | 1.000142                  |
| 21500.0                           | 437.7                 | -29.5                         | -48.2                                 | 14.2                 | 625.7                        | 608.2                     | 232.7                    | 51.5          | 1.000140                  |
| 22000.0                           | 428.5                 | -30.5                         | -48.8                                 | 14.8                 | 615.5                        | 606.7                     | 230.4                    | 52.6          | 1.000138                  |
| 22500.0                           | 419.6                 | -31.8                         | -49.4                                 | 15.5                 | 605.5                        | 605.3                     | 228.7                    | 53.8          | 1.000135                  |
| 23000.0                           | 410.7                 | -33.0                         | -50.0                                 | 16.2                 | 595.7                        | 603.8                     | 227.4                    | 55.1          | 1.000133                  |
| 23500.0                           | 402.1                 | -34.1                         | -50.6                                 | 16.8                 | 586.0                        | 602.3                     | 226.5                    | 55.2          | 1.000131                  |
| 24000.0                           | 393.4                 | -34.9                         | -51.7                                 | 16.0**               | 575.3                        | 601.3                     | 225.7                    | 55.0          | 1.000128                  |
| 24500.0                           | 384.8                 | -35.6                         | -53.0                                 | 14.7**               | 564.4                        | 600.4                     | 226.0                    | 53.8          | 1.000126                  |
| 25000.0                           | 376.4                 | -36.3                         | -54.4                                 | 13.4**               | 553.6                        | 599.5                     | 226.3                    | 52.8          | 1.000124                  |
| 25500.0                           | 368.1                 | -37.1                         | -55.8                                 | 12.1**               | 543.1                        | 598.6                     | 225.7                    | 53.0          | 1.000121                  |
| 26000.0                           | 360.0                 | -37.8                         | -57.3                                 | 10.8**               | 532.8                        | 597.7                     | 224.4                    | 52.1          | 1.000119                  |
| 26500.0                           | 352.1                 | -38.5                         | -58.9                                 | 9.5**                | 522.7                        | 596.8                     | 221.5                    | 49.0          | 1.000117                  |
| 27000.0                           | 344.4                 | -39.2                         | -60.6                                 | 8.2**                | 512.8                        | 595.9                     | 221.0                    | 46.7          | 1.000114                  |
| 27500.0                           | 336.9                 | -39.9                         | -62.5                                 | 6.9**                | 503.1                        | 595.0                     | 224.5                    | 45.7          | 1.000112                  |
| 28000.0                           | 329.5                 | -40.6                         | -64.6                                 | 5.5**                | 493.6                        | 594.1                     | 229.1                    | 45.6          | 1.000110                  |
| 28500.0                           | 322.3                 | -41.3                         | -67.1                                 | 4.2**                | 484.2                        | 593.2                     | 234.7                    | 46.5          | 1.000108                  |
| 29000.0                           | 315.2                 | -42.0                         | -70.2                                 | 2.9**                | 475.1                        | 592.3                     | 238.8                    | 46.0          | 1.000106                  |
| 29500.0                           | 308.3                 | -42.7                         | -74.6                                 | 1.6**                | 466.1                        | 591.4                     | 241.2                    | 42.7          | 1.000104                  |
| 30000.0                           | 301.5                 | -43.4                         | -85.2                                 | .3**                 | 457.3                        | 590.5                     | 244.0                    | 40.0          | 1.000102                  |
| 30500.0                           | 294.8                 | -44.3                         |                                       |                      | 448.6                        | 589.4                     | 247.0                    | 38.7          | 1.000100                  |
| 31000.0                           | 288.1                 | -45.1                         |                                       |                      | 440.1                        | 588.3                     | 249.9                    | 37.7          | 1.000098                  |
| 31500.0                           | 281.5                 | -46.0                         |                                       |                      | 431.7                        | 587.2                     | 251.3                    | 38.1          | 1.000096                  |
| 32000.0                           | 275.2                 | -46.8                         |                                       |                      | 423.5                        | 586.1                     | 252.6                    | 38.6          | 1.000094                  |
| 32500.0                           | 268.9                 | -47.7                         |                                       |                      | 415.5                        | 585.0                     | 252.0                    | 39.9          | 1.000093                  |
| 33000.0                           | 262.8                 | -48.5                         |                                       |                      | 407.6                        | 583.9                     | 251.5                    | 41.1          | 1.000091                  |
| 33500.0                           | 256.9                 | -49.4                         |                                       |                      | 399.9                        | 582.8                     | 252.7                    | 40.6          | 1.000089                  |

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

STATION ALTITUDE 4125.59 FEET MSL  
13 JAN. 77 0755 HRS MST  
ASCENSION NO. 25

UPPER AIR DATA  
C130010025  
40110MAN  
TABLE VII (CONT)

WSTM SITE COORDINATES  
571739.24 FEET E  
362745.21 FEET N

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR<br>DEGREES | 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 |                           |
| 34000.0                           | 251.0                 | -50.2                         |                      | 392.3                        | 581.6                      | 254.2                    | 39.9           | 1.000037                  |
| 34500.0                           | 245.3                 | -50.8                         |                      | 384.2                        | 580.9                      | 254.6                    | 41.0           | 1.00008f                  |
| 35000.0                           | 239.6                 | -51.3                         |                      | 376.2                        | 580.3                      | 254.6                    | 43.4           | 1.000084                  |
| 35500.0                           | 234.0                 | -51.8                         |                      | 368.3                        | 579.7                      | 254.2                    | 46.1           | 1.000082                  |
| 36000.0                           | 228.6                 | -52.2                         |                      | 360.5                        | 579.0                      | 252.8                    | 49.8           | 1.000080                  |
| 36500.0                           | 223.3                 | -52.7                         |                      | 353.0                        | 578.4                      | 251.7                    | 53.5           | 1.000079                  |
| 37000.0                           | 218.2                 | -52.6                         |                      | 344.6                        | 578.6                      | 251.3                    | 55.8           | 1.000077                  |
| 37500.0                           | 213.1                 | -52.3                         |                      | 336.2                        | 578.9                      | 251.1                    | 57.5           | 1.000075                  |
| 38000.0                           | 208.1                 | -53.1                         |                      | 329.4                        | 578.0                      | 251.1                    | 58.5           | 1.000073                  |
| 38500.0                           | 203.3                 | -54.0                         |                      | 323.1                        | 576.8                      | 251.3                    | 58.6           | 1.000072                  |
| 39000.0                           | 198.5                 | -54.4                         |                      | 316.2                        | 576.2                      | 251.4                    | 58.2           | 1.000070                  |
| 39500.0                           | 193.9                 | -53.8                         |                      | 308.0                        | 577.0                      | 251.3                    | 56.5           | 1.000069                  |
| 40000.0                           | 189.4                 | -53.2                         |                      | 299.9                        | 577.8                      | 250.5                    | 56.0           | 1.000067                  |
| 40500.0                           | 185.0                 | -52.5                         |                      | 292.1                        | 578.6                      | 248.3                    | 58.0           | 1.000065                  |
| 41000.0                           | 180.7                 | -51.9                         |                      | 284.5                        | 579.4                      | 245.2                    | 62.6           | 1.000063                  |
| 41500.0                           | 176.5                 | -51.8                         |                      | 277.7                        | 579.7                      | 244.4                    | 69.5           | 1.000062                  |
| 42000.0                           | 172.4                 | -52.1                         |                      | 271.7                        | 579.2                      | 244.2                    | 74.3           | 1.000061                  |
| 42500.0                           | 168.4                 | -51.6                         |                      | 264.9                        | 579.9                      | 244.5                    | 78.2           | 1.000059                  |
| 43000.0                           | 164.6                 | -51.0                         |                      | 258.1                        | 580.6                      | 245.3                    | 81.2           | 1.000057                  |
| 43500.0                           | 160.8                 | -50.5                         |                      | 251.5                        | 581.4                      | 245.5                    | 83.6           | 1.000056                  |
| 44000.0                           | 157.1                 | -50.0                         |                      | 245.2                        | 581.9                      | 247.9                    | 86.0           | 1.000055                  |
| 44500.0                           | 153.4                 | -50.2                         |                      | 239.7                        | 581.7                      | 249.8                    | 88.5           | 1.000053                  |
| 45000.0                           | 149.9                 | -50.3                         |                      | 234.4                        | 581.5                      | 251.7                    | 90.9           | 1.000052                  |
| 45500.0                           | 146.5                 | -51.0                         |                      | 229.7                        | 580.6                      | 254.1                    | 90.5           | 1.000051                  |
| 46000.0                           | 143.1                 | -51.7                         |                      | 225.1                        | 579.7                      | 250.6                    | 90.3           | 1.000050                  |
| 46500.0                           | 139.8                 | -52.4                         |                      | 220.6                        | 578.8                      | 258.9                    | 87.6           | 1.000049                  |
| 47000.0                           | 136.5                 | -52.9                         |                      | 215.9                        | 578.2                      | 261.4                    | 84.8           | 1.000048                  |
| 47500.0                           | 133.3                 | -53.3                         |                      | 211.3                        | 577.6                      | 263.5                    | 79.0           | 1.000047                  |
| 48000.0                           | 130.2                 | -53.7                         |                      | 206.8                        | 577.1                      | 265.9                    | 72.8           | 1.000046                  |
| 48500.0                           | 127.2                 | -54.1                         |                      | 202.3                        | 576.6                      | 267.4                    | 67.3           | 1.000045                  |

STATION ALTITUDE 4125.59 FEET MSL  
 13 JAN. 77 0755 HRS MST  
 ASCENSION NO. 75  
 UPPER AIR DATA  
 C130CIC025  
 HOLLISMAN  
 WSTM SITE COORDINATES  
 571739.24 FEET E  
 362745.21 FEET N

TABLE VII (CONT)

| 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>M/KNOTS | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|---------------------------------------------|----------------------|------------------------------|------------------------------|---------------------------|----------------|---------------------------|
|                                   |                       |                                             |                      |                              |                              | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 49000.0                           | 124.2                 | -54.5                                       |                      | 198.0                        | 576.0                        | 268.3                     | 62.3           | 1.000044                  |
| 49500.0                           | 121.3                 | -55.2                                       |                      | 193.0                        | 575.2                        | 268.3                     | 59.1           | 1.000043                  |
| 50000.0                           | 118.5                 | -56.2                                       |                      | 190.2                        | 573.8                        | 266.4                     | 58.8           | 1.000042                  |
| 50500.0                           | 115.7                 | -57.3                                       |                      | 186.6                        | 572.4                        | 264.5                     | 58.7           | 1.000042                  |
| 51000.0                           | 112.9                 | -58.2                                       |                      | 183.0                        | 571.2                        | 262.7                     | 57.2           | 1.000041                  |
| 51500.0                           | 110.2                 | -58.0                                       |                      | 178.5                        | 571.4                        | 262.1                     | 55.5           | 1.000040                  |
| 52000.0                           | 107.6                 | -59.0                                       |                      | 175.0                        | 570.1                        | 260.8                     | 53.8           | 1.000039                  |
| 52500.0                           | 105.0                 | -60.1                                       |                      | 171.7                        | 568.6                        | 260.0                     | 49.8           | 1.000038                  |
| 53000.0                           | 102.5                 | -61.3                                       |                      | 168.5                        | 567.0                        | 259.1                     | 45.8           | 1.000038                  |
| 53500.0                           | 100.0                 | -62.5                                       |                      | 165.4                        | 565.4                        | 257.3                     | 42.6           | 1.000037                  |
| 54000.0                           | 97.6                  | -63.7                                       |                      | 162.3                        | 563.8                        | 254.1                     | 40.7           | 1.000036                  |
| 54500.0                           | 95.1                  | -64.9                                       |                      | 159.2                        | 562.1                        | 250.8                     | 39.2           | 1.000035                  |
| 55000.0                           | 92.8                  | -66.2                                       |                      | 156.2                        | 560.5                        | 248.8                     | 39.7           | 1.000035                  |
| 55500.0                           | 90.5                  | -67.4                                       |                      | 153.2                        | 558.8                        | 246.8                     | 40.3           | 1.000034                  |
| 56000.0                           | 88.3                  | -68.6                                       |                      | 150.3                        | 557.1                        | 247.6                     | 40.4           | 1.000033                  |
| 56500.0                           | 86.1                  | -69.9                                       |                      | 147.5                        | 555.5                        | 249.3                     | 40.4           | 1.000033                  |
| 57000.0                           | 83.9                  | -70.1                                       |                      | 144.0                        | 555.1                        | 251.3                     | 40.4           | 1.000032                  |
| 57500.0                           | 81.8                  | -69.9                                       |                      | 140.2                        | 555.4                        | 253.9                     | 40.4           | 1.000031                  |
| 58000.0                           | 79.8                  | -69.6                                       |                      | 136.5                        | 555.8                        | 256.5                     | 40.5           | 1.000030                  |
| 58500.0                           | 77.8                  | -69.3                                       |                      | 132.9                        | 556.3                        | 258.1                     | 39.9           | 1.000030                  |
| 59000.0                           | 75.8                  | -68.2                                       |                      | 128.9                        | 557.7                        | 259.7                     | 39.2           | 1.000029                  |
| 59500.0                           | 74.0                  | -67.1                                       |                      | 125.1                        | 559.2                        | 260.2                     | 37.8           | 1.000028                  |
| 60000.0                           | 72.1                  | -66.1                                       |                      | 121.3                        | 560.6                        | 260.0                     | 35.7           | 1.000027                  |
| 60500.0                           | 70.3                  | -65.0                                       |                      | 117.7                        | 562.1                        | 259.3                     | 33.7           | 1.000026                  |
| 61000.0                           | 68.6                  | -63.4                                       |                      | 114.0                        | 564.2                        | 257.4                     | 32.0           | 1.000025                  |
| 61500.0                           | 67.0                  | -61.7                                       |                      | 110.3                        | 566.5                        | 255.2                     | 30.3           | 1.000025                  |
| 62000.0                           | 55.3                  | -61.4                                       |                      | 107.5                        | 566.9                        | 253.9                     | 29.2           | 1.000024                  |
| 62500.0                           | 63.8                  | -61.6                                       |                      | 105.0                        | 566.7                        | 252.5                     | 28.1           | 1.000023                  |
| 63000.0                           | 62.2                  | -61.7                                       |                      | 102.5                        | 566.5                        | 250.8                     | 27.1           | 1.000023                  |
| 63500.0                           | 60.7                  | -61.8                                       |                      | 100.1                        | 566.3                        | 248.9                     | 26.2           | 1.000022                  |



UPPER AIR DATA  
 0120010025  
 HOLLAMAN

STATION ALTITUDE 4126.59 FEET MSL  
 13 JAN. 77 0755 HRS MST  
 ASCENSION NO. 25

WSTM SITE COORDINATES  
 571739.24 FEET E  
 362745.21 FEET N

TABLE VII (CONT)

| 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>MNTS | WIND DATA                |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|----------------|--------------------|----------------------|------------------------------|---------------------------|--------------------------|----------------|---------------------------|
|                                   |                       | AIR<br>DEGREES | DEWPOINT<br>DEGREE |                      |                              |                           | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |                           |
| 64000.0                           | 59.2                  | -62.0          |                    | 97.7                 | 556.1                        |                           | 247.4                    | 25.4           | 1.000022                  |
| 64500.0                           | 57.8                  | -62.1          |                    | 95.4                 | 565.9                        |                           | 247.4                    | 24.5           | 1.000021                  |
| 65000.0                           | 56.4                  | -62.3          |                    | 97.7                 | 565.7                        |                           | 247.3                    | 23.5           | 1.000021                  |
| 65500.0                           | 55.1                  | -61.9          |                    | 90.8                 | 566.3                        |                           | 251.3                    | 22.6           | 1.000020                  |
| 66000.0                           | 53.7                  | -61.4          |                    | 88.4                 | 566.9                        |                           | 256.3                    | 21.8           | 1.000020                  |
| 66500.0                           | 52.4                  | -60.9          |                    | 86.0                 | 567.6                        |                           | 260.7                    | 21.3           | 1.000019                  |
| 67000.0                           | 51.2                  | -60.4          |                    | 83.8                 | 568.3                        |                           | 264.4                    | 21.0           | 1.000019                  |
| 67500.0                           | 49.9                  | -59.9          |                    | 81.6                 | 568.9                        |                           | 267.8                    | 20.9           | 1.000018                  |
| 68000.0                           | 48.8                  | -59.4          |                    | 79.5                 | 569.5                        |                           | 268.4                    | 20.7           | 1.000018                  |
| 68500.0                           | 47.6                  | -59.0          |                    | 77.4                 | 570.2                        |                           | 269.0                    | 20.5           | 1.000017                  |
| 69000.0                           | 46.5                  | -58.5          |                    | 75.4                 | 570.8                        |                           | 269.6                    | 20.2           | 1.000017                  |
| 69500.0                           | 45.4                  | -58.0          |                    | 73.5                 | 571.4                        |                           | 270.1                    | 19.9           | 1.000016                  |
| 70000.0                           | 44.3                  | -57.6          |                    | 71.6                 | 572.0                        |                           | 270.1                    | 19.4           | 1.000016                  |
| 70500.0                           | 43.2                  | -57.1          |                    | 69.7                 | 572.6                        |                           | 265.3                    | 18.5           | 1.000015                  |
| 71000.0                           | 42.2                  | -56.7          |                    | 67.9                 | 573.2                        |                           | 260.0                    | 17.8           | 1.000015                  |
| 71500.0                           | 41.2                  | -52.5          |                    | 65.1                 | 578.7                        |                           | 253.2                    | 16.8           | 1.000014                  |
| 72000.0                           | 40.3                  | -52.7          |                    | 63.6                 | 578.5                        |                           | 244.7                    | 15.9           | 1.000014                  |
| 72500.0                           | 39.3                  | -52.9          |                    | 62.2                 | 578.1                        |                           | 236.0                    | 15.4           | 1.000014                  |
| 73000.0                           | 38.4                  | -53.2          |                    | 60.8                 | 577.8                        |                           | 233.9                    | 14.2           | 1.000014                  |
| 73500.0                           | 37.5                  | -53.4          |                    | 59.5                 | 577.5                        |                           | 231.5                    | 13.1           | 1.000013                  |
| 74000.0                           | 36.6                  | -53.7          |                    | 58.2                 | 577.1                        |                           | 229.7                    | 12.0           | 1.000013                  |
| 74500.0                           | 35.8                  | -54.0          |                    | 56.9                 | 576.8                        |                           | 228.8                    | 10.9           | 1.000013                  |
| 75000.0                           | 35.0                  | -54.2          |                    | 55.6                 | 576.4                        |                           | 227.6                    | 9.9            | 1.000012                  |
| 75500.0                           | 34.1                  | -54.5          |                    | 54.4                 | 576.1                        |                           | 219.8                    | 8.8            | 1.000012                  |
| 76000.0                           | 33.3                  | -54.5          |                    | 53.1                 | 576.1                        |                           | 209.3                    | 8.0            | 1.000012                  |
| 76500.0                           | 32.6                  | -54.3          |                    | 51.8                 | 576.4                        |                           | 196.4                    | 7.7            | 1.000012                  |
| 77000.0                           | 31.8                  | -54.0          |                    | 50.6                 | 576.7                        |                           | 182.0                    | 8.5            | 1.000011                  |
| 77500.0                           | 31.1                  | -53.8          |                    | 49.3                 | 577.0                        |                           | 170.5                    | 9.7            | 1.000011                  |
| 78000.0                           | 30.3                  | -53.6          |                    | 48.2                 | 577.2                        |                           | 164.8                    | 10.6           | 1.000011                  |
| 78500.0                           | 29.6                  | -53.4          |                    | 47.0                 | 577.5                        |                           | 162.7                    | 10.9           | 1.000010                  |



UPPER AIR DATA  
0130010025  
HOLLISMAN  
TABLE VII (CONT)

STATION ALTITUDE 4125.59 FEET MSL  
13 JAN. 77 0755 HRS MST  
ASCENSION NO. 25

WSTN SITE COORDINATES  
571739.24 FEET E  
352745.21 FEET N

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND |       | WIND DATA                |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|----------------|------------------------|----------------------|------------------------------|-------------------|-------|--------------------------|----------------|---------------------------|
|                                   |                       | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |                              | KNOTS             | KNOTS | DIRECTION<br>DEGREES(TN) | SPEED<br>KNOTS |                           |
| 79000.0                           | 29.0                  | -53.2          |                        |                      | 45.2                         | 577.8             | 160.7 | 11.7                     | 11.7           | 1.000010                  |
| 79500.0                           | 28.3                  | -53.0          |                        |                      | 44.8                         | 578.1             | 160.3 | 10.7                     | 10.7           | 1.000010                  |
| 80000.0                           | 27.6                  | -52.8          |                        |                      | 43.7                         | 578.4             | 160.1 | 9.9                      | 9.9            | 1.000010                  |
| 80500.0                           | 27.0                  | -52.5          |                        |                      | 42.8                         | 578.6             | 159.8 | 9.2                      | 9.2            | 1.000009                  |
| 81000.0                           | 26.4                  | -52.3          |                        |                      | 41.5                         | 578.9             | 156.8 | 7.9                      | 7.9            | 1.000009                  |
| 81500.0                           | 25.8                  | -52.1          |                        |                      | 40.6                         | 579.2             | 152.8 | 6.7                      | 6.7            | 1.000009                  |
| 82000.0                           | 25.2                  | -51.9          |                        |                      | 39.6                         | 579.5             | 155.1 | 6.0                      | 6.0            | 1.000009                  |
| 82500.0                           | 24.6                  | -51.7          |                        |                      | 38.7                         | 579.8             | 168.9 | 6.5                      | 6.5            | 1.000009                  |
| 83000.0                           | 24.0                  | -51.5          |                        |                      | 37.8                         | 590.0             | 180.2 | 7.3                      | 7.3            | 1.000008                  |
| 83500.0                           | 23.5                  | -51.3          |                        |                      | 36.0                         | 590.3             | 176.6 | 8.0                      | 8.0            | 1.000007                  |
| 84000.0                           | 22.9                  | -51.1          |                        |                      | 35.0                         | 590.6             | 166.3 | 8.8                      | 8.8            | 1.000007                  |
| 84500.0                           | 22.4                  | -50.8          |                        |                      | 35.1                         | 590.9             | 158.0 | 9.8                      | 9.8            | 1.000008                  |
| 85000.0                           | 21.9                  | -50.6          |                        |                      | 34.7                         | 591.1             | 154.1 | 11.0                     | 11.0           | 1.000008                  |
| 85500.0                           | 21.4                  | -50.4          |                        |                      | 33.5                         | 591.4             | 154.3 | 12.1                     | 12.1           | 1.000007                  |
| 86000.0                           | 20.9                  | -50.2          |                        |                      | 32.7                         | 591.7             | 154.5 | 13.2                     | 13.2           | 1.000007                  |
| 86500.0                           | 20.4                  | -50.0          |                        |                      | 31.0                         | 592.0             | 154.5 | 14.4                     | 14.4           | 1.000007                  |
| 87000.0                           | 19.9                  | -49.8          |                        |                      | 31.1                         | 592.2             | 154.3 | 15.8                     | 15.8           | 1.000007                  |
| 87500.0                           | 19.5                  | -49.6          |                        |                      | 30.4                         | 592.5             | 154.0 | 17.3                     | 17.3           | 1.000007                  |
| 88000.0                           | 19.0                  | -49.4          |                        |                      | 29.7                         | 592.7             |       |                          |                | 1.000007                  |
| 88500.0                           | 18.6                  | -49.2          |                        |                      | 29.0                         | 593.0             |       |                          |                | 1.000006                  |
| 89000.0                           | 18.2                  | -49.0          |                        |                      | 28.3                         | 593.2             |       |                          |                | 1.000006                  |
| 89500.0                           | 17.8                  | -48.9          |                        |                      | 27.6                         | 593.5             |       |                          |                | 1.000006                  |
| 90000.0                           | 17.4                  | -48.7          |                        |                      | 27.0                         | 593.7             |       |                          |                | 1.000006                  |
| 90500.0                           | 17.0                  | -48.5          |                        |                      | 26.3                         | 593.9             |       |                          |                | 1.000006                  |

STATION ALTITUDE 4126.59 FEET MSI  
13 JAN. 77 0755 HRS MST  
ASCENSION NO. 25

MANDATORY LEVELS  
0130010075  
HOLLIDAY  
TABLE VIII

WSTM SITE COORDINATES  
571739.24 FEET E  
362745.21 FEET W

| 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                 | 4854.  | .4                           | .2                     | 99.                  | 11.4                      | 1.2            |
| 800.0                 | 6458.  | 2.6                          | -9.7                   | 40.                  | 324.0                     | 9.2            |
| 750.0                 | 8161.  | -1.0                         | -17.7                  | 38.                  | 309.0                     | 15.5           |
| 700.0                 | 9952.  | -5.0                         | -14.5                  | 47.                  | 294.0                     | 20.4           |
| 650.0                 | 11849. | -8.7                         | -26.0                  | 23.                  | 286.3                     | 22.9           |
| 600.0                 | 13868. | -13.7                        | -19.3                  | 60.                  | 246.4                     | 26.4           |
| 550.0                 | 16024. | -17.4                        | -41.6                  | 10.                  | 246.0                     | 26.5           |
| 500.0                 | 18344. | -22.2                        | -45.4                  | 10.                  | 247.4                     | 47.5           |
| 450.0                 | 20856. | -28.0                        | -47.5                  | 13.                  | 235.3                     | 50.6           |
| 400.0                 | 23595. | -34.4                        | -50.0                  | 17.                  | 226.3                     | 55.1           |
| 350.0                 | 26631. | -38.7                        | -50.2                  | 9.***                | 220.5                     | 48.0           |
| 300.0                 | 30068. | -43.0                        |                        |                      | 244.7                     | 39.7           |
| 250.0                 | 34031. | -50.4                        |                        |                      | 254.5                     | 39.8           |
| 200.0                 | 38767. | -54.6                        |                        |                      | 251.4                     | 58.7           |
| 175.0                 | 41593. | -52.1                        |                        |                      | 244.0                     | 71.8           |
| 150.0                 | 44886. | -50.7                        |                        |                      | 251.6                     | 91.0           |
| 125.0                 | 48750. | -54.4                        |                        |                      | 268.1                     | 63.7           |
| 100.0                 | 53351. | -62.5                        |                        |                      | 257.3                     | 42.6           |
| 80.0                  | 57772. | -60.7                        |                        |                      | 256.2                     | 40.5           |
| 70.0                  | 60410. | -64.8                        |                        |                      | 259.0                     | 33.4           |
| 60.0                  | 63537. | -61.9                        |                        |                      | 248.0                     | 25.9           |
| 50.0                  | 67246. | -59.9                        |                        |                      | 267.8                     | 20.9           |
| 40.0                  | 71876. | -52.7                        |                        |                      | 242.5                     | 15.8           |
| 30.0                  | 77940. | -57.5                        |                        |                      | 163.9                     | 10.7           |
| 25.0                  | 81803. | -51.8                        |                        |                      | 158.8                     | 6.1            |
| 20.0                  | 86570. | -40.8                        |                        |                      | 154.3                     | 15.6           |

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

Copy available to DDC does not  
permit fully legible reproduction

STATION ALTITUDE 4051.00 FEET MSL  
13 JAN. 77 0815 HRS MST  
ASCENSION NO. 16

STATION ALTITUDE DATA  
C170030016  
JALLIN

WSTM SITE COORDINATES  
450491.50 FEET E  
464023.05 FEET N

TABLE IX

| PRESSURE GEOMETRIC             |                           | TEMPERATURE                    |       | REL. HUM.<br>PERCENT |
|--------------------------------|---------------------------|--------------------------------|-------|----------------------|
| ALTITUDE<br>MILLIBARS MSL FEET | AIR<br>DEGREES CENTIGRADE | DEWPOINT<br>DEGREES CENTIGRADE |       |                      |
| 975.0                          | 4051.0                    | -1.0                           | -1.6  | 96.0                 |
| 958.9                          | 4571.0                    | 2.0                            | -1.1  | 85.0                 |
| 859.0                          | 4847.2                    | 1.7                            | -2.1  | 76.0                 |
| 821.8                          | 5421.5                    | 2.6                            | -2.1  | 66.0                 |
| 811.8                          | 6067.7                    | 2.0                            | -4.7  | 61.0                 |
| 732.0                          | 8782.9                    | -2.6                           | -10.4 | 59.0                 |
| 700.0                          | 9930.7                    | -6.9                           | -11.3 | 71.0                 |
| 680.9                          | 10643.3                   | -3.2                           | -12.7 | 78.0                 |
| 673.5                          | 10921.3                   | -9.0                           | -15.3 | 60.0                 |
| 537.4                          | 12315.8                   | -11.6                          | -24.9 | 52.0                 |
| 562.2                          | 15433.5                   | -13.8                          | -32.7 | 28.0                 |
| 552.4                          | 15864.8                   | -18.1                          | -35.0 | 21.0                 |
| 534.7                          | 16694.7                   | -19.9                          | -37.5 | 19.0                 |
| 506.0                          | 18287.1                   | -23.4                          | -39.1 | 22.0                 |
| 417.4                          | 22544.0                   | -33.3                          | -47.6 | 22.0                 |
| 400.0                          | 23524.9                   | -34.0                          | -49.3 | 21.0                 |
| 393.0                          | 30003.9                   | -44.0                          |       |                      |
| 250.0                          | 33959.2                   | -51.1                          |       |                      |
| 225.6                          | 36182.9                   | -50.8                          |       |                      |
| 213.9                          | 37307.8                   | -52.5                          |       |                      |
| 200.0                          | 38740.6                   | -51.7                          |       |                      |
| 150.0                          | 44890.2                   | -51.5                          |       |                      |
| 121.9                          | 49233.2                   | -57.8                          |       |                      |
| 100.0                          | 52350.2                   | -61.4                          |       |                      |
| 74.4                           | 59286.6                   | -69.4                          |       |                      |
| 70.0                           | 60493.0                   | -67.2                          |       |                      |
| 63.8                           | 62359.0                   | -63.1                          |       |                      |
| 53.8                           | 65816.9                   | -63.7                          |       |                      |
| 50.0                           | 67313.4                   | -60.2                          |       |                      |
| 40.8                           | 71523.5                   | -58.1                          |       |                      |

U.S. SITE COORDINATES  
450491.50 FEET E  
464023.05 FEET N

Copy available to DDC does not  
permit fully legible reproduction

SIGNIFICANT LEVEL DATA  
C130030016  
JAILCN

STATION ALTITUDE 4081.00 FEET MSL  
13 JAN. 77 0915 HRS 1ST  
ASCENSION NO. 16

TABLE IX (CONT)

| PRESSURE GEOMETRIC<br>ALTITUDE<br>MILLIBARS MSL FEET | TEMPERATURE<br>AIR DEWPOINT<br>DEGREES CENTIGRADE | REL. HUM.<br>PERCENT |
|------------------------------------------------------|---------------------------------------------------|----------------------|
|                                                      |                                                   |                      |
| 39.4 72257.3                                         | -53.6                                             |                      |
| 33.7 75816.2                                         | -55.6                                             |                      |
| 30.0 78025.1                                         | -53.5                                             |                      |
| 20.0 86709.7                                         | -50.5                                             |                      |
| 15.8 91704.2                                         | -50.7                                             |                      |



UPPER AIR DATA  
 013000Z0016  
 JALICN

STATION ALTITUDE 4051.00 FEET MSL  
 13 JAN. 77 0815 HRS MST  
 ASCENSION NO. 16

WSTM SITE COORDINATES  
 450491.50 FEET E  
 464023.05 FEET N

TABLE X

| 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 | CEILING<br>CENTIGRADE |                      |                              |                            | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 4051.0                            | 876.0                 | -1.0           | -1.6                  | 96.0                 | 1118.7                       | 643.4                      | 80.0                      | 2.9            | 1.000277                  |
| 4500.0                            | 861.2                 | 1.6            | -1.1                  | 92.2                 | 1089.3                       | 646.5                      | 21.8                      | 2.7            | 1.000271                  |
| 5000.0                            | 845.1                 | 1.9            | -2.3                  | 73.2                 | 1067.0                       | 646.9                      | 747.0                     | 4.8            | 1.000264                  |
| 5500.0                            | 829.2                 | 2.5            | -7.2                  | 65.4                 | 1045.7                       | 647.5                      | 335.3                     | 7.6            | 1.000257                  |
| 6000.0                            | 813.9                 | 2.1            | -4.5                  | 71.5                 | 1023.1                       | 646.9                      | 728.3                     | 10.0           | 1.000251                  |
| 6500.0                            | 798.5                 | 1.1            | -5.6                  | 60.7                 | 1012.4                       | 645.8                      | 722.5                     | 12.2           | 1.000246                  |
| 7000.0                            | 783.5                 | .1             | -6.7                  | 50.3                 | 997.1                        | 644.5                      | 313.8                     | 11.6           | 1.000241                  |
| 7500.0                            | 768.7                 | -1.0           | -7.7                  | 59.9                 | 982.1                        | 643.3                      | 717.2                     | 10.0           | 1.000236                  |
| 8000.0                            | 754.2                 | -2.0           | -8.8                  | 59.6                 | 967.4                        | 642.0                      | 314.0                     | 9.3            | 1.000232                  |
| 8500.0                            | 739.9                 | -3.0           | -9.8                  | 59.2                 | 952.0                        | 640.8                      | 310.5                     | 8.9            | 1.000227                  |
| 9000.0                            | 725.9                 | -4.2           | -10.5                 | 51.3                 | 938.0                        | 639.3                      | 306.5                     | 9.1            | 1.000224                  |
| 9500.0                            | 711.9                 | -5.7           | -10.9                 | 66.5                 | 925.0                        | 637.6                      | 302.7                     | 9.5            | 1.000220                  |
| 10000.0                           | 698.2                 | -7.1           | -11.2                 | 71.5                 | 913.1                        | 635.9                      | 297.0                     | 10.2           | 1.000217                  |
| 10500.0                           | 684.7                 | -8.7           | -12.1                 | 76.6                 | 900.0                        | 633.9                      | 291.9                     | 11.0           | 1.000214                  |
| 11000.0                           | 671.4                 | -9.1           | -15.8                 | 58.4                 | 885.1                        | 633.3                      | 281.8                     | 13.9           | 1.000207                  |
| 11500.0                           | 658.2                 | -10.1          | -18.9                 | 48.4                 | 871.0                        | 632.1                      | 275.0                     | 17.1           | 1.000202                  |
| 12000.0                           | 645.4                 | -11.0          | -22.4                 | 78.3                 | 857.2                        | 630.9                      | 258.8                     | 21.1           | 1.000197                  |
| 12500.0                           | 632.7                 | -12.0          | -25.4                 | 31.8                 | 843.7                        | 629.7                      | 765.9                     | 24.2           | 1.000192                  |
| 13000.0                           | 620.1                 | -13.2          | -26.6                 | 31.1                 | 830.6                        | 628.3                      | 265.9                     | 25.4           | 1.000189                  |
| 13500.0                           | 607.7                 | -14.3          | -27.9                 | 30.5                 | 817.7                        | 626.9                      | 264.7                     | 25.6           | 1.000186                  |
| 14000.0                           | 595.5                 | -15.5          | -29.1                 | 29.8                 | 805.0                        | 625.5                      | 262.9                     | 25.3           | 1.000182                  |
| 14500.0                           | 583.7                 | -16.6          | -30.4                 | 29.2                 | 792.5                        | 624.0                      | 256.7                     | 26.8           | 1.000179                  |
| 15000.0                           | 572.1                 | -17.8          | -31.6                 | 28.6                 | 780.3                        | 622.6                      | 251.2                     | 28.4           | 1.000175                  |
| 15500.0                           | 560.7                 | -18.7          | -33.0                 | 28.9                 | 767.4                        | 621.5                      | 247.6                     | 27.9           | 1.000173                  |
| 16000.0                           | 549.4                 | -18.4          | -35.4                 | 20.7                 | 751.1                        | 621.9                      | 245.2                     | 26.8           | 1.000169                  |
| 16500.0                           | 538.2                 | -19.5          | -36.9                 | 19.5                 | 739.1                        | 620.5                      | 244.3                     | 24.8           | 1.000165                  |
| 17000.0                           | 527.3                 | -20.6          | -37.8                 | 19.6                 | 727.2                        | 619.2                      | 245.5                     | 24.1           | 1.000163                  |
| 17500.0                           | 516.5                 | -21.7          | -38.7                 | 20.5                 | 715.4                        | 617.8                      | 247.8                     | 24.1           | 1.000151                  |
| 18000.0                           | 505.3                 | -22.8          | -38.8                 | 21.5                 | 703.0                        | 616.5                      | 248.7                     | 24.6           | 1.000150                  |
| 18500.0                           | 495.5                 | -23.9          | -39.5                 | 22.0                 | 692.4                        | 615.1                      | 249.5                     | 25.2           | 1.000155                  |

STATION ALTITUDE 4001.00 FEET MSL  
 13 JAN. 77 0015 HRS MST  
 ASCENSION NO. 10

UPPER AIR DATA  
 0130030016  
 JALLEN

WSTIM SITE COORDINATES  
 450491.60 FEET E  
 464027.05 FEET N

TABLE X (CONT)

| GEOMETRIC ALTITUDE<br>MFL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES<br>CENSIOPADE | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup><br>METER | SPEED OF<br>SOUND<br>M/KNOTS | DIRECTION<br>DEGREES (TA) | SPEED<br>KNOTS | INDEX<br>OF<br>REFRACTION |
|--------------------------------|-----------------------|------------------------------------------|----------------------|----------------------------------------|------------------------------|---------------------------|----------------|---------------------------|
| 19000.0                        | 465.1                 | -25.1                                    | 22.0                 | 681.1                                  | 612.7                        | 251.2                     | 27.8           | 1.000152                  |
| 19500.0                        | 474.9                 | -26.2                                    | 22.0                 | 689.0                                  | 612.2                        | 252.3                     | 30.4           | 1.000153                  |
| 20000.0                        | 485.0                 | -27.4                                    | 22.0                 | 699.0                                  | 610.8                        | 255.7                     | 32.0           | 1.000148                  |
| 20500.0                        | 495.2                 | -28.5                                    | 22.0                 | 709.2                                  | 609.3                        | 259.1                     | 32.6           | 1.000145                  |
| 21000.0                        | 505.7                 | -29.7                                    | 22.0                 | 720.7                                  | 607.9                        | 262.5                     | 32.9           | 1.000143                  |
| 21500.0                        | 516.3                 | -30.9                                    | 22.0                 | 732.7                                  | 606.4                        | 266.8                     | 34.3           | 1.000140                  |
| 22000.0                        | 527.1                 | -32.0                                    | 22.0                 | 745.1                                  | 605.0                        | 271.2                     | 34.8           | 1.000138                  |
| 22500.0                        | 538.2                 | -33.2                                    | 22.0                 | 757.1                                  | 603.6                        | 275.7                     | 34.5           | 1.000136                  |
| 23000.0                        | 549.2                 | -34.0                                    | 21.5                 | 769.1                                  | 602.3                        | 280.0                     | 33.2           | 1.000133                  |
| 23500.0                        | 560.4                 | -34.8                                    | 21.0                 | 781.1                                  | 601.0                        | 284.5                     | 33.1           | 1.000131                  |
| 24000.0                        | 571.6                 | -35.5                                    | 19.5**               | 793.0                                  | 600.6                        | 289.0                     | 32.9           | 1.000129                  |
| 24500.0                        | 583.1                 | -36.2                                    | 17.8**               | 804.1                                  | 599.7                        | 293.5                     | 32.8           | 1.000126                  |
| 25000.0                        | 594.6                 | -36.9                                    | 16.2**               | 815.4                                  | 598.9                        | 298.0                     | 31.9           | 1.000122                  |
| 25500.0                        | 606.4                 | -37.6                                    | 14.6**               | 826.9                                  | 597.9                        | 302.5                     | 30.8           | 1.000121                  |
| 26000.0                        | 618.4                 | -38.3                                    | 13.0**               | 838.1                                  | 597.0                        | 307.0                     | 31.5           | 1.000119                  |
| 26500.0                        | 630.5                 | -39.0                                    | 11.4**               | 849.1                                  | 596.1                        | 311.5                     | 32.0           | 1.000116                  |
| 27000.0                        | 642.8                 | -39.7                                    | 9.7**                | 860.1                                  | 595.2                        | 316.0                     | 34.0           | 1.000114                  |
| 27500.0                        | 655.3                 | -40.4                                    | 8.1**                | 871.0                                  | 594.3                        | 320.5                     | 36.4           | 1.000112                  |
| 28000.0                        | 667.9                 | -41.1                                    | 6.5**                | 882.0                                  | 593.4                        | 325.0                     | 38.6           | 1.000110                  |
| 28500.0                        | 680.7                 | -41.9                                    | 4.9**                | 893.1                                  | 592.5                        | 329.5                     | 40.0           | 1.000108                  |
| 29000.0                        | 693.7                 | -42.6                                    | 3.3**                | 904.0                                  | 591.6                        | 334.0                     | 40.4           | 1.000106                  |
| 29500.0                        | 706.8                 | -43.3                                    | 1.6**                | 914.9                                  | 590.7                        | 338.5                     | 39.9           | 1.000104                  |
| 30000.0                        | 720.1                 | -44.0                                    | .3**                 | 925.8                                  | 589.7                        | 343.0                     | 38.3           | 1.000102                  |
| 30500.0                        | 733.2                 | -44.9                                    |                      | 936.6                                  | 588.0                        | 347.5                     | 37.0           | 1.000100                  |
| 31000.0                        | 746.6                 | -45.8                                    |                      | 947.5                                  | 587.4                        | 352.0                     | 36.7           | 1.000098                  |
| 31500.0                        | 760.1                 | -46.7                                    |                      | 958.3                                  | 586.8                        | 356.5                     | 36.4           | 1.000096                  |
| 32000.0                        | 773.7                 | -47.6                                    |                      | 969.1                                  | 586.1                        | 361.0                     | 36.4           | 1.000094                  |
| 32500.0                        | 787.5                 | -48.5                                    |                      | 979.9                                  | 585.4                        | 365.5                     | 37.5           | 1.000092                  |
| 33000.0                        | 801.4                 | -49.4                                    |                      | 990.7                                  | 584.8                        | 370.0                     | 40.2           | 1.000091                  |
| 33500.0                        | 815.5                 | -50.3                                    |                      | 1001.5                                 | 584.1                        | 374.5                     | 43.0           | 1.000089                  |

Copy available to LEO data base  
 Permit fully legible reproduction

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

Very available to DDC does not  
 permit fully legible reproduction

STATION ALTITUDE 4051.00 FEET MSL  
 13 JAN. 77 0015 HRS MST  
 ASCENSION NO. 16

UPPER ATO DATA  
 0130000016  
 JALLEN

WSTM SITE COORDINATES  
 450491.60 FEET E  
 464023.05 FEET N

TABLE X (CONT)

| GEOMETRIC ALTITUDE<br>MSL FEET | PRESSURE | TEMPERATURE<br>AIR | REL. HUM.<br>PERCENT | DENSITY<br>GM/CM <sup>3</sup> | SPEED OF<br>SOUND<br>M/SEC | WIND<br>DIRECTION<br>DEGREES (TN) | WIND<br>SPEED<br>M/SEC | INDEX<br>OF<br>REFRACTION |
|--------------------------------|----------|--------------------|----------------------|-------------------------------|----------------------------|-----------------------------------|------------------------|---------------------------|
| 34700.0                        | 249.0    | -51.1              |                      | 791.6                         | 560.0                      | 202.7                             | 46.0                   | 1.000087                  |
| 34800.0                        | 248.0    | -51.0              |                      | 782.0                         | 560.0                      | 258.1                             | 49.6                   | 1.000095                  |
| 35000.0                        | 246.0    | -51.0              |                      | 777.0                         | 560.7                      | 255.1                             | 49.7                   | 1.000093                  |
| 35100.0                        | 245.0    | -50.9              |                      | 764.6                         | 560.8                      | 262.0                             | 49.8                   | 1.000081                  |
| 35200.0                        | 244.0    | -50.8              |                      | 756.0                         | 560.9                      | 264.2                             | 47.2                   | 1.000079                  |
| 35300.0                        | 243.1    | -51.2              |                      | 748.2                         | 560.0                      | 256.0                             | 45.0                   | 1.000078                  |
| 35400.0                        | 242.0    | -52.0              |                      | 741.0                         | 579.3                      | 254.4                             | 45.1                   | 1.000076                  |
| 35500.0                        | 242.0    | -52.4              |                      | 734.0                         | 578.0                      | 252.3                             | 44.8                   | 1.000075                  |
| 35600.0                        | 207.1    | -52.1              |                      | 720.2                         | 579.2                      | 251.1                             | 45.0                   | 1.000073                  |
| 35700.0                        | 207.0    | -51.8              |                      | 718.4                         | 579.6                      | 250.0                             | 46.0                   | 1.000071                  |
| 35800.0                        | 197.6    | -51.7              |                      | 710.8                         | 578.8                      | 240.2                             | 48.0                   | 1.000069                  |
| 35900.0                        | 192.7    | -51.7              |                      | 702.0                         | 579.0                      | 250.3                             | 51.2                   | 1.000068                  |
| 40000.0                        | 198.6    | -51.7              |                      | 706.0                         | 579.8                      | 250.7                             | 55.0                   | 1.000066                  |
| 40500.0                        | 194.0    | -51.6              |                      | 709.7                         | 579.8                      | 251.0                             | 50.0                   | 1.000055                  |
| 41000.0                        | 176.0    | -51.6              |                      | 707.0                         | 579.8                      | 251.1                             | 64.5                   | 1.000063                  |
| 41500.0                        | 175.0    | -51.5              |                      | 706.4                         | 579.9                      | 251.2                             | 68.4                   | 1.000052                  |
| 42000.0                        | 172.7    | -51.6              |                      | 700.0                         | 579.9                      | 251.0                             | 72.9                   | 1.000060                  |
| 42500.0                        | 167.0    | -51.0              |                      | 703.7                         | 579.9                      | 250.7                             | 79.7                   | 1.000059                  |
| 43000.0                        | 162.0    | -51.6              |                      | 707.0                         | 579.8                      | 249.8                             | 84.0                   | 1.000057                  |
| 43500.0                        | 160.1    | -51.5              |                      | 701.0                         | 579.9                      | 249.0                             | 87.4                   | 1.000055                  |
| 44000.0                        | 160.4    | -51.6              |                      | 745.8                         | 560.0                      | 247.7                             | 86.9                   | 1.000055                  |
| 44500.0                        | 157.0    | -51.0              |                      | 740.1                         | 560.0                      | 247.1                             | 88.6                   | 1.000053                  |
| 45000.0                        | 150.0    | -51.7              |                      | 734.7                         | 579.8                      | 246.7                             | 84.5                   | 1.000052                  |
| 45500.0                        | 145.7    | -50.4              |                      | 726.0                         | 578.9                      | 250.2                             | 86.0                   | 1.000051                  |
| 46000.0                        | 142.3    | -53.1              |                      | 725.2                         | 577.9                      | 253.6                             | 87.8                   | 1.000050                  |
| 46500.0                        | 135.0    | -51.9              |                      | 720.7                         | 577.0                      | 257.5                             | 85.7                   | 1.000049                  |
| 47000.0                        | 135.7    | -51.6              |                      | 716.3                         | 576.0                      | 261.9                             | 82.2                   | 1.000048                  |
| 47500.0                        | 122.6    | -56.2              |                      | 711.0                         | 573.1                      | 265.0                             | 77.4                   | 1.000047                  |
| 48000.0                        | 120.4    | -56.0              |                      | 707.5                         | 574.1                      | 267.1                             | 71.2                   | 1.000046                  |
| 48500.0                        | 126.8    | -50.7              |                      | 703.4                         | 573.2                      | 268.0                             | 67.0                   | 1.000045                  |



UPPER AIR DATA  
 Q1300J0016  
 JALLEN  
 TABLE X (CONT)

STATION ALTITUDE 4051.00 FEET MSL  
 13 JAN. 77 0915 HRS MST  
 ASCENSION NO. 16

WSTM SITE COORDINATES  
 450491.50 FEET E  
 464023.05 FEET N

| GEOMETRIC ALTITUDE | PRESSURE  | TEMPERATURE | REL. HUM. | DENSITY        | SPEED OF    | WIND DATA              | INDEX         |
|--------------------|-----------|-------------|-----------|----------------|-------------|------------------------|---------------|
| MSL FEET           | MILLIBARS | AIR DEGREES | PERCENT   | GM/CUBIC METER | SOUND KNOTS | DIRECTION DEGREES (TN) | OF REFRACTION |
| 49000.0            | 123.4     | -57.4       |           | 199.3          | 572.2       | 266.4                  | 1.000044      |
| 49500.0            | 120.5     | -58.0       |           | 195.1          | 571.4       | 264.7                  | 1.000043      |
| 50000.0            | 117.6     | -58.4       |           | 190.0          | 570.9       | 262.6                  | 1.000043      |
| 50500.0            | 114.8     | -58.9       |           | 186.7          | 570.3       | 260.1                  | 1.000042      |
| 51000.0            | 112.1     | -59.3       |           | 182.6          | 569.7       | 255.7                  | 1.000041      |
| 51500.0            | 109.4     | -59.8       |           | 178.6          | 569.1       | 251.3                  | 1.000040      |
| 52000.0            | 106.8     | -60.2       |           | 174.7          | 568.5       | 246.9                  | 1.000039      |
| 52500.0            | 104.2     | -60.6       |           | 170.8          | 567.9       | 242.9                  | 1.000038      |
| 53000.0            | 101.7     | -61.1       |           | 167.1          | 567.3       | 243.5                  | 1.000037      |
| 53500.0            | 99.3      | -61.6       |           | 163.5          | 566.6       | 244.0                  | 1.000036      |
| 54000.0            | 96.8      | -62.3       |           | 159.9          | 565.7       | 245.5                  | 1.000036      |
| 54500.0            | 94.4      | -62.9       |           | 156.5          | 564.8       | 247.7                  | 1.000035      |
| 55000.0            | 92.1      | -63.6       |           | 153.1          | 563.9       | 249.9                  | 1.000034      |
| 55500.0            | 89.8      | -64.3       |           | 149.9          | 563.0       | 251.7                  | 1.000033      |
| 56000.0            | 87.6      | -65.0       |           | 146.6          | 562.1       | 254.7                  | 1.000033      |
| 56500.0            | 85.5      | -65.5       |           | 143.5          | 561.2       | 255.0                  | 1.000032      |
| 57000.0            | 83.4      | -66.3       |           | 140.4          | 560.3       | 257.7                  | 1.000031      |
| 57500.0            | 81.3      | -67.0       |           | 137.4          | 559.4       | 258.7                  | 1.000031      |
| 58000.0            | 79.3      | -67.7       |           | 134.5          | 558.5       | 256.8                  | 1.000030      |
| 58500.0            | 77.4      | -68.3       |           | 131.6          | 557.5       | 255.1                  | 1.000029      |
| 59000.0            | 75.5      | -69.0       |           | 128.8          | 556.6       | 254.8                  | 1.000029      |
| 59500.0            | 73.6      | -69.0       |           | 125.6          | 556.6       | 255.0                  | 1.000028      |
| 60000.0            | 71.8      | -68.1       |           | 121.0          | 557.9       | 255.3                  | 1.000027      |
| 60500.0            | 70.0      | -67.2       |           | 118.4          | 559.1       | 255.8                  | 1.000026      |
| 61000.0            | 68.3      | -66.1       |           | 114.8          | 560.6       | 256.2                  | 1.000026      |
| 61500.0            | 66.5      | -65.0       |           | 111.4          | 562.1       | 256.0                  | 1.000025      |
| 62000.0            | 64.9      | -63.9       |           | 108.1          | 563.6       | 255.7                  | 1.000024      |
| 62500.0            | 63.4      | -63.1       |           | 105.1          | 564.6       | 256.4                  | 1.000023      |
| 63000.0            | 61.8      | -63.2       |           | 102.6          | 564.5       | 257.4                  | 1.000023      |
| 63500.0            | 60.3      | -63.7       |           | 100.1          | 564.4       | 257.2                  | 1.000022      |



STATION ALTITUDE 4051.00 FEET MSL  
 13 JAN. 77 0815 HRS MST  
 ASCENSION NO. 16

UPPER AIR DATA  
 C130030016  
 JALLEN

WSTM SYIC COORDINATES  
 450451.60 FEET E  
 464023.05 FEET N

TABLE X (CONT)

| GEOMETRIC<br>ALTITUDE<br>MSL FEET | PRESSURE<br>MILLIBARS | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | DENSITY<br>GM/CUBIC<br>METER | SPEED OF<br>SOUND |       | WIND DATA                 |                | INDEX<br>OF<br>REFRACTION |
|-----------------------------------|-----------------------|----------------|------------------------|----------------------|------------------------------|-------------------|-------|---------------------------|----------------|---------------------------|
|                                   |                       | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      |                              | METERS            | KNOTS | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |                           |
| 64000.0                           | 56.8                  | -63.4          |                        |                      | 97.7                         | 564.2             |       | 255.8                     | 19.8           | 1.000022                  |
| 64500.0                           | 57.4                  | -63.5          |                        |                      | 95.4                         | 564.1             |       | 254.5                     | 19.9           | 1.000021                  |
| 65000.0                           | 58.0                  | -63.6          |                        |                      | 93.1                         | 564.0             |       | 254.0                     | 18.4           | 1.000021                  |
| 65500.0                           | 54.5                  | -63.6          |                        |                      | 90.9                         | 563.9             |       | 253.5                     | 16.9           | 1.000020                  |
| 66000.0                           | 53.3                  | -63.3          |                        |                      | 88.5                         | 564.4             |       | 254.7                     | 16.1           | 1.000020                  |
| 66500.0                           | 52.0                  | -62.1          |                        |                      | 85.9                         | 566.0             |       | 257.4                     | 15.8           | 1.000019                  |
| 67000.0                           | 50.8                  | -60.9          |                        |                      | 83.3                         | 567.5             |       | 259.8                     | 15.9           | 1.000019                  |
| 67500.0                           | 49.6                  | -60.1          |                        |                      | 81.0                         | 568.6             |       | 259.8                     | 19.0           | 1.000018                  |
| 68000.0                           | 48.4                  | -59.9          |                        |                      | 79.0                         | 569.0             |       | 259.8                     | 22.1           | 1.000018                  |
| 68500.0                           | 47.2                  | -59.6          |                        |                      | 77.0                         | 569.3             |       | 260.8                     | 24.8           | 1.000017                  |
| 69000.0                           | 46.1                  | -59.4          |                        |                      | 75.1                         | 569.6             |       | 262.2                     | 27.3           | 1.000017                  |
| 69500.0                           | 45.0                  | -59.1          |                        |                      | 73.2                         | 570.0             |       | 263.4                     | 29.9           | 1.000016                  |
| 70000.0                           | 43.9                  | -58.9          |                        |                      | 71.4                         | 570.3             |       | 264.0                     | 26.7           | 1.000016                  |
| 70500.0                           | 42.9                  | -58.6          |                        |                      | 69.8                         | 570.6             |       | 264.7                     | 22.8           | 1.000015                  |
| 71000.0                           | 41.8                  | -58.4          |                        |                      | 67.9                         | 571.0             |       | 263.3                     | 18.8           | 1.000015                  |
| 71500.0                           | 40.8                  | -58.1          |                        |                      | 66.2                         | 571.3             |       | 250.3                     | 14.5           | 1.000015                  |
| 72000.0                           | 39.9                  | -55.2          |                        |                      | 63.7                         | 575.2             |       | 220.7                     | 11.4           | 1.000014                  |
| 72500.0                           | 39.0                  | -53.7          |                        |                      | 61.8                         | 577.1             |       | 208.8                     | 10.4           | 1.000014                  |
| 73000.0                           | 38.0                  | -54.0          |                        |                      | 60.5                         | 576.7             |       | 194.9                     | 10.1           | 1.000013                  |
| 73500.0                           | 37.2                  | -54.3          |                        |                      | 59.1                         | 575.3             |       | 190.9                     | 10.4           | 1.000013                  |
| 74000.0                           | 36.3                  | -54.6          |                        |                      | 57.0                         | 576.0             |       | 181.2                     | 9.4            | 1.000013                  |
| 74500.0                           | 35.4                  | -54.9          |                        |                      | 56.6                         | 575.6             |       | 185.2                     | 8.1            | 1.000013                  |
| 75000.0                           | 34.6                  | -55.1          |                        |                      | 55.3                         | 575.2             |       | 190.6                     | 6.9            | 1.000012                  |
| 75500.0                           | 33.8                  | -55.4          |                        |                      | 54.1                         | 574.6             |       | 200.5                     | 7.8            | 1.000012                  |
| 76000.0                           | 33.0                  | -55.4          |                        |                      | 52.8                         | 574.8             |       | 208.2                     | 9.1            | 1.000012                  |
| 76500.0                           | 32.2                  | -54.9          |                        |                      | 51.5                         | 575.5             |       | 213.8                     | 10.4           | 1.000011                  |
| 77000.0                           | 31.5                  | -54.5          |                        |                      | 50.2                         | 576.1             |       | 210.6                     | 10.1           | 1.000011                  |
| 77500.0                           | 30.8                  | -54.0          |                        |                      | 48.9                         | 576.7             |       | 207.1                     | 9.9            | 1.000011                  |
| 78000.0                           | 30.0                  | -53.5          |                        |                      | 47.6                         | 577.3             |       | 203.8                     | 9.7            | 1.000011                  |
| 78500.0                           | 29.3                  | -53.3          |                        |                      | 46.5                         | 577.6             |       | 204.3                     | 9.7            | 1.000010                  |

UPPER AIR DATA  
0130030016  
JALLEN  
TABLE X (CONT)

STATION ALTITUDE 4051.00 FEET MSL  
13 JAN. 77 0915 HRS MST  
ASCENSION NO. 16

WSM SITE COORDINATES  
450491.50 FEET E  
464023.05 FEET N

| GEOMETRIC ALTITUDE<br>-51 FEET | PRESSURE<br>MILLIBARS | TEMPERATURE<br>AIR DEGREES<br>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 |
|--------------------------------|-----------------------|------------------------------------------|----------------------|------------------------------|----------------------------|----------------------------------------|----------------|---------------------------|
| 73000.0                        | 28.7                  | -53.0                                    | 45.4                 | 577.8                        | 204.7                      | 9.3                                    | 1.000010       |                           |
| 75000.0                        | 28.0                  | -53.0                                    | 44.3                 | 578.0                        | 204.0                      | 9.6                                    | 1.000010       |                           |
| 80000.0                        | 27.4                  | -52.8                                    | 43.3                 | 578.3                        | 195.9                      | 8.1                                    | 1.000010       |                           |
| 85000.0                        | 26.7                  | -52.0                                    | 42.2                 | 578.5                        | 184.3                      | 6.8                                    | 1.000009       |                           |
| 91000.0                        | 26.1                  | -51.5                                    | 41.2                 | 578.7                        | 167.6                      | 6.0                                    | 1.000009       |                           |
| 91500.0                        | 25.8                  | -50.9                                    | 40.0                 | 579.0                        | 147.0                      | 6.4                                    | 1.000008       |                           |
| 92000.0                        | 24.9                  | -50.1                                    | 39.3                 | 579.2                        | 131.7                      | 7.4                                    | 1.000009       |                           |
| 92500.0                        | 24.3                  | -50.0                                    | 38.3                 | 579.4                        | 120.6                      | 9.1                                    | 1.000009       |                           |
| 93000.0                        | 23.8                  | -51.0                                    | 37.4                 | 579.6                        | 113.9                      | 11.5                                   | 1.000008       |                           |
| 93500.0                        | 23.2                  | -51.6                                    | 26.5                 | 579.9                        | 100.6                      | 14.0                                   | 1.000008       |                           |
| 94000.0                        | 22.7                  | -51.4                                    | 35.7                 | 580.1                        | 106.7                      | 16.6                                   | 1.000008       |                           |
| 94500.0                        | 22.2                  | -51.3                                    | 34.0                 | 580.3                        | 112.4                      | 15.1                                   | 1.000008       |                           |
| 95000.0                        | 21.7                  | -51.1                                    | 34.0                 | 580.5                        | 119.9                      | 13.7                                   | 1.000008       |                           |
| 95500.0                        | 21.2                  | -50.9                                    | 33.2                 | 580.8                        | 129.0                      | 12.5                                   | 1.000007       |                           |
| 96000.0                        | 20.7                  | -50.7                                    | 32.4                 | 581.0                        | 139.0                      | 12.3                                   | 1.000007       |                           |
| 96500.0                        | 20.2                  | -50.6                                    | 31.6                 | 581.2                        | 148.7                      | 12.7                                   | 1.000007       |                           |
| 97000.0                        | 19.7                  | -50.5                                    | 30.0                 | 581.3                        | 157.6                      | 13.4                                   | 1.000007       |                           |
| 97500.0                        | 19.3                  | -50.5                                    | 30.2                 | 581.3                        | 156.7                      | 14.2                                   | 1.000007       |                           |
| 98000.0                        | 18.8                  | -50.6                                    | 29.5                 | 581.2                        | 147.6                      | 15.6                                   | 1.000007       |                           |
| 98500.0                        | 18.0                  | -50.6                                    | 28.8                 | 581.2                        | 140.1                      | 17.2                                   | 1.000006       |                           |
| 99000.0                        | 17.0                  | -50.6                                    | 28.2                 | 581.2                        |                            |                                        | 1.000006       |                           |
| 99500.0                        | 17.6                  | -50.9                                    | 27.3                 | 581.2                        |                            |                                        | 1.000006       |                           |
| 99900.0                        | 17.2                  | -50.8                                    | 26.9                 | 581.1                        |                            |                                        | 1.000006       |                           |
| 99950.0                        | 16.8                  | -50.6                                    | 26.3                 | 581.1                        |                            |                                        | 1.000006       |                           |
| 99990.0                        | 16.4                  | -50.7                                    | 25.7                 | 581.1                        |                            |                                        | 1.000006       |                           |
| 99999.0                        | 16.0                  | -50.7                                    | 25.1                 | 581.1                        |                            |                                        | 1.000006       |                           |

Copy available to  
permit fully legible

Copy available to DDC does not  
permit fully legible reproduction

STATION ALTITUDE 4081.00 FEET MSL  
 17 JUN. 77 0015 HRS MST  
 ASSOCIATION NO. 35

MANDATORY LEVELS  
 C13C030C16  
 JALLEN  
 TABLE XI

USM SITE COORDINATES  
 450491.50 FEET E  
 464023.05 FEET N

Copy available to DDC does not  
 permit fully legible reproduction

| PRESSURE GEOPOTENTIAL |        | TEMPERATURE    |                        | REL. HUM.<br>PERCENT | WIND DATA                 |                |
|-----------------------|--------|----------------|------------------------|----------------------|---------------------------|----------------|
| MILLIBARS             | FEET   | AIR<br>DEGREES | DEWPOINT<br>CENTIGRADE |                      | DIRECTION<br>DEGREES (TN) | SPEED<br>KNOTS |
| 950.0                 | 4846.  | 1.7            | -2.1                   | 76.                  | 353.6                     | 4.1            |
| 900.0                 | 5457.  | 1.7            | -5.5                   | 61.                  | 322.9                     | 12.0           |
| 750.0                 | 6146.  | -2.7           | -9.1                   | 59.                  | 317.0                     | 9.1            |
| 700.0                 | 6671.  | -6.9           | -11.3                  | 71.                  | 297.8                     | 10.1           |
| 650.0                 | 7183.  | -13.7          | -21.1                  | 42.                  | 270.7                     | 19.6           |
| 600.0                 | 7687.  | -15.1          | -28.7                  | 30.                  | 263.5                     | 25.4           |
| 550.0                 | 8195.  | -18.7          | -35.3                  | 21.                  | 245.2                     | 26.9           |
| 500.0                 | 8768.  | -23.4          | -39.1                  | 22.                  | 245.2                     | 24.9           |
| 450.0                 | 9268.  | -29.2          | -44.0                  | 22.                  | 257.7                     | 13.8           |
| 400.0                 | 9745.  | -34.8          | -46.7                  | 21.                  | 260.8                     | 33.1           |
| 350.0                 | 10176. | -39.1          | -50.0                  | 11.**                | 272.7                     | 32.2           |
| 300.0                 | 10557. | -44.0          |                        |                      | 290.6                     | 29.3           |
| 250.0                 | 10910. | -51.1          |                        |                      | 264.2                     | 45.1           |
| 200.0                 | 11264. | -51.7          |                        |                      | 250.1                     | 47.2           |
| 175.0                 | 11509. | -51.6          |                        |                      | 251.2                     | 69.0           |
| 150.0                 | 11788. | -51.6          |                        |                      | 246.7                     | 84.6           |
| 125.0                 | 12024. | -57.0          |                        |                      | 261.3                     | 56.5           |
| 100.0                 | 12208. | -61.4          |                        |                      | 243.8                     | 57.2           |
| 80.0                  | 12489. | -67.8          |                        |                      | 257.4                     | 14.5           |
| 70.0                  | 12632. | -67.7          |                        |                      | 255.9                     | 19.4           |
| 60.0                  | 12745. | -63.7          |                        |                      | 256.9                     | 19.8           |
| 50.0                  | 12829. | -60.2          |                        |                      | 255.9                     | 17.8           |
| 40.0                  | 12897. | -55.6          |                        |                      | 237.8                     | 11.7           |
| 30.0                  | 12955. | -53.5          |                        |                      | 203.8                     | 9.7            |
| 25.0                  | 13005. | -52.2          |                        |                      | 134.3                     | 7.3            |
| 20.0                  | 13062. | -50.5          |                        |                      | 152.4                     | 12.0           |

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